



Deed Exhibit 3

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STATE OF HAWAII
OFFICE OF ASSISTANT REGISTRAR
RECORDED
June 22, 2012 3:29 PM
Doc No(s) T-8208438
on Cert(s) AS LISTED HEREIN
Issuance of Cert(s) 1044085 - 1044101


/s/ NICKI ANN THOMPSON
ASSISTANT REGISTRAR


1 1/1 CHC Conveyance Tax: \$1860.80
B-32082906

LAND COURT SYSTEM
Return by Mail () Pickup (X) To:
Castle & Cooke, Inc.
C. Kurasaki Ph: 548-2909

REGULAR SYSTEM

Total Pages 12

Tax Map Key No.: (2) 4-9-002-001 portion

LIMITED WARRANTY DEED

THIS LIMITED WARRANTY DEED is made as of June 22, 2012, by **CASTLE & COOKE, INC.**, a Hawaii corporation, hereinafter called the "Grantor," in favor of **CASTLE & COOKE RESORTS, LLC**, a Hawaii limited liability company whose address is 680 Iwilei Rd., Suite 510, Honolulu, Hawaii 96817, hereinafter called the "Grantee."

WITNESSETH:

That for Ten Dollars (\$10.00) and other good and valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, the Grantor does hereby grant, bargain, sell and convey unto the Grantee, as tenant in severalty, all of the property more particularly described in **Exhibit A** attached hereto and made a part hereof;

And the reversions, remainders, rents, issues and profits thereof and all of the estate, right, title and interest of the Grantor, both at law and in equity, therein and thereto, including but not limited to, if any, water, minerals, metals and geothermal resources;

TO HAVE AND TO HOLD the same, together with all buildings, improvements, rights, easements, privileges and appurtenances thereon and thereto belonging or appertaining or held and enjoyed therewith, unto the Grantee according to the tenancy herein set forth, forever.

AND, in consideration of the premises, the Grantor does hereby covenant with the Grantee that the Grantor is lawfully seised in fee simple of the property herein described (the "Property") and has good right to sell and convey the Property; that the Property is free and clear of all encumbrances made or suffered by the Grantor, except as set forth in Exhibit A and except for the lien of real property taxes not yet by law required to be paid; and that the Grantor shall WARRANT AND DEFEND the foregoing against the lawful claims of all persons claiming by, through, or under the Grantor, unto the Grantee and the Grantee's successors and assigns, forever.

AND the Grantor quitclaims to the Grantee all rights, title and interests reserved, granted or acquired by the Grantor or its predecessors in interest with respect to land owned by others on the island of Lanai, including but not limited to, if any, rights and interests with respect to easements, rights of way, access, water, minerals, metals, geothermal resources, and restrictive covenants.

The rights and obligations of the Grantor and the Grantee shall be binding upon and inure to the benefit of their respective estates, heirs, personal representatives, successors, successors in trust, and assigns. The conveyance herein set forth and the warranties of the Grantor concerning the same are expressly declared to be in favor of the Grantee, and the Grantee's heirs, personal representatives, successors, successors in trust and assigns.

The terms "Grantor" and "Grantee," as and when used herein, or any pronouns used in place thereof, shall mean and include the masculine or feminine, the singular or plural number, individuals or corporations, limited liability companies or partnerships, and their and each of their respective, heirs, personal representatives, successors, successors in trust, and assigns, according to the context thereof.

This Deed is being made as a part of a larger sale of assets by the Grantor relating to the island of Lanai through which the Grantor is receiving consideration for this Deed by the transfer of assets from the Grantee and additional value from the Grantee and its affiliates.

IN WITNESS WHEREOF, the Grantor has executed these presents as of the day and year first above written.

CASTLE & COOKE, INC., a Hawaii corporation


By: 
Name: HARRY A. SAUNDERS
Title: Senior Vice President

By: 
Name: RICHARD K. MIRIKITANI
Title: Vice President & Assistant Secretary

Grantor

STATE OF HAWAII)
) SS.
CITY AND COUNTY OF HONOLULU)

On June 21, 2012, before me personally appeared HARRY A. SAUNDERS and RICHARD K. MIRIKITANI, to me personally known, who, being by me duly sworn or affirmed, did say that such persons executed this 12-page Limited Warranty Deed undated at time of notarization, in the First Circuit of the State of Hawaii, as the free act and deed of such persons, and if applicable in the capacity shown, having been duly authorized to execute such instrument in such capacity.



Print Name: Rhonda Biffle
Notary Public, State of Hawaii

My commission expires: Aug. 3, 2012

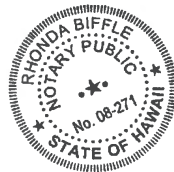


EXHIBIT A

ITEM ONE:

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 1-A-2, AREA 0.5550 ACRE, MORE OR LESS,

LOT 1-A-3, AREA 0.5530 ACRE, MORE OR LESS, AND

LOT 1-B-1-B, AREA 8.3619 ACRES, MORE OR LESS.

AS SHOWN ON MAP 6, FILED WITH LAND COURT APPLICATION NO. 590 OF HAWAIIAN PINEAPPLE COMPANY, LIMITED.

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO. 469,169 ISSUED TO CASTLE & COOKE, INC., A HAWAII CORPORATION.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)
2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

ITEM TWO:

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT B-1-A, AREA 160.971 ACRES, MORE OR LESS, -

LOT B-1-B, AREA .032 ACRE, MORE OR LESS, -

LOT B-3-A, AREA 6.059 ACRES, MORE OR LESS, AND

LOT B-3-B, AREA 5.668 ACRES, MORE OR LESS,

AS SHOWN ON MAP 5 FILED WITH LAND COURT APPLICATION NO. 635 OF HAWAIIAN PINEAPPLE COMPANY, LIMITED.

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO. 469,170 ISSUED TO CASTLE & COOKE, INC., A HAWAII CORPORATION.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)
2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

ITEM THREE:

ALL OF THAT CERTAIN PARCEL OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT APANA 1, AREA 133.45 ACRES, MORE OR LESS, AS SHOWN ON MAP 1,

LOT 2, AREA 0.67 ACRES, MORE OR LESS, AS SHOWN ON MAP 3, AND

LOT 1-A, AREA 102.381 ACRES, MORE OR LESS, AS SHOWN ON MAP 4,

FILED WITH LAND COURT APPLICATION NO. 786 OF HAWAIIAN PINEAPPLE COMPANY, LIMITED.

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO. 469,171 ISSUED TO CASTLE & COOKE, INC., A HAWAII CORPORATION.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)

2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

ITEM FOUR:

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 1, AREA 3.364 ACRES, MORE OR LESS,
LOT 2, AREA 35.02 ACRES, MORE OR LESS,
LOT 3, AREA 4.98 ACRES, MORE OR LESS,
LOT 4, AREA 2.51 ACRES, MORE OR LESS,
LOT 5, AREA 0.497 ACRE, MORE OR LESS,
LOT 7, AREA 0.595 ACRE, MORE OR LESS,
LOT 8, AREA 8.47 ACRE, MORE OR LESS,
LOT 9, AREA 0.285 ACRE, MORE OR LESS,
LOT 10, AREA 0.394 ACRE, MORE OR LESS,
LOT 11, AREA 0.658 ACRE, MORE OR LESS,
LOT 12, AREA 0.284 ACRE, MORE OR LESS,
LOT 14, AREA 0.028 ACRE, MORE OR LESS,
LOT 15, AREA 3.66 ACRES, MORE OR LESS,
LOT 16, AREA 0.612 ACRE, MORE OR LESS,
LOT 17, AREA 0.102 ACRE, MORE OR LESS,
LOT 18, AREA 0.246 ACRE, MORE OR LESS,
LOT 19, AREA 3.13 ACRES, MORE OR LESS,
LOT 20, AREA 30.05 ACRES, MORE OR LESS,
LOT 21, AREA 9.08 ACRES, MORE OR LESS,
LOT 22, AREA 2.08 ACRES, MORE OR LESS,
LOT 23-B, AREA 3.816 ACRES, MORE OR LESS,
LOT 24, AREA 1.00 ACRE, MORE OR LESS,
LOT 25, AREA 1.41 ACRES, MORE OR LESS,
LOT 26, AREA 7.83 ACRES, MORE OR LESS,
LOT 27, AREA 15.70 ACRES, MORE OR LESS,
LOT 28, AREA 46.20 ACRES, MORE OR LESS, AS SHOWN ON MAPS 1 AND 2, AND

LOT 29-A, AREA 1.107 ACRES, MORE OR LESS,
LOT 30-A, AREA 0.175 ACRE, MORE OR LESS, AND

LOT 30-C, AREA 0.254 ACRE, MORE OR LESS, AS SHOWN ON MAP 3,

LOT 31, AREA 0.524 ACRE, AS SHOWN ON MAPS 1 AND 2, AND

LOT 32-B, AREA 0.322 ACRE, MORE OR LESS, AS SHOWN ON MAP 3,

FILED WITH LAND COURT APPLICATION NO. 1590 (AMENDED) OF
HAWAIIAN PINEAPPLE COMPANY, LIMITED.

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO.
469,172 ISSUED TO CASTLE & COOKE, INC., A HAWAII CORPORATION.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)
2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

ITEM FIVE:

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF
LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE
PARTICULARLY DESCRIBED AS FOLLOWS:

LOT E-2-A-1-A-1-J, AREA 0.166 ACRE, MORE OR LESS, AS SHOWN ON MAP 13,
AND

LOT 706, AREA 11,796 SQUARE FEET, MORE OR LESS,
LOT 707, AREA 561,449 SQUARE FEET, MORE OR LESS,
LOT 710, AREA 218,552 SQUARE FEET, MORE OR LESS,
LOT 712, AREA 244,677 SQUARE FEET, MORE OR LESS,
LOT 713, AREA 3,829 SQUARE FEET, MORE OR LESS,
LOT 729, AREA 1,173,239 SQUARE FEET, MORE OR LESS, AND
LOT 733, AREA 117,878 SQUARE FEET, MORE OR LESS,
AS SHOWN ON MAP 48,

FILED WITH LAND COURT APPLICATION NO. 862 (AMENDED) OF HAWAIIAN
PINEAPPLE COMPANY, LIMITED.

TOGETHER WITH:

(A) A PERPETUAL RIGHT AND EASEMENTS TO BUILD, CONSTRUCT,
INSTALL, MAINTAIN, OPERATE, REPAIR AND/OR REPLACE POLE AND WIRE
LINES OR UNDERGROUND LINES FOR POWER AND COMMUNICATIONS;
UNDERGROUND WATER PIPELINES, INCLUDING FIRE HYDRANTS AND
VALVES; UNDERGROUND CONCRETE AND/OR CORRUGATED IRON
STRUCTURES FOR PURPOSES OF DRAINAGE AND IRRIGATION; AND
UNDERGROUND SEWER LINES UPON, ALONG, OVER, ACROSS, THROUGH
AND/OR UNDER VARIOUS LOTS AND/OR PORTION OR PORTIONS THEREOF;
AND

(B) A PERPETUAL RIGHT AND EASEMENTS TO INSTALL, CONSTRUCT, LAY,
MAINTAIN, REPAIR, REMOVE AND/OR REPLACE AN UNDERGROUND
WATER PIPELINE OR PIPELINES ALONG, ACROSS, THROUGH AND UNDER
LOTS 482-B, 553-B, 303-B, 549, 551-C AND 561-A, TOGETHER WITH THE RIGHT
OF ACCESS FROM TIME TO TIME FOR THE PURPOSE AFORESAID;
PROVIDED, HOWEVER, AND THIS RESERVATION IS ON THE CONDITION
THAT, IF SAID EASEMENTS ARE NOT USED FOR THE AFORESAID PURPOSE
AT ANY TIME FOR A PERIOD OF TWO (2) CONSECUTIVE YEARS, THEN THE
SAME SHALL CEASE AND TERMINATE, AS RESERVED IN DEEDS, DATED
DECEMBER 1, 1961, DECEMBER 1, 1961, JANUARY 30, 1962, JULY 27, 1962,
APRIL 20, 1964 AND APRIL 20, 1964, FILED AS LAND COURT DOCUMENT NOS.
282714, 282715, 286951, 293717, 329739 AND 329740, RESPECTIVELY.

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO.
469,174 ISSUED TO CASTLE & COOKE, INC., A HAWAII CORPORATION.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)
2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

ITEM SIX:

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF

LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 1-C-3, AREA 1.5001 ACRES, MORE OR LESS,

AS SHOWN ON MAP 6, FILED WITH LAND COURT APPLICATION NO. 590 OF HAWAIIAN PINEAPPLE COMPANY, LIMITED.

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 44, AREA 3.816 ACRES, MORE OR LESS, AND
LOT 45, AREA .224 ACRE, MORE OR LESS, AS SHOWN ON MAP 21, AND

LOT 701, AREA .387 ACRE, MORE OR LESS,
LOT 703, AREA .551 ACRE, MORE OR LESS,
LOT 714, AREA .799 ACRE, MORE OR LESS,
LOT 716, AREA 3.132 ACRES, MORE OR LESS,
LOT 730, AREA .521 ACRE, MORE OR LESS, AND
LOT 735, AREA 1.136 ACRES, MORE OR LESS, AS SHOWN ON MAP 48,

FILED WITH LAND COURT APPLICATION NO. 862 (AMENDED) OF HAWAIIAN PINEAPPLE COMPANY, LIMITED.

TOGETHER WITH:

A PERPETUAL RIGHT AND EASEMENTS TO INSTALL, CONSTRUCT, LAY, MAINTAIN, REPAIR, REMOVE AND/OR REPLACE AN UNDERGROUND WATER PIPELINE OR PIPELINES ALONG, ACROSS, THROUGH AND UNDER LOTS 482-B, 553-B, 303-B, 549, 551-C AND 561-A, TOGETHER WITH THE RIGHT OF ACCESS FROM TIME TO TIME FOR THE PURPOSE AFORESAID; PROVIDED, HOWEVER, AND THIS RESERVATION IS ON THE CONDITION THAT, IF SAID EASEMENTS ARE NOT USED FOR THE AFORESAID PURPOSE AT ANY TIME FOR A PERIOD OF TWO (2) CONSECUTIVE YEARS, THEN THE SAME SHALL CEASE AND TERMINATE, AS RESERVED IN DEEDS, DATED DECEMBER 1, 1961, DECEMBER 1, 1961, JANUARY 30, 1962, JULY 27, 1962, APRIL 20, 1964 AND APRIL 20, 1964, FILED AS LAND COURT DOCUMENT NOS. 282714, 282715, 286951, 293717, 329739 AND 329740, RESPECTIVELY.

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT B-2-A, AREA 2.474 ACRES, MORE OR LESS,

LOT B-2-B, AREA .261 ACRE, MORE OR LESS, AND

LOT B-2-C, AREA .027 ACRE, MORE OR LESS,

AS SHOWN ON MAP 5 FILED WITH LAND COURT APPLICATION NO. 635 OF HAWAIIAN PINEAPPLE COMPANY, LIMITED.

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO. 469,175 ISSUED TO CASTLE & COOKE, INC., A HAWAII CORPORATION.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)

2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

ITEM SEVEN:

ALL OF THOSE CERTAIN PARCELS OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 1, AREA 13.547 ACRES, MORE OR LESS,

LOT 2, AREA 3.346 ACRES, MORE OR LESS,

LOT 3, AREA 3.785 ACRES, MORE OR LESS, AND

LOT 4, AREA 53.175 ACRES, MORE OR LESS,

AS SHOWN ON MAP 1, FILED WITH LAND COURT CONSOLIDATION NO. 190 OF CASTLE & COOKE, INC.

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO.
488,592 ISSUED TO CASTLE & COOKE, INC., A HAWAII CORPORATION.

NOTE: FINAL ORDER OF CONDEMNATION FOR A PORTION OF LOT 4, LAND
COURT CONSOLIDATION 190, RECORDED AUGUST 28, 2000, LAND COURT
DOCUMENT NO. 2646775.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)
2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

MISCELLANEOUS EXHIBITS



STATE OF HAWAII
OFFICE OF ASSISTANT REGISTRAR
RECORDED

October 2, 2012 1:00 PM

Doc No(s) T-8310375

on Cert(s) AS LISTED HEREIN

Issuance of Cert(s)

/s/ NICKI ANN THOMPSON
ASSISTANT REGISTRAR



1 1/1 SMC
B-32139838

LAND COURT SYSTEM

REGULAR SYSTEM

After Recordation, Return by ☒ Mail or ☐ Pick-up

Mark F. Ito, Esq.
SCHLACK ITO
745 Fort Street, Suite 1500
Honolulu, Hawaii 96813
Telephone: (808) 523-6045

Total Page(s): 8

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

Petitioner: Lanai Resorts, LLC (formerly known as Castle & Cooke Resorts, LLC)

Affects Certificate of Title Nos.: 468,683; 468,684; 468,685; 468,686; 468,687; 468,688;
468,689; 468,690; 468,691; 468,692; 468,693; 468,694; 468,695; 468,696; 468,697;
468,698; 468,700; 468,702; 506,384; 583,970; 633,767; 799,954; 812,328; 852,675;
987,393; 1,044,092; 1,044,093; 1,044,094; 1,044,095; 1,044,096; 1,044,097; 1,044,098;
1,044,099; 1,044,100 and 1,044,101

IN THE LAND COURT OF THE STATE OF HAWAII

1 L. D. CASE NO.12-1-3296

In the Matter of the Application

of

Various Applicants,

to register title to land situate at various
locations in the State of Hawaii

Land Court Application Nos. 590, 635, 786,
862 and 1590 Consolidation Nos. 170, 189
and 190

PETITION FOR ORDER RE CHANGE OF NAME AND
ORDER

Attorneys for Petitioner

MARK F. ITO
SCHLACK ITO
A Limited Liability Law Company
745 Fort Street, Suite 1500
Honolulu, HI 96813
Telephone No.: (808) 523-6045

3692-0

A TRUE COPY, ATTEST WITH
THE SEAL OF SAID COURT.

JANNIS SHIROMA
Clerk

2012 SEP 27 PM 2:14
FILED
KATHLEEN HANAWA
REGISTRAR

IN THE LAND COURT OF THE STATE OF HAWAII

In the Matter of the Application

of

Various Applicants,

to register title to land situate at various locations in the State of Hawaii

Land Court Application Nos. 590, 635, 786, 862 and 1590 Consolidation Nos. 170, 189 and 190

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

TO: THE HONORABLE PRESIDING JUDGE OF THE LAND COURT OF THE STATE OF HAWAII:

The undersigned Petitioner respectfully shows unto this Court as follows:

1. The name of Petitioner has been legally changed on September 14, 2012 from CASTLE & COOKE RESORTS, LLC to LANAI RESORTS, LLC as evidenced by the certified copy of Articles of Amendment to Change Limited Liability Company Name filed in the Department of Commerce and Consumer Affairs of the State of Hawaii attached hereto and made a part hereof.
2. Petitioner desires that the change of name from CASTLE & COOKE RESORTS, LLC to LANAI RESORTS, LLC be appropriately endorsed on the following Certificates of Title describing land owned by Petitioner:

CERTIFICATE OF TITLE NO.	LAND COURT APPLICATION NO.	LAND COURT CONSOLIDATION NO.
468,683	862	
468,684	862	
468,685	862	
468,686	862	
468,687	862	
468,688	862	
468,689	862	
468,690	862	
468,691	862	
468,692	862	
468,693		170
468,694	862	
468,695		170
468,696	862	
468,697	862	
468,698		170
468,700		170
468,702	590	
506,384	862	
583,970	862	
633,767	862	
799,954	862	
812,328		170
852,675		170
987,393		170
1,044,092		170
1,044,093		189
1,044,094		170
1,044,095	590	
1,044,096	635	
1,044,097	786	
1,044,098	1590	
1,044,099	862	
1,044,100	590, 635 & 862	
1,044,101		190

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

WHEREFORE, Petitioner respectfully prays that the Assistant Registrar of this Court be authorized and directed to endorse upon said Certificates of Title listed above the change of name of Petitioner from CASTLE & COOKE RESORTS, LLC to LANAI RESORTS, LLC.

DATED: Honolulu, Hawaii, September 25, 2012.

Petitioner: LANAI RESORTS, LLC

By *Mark F. Ito*
Mark F. Ito
Its Attorney

STATE OF HAWAII)
) ss.
CITY AND COUNTY OF HONOLULU)

On this 25th day of September, 2012, in the State of Hawaii, before me personally appeared **MARK F. ITO**, to me personally known or proved to me on the basis of satisfactory evidence of her signature and identity to be the aforesaid persons, who, being by me duly sworn or affirmed, did say that such persons executed the foregoing instrument as the free act and deed of such persons, and if applicable, in the capacities shown, having been duly authorized to execute such instrument in such capacities.

I hereby certify that the instrument to which this notary acknowledgment is attached is entitled **PETITION FOR ORDER RE CHANGE OF NAME AND ORDER**, and ☒ dated September 25, 2012 or ☐ undated at the time of notarization. The entire instrument, including the notary acknowledgment page(s) and attachment(s), if any, consists of 7-pages.



Michele P. Makainai

Print Name: Michele P. Makainai
Notary Public, State of Hawaii

My commission expires: 04/08/2016

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

ORDER

Upon the record herein and good cause appearing, the prayer of Petitioner in the foregoing Petition for Order re Change of Name is hereby granted, and the Assistant Registrar of this Court is authorized and directed to comply herewith.

DATED: Honolulu, Hawaii, this SEP 27 2012 day of SEP 27 2012, 2012

KATHLEEN HANAWAHINE

for

JUDGE OF THE LAND COURT OF THE
STATE OF HAWAII



REGISTRAR

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

www.BUSINESSREGISTRATION.HAWAII.GOV

FORM LLC-2
7/2008

FILED 09/14/2012 11:19 AM
Business Registration Division
DEPT. OF COMMERCE AND
CONSUMER AFFAIRS
State of Hawaii

STATE OF HAWAII
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
Business Registration Division
335 Merchant Street
Mailing Address: P.O. Box 40, Honolulu, Hawaii 96810
Phone No. (808) 586-2727



ARTICLES OF AMENDMENT TO CHANGE LIMITED LIABILITY COMPANY NAME

(Section 923-904, Hawaii Revised Statutes)

6495 C5

PLEASE TYPE OR PRINT LEGIBLY IN BLACK INK

The undersigned, for the purpose of amending the Articles of Organization, do hereby certify as follows:

1. The present name of the limited liability company is:
CASTLE & COOKE RESORTS, LLC
2. The name of the limited liability company is changed to:
LANAI RESORTS, LLC
3. The amendment was adopted with the consent of all, or a lesser number of, the members of the limited liability company as authorized by the operating agreement.

We certify, under the penalties set forth in the Hawaii Uniform Limited Liability Company Act, that we have read the above statements, we are authorized to make this change, and that the statements are true and correct.

Signed this 14th day of September, 2012

Lanai Island Holdings, LLC, Its Member
LIM Corporation, Its Manager

PAUL T. MARSHALL Vice President

(Typed Print Name & Title)

(Signature)

Instructions: Articles must be typewritten or printed in black ink, and must be legible. The articles must be signed and certified by at least one manager of a manager-managed company or by at least one member of a member-managed company. All signatures must be in black ink. Submit original articles together with the appropriate fee.

Line 1. State the full name of the limited liability company prior to the change.

Line 2. State the new name of the limited liability company. The company name must contain the words *Limited Liability Company*, or the abbreviation, *L.L.C.* or *LLC*.

Filing Fee: Filing fee (\$25.00) is not refundable. Make checks payable to DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS. Dishonored Check Fee \$25.00.

For any questions call (808) 586-2727. Neighbor Islands may call the following numbers followed by 6-2727 and the # sign: Kauai 274-3141; Maui 984-2400; Hawaii 974-4000; Lanai & Molokai 1-800-465-4644 (toll free).
Fax: (808) 586-2733 Email Address: breg@dcca.hawaii.gov

NOTICE: THIS MATERIAL CAN BE MADE AVAILABLE FOR INDIVIDUALS WITH SPECIAL NEEDS. PLEASE CALL THE DIVISION SECRETARY, BUSINESS REGISTRATION DIVISION, DCCA, AT 586-2744, TO SUBMIT YOUR REQUEST.

ALL BUSINESS REGISTRATION FILINGS ARE OPEN TO PUBLIC INSPECTION. (SECTION 923-11, HRS)

APPENDIX D

PHOTOGRAPH LOG



1. Site from south property border facing west, overview of the existing industrial area.



2. Site from the south property border at Miki Road facing northwest, overview of the existing industrial area.



3. Site from the south property border at Miki Road facing north.



4. Site from the south property border facing east.

Lanai Resorts, LLC – Miki Basin – 200 Acre – Proposed Industrial Property, Lanai, HI	TRC Project Number - 215580	April 3, 2014
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5. Undeveloped land to the east beyond the Site from the east property border.



6. Undeveloped land to the north beyond the Site from the north property border.



7. Undeveloped land to the west beyond the Site from the west property border.



8. Undeveloped land to the northwest of the Site with the Lanai Airport beyond from the West property boundary.

Lanai Resorts, LLC – Miki Basin – 200 Acre – Proposed Industrial Property, Lanai, HI	TRC Project Number - 215580	April 3, 2014
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9. Undeveloped land to the south beyond the Site from the southwest property border.



10. Typical piping used for agricultural purposes located throughout the property.



11. Typical PVC pipe located throughout the property.



12. Adjoining metal scrapyard with workers actively removing debris.

Lanai Resorts, LLC – Miki Basin – 200 Acre – Proposed Industrial Property, Lanai, HI	TRC Project Number - 215580	April 3, 2014
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13. Segregated waste materials including batteries, tires and propane tanks located on the adjoining property.



14. Gasoline and oil without proper secondary containment located on the adjoining property. No evidence of spills or releases observed.



15. Overview of the storage warehouse adjoining the Site.

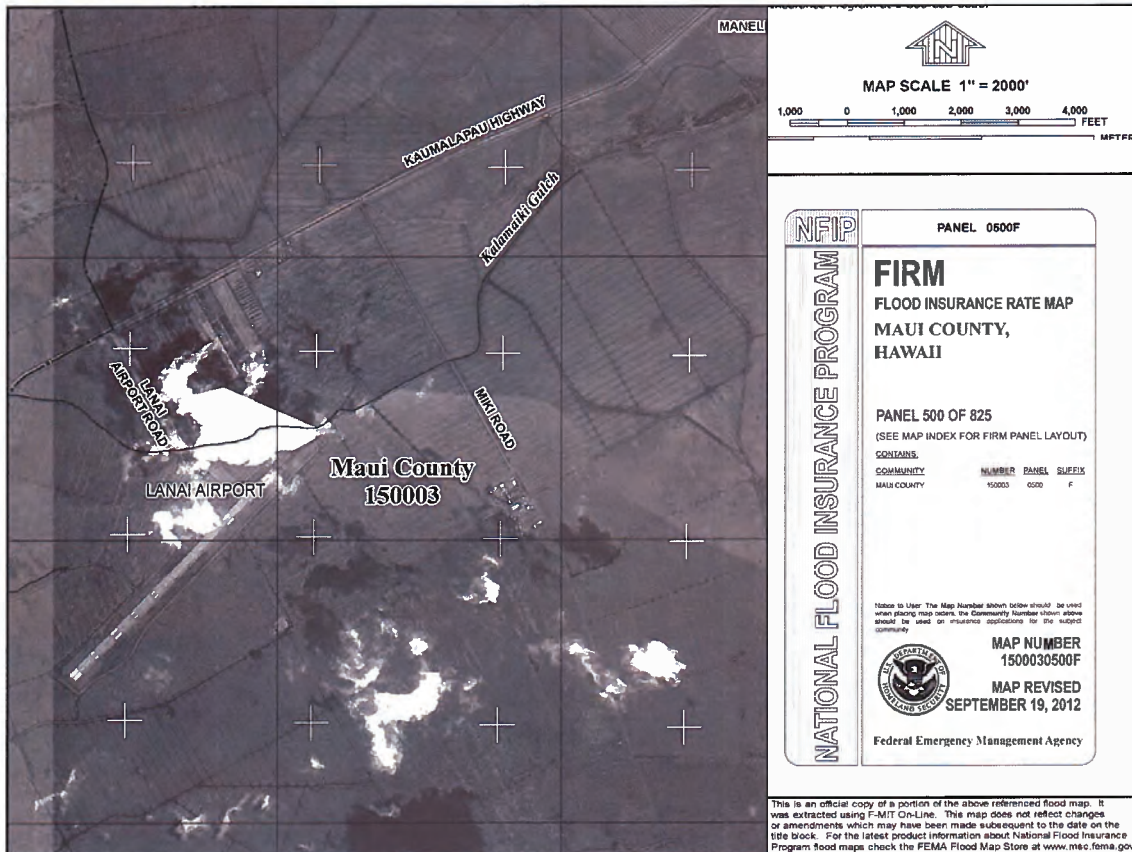


16. MECO power plant facility adjoining the Site.

Lanai Resorts, LLC – Miki Basin – 200 Acre – Proposed Industrial Property, Lanai, HI	TRC Project Number - 215580	April 3, 2014
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OTHER REFERENCE INFORMATION

APPENDIX E



APPENDIX F

TRC STAFF AND ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS/RESUMES



Ronald A. Landolt, CAC

RONALD A. LANDOLT, CAC

EDUCATION

B.A., Biology/Environmental Management, Concordia University, 2002

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

- State of California, Department of Occupational Safety and Health, Certified Asbestos Consultant, #10-4597
- State of California, Department of Public Health, Certified Lead Inspector/Assessor, #24276.
- State of Hawaii, Department of Health, Certified Asbestos Inspector, #HIASB-2677.

AREAS OF EXPERTISE

Mr. Ronald A. Landolt, CAC, has project management and technical experience in the following general areas:

- Client Development, Management and Interaction
- Write and Edit Technical Reports for Clients and Regulatory Agencies
- Soil and Groundwater Sampling and Remediation System Implementation
- Spill Prevention Control and Countermeasure (SPCC) Plan Management
- Stormwater Pollution Control Plan (SWPCP) Development & Management
- Indoor Air Quality and Microbial Assessments and Remediation Design
- Asbestos Surveys and Abatement Project Design
- AHERA Management Plan Review and Development
- Poly-Chlorinated Biphenyl and Mercury Investigations
- Stormwater Regulatory Compliance and Plan Development
- Phase I and Phase II Environmental Site Assessments and Audits
- Property Condition Assessments
- 3rd Party QA/QC Inspections
- Construction Management and Loan Reviews

REPRESENTATIVE EXPERIENCE

Mr. Landolt has over 10 years of experience and progressive responsibility in environmental and engineering consulting. His qualifications include extensive hands-on planning, field investigation, design, permitting, cost estimating, project management, and client management. Mr. Landolt's background includes extensive service to public and private-sector clientele including Target, Rite Aid, Shorenstein Realty Services, Deering Property Management, Beaverton School District, North Wasco County School District, Salem-Keizer School District, University of New Mexico, Clackamas Community College, Clatsop Community College, Columbia Gorge Community College, NW Natural Gas, Bank of America, Bechtel Corporation, CB Richard Ellis, FedEx Ground and UPS. He currently serves in the capacity of Project Manager for TRC with responsibility for the business development, proposal and contract document writing and review to initiate projects, track project status and input critical data associated with each project, monitor the work performed by field staff and subcontractors and analyze the data acquired to determine further action with respect to regulatory compliance or industry standards while maintaining strict deadlines.



Ronald A. Landolt, CAC

Mr. Landolt is also responsible for management of financial budgets set forth in the specific contract documents from initial development, tracking labor and additional costs through the project until contract completion and final invoicing.

Millennium Bulk Terminals, Hazardous Materials Assessments – Longview, Washington (Project Manager: Present).

Lead project manager and client manager responsible for the hazardous materials inspection (asbestos, lead, PCB's, PAH's, Fluoride and Mercury), abatement oversight and regulatory compliance for the re-development of the Millennium Bulk Terminals facility. Responsibilities included initial cost proposals and contracts, scope of work development, organization with the Client and contractors as well as sample collection, staff management and oversight.

Holly Street Power Plant, Pre-Demolition Asbestos Abatement Management – Austin, Texas (Asbestos Abatement Manager: March – August 2012)

On-site abatement organization and oversight of the asbestos abatement activities associated with the demolition of the Holly Street Power Plant in Austin, TX. Mr. Landolt was responsible for the management of the abatement activities being conducted in conjunction with the active demolition of the plant as well as providing direct project updates and other correspondence to the client and their representatives on a daily basis.

Target Distribution Center, SPCC Plan Development and Audits – Albany, Oregon (Project Manager: 2008 – 2011).

Project Manager responsible for the development of the facilities revised SPCC plan in order to ensure regulatory conformance as well as the subsequent facility audits to confirm compliance with the SPCC plan. Responsibilities included development of the SPCC plan for regulatory compliance and annual Audit of the facility. Mr. Landolt was also involved in client management and communication throughout the duration of the project.

FedEx Ground, SPCC Audits – Portland, Oregon (Project Manager: 2007 – 2010).

Project Manager responsible for the audit of the FedEx Ground facilities SPCC plan and conformance to the regulatory requirements. Responsibilities included review of the SPCC plan for regulatory compliance and annual Audit of the facility. Mr. Landolt was also involved in client management and communication throughout the duration of the project.

FedEx Ground, Environmental Site Investigation – Troutdale, Oregon (Project Manager: 2009 – 2010).

Development and implementation of a large scale contract and scope of work on a 78-acre site to be used as a shipping facility. The site was previously occupied by an aluminum factory and is listed as a former Superfund site. Responsibilities included developing the scope of work, working with a team to perform the initial Phase I Environmental Site Assessment, management of surveying and excavating subcontractors, performing a detailed subsurface investigation and associated report. Mr. Landolt was also involved in client management and communication throughout the duration of the project.



Ronald A. Landolt, CAC

Coca-Cola Bottling Company, Due Diligence Environmental Investigations – Omak, Washington (Project Scientist and Project Manager: 2004 – 2011)

Subsurface investigation where responsibilities included scheduling, ordering drilling supplies, supervision of outside contractors, collect and field screen soil samples, log soil borings according to the Unified Soils Classification System, monitoring well re-development, groundwater monitoring, data interpretation and report preparation as well as remediation system design, implementation and submittal of Voluntary Cleanup Program Application to Washington DOE, and regulatory compliance discussions with Washington DOE.

Conoco Phillips, Soil and Groundwater Sampling – Oregon, Washington and Arizona (Project Geologist: 2004-2008 and Project Manager: 2008 – 2011)

Project Geologist and Project Manager responsible for conducting soil and groundwater sampling activities for various retail fueling stations throughout Oregon, Washington and Arizona. Mr. Landolt has also been responsible for the on-site safety compliance associated with soil and groundwater sampling activities for Conoco Phillips as well as collaborating with other consultants, contractors and laboratories to ensure proper sample collection and procedures were followed in accordance with all applicable regulations.

Tersoro Golden Eagle Oil Refining Terminal, Groundwater Remediation Well System Sampling – Concord, California (Project Manager: 2008 – 2010)

Lead on-site Project Manager for bi-annual sampling of over 300 monitoring wells located throughout a 1,000-acre oil refining terminal. Responsibilities included daily scheduling, permit acquisition, staff coordination, data compilation and management. Mr. Landolt was also responsible for collaborating with other consultants, contractors and laboratories to ensure proper sample collection and procedures were followed.

Various Clients, Phase I Environmental Site Assessments – Oregon, Washington, California, Idaho, Arizona and New Mexico (Project Manager: 2001 – Present)

Performs, reviews and manages ASTM Phase I ESAs as an Environmental Professional for various clients including industrial properties, commercial/retail properties, residential properties, and vacant parcels of land. Responsibilities included proposal and budget preparation, proposal review, client interaction, record review, site reconnaissance, interviews, report preparation, limited sampling, report review and submittals.

Various Clients, Property Condition Assessments – Oregon, Washington, California, Idaho, Colorado, Wyoming, Utah, Nevada, Arizona, New Mexico and Massachusetts (Project Manager: 2005 – Present)

Performs and manages ASTM PCA's for various clients including high-rise buildings, hotel properties, industrial properties, commercial properties, retail properties and multi-family residential facilities. Responsibilities included proposal and budget preparation, proposal review, client interaction, record review, site reconnaissance, interviews, report preparation, report review and submittals.



Ronald A. Landolt, CAC

Various Clients, Indoor Air Quality Assessments and Microbial Sampling – Oregon, Washington, California, Idaho and New Mexico (Project Scientist and Project Manager: 2001 – Present)

Conducted pre- and post-remediation sampling for viable and non-viable spores in commercial, retail and residential properties. Responsibilities include budget and proposal preparation, project coordination, collection of both viable and non-viable spore sampling, bulk sampling, swab sampling, data interpretation, report preparation, and client interaction.

Clatsop Community College, Hazardous Materials Inspection and Management – Astoria, Oregon (Project Manager and Client Manager: 2009 – Present)

Lead project manager and client manager responsible for the hazardous materials inspection (asbestos, lead, PCB's and Mercury), abatement oversight and regulatory compliance for the Jerome Campus Redevelopment Project. Responsibilities included initial cost proposals and contracts, scope of work development, organization with the Project Manager, general contractor and abatement contractors as well as staff management and oversight.

Beaverton School District, Building Science Services – Beaverton, Oregon (Project Manager: 2002-2007, Client Manager: 2007 – Present)

Project Manager responsible for the oversight of bond and non-bond related asbestos services including: asbestos surveys, development of abatement project designs, abatement oversight, clearance sampling, project completion reports as well as 6-month surveillances, 3-year re-inspections and other AHERA management activities. Lead client manager for ensuring proper investigation, remediation and best management practices compliance during District wide indoor air quality and microbial projects. Responsibilities included initial cost proposals and contracts, scope of work development, organization with District Facilities Specialist and remediation contractors as well as staff management and oversight. Mr. Landolt is also responsible for conducting direct client management and review in conjunction with each project.

Salem-Keizer School District, Asbestos Management – Salem, Oregon (Client Manager: 2009 – 2011)

Lead client manager for ensuring regulatory compliance during substantial asbestos abatement projects in conjunction with a District wide 252-million dollar redevelopment bond. Responsibilities included initial cost proposals and contracts, scope of work development, organization with project management teams and general contractors as well as staff management and oversight. Mr. Landolt was also responsible for conducting direct client management and regulatory review in conjunction with each project.

Falls City School District, Asbestos Program Management – Falls City, Oregon (Client Manager: 2011 – Present)

Lead client manager for updating the District's AHREA program, ensuring regulatory compliance. Responsibilities included initial cost proposals and contracts, scope of work development, as well as AHERA sampling, report writing and Management Plan development. Mr. Landolt is also responsible for conducting direct client management and training to ensure proper regulatory compliance needs are implemented.



Ronald A. Landolt, CAC

North Wasco County School District, Asbestos Program Management – The Dalles, Oregon (Client Manager: 2009 – Present)

Lead client manager for assisting the District with the management of their AHREA program, ensuring regulatory compliance. Responsibilities included initial cost proposals and contracts, scope of work development, as well as AHERA sampling, report writing, abatement project design, abatement oversight and re-inspections.

Bank of America, Asbestos Inspections and Program Development – Western United States (Project Manager: 2005 – 2010)

Assistant project manager for the development of standardized sampling methods and report templates for an asbestos survey portfolio consisting of full interior and exterior surveys of over 350 banks throughout California. Mr. Landolt was also the primary project manager for this client in Oregon, with experience managing over 100 local asbestos and indoor air quality projects.

Rite Aid Corporation, Asbestos & Concrete Vapor Emissions – Western United States (Client Manager: 2007 – Present)

Primary Client manager for Rite Aid Corporation. The scope of work consists of providing standardized asbestos surveys with concrete moisture testing of the floors as well. Responsibilities included proposal and budget development, project management, distribution of projects to various other offices as well as client management and communication.

Confidential Luxury Hotel/Resort, Asbestos and Microbial Assessment – Kapalua, Maui, Hawaii (Assistant Project Manager: March – September 2007)

On-site inspection and remediation oversight of a large scale renovation project in Maui, Hawaii. The resort property consisted of a 550-room hotel, and two unattached restaurant buildings that were scheduled for complete renovation. Responsibilities included assisting with the initial asbestos and microbial inspection, as well as being the lead on-site Project Manager overseeing the microbial remediation. Mr. Landolt was also responsible for providing direct project updates and other correspondence to the client on a regular basis.

Beaverton School District, Storm Water System Management – Beaverton, Oregon (Project Manager: 2006 – Present)

Project Manager responsible for the District's Storm Water Pollution Control Program. Conducted sampling events, site inspections and updated facility storm water pollution control plans (SWPCP) in coordination with applicable regulations. Responsible for working with regulators to ensure compliance with proper storage and handling of hazardous materials.

Milgard Windows and Doors, Storm Water System Management – Tualatin, Oregon (Project Manager: 2010 – Present)

Project Manager responsible for the development of the industrial facilities Storm Water Pollution Control Plan. Conducted sampling events, site inspections and issued action plans in coordination with applicable regulations and the facilities 1200-Z industrial stormwater permit. Also responsible for working with regulators to ensure compliance with proper sampling strategies, as well as the storage and handling of hazardous materials.



Ronald A. Landolt, CAC

SPECIALIZED TRAINING

- EPA AHERA-Accredited Building Inspector, Management Planner, Project Designer, and Contractor Supervisor
- OSHA 10-Hour Construction Safety Training
- 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER)
- OSHA Confined Space Training
- NIOSH 582 Trained Microscopist
- First Aid/CPR Certified (Not current)
- DOT & IATA Department of Transportation's Hazardous Materials' Regulations Certification
- Washington Department of Ecology Dangerous Waste Management Training
- Hazardous/Toxic Waste Management Training
- 16-Hour Microbial Investigations, Assessments and Remediation Training



Kacey N. Swindle

EDUCATION

B.A., Biology, Hendrix College, 2006
A.A., Education, Central Baptist College, 2003

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

EPA/AHERA (HIASB-3378) Accredited Asbestos Inspector - Hawaii
EPA/AHERA (HIASB-3378) Accredited Asbestos Contractor/Supervisor - Hawaii
EPA/AHERA (HIASB-3378) Accredited Asbestos Project Monitor – Hawaii
EPA (PB-0509) Certified Lead Inspector – Hawaii
NIOSH 582 Equivalent Sampling and Evaluating Airborne Asbestos Dust

AREAS OF EXPERTISE

Ms. Kacey N. Swindle has technical experience in the following general areas:

- Environmental Assessments and Audits
- Site Remediation Design and Implementation
- Asbestos Surveys
- Microbial Investigations
- Lead Based Paint Inspections
- OSHA Compliance

REPRESENTATIVE EXPERIENCE

Ms. Swindle's responsibilities include large and small scale asbestos and lead (Pb) inspections for private, public, commercial and governmental agencies, air monitoring and compliance certification. Ms. Swindle is a certified lead inspector, AHERA inspector, contractor / supervisor, and project monitor.

In addition to asbestos and lead consulting, Ms. Swindle is also proficient in industrial hygiene air monitoring exposure and evaluations, including OSHA compliance and safety program development, as well as indoor air quality studies. Ms. Swindle has performed microbial investigations on multi-family residential and commercial structures. The investigations have encompassed microbial sampling, moisture mapping, project design, and coordination with company senior-level scientists (Ph.D.s, C.I.H.s). Ms. Swindle also performs microbial remediation oversight and post-remediation sampling. She is knowledgeable of construction practices, means, and methods. Ms. Swindle has performed Phase I Environmental Site Assessments including conducting site visits and generating reports.



ASBESTOS ASSESSMENTS

Kyo-Ya, Ltd., Princess Kaiulani Hotel and Retail Spaces Asbestos Surveys - Honolulu, Hawaii (2013 - 2014)

Performed asbestos inspections prior to proposed renovation activities. The investigation included sample collection, analysis, square footage estimates and friability status to determine if the materials pose a health risk to workers and the general public. Written reports were issued to the client detailing laboratory findings with regulatory recommendations including health risk assessment.

Hawaii Pacific University, Aloha Tower Marketplace Asbestos/Lead Paint Surveys - Honolulu, Hawaii (2013 - 2014)

Performed asbestos/lead paint inspections prior to proposed renovation activities. The investigation included sample collection, analysis, square footage estimates and friability status to determine if the materials pose a health risk to workers and the general public. Written reports were issued to the client detailing laboratory findings with regulatory recommendations including health risk assessment.

General Growth Properties, Sears Asbestos/Lead Paint Surveys and Abatement Oversight - Honolulu, Hawaii (2012 - 2013)

Performed asbestos/lead paint inspections and asbestos abatement oversight during demolition activities. The investigation included sample collection, analysis, square footage estimates and friability status to determine if the materials pose a health risk to workers and the general public. Written reports were issued to the client detailing laboratory findings with regulatory recommendations including health risk assessment. Oversight activities included daily asbestos air monitoring, clearance inspections and waste disposal characterizations and laboratory data interpretation to ensure that human health was protected.

Kyo-Ya, Ltd., Moana Surfrider Hotel Asbestos Surveys - Honolulu, Hawaii (2012 - 2013)

Performed asbestos inspections and asbestos remediation oversight of during renovation activities. The investigation included sample collection, analysis, square footage estimates and friability status to determine if the materials pose a health risk to workers and the general public. Written reports were issued to the client detailing laboratory findings with regulatory recommendations including health risk assessment. Oversight activities included daily asbestos air monitoring, clearance inspections and waste disposal characterizations and laboratory data interpretation to ensure that human health was protected.



Kyo-Ya, Ltd., Sheraton Waikiki Hotel Asbestos/Lead Paint Surveys - Honolulu, Hawaii (2011 - 2013)

Performed asbestos/lead paint inspections and asbestos remediation oversight during renovation activities. The investigation included sample collection, analysis, square footage estimates and friability status to determine if the materials pose a health risk to workers and the general public. Written reports were issued to the client detailing laboratory findings with regulatory recommendations including health risk assessment. Oversight activities included daily asbestos air monitoring, clearance inspections and waste disposal characterizations and laboratory data interpretation to ensure that human health was protected.

Hilton Hawaiian Village, LLC., Hilton Hawaiian Village Asbestos/Lead Paint Surveys - Honolulu, Hawaii (2011 - 2013)

Performed asbestos/lead paint inspections and asbestos remediation oversight during renovation activities. The investigation included sample collection, analysis, square footage estimates and friability status to determine if the materials pose a health risk to workers and the general public. Written reports were issued to the client detailing laboratory findings with regulatory recommendations including health risk assessment. Oversight activities included daily asbestos air monitoring, clearance inspections and waste disposal characterizations and laboratory data interpretation to ensure that human health was protected.

LEAD BASED PAINT ASSESSMENTS

Ala Wai Townhouse AOA, Ala Wai Townhouse Lead Based Paint Inspection - Honolulu, Hawaii (2012)

Performed a lead based paint inspection of the above referenced residential building consisting of one hundred (100) similar dwellings as defined by the State of Hawaii, Environmental Protection Agency (EPA) and United States Department of Housing and Urban Development. A written report was issued to the client detailing findings with regulatory recommendations.

PHASE I ENVIRONMENTAL SITE ASSESSMENTS

Lanai Resorts, LLC, Phase I Environmental Site Assessments – Lanai City, Hawaii (Present).

Performed Phase I Environmental Site Assessments for the development of various properties within Lanai City, HI. Responsibilities included assisting in the site investigations and report generation.

**DEFINITION OF ENVIRONMENTAL PROFESSIONAL AND RELEVANT
EXPERIENCE THERETO PURSUANT TO 40 CFR 312**

(1) a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases or threatened releases (see §312.1(c)) on, at, in, or to a property, sufficient to meet the objectives and performance factors in §312.20(e) and (f).

(2) Such a person must: (i) hold a current Professional Engineer's or Professional Geologist's license or registration from a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) and have the equivalent of three (3) years of full-time relevant experience; or (ii) be licensed or certified by the federal government, a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) to perform environmental inquiries as defined in §312.21 and have the equivalent of three (3) years of full-time *relevant experience*; or (iii) have a Baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and the equivalent of five (5) years of full-time relevant experience; or (iv) have the equivalent of ten (10) years of full-time relevant experience.

(3) An environmental professional should remain current in his or her field through participation in continuing education or other activities.

(4) The definition of environmental professional provided above does not preempt state professional licensing or registration requirements such as those for a professional geologist, engineer, or site remediation professional. Before commencing work, a person should determine the applicability of state professional licensing or registration laws to the activities to be undertaken as part of the inquiry identified in §312.21(b).

(5) A person who does not qualify as an environmental professional under the foregoing definition may assist in the conduct of all appropriate inquiries in accordance with this part if such person is under the supervision or responsible charge of a person meeting the definition of an environmental professional provided above when conducting such activities.

APPENDIX G

ENVIRONMENTAL PROFESSIONAL STATEMENT

Relevant experience, as used in the definition of environmental professional in this section, means: participation in the performance of all appropriate inquiries investigations, environmental site assessments, or other site investigations that may include environmental analyses, investigations, and remediation which involve the understanding of surface and subsurface environmental conditions and the processes used to evaluate these conditions and for which professional judgment was used to develop opinions regarding conditions indicative of releases or threatened releases (see §312.1(c)) to the Site. TRC personnel resume(s) are included in **Appendix F**.

I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signature of
Environmental
Professional:



Date: 04/03/14

**Miki Basin Industrial Park
Environmental Assessment**

Exhibit G

Traffic Impact Analysis Report

**TRAFFIC IMPACT ANALYSIS REPORT
MIKI BASIN 200-ACRE INDUSTRIAL
SUBDIVISION**

LANAI CITY, LANAI, HAWAII

DRAFT FINAL

February 4, 2019

Prepared for:
Pulama Lanai
1311 Fraser Avenue
Lanai City, HI 96763



Austin, Tsutsumi & Associates, Inc.

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Honolulu • Wailuku • Hilo, Hawaii

**TRAFFIC IMPACT ANALYSIS REPORT
MIKI BASIN 200-ACRE INDUSTRIAL SUBDIVISION**

Lanai City, Lanai, Hawaii

DRAFT FINAL

Prepared for

**Pulama Lanai
1311 Fraser Avenue
Lanai City, HI 96763**

Prepared by
Austin, Tsutsumi & Associates, Inc.

Civil Engineers • Surveyors
Honolulu • Wailuku • Hilo, Hawaii

February 4, 2019

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AUSTIN, TSUTSUMI & ASSOCIATES, P.C.
CIVIL ENGINEERS • SURVEYORS

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- B. TRAFFIC COUNT DATA
- C. LEVEL OF SERVICE CALCULATIONS
- D. TRAFFIC SIGNAL WARRANT



AUSTIN, TSUTSUMI & ASSOCIATES, INC. CIVIL ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

TERRANCE S. KRASHIRO, P.E.
ADRIENNE W.L.H. WONG, P.E., LEED AP
DEANNA M.R. HAYASHI, P.E.
PAUL K. ARITA, P.E.
ERIK S. KANESHIRO, L.P.L.S., LEED AP
MATT K. NAKAMOTO, P.E.
GARRETT K. TOKUOKA, P.E.

TRAFFIC IMPACT ANALYSIS REPORT

Miki Basin 200-Acre Industrial Subdivision

Lanai City, Lanai, Hawaii

1. INTRODUCTION

This report documents the findings of a traffic study conducted by Austin, Tsutsumi, and Associates, Inc. (ATA) to evaluate the traffic impacts resulting from the proposed Miki Basin 200-acre industrial subdivision (hereinafter referred to as the "Project") located in Lanai, Hawaii.

1.1 Project Description

The Project proposes to construct a 200-acre industrial subdivision on three (3) currently vacant parcels located south of Lanai Airport. The current site plan includes 100 acres of light industrial and 100 acres of heavy industrial land uses. Access to the Project will be provided via Miki Road. It is our understanding that if approved, the 200-acre industrial subdivision will develop gradually over a 30-year period. Thus, full build-out of the Project is anticipated by year 2050.

See Figure 1.1 for Project Location. See Figure 1.2 for the Project site plan.

1.2 Study Methodology

This study will address the following:

- Assess existing traffic operating conditions during the weekday AM and PM peak hours of traffic within the study area.
- Traffic Projections for Base Year 2050 (without the Project).
- Estimate the vehicular trips that will be generated by the Project.
- Traffic projections for the Project for Future Year 2050 (with Project).
- Recommendations for roadway improvements or other mitigative measures, as appropriate, to reduce or eliminate the adverse impacts resulting from traffic generated by the Project.

1.3 Analysis Methodology

Level of Service (LOS) is a qualitative measure used to describe the conditions of traffic flow at intersections, with values ranging from free-flow conditions at LOS A to congested conditions at LOS F. The Highway Capacity Manual (HCM), 6th Edition, includes methods for calculating volume to capacity ratios, delays, and corresponding LOS that were used in this study. See Appendix A for LOS Criteria.

Analyses for the study intersections were performed using the traffic analysis software Synchro, which is able to prepare reports based on the methodologies described in the HCM. These reports contain control delay results as based on intersection lane geometry, signal timing, and hourly traffic volumes. Based on the vehicular delay at each intersection, a LOS is assigned to each approach and intersection movement as a qualitative measure of performance. These results, as confirmed or refined by field observations, constitute the technical analysis that will form the basis of the recommendations outlined in this report.

MIKI BASIN 200 - ACRE INDUSTRIAL SUBDIVISION

Austin Tsutsumi
& ASSOCIATES, INC.
Engineers & Surveyors



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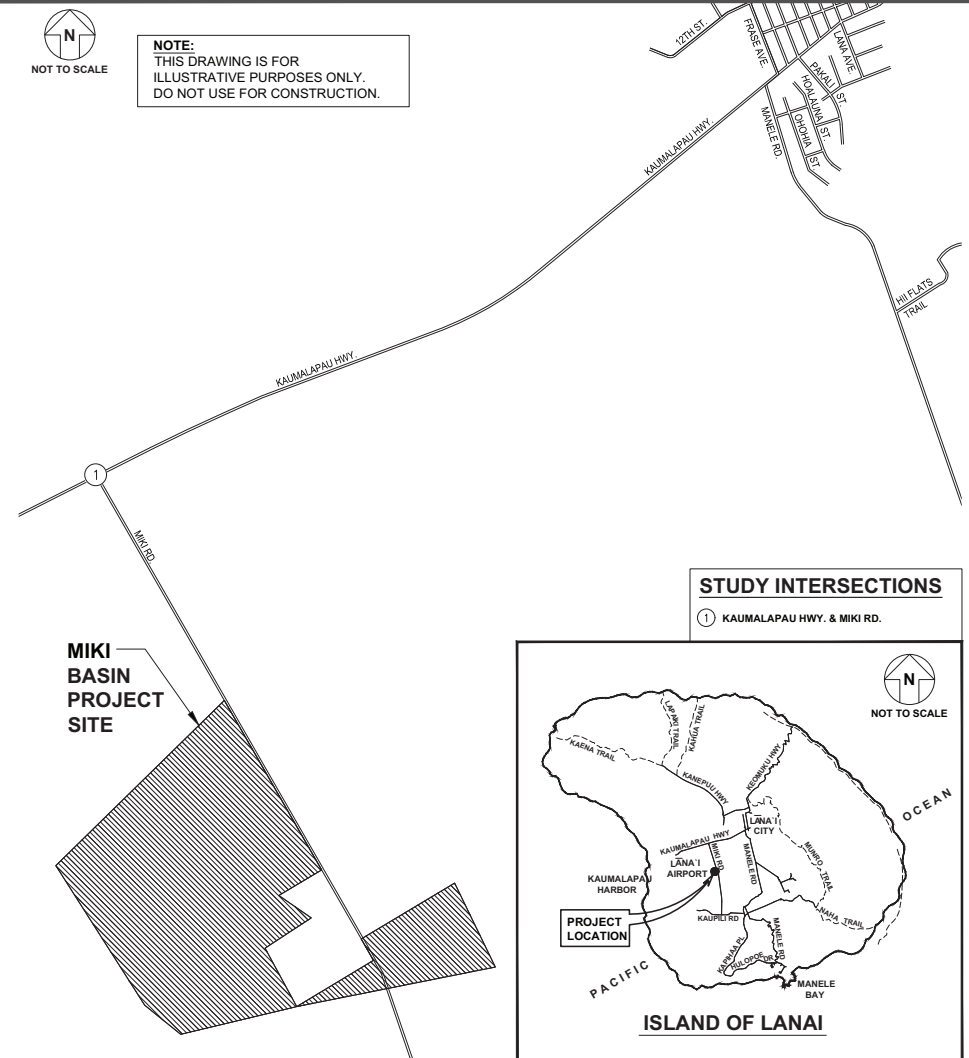


FIGURE 1.1

LOCATION MAP

MIKI BASIN 200 - ACRE INDUSTRIAL SUBDIVISION

Austin Tsutsumi
& ASSOCIATES, INC.
Engineers & Surveyors

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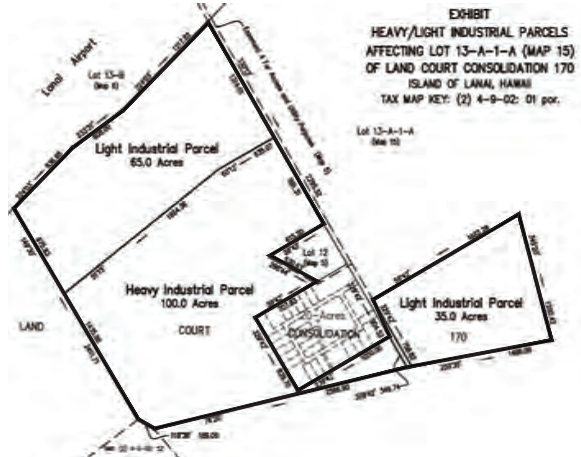


FIGURE 1.2

SITE PLAN

2. EXISTING CONDITIONS

2.1 Roadway System

The following are brief descriptions of the existing roadways studied within the vicinity of the Project:

Kaunalapau Highway is generally an east-west, two-way, two-lane state-owned roadway that runs perpendicular to Miki Road. This roadway begins to the west at the Fuel Depot and terminates to the east at its intersection with Lanai Avenue/Queens Street. The speed limit along Kaunalapau Highway is 45 miles per hour (mph) near Miki Road.

Miki Road is generally a north-south, two-way privately owned roadway that begins to the north at its intersection with Kaunalapau Highway and extends approximately 2.95 miles to the south – primarily through undeveloped land. The roadway is only approximately 13-15 feet wide, and therefore requires vehicles to pull off to the unpaved shoulder when encountering approaching vehicles traveling in the opposite direction.

2.2 Existing Traffic Volumes

12-hour traffic count data was taken between 6:00 AM and 6:00 PM at the Kaunalapau Highway/Miki Road intersection between Wednesday, October 24, 2018 and Friday, October 26, 2018. The Wednesday AM and PM peak hours were the heaviest days in terms of traffic generation, and were therefore used as the basis for the intersection analyses contained within this report. The AM and PM hours of traffic were determined to be 6:30-7:30 AM and 1:00-2:00 PM, respectively. Traffic count data is provided in Appendix B.

2.3 Existing Observations and Analysis

2.3.1 Intersection Analysis

The study intersection currently operates at LOS B or better during the AM and PM Peak hours of traffic. No significant delays or queuing were observed at any of the intersections during the peak hours of traffic. See Figure 2.1 and Table 4.2 for traffic volumes and LOS. LOS worksheets are provided in Appendix C.

MIKI BASIN 200 - ACRE INDUSTRIAL SUBDIVISION

Austin Tsutsumi
& ASSOCIATES, INC.
Engineers & Surveyors

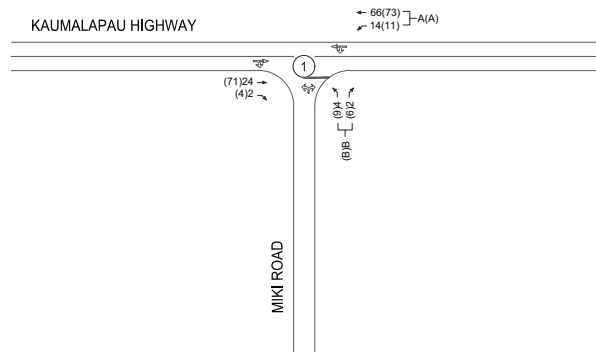
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DATE OF COUNTS:
OCTOBER 24, 2018 TO
OCTOBER 26, 2018

AM PEAK HOUR:
6:30 AM - 7:30 AM

PM PEAK HOUR:
1:00 PM - 2:00 PM



LEGEND

- ##(##) - AM(PM) VEHICLE VOLUMES
- X(X) - AM(PM) LOS
- (X) - UNSIGNALIZED INTERSECTION X

FIGURE 2.1

EXISTING LANE CONFIGURATION,
VOLUMES AND LOS

3. BASE YEAR 2050 TRAFFIC CONDITIONS

The Year 2050 was selected to reflect the Project completion year. The Base Year 2050 scenario represents the traffic conditions within the study area without the Project. Traffic projections were formulated by applying a defacto growth rate to the existing 2018 traffic count volumes as well as trips generated by known future developments in the vicinity of the Project.

3.1 Growth Rate

As of 2010, the population on the island of Lanai was about 3,100 residents. According to the Lanai Community Plan Update published by the County of Maui Planning Department in December 2013, the anticipated growth of Lanai's economy may require its population to nearly double in size to about 6,000 residents. This planning document was published as a guide for decision making and implementation through 2030. In order for Lanai's population to reach 6,000 by year 2030, the island would experience an average growth rate of approximately 4.7 percent per year. Therefore, this growth rate was applied along Kaunalapau Highway to represent the anticipated growth by year 2030.

The Population and Economic Projections for the State of Hawaii to 2045, published by the Hawaii Department of Business, Economic Development, and Tourism (DBEDT) in June 2018, was used to estimate the anticipated growth of Lanai's population between year 2030 and year 2050. According to DBEDT population forecasts, the population growth rate will decrease to less than 1.0 percent per year between 2025 and 2045. To be conservative, an average growth rate of 1.0 percent per year was applied along Kaunalapau Highway to represent the anticipated growth between year 2030 and year 2050.

3.2 Background Projects

The following background project was added to Base Year 2050 projections.

1. Miki Basin Heavy Industrial Area – 14-acre expansion to the existing 6 acres of the Miki Industrial Complex.

This project is anticipated to generate 43(43) trips per hour during the AM and PM peak hours of traffic, respectively.

3.3 Planned Roadway Projects

The Lanai Community Plan Update identified two proposed private roadway connections near the Project site. One roadway will travel parallel to Miki Road, east of the Project site connecting Kaunalapau Highway and Manele Road. The other roadway will travel between Miki Road and the proposed road, described in the previous sentence. To be conservative, it is assumed that these proposed private roadways will not provide access to the Project site, which would require all Project traffic to travel along Miki Road.

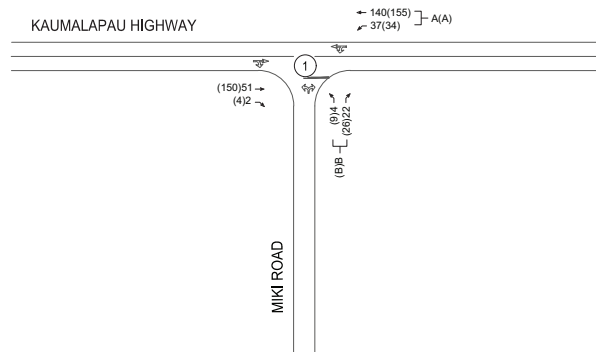
3.4 Base Year 2050 Analysis

Under Base Year 2050 conditions, the study intersection is forecast to operate similarly to existing conditions with all intersection movements expected to operate at LOS B or better during the AM and PM peak hours of traffic. See Figure 3.1 and Table 4.2 for traffic volumes and LOS. LOS worksheets are provided in Appendix C.

MIKI BASIN 200 - ACRE INDUSTRIAL SUBDIVISION

Austin Tsutsumi
& ASSOCIATES, INC.
Engineers & Surveyors

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LEGEND

- ##(##) - AM(PM) VEHICLE VOLUMES
- X(X) - AM(PM) LOS
- (X) - UNSIGNALIZED INTERSECTION X

4. FUTURE YEAR 2050 TRAFFIC CONDITIONS

The Future Year 2050 scenario represents the traffic conditions within the Project study area with the full build-out of the Project.

4.1 Project Description

The Project proposes to construct a 200-acre industrial subdivision on three (3) currently vacant parcels located south of Lanai Airport. The current site plan includes 100 acres of light industrial and 100 acres of heavy industrial zoning. Access to the project will be provided by Miki Road.

It is assumed that at least two driveway access points to the Project site will be provided along Miki Road. As shown in Figure 4.1, Project Driveway 1 provides access to the light and heavy industrial areas west of Miki Road and Project Driveway 2 provides access to the light industrial area east of Miki Road. For the purposes of this analysis Project Driveway 2 was assumed to align with the existing driveway west of Miki Road. However, it is important to note that a final decision on the location or number of Project driveways has not been made.

4.2 Travel Demand Estimations

4.2.1 Trip Generation

Assuming a floor-to-area ratio (FAR) of 0.3, which is consistent with other industrial developments within the Maui County, the proposed rezone would yield about 60 acres of industrial land use (30 acres of light industrial and 30 acres of heavy industrial). The Institute of Transportation Engineers (ITE) publishes trip rates, *Trip Generation Manual, 10th Edition*, based upon historical data from similar land uses. These trip rates/formulae and their associated directional distributions were used to estimate the increase in the number of vehicular trips generated by the proposed Project. The rates selected were based on the land use description. Table 4.1 shows the projected traffic generated by the Project during the AM and PM peak hours.

Table 4.1: Project Trip Generation

Land Use	Independent Variable	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Enter (vph)	Exit (vph)	Total (vph)	Enter (vph)	Exit (vph)	Total (vph)
General Light Industrial (ITE Code 110)	1,306,800 SF GFA	263	36	299	28	190	218
Manufacturing (ITE Code 140)	100 Acres	119	13	132	58	78	136
Total		382	49	431	86	268	354

The Project is anticipated to generate 431 trips during the AM peak hour of traffic and 354 trips during the PM peak hour of traffic.

FIGURE 3.1

BASE YEAR LANE CONFIGURATION,
VOLUMES AND LOS

MIKI BASIN 200 - ACRE INDUSTRIAL SUBDIVISION

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4.2.2 Trip Distribution & Assignment

Approximately 75 percent of the trips were assumed to originate from and be destined towards the east and the remaining 25 percent of the trips were assumed to originate from and be destined towards the west. Figure 4.1 illustrates the Project-generated trip distribution.

As mentioned above, it was assumed that two driveways to the Project site would be provided – one east and one west of Miki Road. The trips were distributed between the two driveways based on the proportion of Project area located on each side of Miki Road.

4.3 Future Year 2050 Analysis

Upon completion of the Project, all intersection movements are forecast to operate at LOS C or better during the AM and PM peak hours of traffic, with the exception of the northbound left-turn lane which is anticipated to operate at LOS D off Miki Road. Miki Road is privately-owned; the levels of service for the proposed uses on such are acceptable and not significant. An exclusive northbound left-turn lane is recommended to reduce the northbound right-turn vehicle delay. A westbound left-turn deceleration lane is recommended based upon the left-turn lane Warrant as discussed in section 4.3.2.

See Figure 4.2 and Table 4.2 for traffic volumes and LOS. LOS worksheets are provided in Appendix C.

Table 4.2: Existing, Base Year 2050, and Future Year 2050 LOS

Intersection	Existing Conditions						Base Year 2050						Future Year 2050					
	AM			PM			AM			PM			AM			PM		
	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS	HCM Delay	v/c Ratio	LOS
Kaumalapau Highway/Miki Road																		
NB LT/RT	10.1	0.01	B	10.1	0.01	B	11.2	0.01	B	12.2	0.02	B	28.4	0.10	D	22.3	0.33	C
NB RT				n/a						n/a			9.3	0.07	A	12.4	0.39	B
WB LT	7.3	0.01	A	7.4	0.01	A	7.4	0.03	A	7.7	0.03	A	8.4	0.25	A	8.0	0.10	A
Miki Road/Project Driveway 1																		
NB LT/TH				n/a						n/a			0.0	0.00	A	0.0	0.00	A
EB LT													11.7	0.08	B	12.7	0.34	B
Miki Road/Project Driveway 2																		
EB LT/TH/RT				n/a						n/a			0.0	0.00	A	0.0	0.00	A
WB LT/TH/RT													0.0	0.00	A	0.0	0.00	A

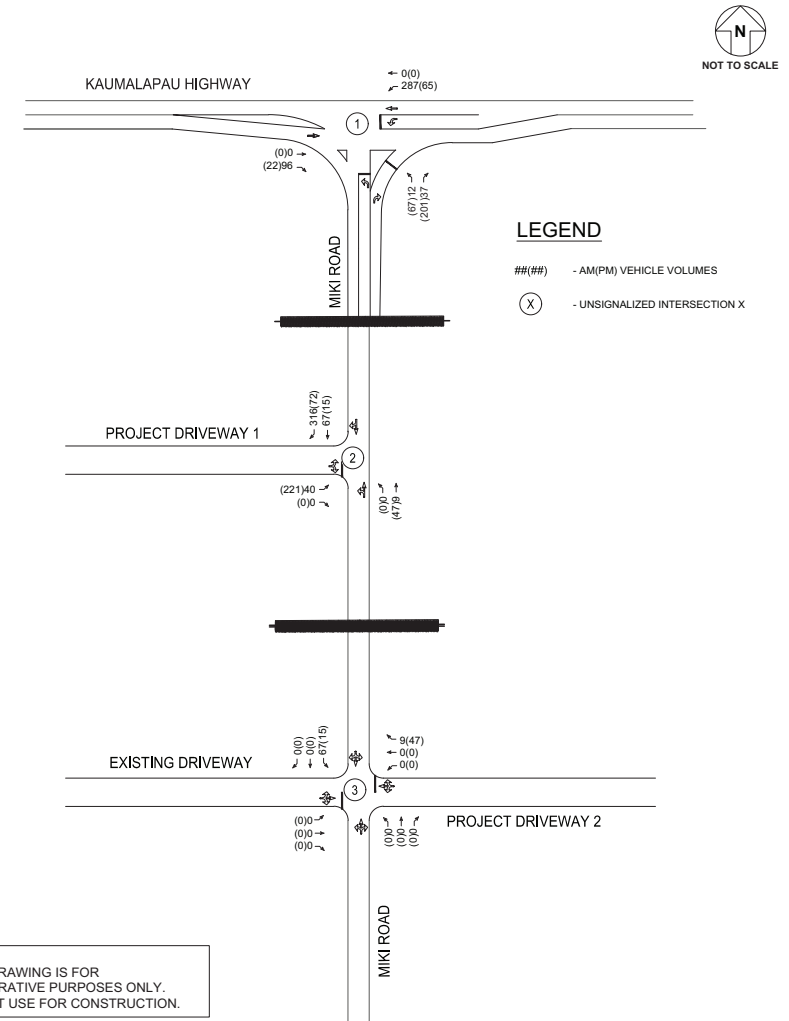
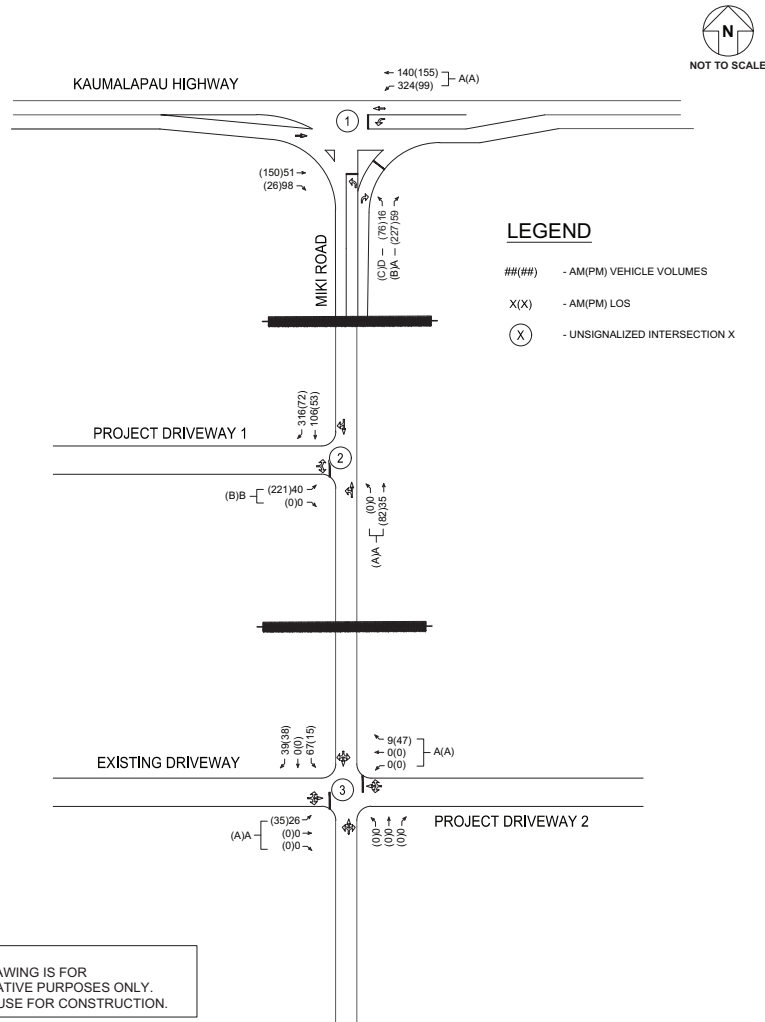


FIGURE 4.1

PROJECT-GENERATED TRIPS

MIKI BASIN 200 - ACRE INDUSTRIAL SUBDIVISION

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4.3.1 Signal Warrant Analysis

Although a full traffic signal warrant analysis was not performed as part of this report, the Kaumalapau Highway/Miki Road intersection is not anticipated to warrant a traffic signal by Year 2050 with the Project. Refer to Appendix D for signal warrant analysis.

4.3.2 Left-turn Lane Warrant

Westbound Left-Turn Lane

At the time of this writing, the [A Policy on Geometric Design of Highways and Streets](#) ("Green Book", 2011) was the most recent version adopted by the Hawaii Department of Transportation. Based upon the following chart from NCHRP Report 279, which is referenced by the Green Book, a westbound left-turn lane is warranted at this intersection for Future Year 2050 with the Project. The westbound left-turn percentages are roughly 70 and 40 percent, respectively for the **AM** and **PM** peak hours of traffic as plotted below in Figure 4.3.

4.3.3 Intersection Geometry

The current intersection geometry provides a single, approximately 13-foot wide bi-directional lane at its southern Miki Road approach, which is inadequate to accommodate vehicles traveling side-by-side. As a result of the significant anticipated increase in travel demand, large design vehicle (lowboy with crane), and the 45 mph posted speed along Kaumalapau Highway in the vicinity of Miki Road, widening to two lanes is recommended between the Project site and Kaumalapau Highway with intersection geometries capable of accommodating turning movements by the design vehicle.

FIGURE 4.2

FUTURE YEAR LANE CONFIGURATION,
VOLUMES AND LOS

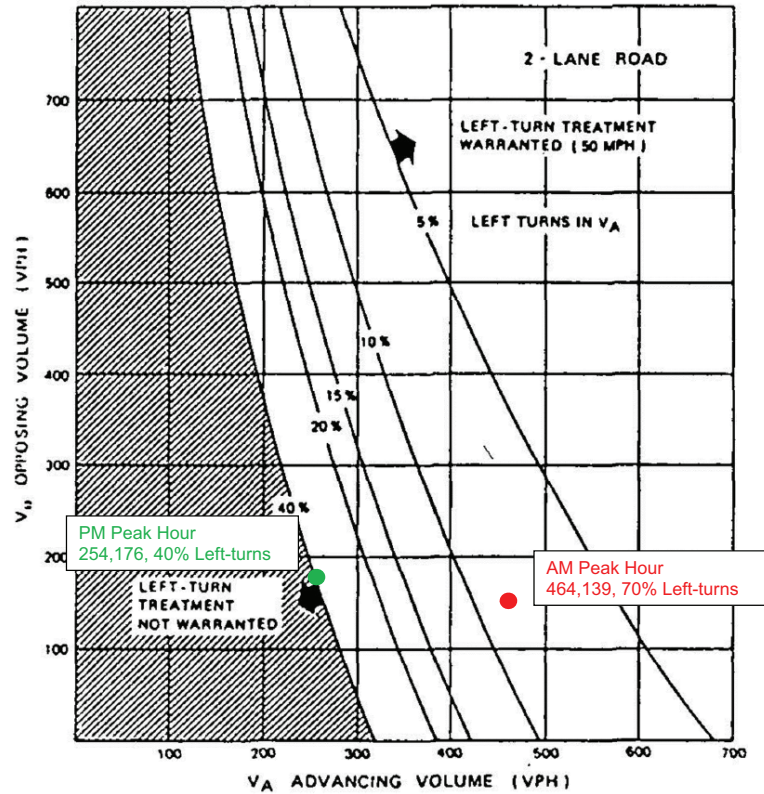


Figure 4.3: Left-Turn Warrant (NCHRP 279)

5. CONCLUSIONS AND RECOMMENDATIONS

The Project proposes to construct a 200-acre industrial subdivision along Miki Road, south of Lanai Airport. The Project is anticipated to generate approximately 431(354) trips during the AM(PM) peak hours of traffic by its 2050 estimated completion.

Upon completion of the Project, all intersection movements are forecast to operate at LOS D or better during the AM and PM peak hours of traffic.

The following geometric modifications are recommended:

- Widen Miki Road between its intersection with Kaumalapau Highway to the Project Driveway(s). Miki Street is currently estimated to be 13 feet wide, and should be widened to accommodate the design vehicle (lowboy with crane) and full side-by-side bidirectional travel with intersection geometries capable of accommodating turning movements.
- Provide an exclusive northbound left-turn lane.
- Provide an exclusive westbound left-turn deceleration lane.



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6. REFERENCES

1. Transportation Research Board, Highway Capacity Manual, 6th Edition.
2. County of Maui Planning Department, Lanai Community Plan Update, 2013.
3. State of Hawaii Department of Business, Economic Development and Tourism, Population and Economic Projections for the State of Hawaii to 2045, 2018.
4. Austin, Tsutsumi, and Associates, Inc., Traffic Assessment for Miki Basin Heavy Industrial Area, 2013.I
5. Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017.
6. A Policy on Geometric Design of Highways and Streets, AASHTO, 2011.
7. Neuman, Timothy R., NCHRP 279 – Intersection Channelization Design Guide, 1985.

APPENDICES



APPENDIX A

LEVEL OF SERVICE CRITERIA

ENCLOSURE B – LEVEL OF SERVICE (LOS) CRITERIA

VEHICULAR LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS (HCM 6th Edition)

Level of service for vehicles at signalized intersections is directly related to delay values and is assigned on that basis. Level of Service is a measure of the acceptability of delay values to motorists at a given intersection. The criteria are given in the table below.

Level-of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec./veh.)
A	< 10.0
B	>10.0 and ≤ 20.0
C	>20.0 and ≤ 35.0
D	>35.0 and ≤ 55.0
E	>55.0 and ≤ 80.0
F	> 80.0

Delay is a complex measure, and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group or approach in question.

VEHICULAR LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM 6th Edition)

The level of service criteria for vehicles at unsignalized intersections is defined as the average control delay, in seconds per vehicle.

LOS delay threshold values are lower for two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections than those of signalized intersections. This is because more vehicles pass through signalized intersections, and therefore, drivers expect and tolerate greater delays. While the criteria for level of service for TWSC and AWSC intersections are the same, procedures to calculate the average total delay may differ.

Level of Service Criteria for Two-Way Stop-Controlled Intersections

Level of Service	Average Control Delay (sec/veh)
A	≤ 10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	> 50



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APPENDIX B

TRAFFIC COUNT DATA

Miki Road Kaumalapau Highway							
Start Time	KAUMALAPAU HWY EASTBOUND		KAUMALAPAU HWY WESTBOUND		MIKI RD NORTHBOUND		Int. Total
	Thru	Right	Left	Thru	Left	Right	
6:00	1	0	3	15	0	0	19
6:15	3	2	3	12	0	0	20
6:30	1	0	5	18	0	0	24
6:45	11	1	3	22	0	0	37
7:00	8	1	3	9	2	0	23
7:15	4	0	3	17	2	2	28
7:30	4	1	1	13	0	1	20
7:45	6	2	1	9	1	3	22
8:00	3	0	3	15	2	0	23
8:15	9	0	1	10	2	2	24
8:30	11	2	1	13	0	2	29
8:45	5	2	3	12	2	0	24
9:00	18	2	2	6	2	0	30
9:15	9	1	0	9	1	2	22
9:30	10	0	2	9	1	5	27
9:45	13	0	0	11	0	0	24
10:00	13	0	4	18	1	1	37
10:15	16	0	0	19	0	4	39
10:30	7	2	3	22	0	1	35
10:45	20	1	2	14	1	5	43
11:00	25	1	2	14	2	0	44
11:15	17	1	1	9	1	5	34
11:30	29	1	0	5	0	2	37
11:45	14	2	2	18	1	2	39
12:00	12	1	4	17	1	4	39
12:15	11	0	4	14	1	1	31
12:30	9	1	2	10	3	4	29
12:45	11	3	2	20	0	3	39
13:00	17	0	4	22	1	3	47
13:15	21	0	4	17	2	1	45
13:30	14	1	0	18	4	1	38
13:45	19	3	3	16	2	1	44
14:00	20	2	3	19	1	2	47
14:15	16	2	3	14	1	3	39
14:30	17	2	3	12	2	2	38
14:45	21	2	2	9	2	1	37
15:00	25	2	1	11	3	2	44
15:15	7	3	0	4	1	4	19
15:30	24	1	2	3	0	4	34
15:45	8	0	2	8	1	3	22
16:00	14	1	1	9	0	2	27
16:15	10	1	6	5	1	4	27
16:30	7	0	0	5	0	3	15
16:45	9	0	0	2	1	3	15
17:00	7	0	0	5	3	1	16
17:15	6	0	0	3	0	1	10
17:30	3	0	0	8	0	1	12
17:45	2	1	0	8	0	0	11
24-Oct	567	48	94	578	51	91	1429

AM Peak Hour

PM Peak Hour

Miki Road Kaumalapau Highway							
	KAUMALAPAU HWY EASTBOUND		KAUMALAPAU HWY WESTBOUND		MIKI RD NORTHBOUND		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
6:00	0	0	2	6	0	0	8
6:15	5	0	2	10	0	0	17
6:30	2	0	5	23	0	0	30
6:45	4	0	6	15	0	0	25
7:00	2	0	3	3	1	4	13
7:15	5	0	2	14	1	1	23
7:30	3	1	4	15	0	1	24
7:45	5	0	5	15	1	4	30
8:00	10	0	2	10	1	3	26
8:15	6	1	2	13	2	4	28
8:30	15	1	2	21	0	3	42
8:45	8	2	2	14	0	3	29
9:00	15	1	0	17	1	1	35
9:15	8	1	5	21	0	2	37
9:30	22	1	1	15	0	3	42
9:45	10	2	4	11	0	3	30
10:00	15	0	2	12	2	5	36
10:15	12	1	2	9	1	2	27
10:30	12	1	2	13	0	5	33
10:45	7	2	1	11	1	2	24
11:00	8	1	2	10	0	2	23
11:15	20	1	4	11	2	1	39
11:30	19	0	2	14	0	4	39
11:45	17	0	1	10	0	3	31
12:00	12	0	6	11	0	3	32
12:15	12	0	3	9	0	4	28
12:30	10	0	3	15	1	3	32
12:45	8	0	2	17	0	5	32
13:00	8	0	3	12	0	2	25
13:15	14	1	1	19	0	0	35
13:30	11	1	3	11	2	3	31
13:45	7	1	3	11	0	4	26
14:00	19	1	3	18	0	4	45
14:15	17	0	5	9	1	4	36
14:30	8	0	0	14	0	3	25
14:45	22	1	5	15	2	0	45
15:00	22	2	1	9	0	4	38
15:15	13	1	2	14	0	1	31
15:30	20	2	1	9	1	8	41
15:45	20	0	1	11	0	1	33
16:00	9	0	2	5	1	5	22
16:15	10	0	1	3	0	1	15
16:30	6	1	2	10	0	1	20
16:45	11	0	0	4	0	5	20
17:00	7	0	0	5	1	2	15
17:15	3	0	0	5	1	0	9
17:30	4	1	0	5	0	0	10
17:45	4	0	2	4	0	0	10
25-Oct	507	28	112	558	23	119	1347

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Miki Road Kaumalapau Highway							
	KAUMALAPAU HWY EASTBOUND		KAUMALAPAU HWY WESTBOUND		MIKI RD NORTHBOUND		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
6:00	1	0	0	3	0	0	4
6:15	0	0	0	15	0	0	15
6:30	1	0	3	20	0	0	24
6:45	2	0	5	10	0	3	20
7:00	6	0	2	9	0	0	17
7:15	2	1	3	11	1	0	18
7:30	9	3	1	11	4	1	29
7:45	4	0	4	12	0	3	23
8:00	10	1	1	9	0	6	27
8:15	9	1	2	10	3	2	27
8:30	5	1	2	20	0	0	28
8:45	11	2	3	21	2	4	43
9:00	8	0	2	20	1	3	34
9:15	13	0	4	17	0	2	36
9:30	14	1	4	12	0	2	33
9:45	27	2	2	7	1	3	42
10:00	17	1	1	13	2	3	37
10:15	10	0	2	12	1	2	27
10:30	13	0	0	15	0	7	35
10:45	15	1	4	16	0	1	37
11:00	12	3	1	13	0	2	31
11:15	22	0	2	9	1	4	38
11:30	16	0	0	7	0	5	28
11:45	10	0	2	12	1	3	28
12:00	9	0	2	15	0	2	28
12:15	16	0	2	7	0	2	27
12:30	10	0	4	15	0	1	30
12:45	8	0	3	12	5	1	29
13:00	13	3	3	20	0	2	41
13:15	10	1	2	9	0	1	23
13:30	5	0	2	12	0	1	20
13:45	14	0	1	10	2	2	29
14:00	13	2	5	13	0	2	35
14:15	10	1	0	7	0	4	22
14:30	16	0	3	7	1	2	29
14:45	8	0	11	8	0	1	28
15:00	14	0	4	8	0	3	29
15:15	14	0	1	18	0	4	37
15:30	30	0	1	20	0	9	60
15:45	7	1	1	9	0	3	21
16:00	10	0	0	5	1	2	18
16:15	8	0	0	10	1	0	19
16:30	5	1	1	3	0	0	10
16:45	3	0	3	3	0	0	9
17:00	1	1	0	2	0	2	6
17:15	4	0	0	4	0	6	14
17:30	7	0	0	5	1	1	14
17:45	7	0	0	3	0	0	10
26-Oct	479	27	99	529	28	107	1269

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APPENDIX C

LEVEL OF SERVICE CALCULATIONS



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APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Existing Conditions
-
-

HCM 6th TWSC
3: Miki Road & Kaumalapau Highway

Existing AM
01/16/2019

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Vol, veh/h	24	2	14	66	4	2
Future Vol, veh/h	24	2	14	66	4	2
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	10	55	4	8	55	20
Mvmt Flow	32	3	19	89	5	3

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	162
Stage 1	-	-	35
Stage 2	-	-	127
Critical Hdwy	-	4.14	6.95
Critical Hdwy Stg 1	-	-	5.95
Critical Hdwy Stg 2	-	-	5.95
Follow-up Hdwy	-	2.236	3.995
Pot Cap-1 Maneuver	-	1562	720
Stage 1	-	-	867
Stage 2	-	-	783
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1561	710
Mov Cap-2 Maneuver	-	-	710
Stage 1	-	-	855
Stage 2	-	-	783

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1561	-
HCM Lane V/C Ratio	0.008	-	-	0.012	-
HCM Control Delay (s)	10.1	-	-	7.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
3: Miki Road & Kaumalapau Highway

Existing PM
01/16/2019

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Vol, veh/h	71	4	11	73	9	6
Future Vol, veh/h	71	4	11	73	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	11	56	7	10	46	11
Mvmt Flow	76	4	12	78	10	6

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	180
Stage 1	-	-	78
Stage 2	-	-	102
Critical Hdwy	-	4.17	6.86
Critical Hdwy Stg 1	-	-	5.86
Critical Hdwy Stg 2	-	-	5.86
Follow-up Hdwy	-	2.263	3.914
Pot Cap-1 Maneuver	-	1487	719
Stage 1	-	-	845
Stage 2	-	-	823
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1487	713
Mov Cap-2 Maneuver	-	-	713
Stage 1	-	-	838
Stage 2	-	-	823

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	1487	-
HCM Lane V/C Ratio	0.014	-	-	0.008	-
HCM Control Delay (s)	10.1	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-





APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Base Year 2050 without Project Conditions

HCM 6th TWSC 3: Miki Road & Kaumalapau Highway




Base Year 2050 AM
02/04/2019

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	51	2	37	140	4	22
Future Vol, veh/h	51	2	37	140	4	22
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	55	4	8	55	20
Mvmt Flow	55	2	40	152	4	24
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	58	0	289	-
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	232	-
Critical Hdwy	-	-	4.14	-	6.95	-
Critical Hdwy Stg 1	-	-	-	-	5.95	-
Critical Hdwy Stg 2	-	-	-	-	5.95	-
Follow-up Hdwy	-	-	2.236	-	3.995	-
Pot Cap-1 Maneuver	-	-	1533	-	603	0
Stage 1	-	-	-	-	846	0
Stage 2	-	-	-	-	697	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1532	-	585	-
Mov Cap-2 Maneuver	-	-	-	-	585	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	697	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.5		11.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	585	-	-	1532	-	
HCM Lane V/C Ratio	0.007	-	-	0.026	-	
HCM Control Delay (s)	11.2	-	-	7.4	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0.1	-	

HCM 6th TWSC
3: Miki Road & Kaumalapau Highway

Base Year 2050 - PM
01/16/2019



Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	4	34	155	9	26
Future Vol, veh/h	150	4	34	155	9	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	11	56	7	10	46	11
Mvmt Flow	161	4	37	167	10	28
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	165	0	404	-
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	-	-	4.17	-	6.86	-
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.263	-	3.914	-
Pot Cap-1 Maneuver	-	-	1383	-	526	0
Stage 1	-	-	-	-	770	0
Stage 2	-	-	-	-	706	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1383	-	511	-
Mov Cap-2 Maneuver	-	-	-	-	511	-
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	706	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.4		12.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	511	-	-	1383	-	
HCM Lane V/C Ratio	0.019	-	-	0.026	-	
HCM Control Delay (s)	12.2	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	

APPENDIX C

LEVEL OF SERVICE CALCULATIONS

- Future Year 2050 with Project Conditions

HCM 6th TWSC
3: Miki Road & Kaumalapau Highway

Future Year 2050 - AM
02/04/2019

Intersection						
Int Delay, s/veh	5.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↰	↰	↰	↰
Traffic Vol, veh/h	51	98	324	140	16	59
Future Vol, veh/h	51	98	324	140	16	59
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	900	-	350	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	55	4	8	55	20
Mvmt Flow	55	107	352	152	17	64

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	163
Stage 1	-	-	110
Stage 2	-	-	856
Critical Hdwy	-	4.14	6.95
Critical Hdwy Stg 1	-	-	5.95
Critical Hdwy Stg 2	-	-	5.95
Follow-up Hdwy	-	2.236	3.995
Pot Cap-1 Maneuver	-	1404	228
Stage 1	-	-	798
Stage 2	-	-	339
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1403	171
Mov Cap-2 Maneuver	-	-	171
Stage 1	-	-	597
Stage 2	-	-	339

Approach	EB	WB	NB
HCM Control Delay, s	0	5.9	13.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	171	896	-	-	1403	-
HCM Lane V/C Ratio	0.102	0.072	-	-	0.251	-
HCM Control Delay (s)	28.4	9.3	-	-	8.4	-
HCM Lane LOS	D	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.2	-	-	1	-

HCM 6th TWSC
5: Miki Road & Project Driveway 1

Future Year 2050 - AM
02/04/2019

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↰	↰	
Traffic Vol, veh/h	40	0	0	35	106	316
Future Vol, veh/h	40	0	0	35	106	316
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	50	50	50	50	50	50
Mvmt Flow	43	0	0	38	115	343

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	325	287	458
Stage 1	287	-	-
Stage 2	38	-	-
Critical Hdwy	6.9	6.7	4.6
Critical Hdwy Stg 1	5.9	-	-
Critical Hdwy Stg 2	5.9	-	-
Follow-up Hdwy	3.95	3.75	2.65
Pot Cap-1 Maneuver	581	651	891
Stage 1	664	-	-
Stage 2	874	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	581	651	891
Mov Cap-2 Maneuver	581	-	-
Stage 1	664	-	-
Stage 2	874	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	891	-	581	-	-
HCM Lane V/C Ratio	-	-	0.075	-	-
HCM Control Delay (s)	0	-	11.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th TWSC
7: Miki Road & Project Driveway 2

Future Year 2050 - AM
02/04/2019

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	26	0	0	0	0	9	0	0	0	67	0	39
Future Vol, veh/h	26	0	0	0	0	9	0	0	0	67	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	0	0	0	10	0	0	0	73	0	42

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	172	167	21	167	188	0	42	0	0	0	0	0
Stage 1	167	167	-	0	0	-	-	-	-	-	-	-
Stage 2	5	0	-	167	188	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	791	726	1056	797	707	-	1567	-	-	-	-	-
Stage 1	835	760	-	-	-	-	-	-	-	-	-	-
Stage 2	1017	-	-	835	745	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	726	1056	797	707	-	1567	-	-	-	-	-
Mov Cap-2 Maneuver	-	726	-	797	707	-	-	-	-	-	-	-
Stage 1	835	760	-	-	-	-	-	-	-	-	-	-
Stage 2	1017	-	-	835	745	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s					0			
HCM LOS	-		-					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1567	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	-	-	-	-
HCM Lane LOS	A	-	-	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

HCM 6th TWSC
3: Miki Road & Kaumalapau Highway

Future Year 2050 - PM
01/22/2019

Intersection						
Int Delay, s/veh	7.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	↔
Traffic Vol, veh/h	150	26	99	155	76	227
Future Vol, veh/h	150	26	99	155	76	227
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	900	-	350	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	10	55	4	8	55	20
Mvmt Flow	203	35	134	209	103	307

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	239	0	699	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	477	-
Critical Hdwy	-	-	4.14	-	6.95	6.4
Critical Hdwy Stg 1	-	-	-	-	5.95	-
Critical Hdwy Stg 2	-	-	-	-	5.95	-
Follow-up Hdwy	-	-	2.236	-	3.995	3.48
Pot Cap-1 Maneuver	-	-	1316	-	336	775
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1315	-	301	774
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	528	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		3.1		15.3	
HCM LOS					C	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	301	774	-	-	1315	-
HCM Lane V/C Ratio	0.341	0.396	-	-	0.102	-
HCM Control Delay (s)	23	12.7	-	-	8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	1.9	-	-	0.3	-

HCM 6th TWSC
5: Miki Road & Project Driveway 1

Future Year 2050 - PM
01/22/2019

Intersection						
Int Delay, s/veh	6.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	221	0	0	82	53	72
Future Vol, veh/h	221	0	0	82	53	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	50	50	50	50	50	50
Mvmt Flow	240	0	0	89	58	78

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	186	97	136
Stage 1	97	-	-
Stage 2	89	-	-
Critical Hdwy	6.9	6.7	4.6
Critical Hdwy Stg 1	5.9	-	-
Critical Hdwy Stg 2	5.9	-	-
Follow-up Hdwy	3.95	3.75	2.65
Pot Cap-1 Maneuver	705	843	1200
Stage 1	820	-	-
Stage 2	827	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	705	843	1200
Mov Cap-2 Maneuver	705	-	-
Stage 1	820	-	-
Stage 2	827	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1200	-	705	-	-
HCM Lane V/C Ratio	-	-	0.341	-	-
HCM Control Delay (s)	0	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	-	-

HCM 6th TWSC
7: Miki Road & Project Driveway 2

Future Year 2050 - PM
01/22/2019

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		W			W			W			W	
Traffic Vol, veh/h	35	0	0	0	0	47	0	0	0	15	0	38
Future Vol, veh/h	35	0	0	0	0	47	0	0	0	15	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	0	0	0	0	51	0	0	0	16	0	41

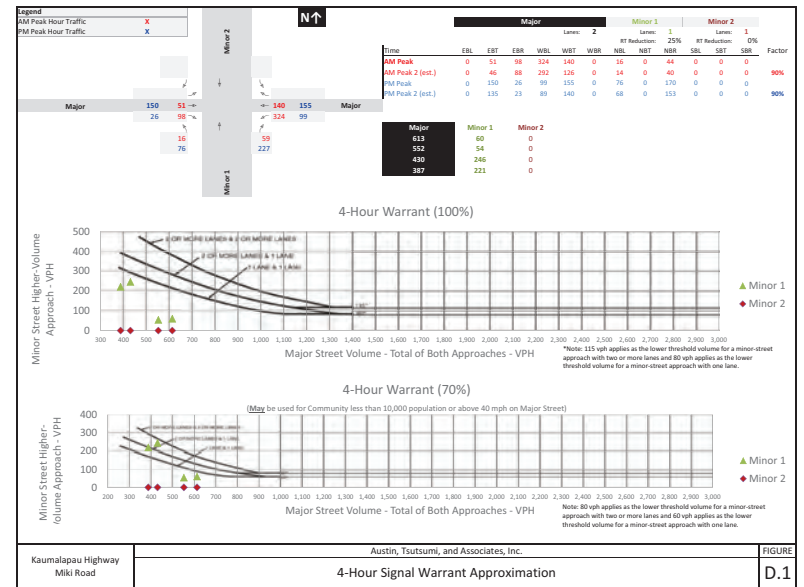
Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	79	53	21	53
Stage 1	53	53	-	0
Stage 2	26	0	-	53
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	910	838	1056	946
Stage 1	960	851	-	-
Stage 2	992	-	-	960
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	838	1056	946
Mov Cap-2 Maneuver	-	838	-	946
Stage 1	960	851	-	-
Stage 2	992	-	-	960

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1568	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	-	-	-	-
HCM Lane LOS	A	-	-	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-



APPENDIX D TRAFFIC SIGNAL WARRANT



**Miki Basin Industrial Park
Environmental Assessment**

Exhibit H

Wastewater Master Plan

PŪLAMA LĀNA'I MIKI BASIN
200 ACRE INDUSTRIAL PARK

Lana'i, Hawai'i

WASTEWATER MASTER PLAN

Prepared By: Akinaka & Associates, Ltd.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813

Date: February 2019

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1.	Exhibit 1: Vicinity Map
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X.	REFERENCES
1.	County of Maui, Wastewater Reclamation Division. Wastewater Flow Standards. February 2, 2006.
2.	City and County of Honolulu, Department of Wastewater Management. Design Standards of the Department of Wastewater Management Volume 1. July 1993

I. INTRODUCTION

The Wastewater Master Plan for Pūlama Lāna'i Miki Basin 200-Acre Industrial Park provides the basic information for the design of the wastewater treatment system for the Miki Basin 200-Acre Industrial Park, herein referred to as the "Industrial Park", based on zoning requirements. The purpose of the master plan is to identify the projected wastewater flows from the development.

The Miki Basin 200 Acre Industrial Park consists of approximately 200 acres of agricultural zoned lands. Pūlama Lāna'i is in the process of rezoning the area for light and heavy industrial lands. The project area is located directly south of Lana'i Airport within the Palawai Irrigation Grid (see **Exhibit 1: Location Map**). The majority of the proposed Industrial Park is currently undeveloped with the exception of the Maui Electric Company (MECO) Miki Basin substation and a portion of the 20-acre approved subdivision which is currently used by Pūlama Lāna'i. Pūlama Lāna'i is in the process of finalizing condominium documents for the 20-acre industrial condominium subdivision. A timeline for development of the 20-acre subdivision has not been established.

II. EXECUTIVE SUMMARY

There is currently no existing County or privately owned or operated wastewater treatment system in the vicinity of Miki Basin. The construction of onsite Individual Wastewater Systems (IWS), decentralized Wastewater Treatment Plants (WWTP) and collection systems will be required to support development activity.

Since development plans for the Industrial Park are not yet available, proposed wastewater flows for buildout of the Industrial Park is based on the proposed land use and an estimated developable area for each parcel. The developable area of each parcel estimates that up to 70 percent of the total parcel area will generate wastewater flows; the remaining 30 percent will consist of areas with no wastewater flows such as roads and parking areas. The proposed average wastewater flow for full buildout of the Industrial Park is 365,904 gpd.

III. EXISTING WASTEWATER SYSTEM

There is currently no existing County or privately owned or operated wastewater treatment system in the vicinity of Miki Basin. Wastewater is currently treated via onsite individual wastewater systems (IWS).

WASTEWATER
FEBRUARY 2019

IV. LAND USE

Pūlama Lāna'i is in the process of rezoning approximately 200 acres of land from agriculture to light and heavy industrial as shown in **Exhibit 2: Proposed Land Use**:

Light Industrial	100 ac
Heavy Industrial	100 ac
Total	200 ac

This conceptual plan is intended to provide a basis for the design of the wastewater system and may not reflect the final development densities. Since development plans for the Industrial Park are not yet available, proposed wastewater flows for buildout of the Industrial Park is based on the proposed land use and an estimated developable area for each parcel. The developable area of each parcel estimates that up to 70 percent of the total parcel area will generate wastewater flows; the remaining 30 percent will consist of areas with no wastewater flows such as roads and parking areas.

V. WASTEWATER FLOW STANDARDS

As outlined in the County of Maui's Wastewater Flow Standards and the Design Standards of the Department of Wastewater Management, the following criteria are used in determining the minimum requirements for the wastewater system.

1. Design Flows

- For planning purposes, flows are based on estimated occupancy as determined by the standards.
- The unit flows for the various land uses are as follows:

Land Use	Unit	Average Flows (Gal/Unit/Day)
Factory	Employee	30
Industrial Shop	Employee	25
Laundry (coin operated)	Machine	300
Office	Employee	20
Storage, w/offices	Employee	15
Storage w/ offices and showers	Employee	30

WASTEWATER
FEBRUARY 2019

Store Customer bathroom usage	Use	5
-------------------------------	-----	---

The following standards were used to compute the minimum number of units required per land use type:

Office Employees	1 per 200 square feet of floor area
Retail Warehouse Employees	1 per 350 square feet of floor area
Storage/Industrial Employees	1 per 500 square feet of floor area

VI. INDUSTRIAL PARK WASTEWATER FLOWS

Since site layouts, land uses and unit densities for each parcel are not yet determined, wastewater flows were based on the minimum number of units required by land use type. Since the majority of onsite flows will be generated by employees, the industrial activity with the highest average flow for employees, factory, was used to estimate wastewater flows. Based on the proposed land use, the proposed average flow for full buildout of the Industrial Park is 365,904 gpd (see **Exhibit 3: Wastewater Flow Summation**).

VII. PROPOSED WASTEWATER SYSTEM

Since there is no existing wastewater treatment system in the vicinity of the Industrial Park, wastewater flows within the Industrial Park will be treated by onsite IWS systems and decentralized WWTPs. These systems are ideal for areas that are remote and have factors that can make tying into an existing wastewater system difficult or infeasible. Each development within the Industrial Park will be required to provide its own wastewater treatment system and associated wastewater collection system. The type of treatment system used will be determined by the size and type of development. Sizing of each system will be determined during the design phase of each development.

Onsite IWS systems and decentralized WWTPs are regulated by the Department of Health (DOH) under Chapter 62 of Title 11, Hawaii Administrative Rules (HAR). Under Subchapter 3 of the rules, IWS systems can be used as a temporary onsite means of wastewater disposal in lieu of a wastewater treatment works under the following conditions:

WASTEWATER
FEBRUARY 2019

1. There is 10,000 square feet of land area for each individual wastewater system;
2. The total wastewater flow of the development does not exceed 15,000 gpd;
3. Area of the lot is not less than 10,000 square feet; and
4. The total wastewater flow into each individual wastewater system will not exceed one thousand gallons per day.

Multiple IWS systems may be used provided that the building is owned by one person. At DOH's discretion, multiple buildings may connect to one IWS system provided that the buildings are located on the same lot and generate wastewater of similar strength and character. IWS are required to consist of a septic tank and soil absorption system, sand filter, subsurface irrigation system or other treatment unit as approved by DOH. Cesspools are prohibited as adequate treatment is not provided.

Where developments do not meet the requirements for an IWS system, decentralized WWTPs are recommended. WWTPs can be sized to accommodate flows from multiple properties located in the same general area. Depending on the development timeline, construction of the WWTP can be phased such that the system can be adapted and expanded to accommodate additional flows at a later date. WWTPs should be located in the lowest region of the service area to allow for gravity flow into the WWTP and avoid the use of pump stations and force mains.

VIII. COST CONSIDERATIONS

Since site layouts are not yet available, budgetary costs for development of the Industrial Park could not be determined. General costs for the various improvements are as follows:

Sewer Pipe, PVC

8-inch sewer pipe	\$200 per linear foot
10-inch sewer pipe	\$250 per linear foot
15-inch sewer pipe	\$325 per linear foot

WASTEWATER
FEBRUARY 2019

Treatment Systems

IWS, Septic tank with
absorption trenches \$ 26,500 – 66,000 / 1,000 gallons

WWTP (1,000 to 10,000 gpd) \$ 31,000 – 88,000 / 1,000 gallons

WWTP \$ 68,000 - 125,200 / 1,000 gallons

EXHIBITS



LOCATION MAP

SCALE: AS SHOWN

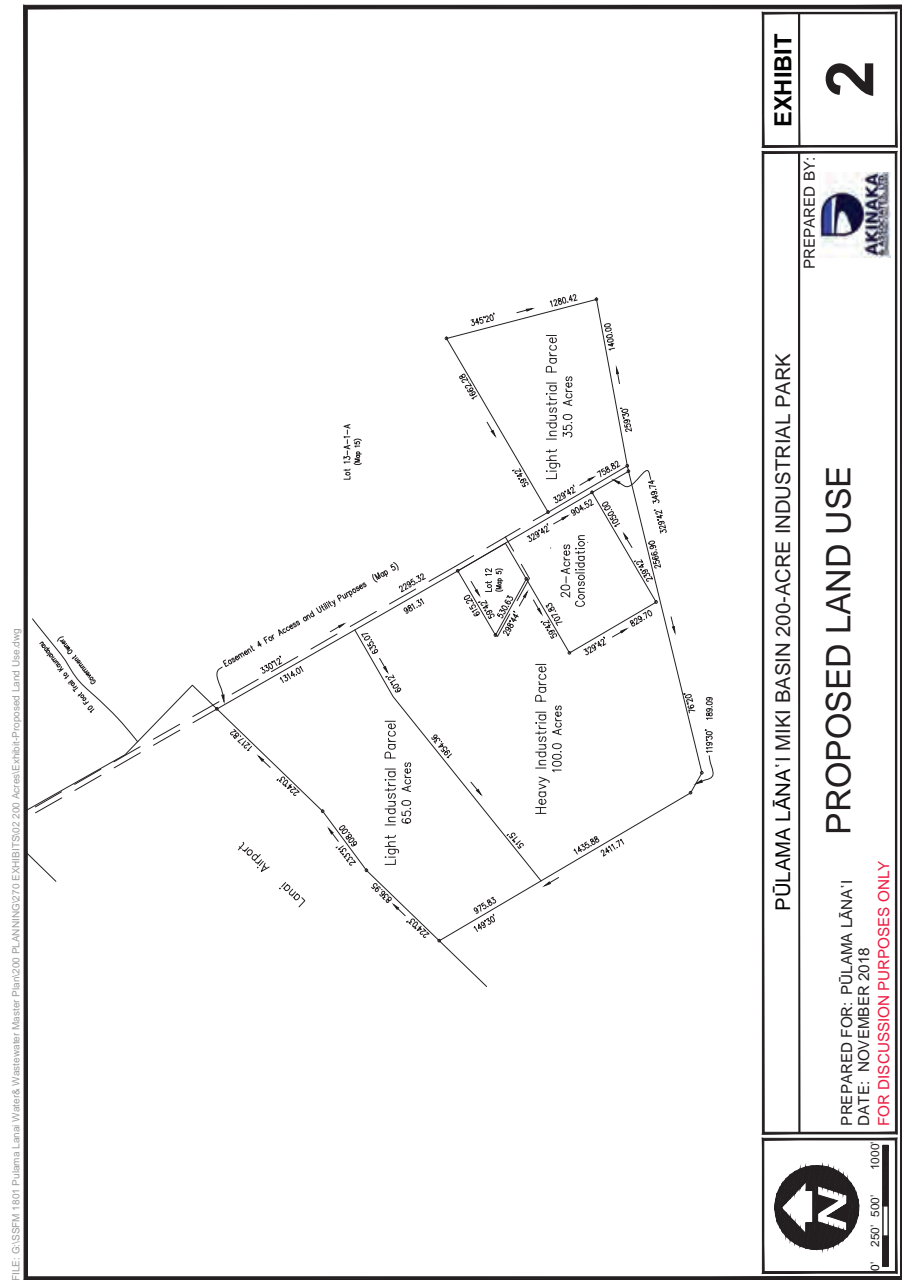


EXHIBIT 3: WASTEWATER FLOW SUMMATION PŪLAMA LĀNA'I MIKI BASIN 200 ACRE INDUSTRIAL PARK								
Point No	Description	Land Use	Area (ac)	Building Area ¹ (ac)	Area (sf)	Estimated Required Employees (1 per 500 SF)	Avg Daily Flow Per Capita (gpc)	Avg Flow (GPD)
A-1/A-2/A-3	Light Industrial	Light Industrial	65	45.5	1,981,980	3,964	30	118,919
A-4/A-5	Heavy Industrial	Heavy Industrial	100	70	3,049,200	6,098	30	182,952
B-1	Light Industrial	Light Industrial	35	24.5	1,067,220	2,134	30	64,033
							Total	365,904

¹ Based on estimated building development of 70% of total area

12/12/2018

Miki Basin Industrial Park
Environmental Assessment

Exhibit I

Water Master Plan

**PŪLAMA LĀNA'I MIKI BASIN
200 ACRE INDUSTRIAL PARK**

Lana'i, Hawai'i

WATER MASTER PLAN

Prepared By: Akinaka & Associates, Ltd.
1100 Alakea Street, Suite 1800
Honolulu, Hawaii 96813

Date: March 2019

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X. REFERENCES (Not attached)

1. County of Water Supply, Department of Water Supply, Water System Standards, dated 2002.
2. County of Water Supply, Department of Water Supply, Lana'i Island Water Use and Development Plan, dated 2011.

I. INTRODUCTION

The Water Master Plan for Pūlama Lāna'i Miki Basin 200-Acre Industrial Park provides the basic information for the design of the water distribution system for the Miki Basin 200-Acre Industrial Park (Industrial Park) based on zoning requirements. The purpose of this master plan is to identify and review the condition of the existing water distribution system and analyze the existing system for projected water demands.

The Industrial Park consists of approximately 200 acres of agricultural zoned lands. Pūlama Lāna'i is in the process of rezoning the area for light and heavy industrial lands. The project area is located directly south of Lana'i Airport within the Palawai Irrigation Grid (see **Exhibit 1: Location Map**). The majority of Miki Basin is currently undeveloped with the exception of the Maui Electric Company (MECO) Miki Basin substation and a portion of the 20-acre approved subdivision which is currently used by Pūlama Lāna'i. Pūlama Lāna'i is in the process of finalizing condominium documents for the 20-acre industrial condominium subdivision. A timeline for development of the 20-acre subdivision has not been established.

II. EXECUTIVE SUMMARY

Water for Miki Basin is currently provided by the Manele Water System which is owned, operated and maintained by the Lana'i Water Company. The system, sourced by Wells No. 2 (State Well No. 5-4953-001) and 4 (State Well No. 5-4952-002), currently services Manele, Hulopoe and the Palawai Irrigation Grid. Water from the wells is either stored in the existing 0.5 MG Hi'i Tank or 1.0 MG concrete Hi'i Reservoir or fed directly into the distribution system depending on need. The existing Manele Water System consists of 10-inch, 12-inch and 16-inch transmission mains. The Manele Water System is interconnected with the Lana'i City Water System. During emergencies, the Lana'i City System can supply water to the Manele Water System by opening a valve.

The existing average daily water usage of the system is currently estimated at 418,000 gallons per day (gpd). The operation of Lanai Farms, which was anticipated to begin in late 2018, will increase average water usage to a total of approximately 469,000 gpd.

In accordance with the Water System Standards, available source capacity is governed by the well with the smallest pumping unit. Well No. 2 can be outfitted with a pump with a capacity of up to 1,200 gallons per minute (gpm) while Well

No. 4 has a pump capacity of 900 gpm. Since Well No. 4 has the smaller pump capacity, available source capacity for the water system is governed by Well No. 4, which has an average day pumping capacity of 576,000 gpd, which is equivalent to a maximum day pumping capacity of 864,000 gpd. Once this capacity is used/committed, construction of a new well will be required.

Since development plans for the Industrial Park are not yet available, proposed water use for buildout of the Industrial Park is based on the proposed land use and an estimated developable area for each parcel. The developable area of each parcel estimates that up to 70 percent of the total parcel area will require water; the remaining 30 percent will consist of areas with no water use such as roads and parking areas.

The proposed average day demand for full buildout of the Industrial Park, including existing use is 1,309,000 gpd. The existing water system does not have adequate source capacity and reservoir storage to support full buildout of the Industrial Park. In addition, the transmission mains do not meet Water System Standards for fire flow protection.

The following improvements will be required to support full buildout of the Industrial Park:

- Drilling a new source or multiple sources to obtain a total minimum pump capacity of 1,546 gpm.
- Construction a new storage tank with a minimum capacity of 500,000 gallons.
- Upsizing of an existing 12-inch water main between Hi'i Tank and the Kalawai Pressure Reducing Valve to a 16-inch main or installation of a parallel 6-inch water main to meet fire flow requirements. Alternatively, the construction of a new storage tank could provide fire flow protection in additional to storage capacity.
- Construction of new 16-inch distribution mains to provide service to currently undeveloped areas.

III. EXISTING WATER SUPPLY AND DISTRIBUTION SYSTEM

Water for Miki Basin is currently serviced by the Manele Water System (Public Water System 237) which is owned, operated and maintained by Lana'i Water Company (see **Exhibit 2: Existing Water System**). Manele Water System services Manele, Hulopoe and the Palawai Irrigation Grid.

1. SOURCE

Water is provided by Wells No. 2 (State Well No. 5-4953-001) and 4 (State Well No. 5-4952-002) and either stored in the existing 0.5 MG Hi'i Tank or 1.0 MG concrete Hi'i Reservoir or fed directly into a 12-inch transmission main depending on need.

- a. Well No. 2 has a pump capacity of 500 gallons per minute (gpm) or an average day capacity of 320,000 gallons per day (gpd) based on an operating time of 16 hours. According to the 2011 Lanai Water Use and Development Plan, the well can be outfitted with a pump with a capacity of up to 1,200 gpm or an average day capacity of 768,000 gpd.
- b. Well No. 4 has a pump capacity of 900 gpm or an average day capacity of 576,000 gpd.
- c. The existing average daily water usage from the Manele Water System is currently estimated at 418,000 gpd. The operation of Sensei Farms, which was anticipated to start in late 2018, will increase water usage to approximately 469,000 gpd at full operation.
- d. The Water System Standards requires sources be able to meet maximum day demand with an operating time of 16 hours, assuming that the largest pumping unit is down. Since Well No. 2 has the larger pump capacity of the two wells, available source capacity for the system is governed by Well No. 4. Based on the existing water use, an average day capacity of 107,000 gpd is available to support the development of the Industrial Park.
- e. Lana'i has a sustainable yield of 6 million gallons per day (MGD), with 3 MGD allocated to both the Leeward and Windward aquifer sectors. The majority of the pumping wells are located in the Leeward Aquifer. According to the Lana'i Water Company Periodic Water Report, the current moving average pumping is 1.53 MGD.

2. STORAGE

- a. 500,000 gallon Hi'i Tank (O.F. Elev = 1823')
Serves as the water distribution storage tank for Manele, Hulopoe and the Palawai Irrigation Grid.

- b. 1,000,000 gallon Hi'i Reservoir (O.F. = 1823')
Primarily serves as storage for the two well water sources to supply water into the distribution system

3. TRANSMISSION

- a. A 12-16-inch high density polyethylene (HDPE) transmission main transports water from the 500,000 gallon Hi'i Tank into the Manele Water System. The 12-inch main splits at a junction to serve both Manele and Palawai Irrigation Grid.
- b. To Manele and Hulopoe – From the junction, the 12-inch line feeds into three pressure breaker storage tanks that service Manele.
- c. To Palawai Irrigation Grid – From the junction, the waterline upsizes to a 16-inch main that delivers water to the Palawai Irrigation Grid area. The existing 12-inch Kalawai Pressure Reducing Valve (PRV) downstream of the junction reduces the pressure in the waterline to 95 psi.

4. CONNECTION TO OTHER WATER SYSTEMS

- a. The Manele Water System is interconnected with the Lana'i City Water System. During emergencies, the Lana'i City System can supply water to the Manele Water System by opening a valve.

IV. LAND USE

Pūlama Lāna'i is in the process of rezoning approximately 200 acres of land from agriculture to light and heavy industrial as shown in **Exhibit 3: Proposed Land Use**:

Light Industrial	100 ac
Heavy Industrial	100 ac
Total	200 ac

This conceptual plan is intended to provide a basis for the design of the water system and may not reflect the final development densities. Since development plans for the Industrial Park are not yet available, proposed water use for buildout of the Industrial Park is based on the proposed land use and an estimated developable area for each parcel. The developable area of each parcel estimates that up to 70 percent of the total parcel area

will require water; the remaining 30 percent will consist of areas with no water use such as roads and parking areas.

V. SAFE DRINKING WATER SYSTEM DESIGN CRITERIA

As outlined in the County of Maui Water System Standards, the following criteria are used in determining the minimum requirements for the safe drinking water system.

1. CONSUMPTION GUIDELINES

- a. The average daily demand for industrial land uses for planning purposes is 6,000 gallons / acre.

2. DEMAND FACTORS

- a. Maximum Daily Demand = 1.5 x Average Day
- b. Peak Hour Demand = 3.0 x Average Day

3. FIRE FLOW REQUIREMENTS

- a. Light Industrial = 2,000 gpm for 2 hour duration
- b. Heavy Industrial = 2,500 gpm for 2 hour duration

4. PIPELINE SIZING

- a. Maximum daily flow plus fire flow with a residual pressure of 20 psi at critical fire hydrant.
- b. Peak hour flow with a minimum residual pressure of 40 psi.
- c. In determining the carrying capacity of the mains, the "C" values to be applied are:

Size	"C"
4" & 6"	100
8" & 12"	110
16" & 20"	120

- d. The maximum velocity in transmission mains (without fire flow) is 20 feet per second. The maximum velocity in distribution mains with fire flow shall be 10 feet per second.
- e. Maximum static or pumping pressure, whichever is greater, shall not exceed 125 psi.
- f. Ductile iron pipe is required by County of Maui Department of Water Supply Standards and is recommended for this project. The design pressures for ductile iron pipe are as follows:
 - i. Maximum design working pressure = 250 psi
 - ii. Maximum desirable working pressure = 125 psi
 - iii. Maximum expected working pressure = 150 psi
- g. The working pressure for distribution mains servicing residences:
 - i. Maximum = 125 psi
 - ii. Minimum = 40 psi
- h. In-line pressure reducing valves for distribution mains are required where pressure exceeds 125 psi.
- i. Cleanouts are required at the end of all transmission and distribution waterlines.
- j. Sampling spigots: For collection of water samples to determine water quality at dead ends of pipeline.

5. RESERVOIR CAPACITY

- a. Meet maximum day consumption. Reservoir fills at the beginning of the 24-hour period with no source input to the reservoir.
- b. Meet maximum day consumption plus fire flow for duration of fire. Reservoir $\frac{3}{4}$ -full, with credit for incoming flow from pumps.
- c. Minimum reservoir size shall be 100,000 gallons. Reservoir size shall be as specified in Section 105.10 – RESERVOIR, Subsection A – Size.

- d. Where there are two or more reservoir serving the same system, the design shall be made on the basis of combined protection by all facilities available.

6. PUMP CAPACITY

- a. Meet maximum day demand with an operating time of 16 hours simultaneously with maximum fire flow required independent of the reservoir. The standby unit may be used to determine the total flow required.
- b. Meet maximum day demand during the duration of the fire plus fire demand less $\frac{3}{4}$ of reservoir storage.
- c. Meet maximum day demand with an operating time of 16 hours with the largest pumping unit considered out of service.

VI. INDUSTRIAL PARK WATER DEMAND

- 1. Based on the proposed zoning and an estimated developable area of 70 percent of the total area, the proposed average day demand for full buildout, including existing use is 1,309,000 gpd (see **Exhibit 4: Water Flow Summation** and **Exhibit 5: Water Demand Map**).
- 2. Based on the source capacity of Well No. 4, the system will require an additional average day capacity of 733,000 gpd to support full buildout of the Industrial Park.
- 3. The existing system does not meet the Water System Standards criteria for pipe sizing based on a maximum of 2,500 gpm for Fire Flow plus Maximum Daily flow with a maximum velocity of 10 feet per second. The system also does not meet the criteria for the Peak Hour flow with a minimum residual pressure of 40 psi.
- 4. **Exhibit 6: Water System Nodal Map** shows the overall water system facilities and nodal map.

VII. PROPOSED SAFE DRINKING WATER SYSTEM (BASED ON LAND USE/ZONING)

1. WATER SOURCE

- a. Construction of another water source will be required when the average daily demand exceeds 576,000 gpd, which is equivalent to a maximum daily demand of 864,000 gpd. The new well will support the outstanding development of the Industrial Park. The current average daily water usage is 418,000 gpd. The operation of Lanai Farms, which was anticipated to start in late 2018, will increase water usage to approximately 469,000 gpd. Accordingly, an average daily use of 107,000 gpd is available for future development within the Industrial Park without having to construct a new well.

b. Well Pump Sizing

- i. Existing average day capacity = 576,000 gpd
Existing maximum day capacity = 864,000 gpd
- ii. Full buildout average day demand = 1,309,000 gpd
Full buildout maximum day demand = 1,963,500 gpd
- iii. Additional average day capacity required = 733,000 gpd
Additional maximum day capacity required = 1,099,500 gpd

$$\begin{aligned} 1,099,500 \text{ gallons} / 16 \text{ hours} / 60 \text{ min} &= 1,146 \text{ gpm} \\ \text{Total required pump capacity} &= 1,146 \text{ gpm} \end{aligned}$$

Full buildout of the Industrial Park will require the development of a new well or multiple wells with a total minimum total capacity of 1,146 gpm.

c. Source Options

The Lana'i Water Use and Development Plan (WUDP) discusses the following options for development of a new well to meet future water demand requirements:

- i. Drill a Leeward high level well between Hi'i Tank and Well 3

- ii. Well 7 is currently out of service. Recommissioning the well would provide reliability for both the Lana'i City system and the Irrigation Grid.

- iii. Install a permanent interconnection with the Lana'i City System.

2. RESERVOIR CAPACITY

- a. Case A: Meet maximum day demand in 24-hours
Capacity required = 1,963,500 gallons
Case B: Meet maximum day + fire flow, reservoir $\frac{3}{4}$ full
Max day rate = 1,963,500 gpd = 1364 gpm
Fire flow = 2,500 gpm

$$\begin{aligned} \text{Max day rate + fire flow for 120 minutes} \\ &= 3,864 \text{ gpm} \times 120 \text{ min} \\ &= 463,680 \text{ gallons} \end{aligned}$$

$$\text{Size required} = 463,680 \times \frac{3}{4} = \underline{347,760 \text{ gallons}}$$

Case A governs:

Minimum Reservoir Capacity = 2,000,000 gallons

Existing Reservoir Capacity = 1,500,000 gallons

Additional Storage Required = 500,000 gallons

Construction a new storage tank for the Industrial Park could also satisfy fire protection requirements for the Industrial Park. In order to provide service to the Industrial Park, the tank would need to be located at a minimum elevation of 1,414 feet.

3. TRANSMISSION/DISTRIBUTION MAINS

- a. Offsite Improvements
- i. The following options are proposed to meet fire flow requirements:
1. Option 1. Upsize the existing 12-inch waterline between Hi'i Tank and the Palawai PRV to a 16-inch main. The main is located alongside the

mountainside and may be difficult to access, presenting challenges during construction.

2. Option 2. Provide a parallel 6-inch waterline between Hi'i Tank and the Palawai PRV.
3. Option 3. Construct a new storage tank for Miki Basin to provide fire protection for the Industrial Park. The new storage tank could also provide the additional required storage.
4. Option 4. Consider other fire protection systems that do not use water. Distribution mains would be limited to supplying only potable safe drinking water.

- ii. While Lanai Water Company has replaced and has abandoned sections of the Palawai Irrigation Grid, there remains sections that are in need of repair, replacement or possible abandonment. Since the condition and use of these pipes are unknown, those pipes were excluded from this evaluation. A conditional assessment and analysis for those pipes should be conducted separately.

- b. Onsite Improvements
Full buildout of Industrial Park will require the installation of 16-inch waterlines within the development (see **Exhibit 5: Water Demand Map**). The new waterline will connect to the existing water system at Miki Road.

VII. COST CONSIDERATIONS

Budgetary cost for the water improvements are provided in Appendix B.

EXHIBITS

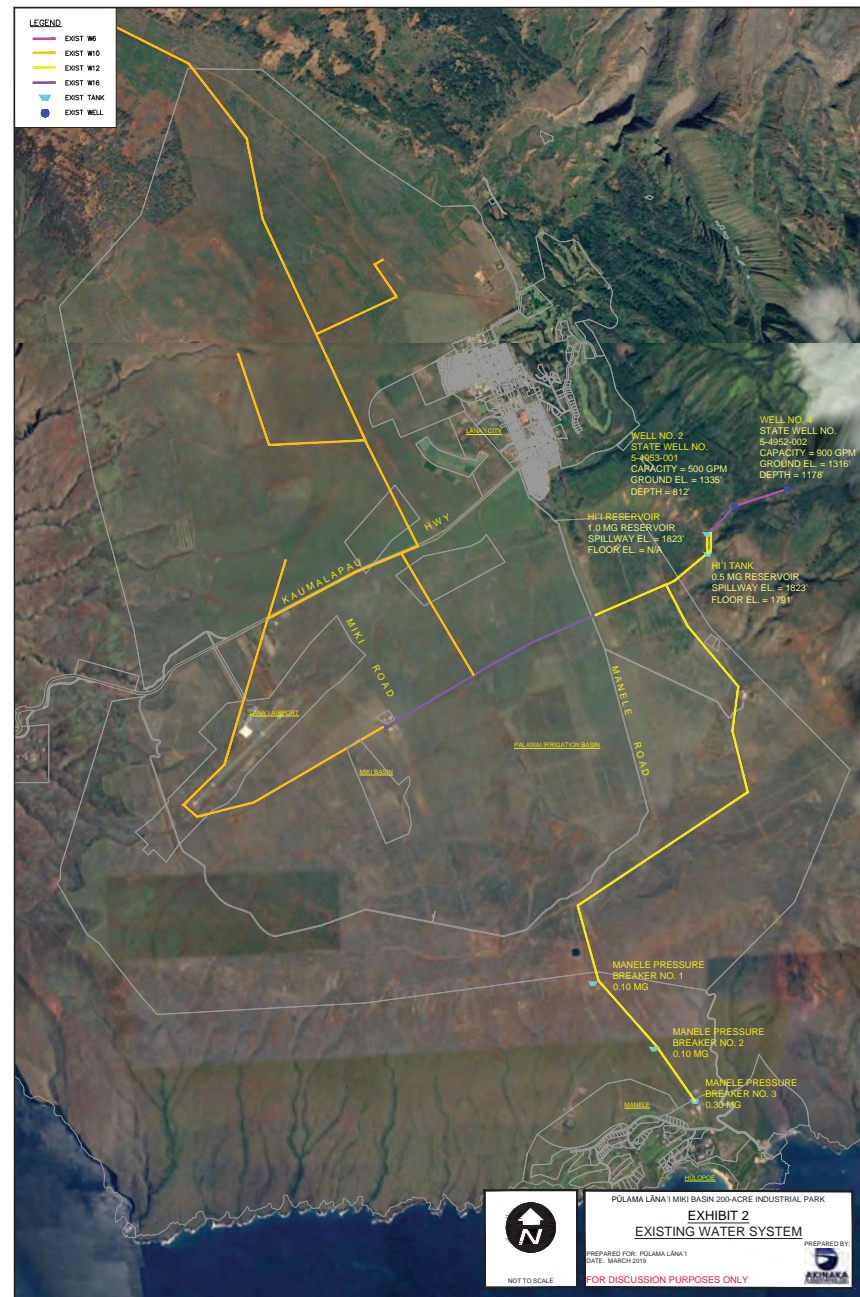


PŪLAMA LĀNA'I MIKI BASIN
200 ACRE INDUSTRIAL PARK

LOCATION MAP

AKINAKA & ASSOCIATES, LTD.

SCALE: AS SHOWN



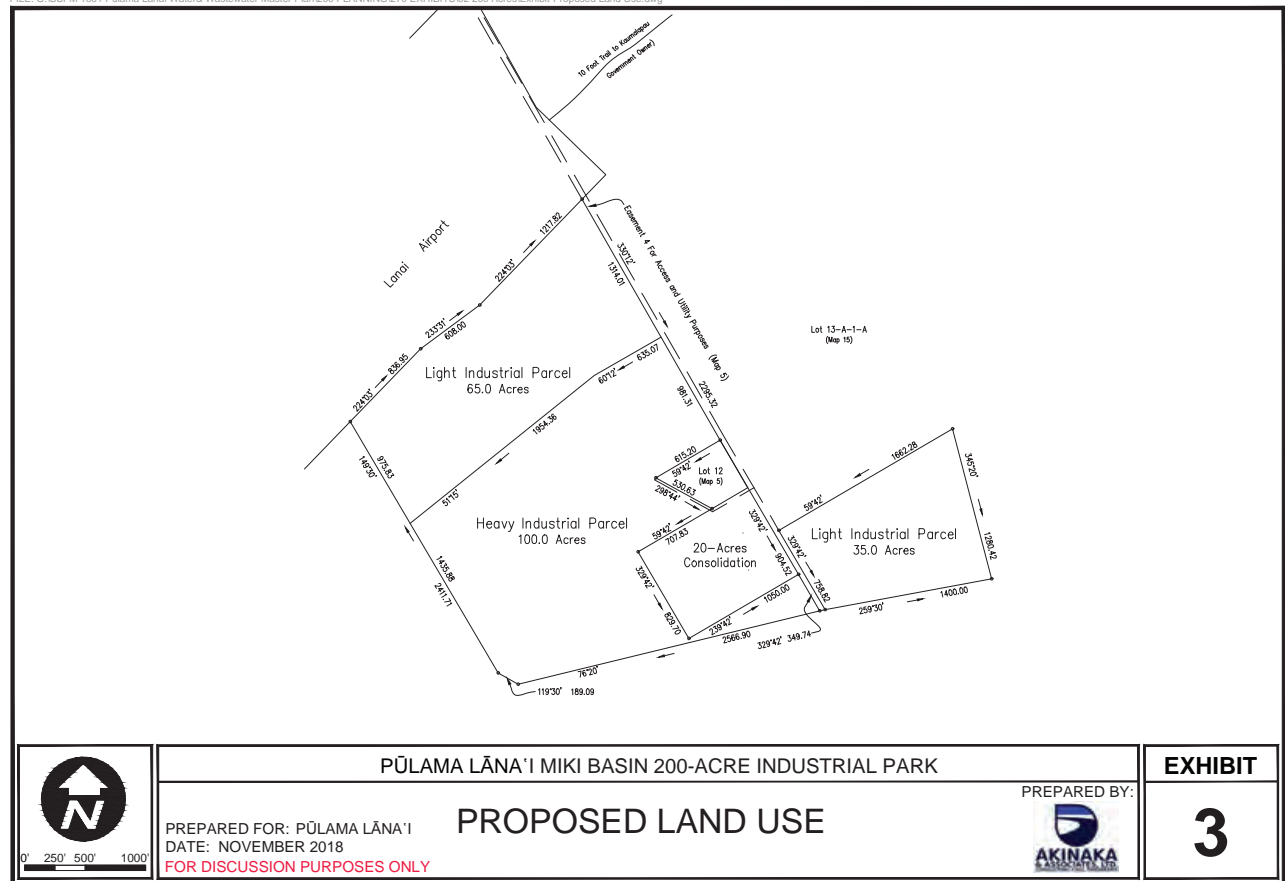
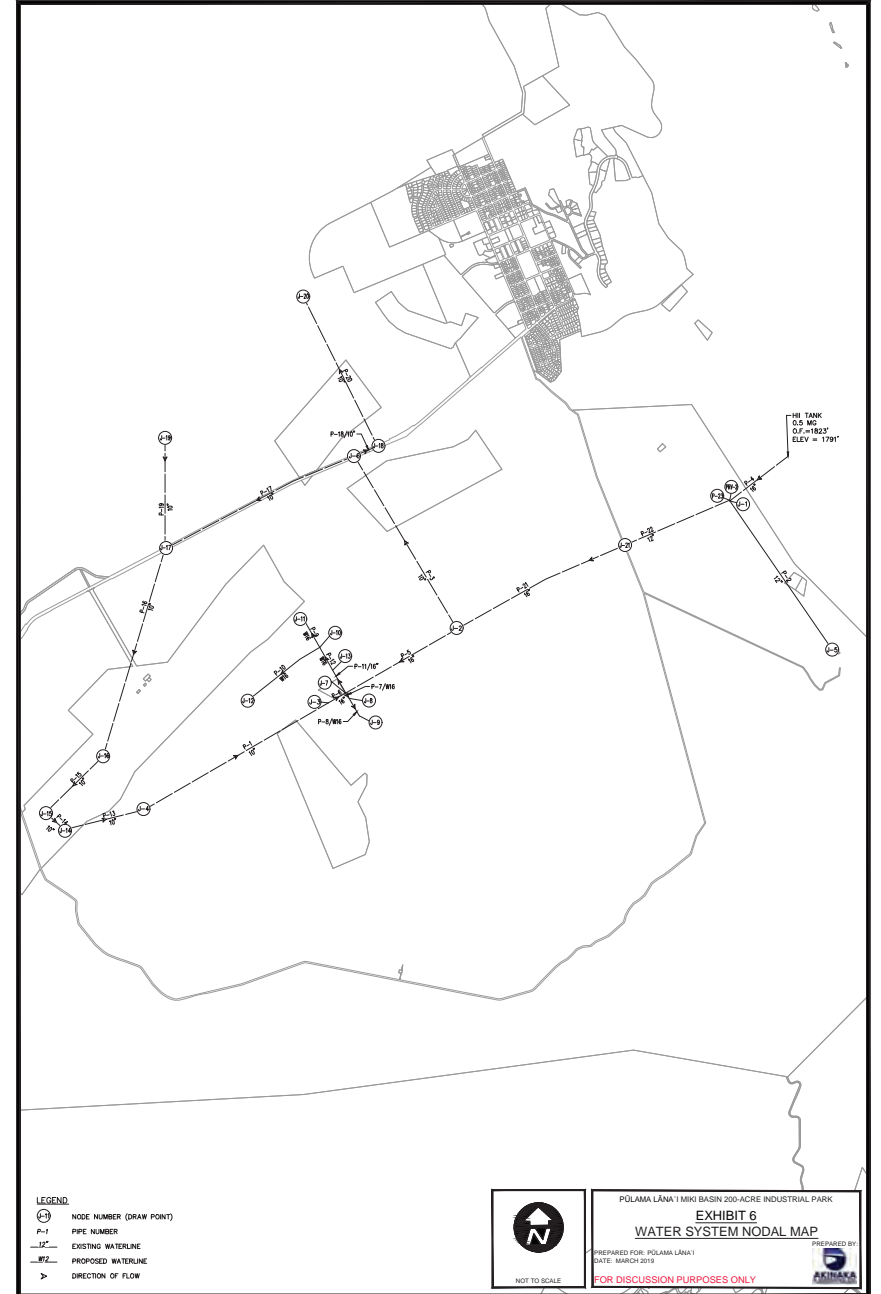
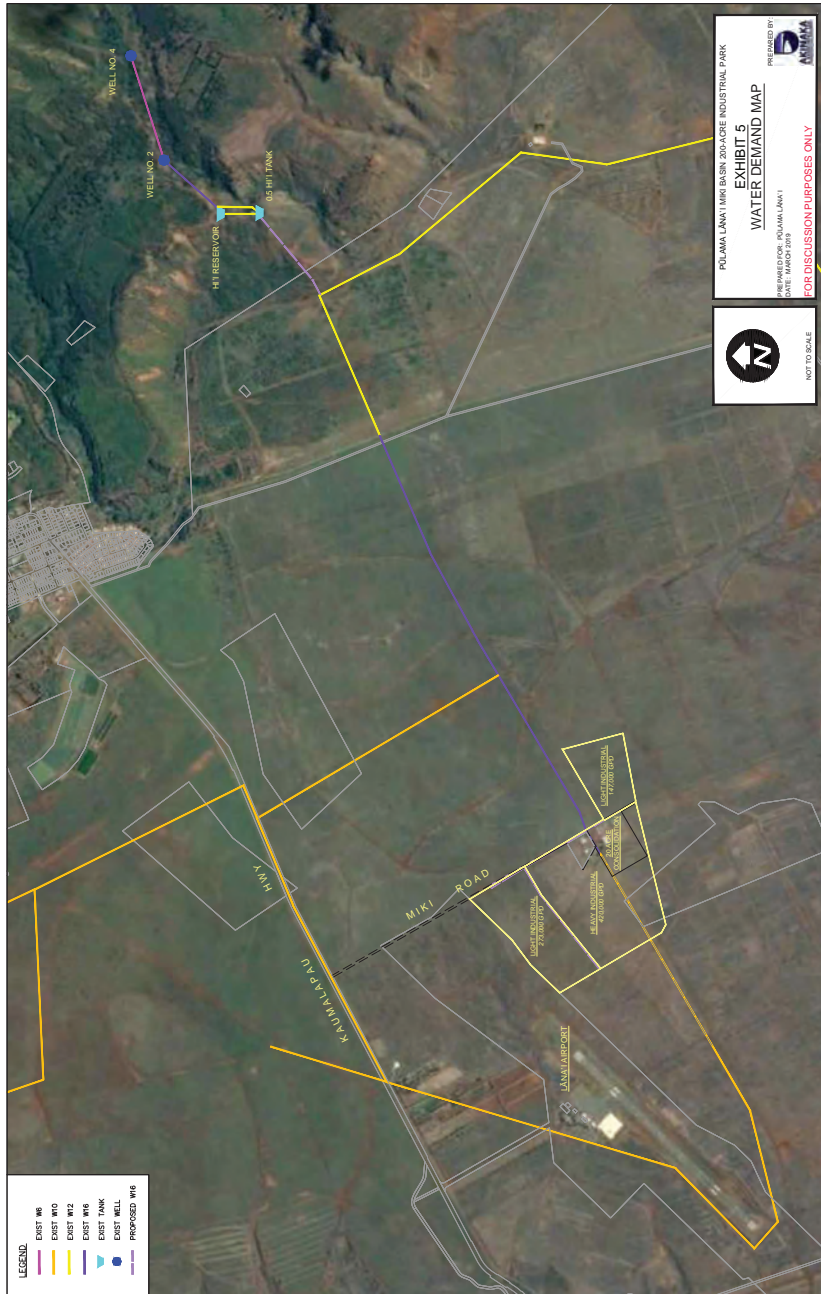


EXHIBIT 4: WATER FLOW SUMMATION											
PŪLAMA LĀNA'I MIKI BASIN 200 ACRE INDUSTRIAL PARK											
Point No	Description	Land Use	Area (ac)	Building Area ¹ (ac)	Avg Daily Demand (gal/ac)	Avg Day Rate (GPD)	Max Day Rate (GPD)	Peak Hour Rate (GPD)	Avg Day Rate (GPM)	Max Day Rate (GPM)	Peak Hour Rate (GPM)
J-2	Exist Demand					418,000	627,000	1,254,000	290.28	435.42	870.83
J-2	Lanai Farms	Agriculture				51,000	76,500	153,000	35.42	53.13	106.25
J-14/J-13	Light Industrial	Light Industrial	65	45.5	6,000	273,000	409,500	819,000	189.58	284.38	568.75
J-11/J-15	Heavy Industrial	Heavy Industrial	100	70	6,000	420,000	630,000	1,260,000	291.67	437.50	875.00
J-11	Light Industrial	Light Industrial	35	24.5	6,000	147,000	220,500	441,000	102.08	153.13	306.25
					Total	1,309,000	1,963,500	3,927,000	909	1,364	2,727

¹ Based on estimated developable area of 70% of total area



APPENDIX A

Water Calculations

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK MAX DAY FLOW															
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)	Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
P-1	6,065	J-3	J-4	10	HDPE	140	-66	0.27	0.21	0	J-1	1,347.17	435	1,793.57	193
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,582	J-2	1,134.61	0	1,546.38	178
P-3	5,729	J-2	J-6	10	HDPE	140	120	0.49	0.6	0	J-3	1,212.30	0	1,544.52	144
P-4	2,088	J-1	T-1	12	HDPE	140	-1,386	3.93	24.43	6,040	J-4	1,281.00	0	1,544.74	114
P-5	3,615	J-2	J-7	16	Ductile Iron	120	831	1.33	1.86	0	J-5	1,128.00	0	1,793.57	288
P-6	571	J-7	J-3	16	Ductile Iron	120	-66	0.11	0	0	J-6	1,350.00	0	1,545.78	85
P-7	170	J-7	J-8	16	Ductile Iron	120	343	0.55	0.02	0	J-7	1,221.15	0	1,544.52	140
P-8	590	J-8	J-9	16	Ductile Iron	120	343	0.55	0.06	0	J-8	1,221.91	0	1,544.50	140
P-9	807	J-10	J-11	16	Ductile Iron	120	65	0.1	0	0	J-9	1,259.00	343	1,544.44	123
P-10	2,582	J-10	J-12	16	Ductile Iron	120	219	0.35	0.11	0	J-10	1,279.00	0	1,544.24	115
P-11	749	J-7	J-13	16	Ductile Iron	110	555	0.88	0.21	0	J-11	1,314.00	65	1,544.24	100
P-12	747	J-13	J-10	16	Ductile Iron	110	283	0.45	0.06	0	J-12	1,255.00	219	1,544.13	125
P-13	2,338	J-4	J-14	10	Steel	140	-66	0.27	0.08	0	J-13	1,250.10	271	1,544.31	127
P-14	723	J-14	J-15	10	Steel	140	-66	0.27	0.03	0	J-14	1,223.00	0	1,544.82	139
P-15	2,294	J-15	J-16	10	Steel	140	-66	0.27	0.08	0	J-15	1,207.00	0	1,544.85	146
P-16	6,167	J-16	J-17	10	Steel	140	-66	0.27	0.22	0	J-16	1,249.00	0	1,544.93	128
P-17	6,012	J-17	J-6	10	Steel	140	-120	0.49	0.63	0	J-17	1,339.00	0	1,545.14	89
P-18	718	J-6	J-18	10	Steel	140	0	0	0	0	J-18	1,424.00	0	1,545.78	53
P-19	2,246	J-17	J-19	10	Steel	140	53	0.22	0.05	0	J-19	1,349.00	53	1,545.09	85
P-20	4,767	J-18	J-20	10	Steel	140	0	0	0	0	J-20	1,472.00	0	1,545.78	32
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-951	1.52	1.79	8,000	J-21	1,345.73	0	1,548.17	88
P-22	5,931	J-21	PRV-2	12	Ductile Iron	110	-951	2.7	18.66	0					
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-951	2.7	0.04	0					

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK PEAK HOUR FLOW																
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	(User Defined) (ft)		Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
P-1	6,065	J-3	J-4	10	HDPE	140	-133	0.54	0.77	0		J-1	1,347.17	871	1,729.79	166
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,582		J-2	1,134.61	0	1,493.01	155
P-3	5,729	J-2	J-6	10	HDPE	140	239	0.98	2.17	0		J-3	1,212.30	0	1,486.32	119
P-4	2,088	J-1	T-1	12	HDPE	140	-2,772	7.86	88.21	6,040		J-4	1,281.00	0	1,487.09	89
P-5	3,615	J-2	J-7	16	Ductile Iron	120	1,663	2.65	6.71	0		J-5	1,128.00	0	1,729.79	260
P-6	571	J-7	J-3	16	Ductile Iron	120	-133	0.21	0.01	0		J-6	1,350.00	0	1,490.84	61
P-7	170	J-7	J-8	16	Ductile Iron	120	686	1.1	0.06	0		J-7	1,221.15	0	1,486.31	115
P-8	590	J-8	J-9	16	Ductile Iron	120	686	1.1	0.21	0		J-8	1,221.91	0	1,486.24	114
P-9	807	J-10	J-11	16	Ductile Iron	120	129	0.21	0.01	0		J-9	1,259.00	686	1,486.03	98
P-10	2,582	J-10	J-12	16	Ductile Iron	120	438	0.7	0.4	0		J-10	1,279.00	0	1,485.31	89
P-11	749	J-7	J-13	16	Ductile Iron	110	1,109	1.77	0.77	0		J-11	1,314.00	129	1,485.30	74
P-12	747	J-13	J-10	16	Ductile Iron	110	567	0.9	0.22	0		J-12	1,255.00	438	1,484.91	99
P-13	2,338	J-4	J-14	10	Steel	140	-133	0.54	0.3	0		J-13	1,250.10	543	1,485.53	102
P-14	723	J-14	J-15	10	Steel	140	-133	0.54	0.09	0		J-14	1,223.00	0	1,487.39	114
P-15	2,294	J-15	J-16	10	Steel	140	-133	0.54	0.29	0		J-15	1,207.00	0	1,487.48	121
P-16	6,167	J-16	J-17	10	Steel	140	-133	0.54	0.79	0		J-16	1,249.00	0	1,487.77	103
P-17	6,012	J-17	J-6	10	Steel	140	-239	0.98	2.28	0		J-17	1,339.00	0	1,488.56	65
P-18	718	J-6	J-18	10	Steel	140	0	0	0	0		J-18	1,424.00	0	1,490.84	29
P-19	2,246	J-17	J-19	10	Steel	140	106	0.43	0.19	0		J-19	1,349.00	106	1,488.37	60
P-20	4,767	J-18	J-20	10	Steel	140	0	0	0	0		J-20	1,472.00	0	1,490.84	8
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-1,902	3.03	6.46	8,000		J-21	1,345.73	0	1,499.47	67
P-22	5,931	J-21	PRV-2	12	Ductile Iron	110	-1,902	5.39	67.35	0						
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-1,902	5.39	0.13	0						

Appendix A Water Calculations

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK MAX DAY + FIRE FLOW @ J11																
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)		Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
P-1	6,065	J-3	J-4	10	HDPE	140	-315	1.29	3.83	0		J-1	1,347.17	435	1,653.13	132
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,582		J-2	1,134.61	0	1,344.27	91
P-3	5,729	J-2	J-6	10	HDPE	140	368	1.5	4.83	0		J-3	1,212.30	0	1,323.27	48
P-4	2,088	J-1	T-1	12	HDPE	140	-3,886	11.02	164.87	6,040		J-4	1,281.00	0	1,327.10	20
P-5	3,615	J-2	J-7	16	Ductile Iron	120	3,083	4.92	21.05	0		J-5	1,128.00	0	1,653.13	227
P-6	571	J-7	J-3	16	Ductile Iron	120	-315	0.5	0.05	0		J-6	1,350.00	0	1,339.44	-5
P-7	170	J-7	J-8	16	Ductile Iron	120	2,843	4.54	0.85	0		J-7	1,221.15	0	1,323.22	44
P-8	590	J-8	J-9	16	Ductile Iron	120	2,843	4.54	2.96	0		J-8	1,221.91	0	1,322.37	43
P-9	807	J-10	J-11	16	Ductile Iron	120	65	0.1	0	0		J-9	1,259.00	2,843	1,319.41	26
P-10	2,582	J-10	J-12	16	Ductile Iron	120	219	0.35	0.11	0		J-10	1,279.00	0	1,322.94	19
P-11	749	J-7	J-13	16	Ductile Iron	110	555	0.88	0.21	0		J-11	1,314.00	65	1,322.94	4
P-12	747	J-13	J-10	16	Ductile Iron	110	283	0.45	0.06	0		J-12	1,255.00	219	1,322.83	29
P-13	2,338	J-4	J-14	10	Steel	140	-315	1.29	1.48	0		J-13	1,250.10	271	1,323.01	32
P-14	723	J-14	J-15	10	Steel	140	-315	1.29	0.46	0		J-14	1,223.00	0	1,328.57	46
P-15	2,294	J-15	J-16	10	Steel	140	-315	1.29	1.45	0		J-15	1,207.00	0	1,329.03	53
P-16	6,167	J-16	J-17	10	Steel	140	-315	1.29	3.89	0		J-16	1,249.00	0	1,330.48	35
P-17	6,012	J-17	J-6	10	Steel	140	-368	1.5	5.07	0		J-17	1,339.00	0	1,334.37	-2
P-18	718	J-6	J-18	10	Steel	140	0	0	0	0		J-18	1,424.00	0	1,339.44	-37
P-19	2,246	J-17	J-19	10	Steel	140	53	0.22	0.05	0		J-19	1,349.00	53	1,334.32	-6
P-20	4,767	J-18	J-20	10	Steel	140	0	0	0	0		J-20	1,472.00	0	1,339.44	-57
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-3,451	5.51	19.48	8,000		J-21	1,345.73	0	1,363.75	8
P-22	5,931	J-21	PRV-2	12	Ductile Iron	110	-3,451	9.79	203.07	0						
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-3,451	9.79	0.39	0						

Appendix A Water Calculations

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK MAX DAY + FIRE FLOW @ J13										
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)
P-1	6,065	J-3	J-4	10	HDPE	140	-265	1.08	2.79	0
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,582
P-3	5,729	J-2	J-6	10	HDPE	140	319	1.3	3.7	0
P-4	2,088	J-1	T-1	12	HDPE	140	-3,386	9.61	127.75	6,040
P-5	3,615	J-2	J-7	16	Ductile Iron	120	2,632	4.2	15.71	0
P-6	571	J-7	J-3	16	Ductile Iron	120	-265	0.42	0.04	0
P-7	170	J-7	J-8	16	Ductile Iron	120	343	0.55	0.02	0
P-8	590	J-8	J-9	16	Ductile Iron	120	343	0.55	0.06	0
P-9	807	J-10	J-11	16	Ductile Iron	120	2,065	3.29	2.24	0
P-10	2,582	J-10	J-12	16	Ductile Iron	120	219	0.35	0.11	0
P-11	749	J-7	J-13	16	Ductile Iron	110	2,555	4.08	3.62	0
P-12	747	J-13	J-10	16	Ductile Iron	110	2,283	3.64	2.93	0
P-13	2,338	J-4	J-14	10	Steel	140	-265	1.08	1.08	0
P-14	723	J-14	J-15	10	Steel	140	-265	1.08	0.33	0
P-15	2,294	J-15	J-16	10	Steel	140	-265	1.08	1.06	0
P-16	6,167	J-16	J-17	10	Steel	140	-265	1.08	2.84	0
P-17	6,012	J-17	J-6	10	Steel	140	-319	1.3	3.88	0
P-18	718	J-6	J-18	10	Steel	140	0	0	0	0
P-19	2,246	J-17	J-19	10	Steel	140	53	0.22	0.05	0
P-20	4,767	J-18	J-20	10	Steel	140	0	0	0	0
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-2,951	4.71	14.58	8,000
P-22	5,931	J-21	PRV-2	12	Ductile Iron	110	-2,951	8.37	151.97	0
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-2,951	8.37	0.29	0

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,347.17	435	1,690.25	148
J-2	1,134.61	0	1,400.28	115
J-3	1,212.30	0	1,384.60	75
J-4	1,281.00	0	1,387.40	46
J-5	1,128.00	0	1,690.25	243
J-6	1,350.00	0	1,396.58	20
J-7	1,221.15	0	1,384.57	71
J-8	1,221.91	0	1,384.55	70
J-9	1,259.00	343	1,384.49	54
J-10	1,279.00	0	1,378.02	43
J-11	1,314.00	2,065	1,375.78	27
J-12	1,255.00	219	1,377.91	53
J-13	1,250.10	271	1,380.95	57
J-14	1,223.00	0	1,388.47	72
J-15	1,207.00	0	1,388.80	79
J-16	1,249.00	0	1,389.86	61
J-17	1,339.00	0	1,392.70	23
J-18	1,424.00	0	1,396.58	-12
J-19	1,349.00	53	1,392.65	19
J-20	1,472.00	0	1,396.58	-33
J-21	1,345.73	0	1,414.86	30

Appendix A Water Calculations

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK MAX DAY + FIRE FLOW @ J14										
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)
P-1	6,065	J-3	J-4	10	HDPE	140	-265	1.08	2.79	0
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,582
P-3	5,729	J-2	J-6	10	HDPE	140	319	1.3	3.7	0
P-4	2,088	J-1	T-1	12	HDPE	140	-3,386	9.61	127.75	6,040
P-5	3,615	J-2	J-7	16	Ductile Iron	120	2,632	4.2	15.71	0
P-6	571	J-7	J-3	16	Ductile Iron	120	-265	0.42	0.04	0
P-7	170	J-7	J-8	16	Ductile Iron	120	343	0.55	0.02	0
P-8	590	J-8	J-9	16	Ductile Iron	120	343	0.55	0.06	0
P-9	807	J-10	J-11	16	Ductile Iron	120	65	0.1	0	0
P-10	2,582	J-10	J-12	16	Ductile Iron	120	2,219	3.54	8.18	0
P-11	749	J-7	J-13	16	Ductile Iron	110	2,555	4.08	3.62	0
P-12	747	J-13	J-10	16	Ductile Iron	110	2,283	3.64	2.93	0
P-13	2,338	J-4	J-14	10	Steel	140	-265	1.08	1.08	0
P-14	723	J-14	J-15	10	Steel	140	-265	1.08	0.33	0
P-15	2,294	J-15	J-16	10	Steel	140	-265	1.08	1.06	0
P-16	6,167	J-16	J-17	10	Steel	140	-265	1.08	2.84	0
P-17	6,012	J-17	J-6	10	Steel	140	-319	1.3	3.88	0
P-18	718	J-6	J-18	10	Steel	140	0	0	0	0
P-19	2,246	J-17	J-19	10	Steel	140	53	0.22	0.05	0
P-20	4,767	J-18	J-20	10	Steel	140	0	0	0	0
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-2,951	4.71	14.58	8,000
P-22	5,931	J-21	PRV-2	12	Ductile Iron	110	-2,951	8.37	151.97	0
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-2,951	8.37	0.29	0

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,347.17	435	1,690.25	148
J-2	1,134.61	0	1,400.28	115
J-3	1,212.30	0	1,384.60	75
J-4	1,281.00	0	1,387.40	46
J-5	1,128.00	0	1,690.25	243
J-6	1,350.00	0	1,396.58	20
J-7	1,221.15	0	1,384.57	71
J-8	1,221.91	0	1,384.55	70
J-9	1,259.00	343	1,384.49	54
J-10	1,279.00	0	1,378.02	43
J-11	1,314.00	65	1,378.01	28
J-12	1,255.00	2,219	1,369.84	50
J-13	1,250.10	271	1,380.95	57
J-14	1,223.00	0	1,388.47	72
J-15	1,207.00	0	1,388.80	79
J-16	1,249.00	0	1,389.86	61
J-17	1,339.00	0	1,392.70	23
J-18	1,424.00	0	1,396.58	-12
J-19	1,349.00	53	1,392.65	19
J-20	1,472.00	0	1,396.58	-33
J-21	1,345.73	0	1,414.86	30

Appendix A Water Calculations

APPENDIX A2

Water Calculations – Upsized Pipes

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK UPSIZE PIPE - MAX DAY										
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)
P-1	6,065	J-3	J-4	10	HDPE	140	-66	0.27	0.21	0
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,592
P-3	5,721	J-2	J-6	10	HDPE	140	120	0.41	0.6	0
P-4	2,099	J-1	T-1	16	Ductile Iron	120	-1,396	2.21	9.01	6,040
P-5	3,615	J-2	J-7	16	Ductile Iron	120	931	1.33	1.96	0
P-6	571	J-7	J-3	16	Ductile Iron	120	-66	0.11	0	0
P-7	170	J-7	J-9	16	Ductile Iron	120	343	0.55	0.02	0
P-9	510	J-9	J-1	16	Ductile Iron	120	343	0.55	0.06	0
P-1	907	J-10	J-11	16	Ductile Iron	120	65	0.1	0	0
P-10	2,592	J-10	J-12	16	Ductile Iron	120	211	0.35	0.11	0
P-11	741	J-7	J-13	16	Ductile Iron	110	555	0.99	0.21	0
P-12	747	J-13	J-10	16	Ductile Iron	110	293	0.45	0.06	0
P-13	2,339	J-4	J-14	10	Steel	140	-66	0.27	0.09	0
P-14	723	J-14	J-15	10	Steel	140	-66	0.27	0.03	0
P-15	2,214	J-15	J-16	10	Steel	140	-66	0.27	0.09	0
P-16	6,167	J-16	J-17	10	Steel	140	-66	0.27	0.22	0
P-17	6,012	J-17	J-6	10	Steel	140	-120	0.41	0.63	0
P-19	719	J-6	J-19	10	Steel	140	0	0	0	0
P-11	2,246	J-17	J-11	10	Steel	140	53	0.22	0.05	0
P-20	4,767	J-19	J-20	10	Steel	140	0	0	0	0
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-1 51	1.52	1.71	9,000
P-22	5,131	J-21	PRV-2	12	Ductile Iron	110	-1 51	2.7	19.66	0
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-1 51	2.7	0.04	0

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,347.17	435	1,901.11	200
J-2	1,134.61	0	1,546.39	179
J-3	1,212.30	0	1,544.52	144
J-4	1,291.00	0	1,544.74	114
J-5	1,129.00	0	1,901.11	215
J-6	1,350.00	0	1,545.79	95
J-7	1,221.15	0	1,544.52	140
J-9	1,221.11	0	1,544.50	140
J-1	1,251.00	343	1,544.44	123
J-10	1,271.00	0	1,544.24	115
J-11	1,314.00	65	1,544.24	100
J-12	1,255.00	211	1,544.13	125
J-13	1,250.10	271	1,544.31	127
J-14	1,223.00	0	1,544.92	131
J-15	1,207.00	0	1,544.95	146
J-16	1,241.00	0	1,544.13	129
J-17	1,331.00	0	1,545.14	91
J-19	1,424.00	0	1,545.79	53
J-11	1,341.00	53	1,545.01	95
J-20	1,472.00	0	1,545.79	32
J-21	1,345.73	0	1,549.17	99

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK UPSIZED PIPE - PEAK HOUR										
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)
P-1	6,065	J-3	J-4	10	HDPE	140	-133	0.54	0.77	0
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,592
P-3	5,721	J-2	J-6	10	HDPE	140	231	0.19	2.17	0
P-4	2,099	J-1	T-1	16	Ductile Iron	120	-2,772	4.42	29.1	6,040
P-5	3,615	J-2	J-7	16	Ductile Iron	120	1,663	2.65	6.71	0
P-6	571	J-7	J-3	16	Ductile Iron	120	-133	0.21	0.01	0
P-7	170	J-7	J-9	16	Ductile Iron	120	696	1.1	0.06	0
P-9	510	J-9	J-1	16	Ductile Iron	120	696	1.1	0.21	0
P-1	907	J-10	J-11	16	Ductile Iron	120	121	0.21	0.01	0
P-10	2,592	J-10	J-12	16	Ductile Iron	120	439	0.7	0.4	0
P-11	741	J-7	J-13	16	Ductile Iron	110	1,101	1.77	0.77	0
P-12	747	J-13	J-10	16	Ductile Iron	110	567	0.1	0.22	0
P-13	2,339	J-4	J-14	10	Steel	140	-133	0.54	0.3	0
P-14	723	J-14	J-15	10	Steel	140	-133	0.54	0.01	0
P-15	2,214	J-15	J-16	10	Steel	140	-133	0.54	0.21	0
P-16	6,167	J-16	J-17	10	Steel	140	-133	0.54	0.71	0
P-17	6,012	J-17	J-6	10	Steel	140	-231	0.19	2.29	0
P-19	719	J-6	J-19	10	Steel	140	0	0	0	0
P-11	2,246	J-17	J-11	10	Steel	140	106	0.43	0.11	0
P-20	4,767	J-19	J-20	10	Steel	140	0	0	0	0
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-1,102	3.03	6.46	9,000
P-22	5,131	J-21	PRV-2	12	Ductile Iron	110	-1,102	5.31	67.35	0
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-1,102	5.31	0.13	0

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,347.17	971	1,791.10	11.1
J-2	1,134.61	0	1,413.01	155
J-3	1,212.30	0	1,496.32	111
J-4	1,291.00	0	1,497.01	91
J-5	1,129.00	0	1,791.10	296
J-6	1,350.00	0	1,410.94	61
J-7	1,221.15	0	1,496.31	115
J-9	1,221.1	0	1,496.24	114
J-1	1,251.00	696	1,496.03	19
J-10	1,271.00	0	1,495.31	91
J-11	1,314.00	121	1,495.30	74
J-12	1,255.00	439	1,494.11	11
J-13	1,250.10	543	1,495.53	102
J-14	1,223.00	0	1,497.31	114
J-15	1,207.00	0	1,497.49	121
J-16	1,241.00	0	1,497.77	103
J-17	1,331.00	0	1,499.56	65
J-19	1,424.00	0	1,410.94	21
J-11	1,341.00	106	1,499.37	60
J-20	1,472.00	0	1,410.94	9
J-21	1,345.73	0	1,411.47	67

Appendix A2 - Water Calculations Upsized Pipes

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK UPSIZED PIPE - MAX DAY + FIRE FLOW@J11										
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)
P-1	6,065	J-3	J-4	10	HDPE	140	-315	1.21	3.93	0
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,592
P-3	5,721	J-2	J-6	10	HDPE	140	369	1.5	4.93	0
P-4	2,099	J-1	T-1	16	Ductile Iron	120	-3,996	6.2	54.02	6,040
P-5	3,615	J-2	J-7	16	Ductile Iron	120	3,093	4.12	21.05	0
P-6	571	J-7	J-3	16	Ductile Iron	120	-315	0.5	0.05	0
P-7	170	J-7	J-9	16	Ductile Iron	120	2,943	4.54	0.95	0
P-9	510	J-9	J-1	16	Ductile Iron	120	2,943	4.54	2.16	0
P-1	907	J-10	J-11	16	Ductile Iron	120	65	0.1	0	0
P-10	2,592	J-10	J-12	16	Ductile Iron	120	211	0.35	0.11	0
P-11	741	J-7	J-13	16	Ductile Iron	110	555	0.99	0.21	0
P-12	747	J-13	J-10	16	Ductile Iron	110	293	0.45	0.06	0
P-13	2,339	J-4	J-14	10	Steel	140	-315	1.21	1.49	0
P-14	723	J-14	J-15	10	Steel	140	-315	1.21	0.46	0
P-15	2,214	J-15	J-16	10	Steel	140	-315	1.21	1.45	0
P-16	6,167	J-16	J-17	10	Steel	140	-315	1.21	3.91	0
P-17	6,012	J-17	J-6	10	Steel	140	-369	1.5	5.07	0
P-19	719	J-6	J-19	10	Steel	140	0	0	0	0
P-11	2,246	J-17	J-11	10	Steel	140	53	0.22	0.05	0
P-20	4,767	J-19	J-20	10	Steel	140	0	0	0	0
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-3,451	5.51	11.49	9,000
P-22	5,131	J-21	PRV-2	12	Ductile Iron	110	-3,451	1.71	203.07	0
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-3,451	1.71	0.31	0

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,347.17	435	1,763.19	190
J-2	1,134.61	0	1,344.27	11
J-3	1,212.30	0	1,323.27	49
J-4	1,291.00	0	1,327.10	20
J-5	1,129.00	0	1,763.19	275
J-6	1,350.00	0	1,331.44	-5
J-7	1,221.15	0	1,323.22	44
J-9	1,221.1	0	1,322.37	43
J-1	1,251.00	2,943	1,311.41	26
J-10	1,271.00	0	1,322.14	11
J-11	1,314.00	65	1,322.14	4
J-12	1,255.00	211	1,322.93	21
J-13	1,250.10	271	1,323.01	32
J-14	1,223.00	0	1,329.57	46
J-15	1,207.00	0	1,321.03	53
J-16	1,241.00	0	1,330.49	35
J-17	1,331.00	0	1,334.37	-2
J-19	1,424.00	0	1,331.44	-37
J-11	1,341.00	53	1,334.32	-6
J-20	1,472.00	0	1,331.44	-57
J-21	1,345.73	0	1,363.75	9

Appendix A2 - Water Calculations Upsized Pipes

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK UPSIZE PIPE - MAX DAY + FIRE FLOW@J13										
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)
P-1	6,065	J-3	J-4	10	HDPE	140	-265	1.09	2.71	0
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,592
P-3	5,721	J-2	J-6	10	HDPE	140	311	1.3	3.7	0
P-4	2,099	J-1	T-1	16	Ductile Iron	120	-3,396	5.4	41.96	6,040
P-5	3,615	J-2	J-7	16	Ductile Iron	120	2,632	4.2	15.71	0
P-6	571	J-7	J-3	16	Ductile Iron	120	-265	0.42	0.04	0
P-7	170	J-7	J-9	16	Ductile Iron	120	343	0.55	0.02	0
P-9	510	J-9	J-1	16	Ductile Iron	120	343	0.55	0.06	0
P-1	907	J-10	J-11	16	Ductile Iron	120	2,065	3.21	2.24	0
P-10	2,592	J-10	J-12	16	Ductile Iron	120	211	0.35	0.11	0
P-11	741	J-7	J-13	16	Ductile Iron	110	2,555	4.09	3.62	0
P-12	747	J-13	J-10	16	Ductile Iron	110	2,293	3.64	2.13	0
P-13	2,339	J-4	J-14	10	Steel	140	-265	1.09	1.09	0
P-14	723	J-14	J-15	10	Steel	140	-265	1.09	0.33	0
P-15	2,214	J-15	J-16	10	Steel	140	-265	1.09	1.06	0
P-16	6,167	J-16	J-17	10	Steel	140	-265	1.09	2.94	0
P-17	6,012	J-17	J-6	10	Steel	140	-311	1.3	3.99	0
P-19	719	J-6	J-19	10	Steel	140	0	0	0	0
P-11	2,246	J-17	J-11	10	Steel	140	53	0.22	0.05	0
P-20	4,767	J-19	J-20	10	Steel	140	0	0	0	0
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-2,151	4.71	14.59	9,000
P-22	5,131	J-21	PRV-2	12	Ductile Iron	110	-2,151	9.37	151.7	0
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-2,151	9.37	0.21	0

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,347.17	435	1,776.14	196
J-2	1,134.61	0	1,400.29	115
J-3	1,212.30	0	1,394.60	75
J-4	1,291.00	0	1,397.40	46
J-5	1,129.00	0	1,776.14	290
J-6	1,350.00	0	1,316.59	20
J-7	1,221.15	0	1,394.57	71
J-9	1,221.11	0	1,394.55	70
J-1	1,251.00	343	1,394.41	54
J-10	1,271.00	0	1,379.02	43
J-11	1,314.00	2,065	1,375.79	27
J-12	1,255.00	211	1,377.11	53
J-13	1,250.10	271	1,390.15	57
J-14	1,223.00	0	1,399.47	72
J-15	1,207.00	0	1,399.90	71
J-16	1,241.00	0	1,391.96	61
J-17	1,331.00	0	1,312.70	23
J-19	1,424.00	0	1,316.59	-12
J-11	1,341.00	53	1,312.65	11
J-20	1,472.00	0	1,316.59	-33
J-21	1,345.73	0	1,414.96	30

Appendix A2 - Water Calculations Upsized Pipes

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK UPSIZE PIPE - MAX DAY + FIRE FLOW@J14										
Label	Length (Scaled) (ft)	Start Node	Stop Node	Diameter (in)	Material	Hazen- Williams C	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Length (User Defined) (ft)
P-1	6,065	J-3	J-4	10	HDPE	140	-265	1.09	2.71	0
P-2	5,145	J-1	J-5	12	Ductile Iron	110	0	0	0	21,592
P-3	5,721	J-2	J-6	10	HDPE	140	311	1.3	3.7	0
P-4	2,099	J-1	T-1	16	Ductile Iron	120	-3,396	5.4	41.96	6,040
P-5	3,615	J-2	J-7	16	Ductile Iron	120	2,632	4.2	15.71	0
P-6	571	J-7	J-3	16	Ductile Iron	120	-265	0.42	0.04	0
P-7	170	J-7	J-9	16	Ductile Iron	120	343	0.55	0.02	0
P-9	510	J-9	J-1	16	Ductile Iron	120	343	0.55	0.06	0
P-1	907	J-10	J-11	16	Ductile Iron	120	65	0.1	0	0
P-10	2,592	J-10	J-12	16	Ductile Iron	120	2,211	3.54	9.19	0
P-11	741	J-7	J-13	16	Ductile Iron	110	2,555	4.09	3.62	0
P-12	747	J-13	J-10	16	Ductile Iron	110	2,293	3.64	2.13	0
P-13	2,339	J-4	J-14	10	Steel	140	-265	1.09	1.09	0
P-14	723	J-14	J-15	10	Steel	140	-265	1.09	0.33	0
P-15	2,214	J-15	J-16	10	Steel	140	-265	1.09	1.06	0
P-16	6,167	J-16	J-17	10	Steel	140	-265	1.09	2.94	0
P-17	6,012	J-17	J-6	10	Steel	140	-311	1.3	3.99	0
P-19	719	J-6	J-19	10	Steel	140	0	0	0	0
P-11	2,246	J-17	J-11	10	Steel	140	53	0.22	0.05	0
P-20	4,767	J-19	J-20	10	Steel	140	0	0	0	0
P-21	2,714	J-2	J-21	16	Ductile Iron	120	-2,151	4.71	14.59	9,000
P-22	5,131	J-21	PRV-2	12	Ductile Iron	110	-2,151	9.37	151.7	0
P-23	11	PRV-2	J-1	12	Ductile Iron	110	-2,151	9.37	0.21	0

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-1	1,347.17	435	1,776.14	196
J-2	1,134.61	0	1,400.29	115
J-3	1,212.30	0	1,394.60	75
J-4	1,291.00	0	1,397.40	46
J-5	1,129.00	0	1,776.14	290
J-6	1,350.00	0	1,316.59	20
J-7	1,221.15	0	1,394.57	71
J-9	1,221.11	0	1,394.55	70
J-1	1,251.00	343	1,394.41	54
J-10	1,271.00	0	1,379.02	43
J-11	1,314.00	65	1,379.01	29
J-12	1,255.00	2,211	1,361.94	50
J-13	1,250.10	271	1,390.15	57
J-14	1,223.00	0	1,399.47	72
J-15	1,207.00	0	1,399.90	71
J-16	1,241.00	0	1,391.96	61
J-17	1,331.00	0	1,312.70	23
J-19	1,424.00	0	1,316.59	-12
J-11	1,341.00	53	1,312.65	11
J-20	1,472.00	0	1,316.59	-33
J-21	1,345.73	0	1,414.96	30

Appendix A2 - Water Calculations Upsized Pipes

APPENDIX B

0% Construction Costs

PULAMA LANAI MIKI BASIN 200 ACRE INDUSTRIAL PARK 0% CONSTRUCTION COSTS FOR PROPOSED WATER IMPROVEMENTS				
ITEM	QTY	UNIT	UNIT PRICE	AMOUNT
OFFSITE IMPROVEMENTS				
Well Studies, including environmental and hydrologic studies for siting exploratory well		Lump Sum	Lump Sum	\$ 250,000.00
Exploratory Well, including siting, drilling and testing	1	Each	Each	\$ 1,000,000.00
Well Construction, including reaming of exploratory well, drilling, installation of casing and pump installation	1	Each	Each	\$ 2,300,000.00
500,000 gallon Concrete Reservoir, including grading, backfill, subbase, base course, structural fill, liners, piping & fittings to exterior face of footing, ladders, railing hatched, vents, finishes and all appurtenances and incidentals	1	Each	Each	\$ 3,000,000.00
Upsize existing 12-inch waterline to 16-inch waterline between Hii Tank and Palawai PRV	7,840	LF	\$ 600.00	\$ 4,704,000.00
6-inch parallel waterline between Hii Tank and Palawai PRV	7,840	LF	\$ 550.00	\$ 4,312,000.00
ONSITE IMPROVEMENTS				
16-inch water line along Miki Road within the parcel, including trench excavation, cushion and backfill, fittings and connections to existing water lines	2,875	LF	\$ 200.00	\$ 575,000.00
16-inch water line along Road A, including trench excavation, cushion and backfill, fittings and connections to existing water lines	2,620	LF	\$ 200.00	\$ 524,000.00
Contingency (20%)		Lump Sum	Lump Sum	\$ 219,800.00
TOTAL ONSITE IMPROVEMENTS				\$ 1,318,800.00

EXHIBIT 2

MORIHARA LAU & FONG, LLP

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KRIS N. NAKAGAWA 5848-0
LIANNA L. FIGUEROA 9173-0
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Attorneys for Applicant
LĀNAʻI RESORTS, LLC

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition Of	)	DOCKET NO. A19-809
)	
LĀNAʻI RESORTS, LLC dba PŪLAMA)	
LĀNAʻI)	
	)	PETITION FOR LAND USE DISTRICT
To Amend the Land Use District	)	BOUNDARY AMENDMENT;
Boundaries of certain land situated at	)	VERIFICATION; EXHIBITS 1 TO 9;
Lānaʻi City, Island of Lānaʻi, consisting of	)	AFFIDAVIT OF MAILING;
approximately 200 acres from the	)	CERTIFICATE OF SERVICE
Agricultural District to the Urban District,)	
Tax Map Key No. (2) 4-9-02:01 (por.))	

PETITION FOR LAND USE DISTRICT BOUNDARY AMENDMENT

VERIFICATION

EXHIBITS 1 TO 9

AFFIDAVIT OF MAILING

CERTIFICATE OF SERVICE

PETITION FOR LAND USE BOUNDARY AMENDMENT

Petitioner LĀNA`I RESORTS, LLC, a Hawai`i limited liability company, doing business as PŪLAMA LĀNA`I (“Petitioner”), whose address is 733 Bishop Street, Suite 2000, Honolulu, Hawai`i 96813, by and through its attorneys, Morihara Lau & Fong LLP, submits this Petition for Land Use District Boundary Amendment pursuant to Hawai`i Revised Statutes (“HRS”) Chapter 205 and under Hawai`i Administrative Rules (“HAR”) Chapter 15, Title 15.

I. RELIEF SOUGHT

Petitioner seeks a Land Use District Boundary Amendment for approximately 200 acres located within Miki Basin, Lāna`i, Hawai`i, from State Land Use Agricultural District to State Land Use Urban District to provide an area for future light and heavy industrial development in conformance with the updated Lāna`i Community Plan (2016) (“LCP”).

For decades, Lāna`i’s economy has been almost entirely dependent upon the pineapple industry. Today, Lāna`i’s economy is again too reliant on a single industry, this time luxury tourism. A key goal of Lānaians, as expressed in the LCP, is the diversification of Lāna`i’s economy. To achieve that goal, the LCP recognized that increasing the supply of commercial and industrial spaces and providing appropriate infrastructure are critical to attracting and developing new industries. (LCP – Economic Development, Strategy 1A).

Currently, only about 3000 acres, or 3.4 percent of the land on Lāna`i is in the Urban District. Most of the Urban lands are in the Lāna`i City central business area and along the coastline, areas not ideal for a variety of industrial activities.

The island's primary industrial areas are located southwest of Lāna`i City, near the airport and at Kaumālapa`u Harbor. They comprise a very small percentage of the total lands on Lāna`i and have very little room for expansion. Thus, an increase in the supply of industrial spaces for economic growth and diversification requires an expansion of lands classified as Urban sited in an area suitable for industrial activities.

The Petition Area is well-suited for industrial development. It is adjacent to the most significant industrial uses on Lāna`i, the Lāna`i Airport, the Miki Basin Industrial Condominium, and Maui Electric Company's (MECO) generating facility. At 3.2 miles southwest of Lāna`i City, it is far enough removed from the island's main business center and residential area as to minimize those impacts common to industrial areas, such as noise, odors, and heavy vehicles. Yet, the Petition Area is close enough to be conveniently accessible to businesses, residents, and the workforce.

The LCP currently designates the Petition Area for Light/Heavy Industrial Use. A reclassification of the Petition Area from Agriculture to Urban is necessary to conform with and implement the LCP's vision. Following reclassification, Pūlama Lāna`i will apply to the County for rezoning of these lands to accommodate light and heavy industrial uses.

Development of the 200-acre industrial park (referred to as the Miki Basin Industrial Park or the Project) will (i) allow existing industrial facilities inappropriately scattered in business and residential areas in Lāna`i City to relocate to a more appropriate location having the infrastructure and buffers necessary for industrial uses; and (ii) provide opportunities for future industrial development on Lāna`i, which will add

to the diversification of Lāna`i's economy and thereby contribute to the island's resiliency and sustainability.

II. AUTHORITY FOR PETITION

This Petition is made pursuant to Section 205-4, HRS, and HAR Chapter 15, Title 15, Subchapter 6. Petitioner is the owner of property sought to be reclassified and thus has standing to initiate this boundary amendment. (HAR § 15-15-46(3)).

III. ENVIRONMENTAL DISCLOSURE

An application to reclassify land from Agriculture to Urban is not a trigger for an HRS Chapter 343 disclosure document. However, an environmental assessment (EA) is required pursuant to HRS § 343-(a)(1) because the proposed industrial development may necessitate changes to an existing State highway. Based on the Hawai`i Supreme Court's decision in *Sierra Club v. Office of Planning*, 109 Hawai`i 411, 126 P.3d 1098 (2006), an EA is required to inform the State Land Use Commission's decision-making on this application for district boundary amendment.

IV. PETITIONER AND PETITION AREA

1. Identity of Petitioner

Petitioner LĀNA`I RESORTS, LLC is a Hawai`i limited liability company, doing business as PŪLAMA LĀNA`I. Petitioner's mailing address is 733 Bishop Street, Suite 2000, Honolulu, Hawai`i 96813.

2. Correspondence and Communications

The law firm of Morihara Lau & Fong LLP have been appointed to represent Petitioner pursuant to HAR § 15-15-35(b).

All correspondence and communication with regard to this Petition shall be addressed to and served upon:

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and

Kurt Matsumoto
Chief Operating Officer
Pūlama Lāna`i
733 Bishop Street, Suite 2000
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Telephone: (808) 237-2212
Email: kmatsumoto@pulamalanai.com

3. Ownership of Petition Area

In 2012, LĀNA`I RESORTS, LLC purchased approximately 98 percent of all the land on Lāna`i from Castle & Cooke, Inc. The entire Petition Area is owned by LĀNA`I RESORTS, LLC, as evidenced by Exhibits 1 and 2.

4. Petitioner's Financial Condition

Petitioner intends to do the mass grading of the Petition Area and install the backbone infrastructure for the Project. Individual developers will be responsible for their own vertical development, infrastructure within their lots and/or for their individual projects, and utilities.

Lānaʻi Holdings, LLC is the Manager and 100% Member of Petitioner. Lānaʻi Holdings, LLC presently holds unencumbered assets with a value well in excess of \$100 million. See Declaration of Kurt Matsumoto, attached as Exhibit 3.

Since acquiring 98% of the island in 2012, Lānaʻi Holdings, LLC, either through Pūlama Lānaʻi or other affiliates, has invested hundreds of millions of dollars in infrastructure and other improvements to maintain and upgrade long-neglected facilities and has constructed and redeveloped properties all with the aim of promoting the island's resiliency and self-sustainability. See Declaration of Kurt Matsumoto, attached as Exhibit 4 for a listing of Pūlama Lānaʻi's accomplishments since 2013. Investing in the backbone infrastructure for the Miki Basin Industrial Park is part of the same effort.

5. Description of Petition Area

The property that is the subject of this Petition is located in Lānaʻi City, Lānaʻi and consists of approximately 200 acres ("Petition Area"). The Petition Area is identified by Tax Map Key No. (2) 4-9-02:01 (por.). The attached Exhibits 5, 6, 7, and 8 are, respectively, a regional location map, a tax map key map, an aerial photograph, and a conceptual site plan of the Petition Area. A map and metes and bounds description of the Petition Area prepared by a registered professional land surveyor is attached as Exhibit 9.

V. BACKGROUND – LANAʻI, GENERALLY

1. Geography

Lānaʻi is sixth in size of the major Hawaiian Islands and is part of the County of Maui. Like all the Hawaiian Islands, Lānaʻi was formed through volcanic eruptions and is constantly being reshaped by erosional activity. The island is 13.25 miles long and

13 miles wide, and its highest point, Lāna`i Hale, stands 3,370 feet above sea level. Molokai lies to the north and Kahoolawe to the southeast. The southern and western sides of Lāna`i face the open ocean and are fringed by imposing cliff sides, while the windward side slopes gently to the sea.

Sitting in the rain shadow of larger and higher islands, Lāna`i's ecosystem evolved in the absence of man and most other mammals, giving rise to cloud forest zones, which gave life to the land and made the island hospitable to people when they settled Lāna`i, perhaps as long as 1,000 years ago. Untouched for centuries, the forest systems of Lāna`i evolved the unique ability to capture droplets of water, which in turn percolated through the ground to create water sources that were spread from mountain to shore across the island. While these precious forest regions have been radically altered by man's activities and feral animals, evidence of the region's water producing capabilities are still visible in the landscape and in traditional accounts and historic literature.

Between 2013 and 2017, the island of Lāna`i was estimated to have a resident population of approximately 3,203 or 1.95 % of the County's population. The population of Lāna`i grew at a slightly slower rate than the County as a whole, increasing by 2.2% from 3,135 residents in 2010. (Maui County's population increased 6% during this time period.)

With an average household size of 2.57 people per household, households on Lāna`i are slightly smaller than households in the County as a whole. The mean household income on the island is estimated at \$67,944, 38.3% lower than the County

of Maui. An estimated 53.4% of Lāna`i residents attended some college or received a higher education degree.

The LCP, which was updated and approved by the Maui County Council in 2016, notes that an additional 885 residents are forecasted to live on the island by the year 2030, for a total population of 4,020. The community's vision is to maintain its rural, small town sense of community and *ohana*, and its goal is to manage the island's development to ensure that the island's population does not expand beyond 6,000 people over the next 20 years.

2. History

The culture, beliefs, and practices of the Hawaiians mirrored the natural environment around them. They learned to live within the wealth and limitations of their surroundings. There is significant archaeological evidence on the island indicating that in the period before western contact, more people lived on the land sustainably – growing and catching all they needed – than currently live upon the island. Ancient Hawaiian villages, ceremonial features, dryland agricultural fields, fishponds and a wide range of cultural sites dot the shoreline. Several significant traditional settlements and agricultural endeavors are found in the uplands. And, over generations families with permanent residences in the Lahaina District of Maui frequented Lāna`i to take advantage of its rich fisheries.

In the period leading up to 1800, there was a decline in the native population, and in the capacity of Lāna`i to produce agricultural resources. This was, in part, due to disputes between the rulers of Maui and Hawai`i which overflowed onto Lāna`i in the mid- to late-18th century. In the late 18th century and early 19th century, foreign

diseases and influences spread across the islands, leading to a further decline in the population. By the 1840s, there were approximately 600 inhabitants residing on Lānaʻi. By the 1870s, the population hovered around 300 residents, and by the early 1890s, there were only 175 native residents.

One significant contribution to the decline in Lānaʻi's ability to support the resident population was the introduction of grazing herbivores – goats, sheep, and cattle – which were raised to provide foreign vessels with a meat source. Goats, sheep, cattle, the European boar, and horses were introduced to the Hawaiian Islands between 1778 and 1810. During those early years, Kamehameha I and his chiefs placed *kapu* over the newly introduced animals to ensure that their populations would grow. In the 50-year period from 1780 to the 1830s, populations of these non-native animals grew to become a great nuisance to the Hawaiian population and had devastating effects on the Hawaiian environment.

Following the *Mahele*, when fee simple title to land was granted, formal efforts at controlling grazers was initiated. Ranching was a part of Lānaʻi's history for nearly 100 years, from about 1854 to 1951. From 1910 to 1951, ranch operations focused on cattle, with a steady decline in the population of other livestock. Ranch operations ended in 1951 when the Hawaiian Pineapple Company decided to focus all its efforts on the pineapple plantation.

James Dole, owner of the Hawaiian Pineapple Company, purchased the island of Lānaʻi in 1922. On Lānaʻi, the Hawaiian Pineapple Company cultivated 20,000 acres in pineapple, developed the town of Lānaʻi City, constructed a harbor at Kaumālapau, and macadamized miles of roads. The pineapple plantation was also responsible for an

influx of immigrant workers, mostly from Japan and the Philippines. To house these workers, several camps were established, one of which was Miki Camp, located within the Petition Area. It was the largest of the camps, and the last to close in 1938. By that time, all of the workers had been relocated to Lāna`i City.

From 1922, for nearly 70 years, Lāna`i was the world's largest working pineapple plantation, consisting of approximately 20,000 acres, including the Petition Area. In the 1980s and 1990s, stiff competition from Latin America and the Philippines brought declining profitability to Hawai`i's pineapple industry, and Lāna`i's economy slowly shifted from agriculture to tourism. The pineapple plantation era on Lāna`i ended in 1992 with the final pineapple harvest.

In 1961, Castle & Cooke bought out Dole's interest, and in 1970 began planning for a new resort and residential development on Lāna`i. The plan never materialized, and in 1985, David H. Murdock bought out Castle & Cooke's interests, which included the island of Lāna`i. Under Murdock's ownership, development plans were revitalized and steps towards phasing out the pineapple plantation acted upon.

In 2012, Lāna`i Resorts purchased approximately 98% of Lāna`i, and in July 2013 began doing business as Pūlama Lāna`i. Since then, Pūlama Lāna`i or other affiliates, has invested hundreds of millions of dollars in infrastructure and other improvements to maintain and upgrade long-neglected facilities and has constructed and redeveloped properties all with the aim of promoting the island's resiliency and self-sustainability. Among other things, Pūlama Lāna`i's efforts have resulted in increased employment by more than 300 positions, increased the availability of rental housing for teachers, introduced community services such as a pharmacy, women's shelter,

hospice and a theater, funded educational programs to foster increased interest in higher education, and restored a number of historic and cultural sites. See Declaration of Kurt Matsumoto, attached as Exhibit 4 for a listing of Pūlama Lānaʻi's accomplishments since 2013.

VI. RECLASSIFICATION SOUGHT AND PRESENT USE OF PETITION AREA

Petitioner seeks to reclassify the Petition Area from its present Agriculture District to Urban District.

From 1922, for nearly 70 years, Lānaʻi was the world's largest working pineapple plantation, consisting of approximately 20,000 acres, including the Petition Area. In the 1980s and 1990s, stiff competition from Latin America and the Philippines brought declining profitability to Hawaiʻi's pineapple industry, and Lānai's economy slowly shifted from agriculture to tourism. The pineapple plantation era on Lānaʻi ended in 1992 with the final pineapple harvest. While tourism-related facilities were developed on other sites around the island, the Petition Area and surrounding lands have lain fallow and unused to this day.

Lānaʻi Airport is located along the northern boundary of the Petition Area. Also adjacent to the Petition Area is the 5-acre MECO generating station site and the existing 20-acre Miki Basin Industrial Condominium, all of which are classified as Urban. It is 3.2 miles southwest of Lānaʻi City; the lands between Lānaʻi City and the Petition Area are classified Agriculture.

1. Use of Petition Area Over Past 2 years

The Petition Area has lain fallow since pineapple cultivation ceased in 1992.

2. Present Use of Petition Area and Surrounding Areas

The Petition Area is currently unused. Lāna`i Airport is located along the northern boundary of the Petition Area. Also adjacent to the Petition Area is the 5-acre MECO generating station site and the existing 20-acre Miki Basin Industrial Condominium. It is 3.2 miles southwest of Lāna`i City; the lands between Lāna`i City and the Petition Area are classified Agriculture and currently fallow.

3. ALISH Classification

Agricultural Lands of Importance to the State of Hawai`i (ALISH) ratings were developed in 1977 by the Natural Resources Conservation Service (NRCS), UH College of Tropical Agriculture and Human Resources, and the State of Hawai`i Department of Agriculture. This system classifies land into three broad categories: (i) "Prime" agricultural land which is land best suited for the production of crops because of its availability to sustain high yields with relatively little input and with the least damage to the environment; (ii) "Unique" agricultural land, which is non-Prime agricultural land used for the production of specific high-value crops; and (iii) "Other" agricultural land, which is non-Prime and non-Unique agricultural land that is important to the production of crops.

The entire Petition Area has soils that are rated Unique. This rating reflects the past use of the land for growing pineapple.

4. Land Study Bureau Productivity Rating

In 1967, the UH Land Study Bureau developed the Overall Productivity Rating, which classifies soils according for five levels, with “A” representing the class of highest productivity and “E” the lowest.

Most of the Petition Area has soils rated “D”, with a small area rated “E”. The low rating reflects the lack of irrigation water for the Petition Area.

5. Flood and Drainage Conditions

The Petition Area is within Flood Zone X, meaning moderate to low flood risk. Lānaʻi, lying in the rain shadow of Molokaʻi, receives relatively little precipitation; thus flooding tends to be less intense in comparison to other islands.

There is no existing storm drain system within the Petition Area. Runoff collected in the Petition Area flows into existing natural drainage ways and discharges into the existing Miki Basin sump, located approximately 2000 feet away, or into the existing Palawai Basin.

Runoff generated by the adjacent MECO facility and the Miki Basin Industrial Condominium will not impact the proposed development since they have separate discharge points. Offsite runoff headed towards the Petition Area is diverted around the site and discharged into the existing drainage way.

Offsite runoff generated from the area north of Miki Road sheet flows and is intercepted by an unlined ditch along Miki Road. Once in the unlined ditch, the runoff flows towards the southeast direction to a low point in Miki Road near the existing MECO facility.

6. Topography

The existing onsite terrain is covered with vegetation and slopes at about 5% from Miki Road toward the southeast

VII. PROPOSED DEVELOPMENT

1. General Description

The proposed 200-acre Miki Basin Industrial Park will increase the amount of land available on Lāna`i for light and heavy industrial uses and develop the infrastructure necessary to encourage and support development of new and expanding industrial enterprises critical to the growth and diversification of Lāna`i's economy.

This proposed development is in accord with the LCP Land Use Map, which calls for this site to be in heavy and light industrial uses. A reclassification of the Petition Area from Agriculture to Urban is necessary to conform with and implement the LCP's vision. Following reclassification, Pūlama Lāna`i will apply to the County for rezoning of these lands to accommodate light and heavy industrial uses.

The LCP identifies fostering a robust and diversified economy as a critical component to establishing a sustainable and resilient future for Lāna`i. The LCP explains:

This requires diversifying the tourism industry, supporting agriculture, encouraging new industries, expanding education and support services for small businesses, and providing necessary infrastructure, land, and affordable sea and air transportation options. Lowering energy costs by reducing dependence on fossil fuels and increasing renewable energy is also key to providing stronger economic opportunities and becoming more sustainable.

This will be achieved by increasing the generation and use of renewable energy sources, promoting the use of electric vehicles, and exploring options for biofuels, biodiesel, and waste-to-energy technology. Water resources will be used in a sustainable and economic manner by recycling

one hundred percent of wastewater for irrigation and exploring options for reuse of household graywater for lawn and garden irrigation. (LCP, p. 2-12)

Some of the ventures identified in the foregoing paragraphs are industrial activities that would need to be located in industrial-zoned areas. Other enterprises listed will have ancillary needs for industrial spaces, such as warehouses, fleet baseyards, food collection and distribution systems, automotive sales and repair shops, plumbing, electrical and irrigation services and supplies, vehicle and equipment storage, among many others.

Generally, communities of similar size have the following types of light industrial uses: cold storage plants, commercial laundries, craft cabinet and furniture manufacturing, general food, fruit, and vegetable processing and manufacturing plants, laboratories, machine shop or other metal working shops, small boat building, tire repair operation, warehouse, storage and loft building, minor utility facilities, etc. The heavy industrial uses in communities of this size would include automobile wrecking, lumber yards, machine shops, major utilities facilities, cement manufacture, asphalt manufacture, etc. Based on expected economic and population growth over the next 30 years, there will be a need for industrial-zoned lands on the island of Lānaʻi as there is none available at the present time. The Miki Basin Industrial Park will provide space for growth of new businesses.

The Petition Area is well-suited for industrial development. It is adjacent to the most significant industrial uses on Lānaʻi, the Lānaʻi Airport, the Miki Basin Industrial Condominium, and Maui Electric Company's (MECO) generating facility. At 3.2 miles southwest of Lānaʻi City, it is far enough removed from the island's main business

center and residential area as to minimize those impacts common to industrial areas, such as noise, odors, and heavy vehicles. Yet, the Petition Area is close enough to be conveniently accessible to businesses, residents, and the workforce.

Development of the 200-acre industrial park will (i) allow existing industrial facilities currently scattered in business and residential areas in Lānaʻi City to relocate to more appropriate locations having the infrastructure and buffers necessary for industrial uses; and (ii) provide opportunities for future industrial development on Lānaʻi, which will add to the diversification of Lānaʻi's economy and thereby contribute to the island's resiliency and sustainability.

2. Particulars and Timing

The 2010 Census counted 3,135 residents living on Lānaʻi. Given the community's vision and goal of maintaining its rural, small town sense of community and *ohana*, the island's development will be managed to ensure that the island's population does not expand beyond 6,000 people over the next 20 years. By pacing the island's development, population growth can occur without adversely affecting the island's ecosystems, natural resources and water resources.

In accordance with this policy of moderated growth rate, it is anticipated that it will take 30 or more years for this 200-acre industrial area to be fully developed. Development activities will include (i) grading and other work to prepare the site for development; (ii) construction of internal roads, a water delivery system, sewer systems, drainage systems, utilities systems, etc.; (iii) sale or lease of lots to component developers; and (iv) construction of buildings. The master developer will prepare the site

for development and install the backbone infrastructure. Vertical development will be done by component developers developing for their own use or for use by others.

After the required land use permits and approvals are secured, backbone infrastructure will be developed for a portion of the Miki Basin Industrial Park to accommodate industrial uses that can immediately occupy this industrial park. These are existing industrial enterprises that were historically located in commercial and residential areas within Lānaʻi City, such as Pūlama Lānaʻi's fleetyard and facilities maintenance, and storage facilities for Lānaʻi Water Company and Manele Wastewater Company.

Provided that the various industrial uses are compatible, it is anticipated that these early tenants of the industrial park will be located close to the MECO facility and the airport where some key infrastructure (e.g., roads and electrical power) already exist.

As need for industrial space increases, the developer will expand the necessary infrastructure to accommodate future industrial uses. While gradually expanding away from the MECO facility and the airport would be ideal, in order that there not be interstices of unused infrastructure, compatibility with neighboring industrial uses will be a factor in locating various uses and the sequence of development of different areas within the Miki Basin Industrial Park.

Market demand will determine the pace of development. Aside from the relocation of a few existing industrial activities from other parts of the island, demand for industrial space will largely depend on the growth of and diversification of Lānaʻi's economy as envisioned in the LCP. Moreover, as noted in the immediately previous

section, many of the industrial enterprises envisioned for this industrial park will be ancillary to other types of businesses that are hoped to be developed on the island. Currently, there is not a significant pent up demand for industrial space on Lāna`i; however, this proposed industrial park proposes to have the space and infrastructure available as and when the need arises.

VIII. ASSESSMENT OF IMPACTS OF PROPOSED DEVELOPMENT

1. Impact on Environment

The Miki Basin Industrial Park Draft Environmental Assessment (EA) has been prepared and is submitted for processing with this Petition. The EA assesses the potential impacts of the development of the Miki Basin Industrial Park on the natural, social, and cultural environment, and discusses mitigation measures where adverse impacts are anticipated. It is anticipated that review of the draft EA will result in a Finding of No Significant Impact (FONSI).

2. Impact on Agriculture

(i) Impact on Agricultural Production In Petition Area

As with a large portion of the island of Lāna`i, the Petition Area had long been part of a pineapple plantation. Since pineapple production on Lāna`i ceased in 1992, the Petition Area and surrounding lands have lain fallow. As there are no existing agricultural operations at the Petition Area, there will be no adverse impacts to existing agricultural operations.

Although the Petition Area has a number of favorable agronomic conditions – soils are good, solar radiation is moderate, and trucking distances to Lāna`i City and Manele Resort are short – the lack of irrigation water and off-island transportation

disadvantages severely limit the agronomic suitability of these lands for field farming. Moreover, as there is a surfeit of lands available for agriculture both on Lāna`i and statewide, it is unlikely that the Petition Area will ever be in demand for agricultural use.

In 1992, the State Land Use Commission required Castle & Cooke's Lāna`i Resort to set aside 100 acres for the development and operation of an agricultural park by the State Department of Agriculture and the County of Maui for the residents of Lāna`i. Although 100 acres close to the Petition Area has been leased to the State Department of Agriculture for this purpose, there has not been any progress in developing the agricultural park due to a lack of interest.

Currently on Lāna`i there are only part-time farmers who grow crops for personal consumption, and some sell to grocery stores and the hotels.

Sensei Farms Lāna`i is developing a hydroponic farm to supply fresh produce to local markets, and possibly to off-island markets. Ten greenhouses are planned, which will be powered by an off-grid photovoltaic system. One of the major advantages of hydroponic farming is that it requires relatively little water compared to field farming.

Lāna`i farmers are at a disadvantage when competing against Maui and Oahu farmers in supplying neighbor island, mainland and international markets because of inter-island shipping costs, delays, and extra handling.

The development of the Industrial Park will result in a loss of 200 acres of fallow agricultural land on Lāna`i. However, there are approximately 18,000 acres of former plantation land on Lāna`i which remains available for agricultural use, and over 200,000 acres statewide. The loss of 200 acres of agricultural land on Lāna`i, plus the

loss of agricultural land due to other projects (i.e., the cumulative impact), is too small to affect the growth of diversified agriculture on Lānaʻi or statewide.

(ii) Impact on Agricultural Production in Vicinity of Petition Area

The land between Lānaʻi City and the Petition Area are classified as Agriculture and zoned for agricultural use. As with the Petition Area, however, the surrounding agricultural lands have lain fallow since pineapple production ceased in 1992.

(iii) Potential Impact on Agriculture on the Island, In the County and State, Generally

Reclassifying the Petition Area from Agriculture to Urban and development of an industrial park will not have a significant adverse impact on agriculture. There is a surfeit of lands available for agriculture both on Lānaʻi and statewide. On the other hand, Lānaʻi needs additional land for future industrial growth.

In 1992, the State Land Use Commission required Castle & Cooke's Lānaʻi Resort to set aside 100 acres for the development and operation of an agricultural park by the State Department of Agriculture and the County of Maui for the residents of Lānaʻi. Although 100 acres close to the Petition Area has been leased to the State Department of Agriculture for this purpose, there has not been any progress in developing the agricultural park due to a lack of interest.

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will be powered by an off-grid photovoltaic system. One of the major advantages of hydroponic farming is that it requires relatively little water compared to field farming.

The development of the Miki Basin Industrial Park will result in a loss of 200 acres of fallow agricultural land on Lāna`i. However, there are approximately 18,000 acres of former plantation land on Lāna`i which remains available for agricultural use, and over 200,000 acres statewide. The loss of 200 acres of agricultural land on Lāna`i, plus the loss of agricultural land due to other projects (i.e., the cumulative impact), is too small to affect the growth of diversified agriculture on Lāna`i or statewide.

3. Impact on Recreation

Currently, Lāna`i's public parks total 26.5 acres. Many of the island's largest and important parks and public spaces are owned and managed by Pūlama Lāna`i, including Dole Park, Cavendish Golf Course, the community swimming pool, and Hulopo`e Beach Park and Campground. The County owns or leases a number of parks and facilities in Lāna`i City, including the gymnasium, the community center in Dole Park, the baseball and softball fields, and tennis courts in the Lāna`i Community Center Complex. Pūlama Lāna`i also owns and manages much of the island's open space, conservation areas, and hunting areas. (LCP, p. 8-1).

The LCP has identified as the goal for parks on Lāna`i: "A comprehensive system of parks, recreational facilities, and programs that meet resident and visitor needs." Development of a master plan for the island's parks, recreational facilities, and programs would have Maui County Department of Parks and Recreation as the lead agency in participation with Maui County Department of Planning, Pūlama Lāna`i, and the community.

4. Impact on Historical Resources

The area of Miki formerly had residences and dry land cultivation in traditional times. It was also the site of an early plantation camp. After the camp was dismantled, the area was cultivated in pineapple until closure of the plantation in 1992. Since then, the land has lain fallow and unused.

Pedestrian survey and subsurface testing were conducted to determine the presence or absence of historic properties and cultural materials within the Petition Area. A 100 percent pedestrian survey was conducted and 31 backhoe trenches were excavated. Black plastic fragments, indicative of pineapple cultivation, were observed within the surface layer of soil over the entire project area.

The pedestrian survey resulted in the identification and documentation of artifacts that yield information on Hawaiian history and prehistory. To ensure that the Project will not have an adverse effect on these historic properties, an archaeological data recovery plan has been prepared, along with an archaeology data recovery report and will be submitted to the State Historic Preservation Division (SHPD) for review and approval, when and as required by SHPD rules.

In the event additional artifacts are uncovered during the development of the Miki Basin Industrial Park, all developers will be required to comply with SHPD rules and requirements, including having the presence of a trained archaeologist during certain earth-moving activities and stopping work if human remains are discovered.

5. Impact on Cultural Practices and Resources

As part of major ethnographic work conducted by Kepa and Onaona Maly for the development of the Lāna`i Culture & Heritage Center, a full history of land tenure on

Lāna`i in the period between 1848 and 1960 has been conducted and made available to the public.

The *Mahele Aina* of 1848 set the foundation for fee-simple property rights in the Hawaiian Islands. A total of 110 claims were made for Lāna`i. Fifty-six claims were awarded. Although 51 of these awards were made to native tenants and individuals of lower chiefly lineage, the total acreage amounted to little over 600 acres of the approximately 89,000 acres of land on Lāna`i. No Land Commission Awards are associated with the Petition Area.

No known traditional cultural practices or resources are associated with the Petition Area.

6. Impact on Scenic Values

The Petition Area is located approximately 3.5 miles to the east of the Pacific Ocean. Its topographic elevation is approximately 1,247 feet above mean sea level and local topography slopes to the southeast. The Petition Area is not part of a scenic corridor and the Project will not affect scenic vistas and view planes. Development of the industrial park will not involve significant alteration of the existing topographic character of the site.

7. Impact on Flora and Fauna

Flora. The entire Petition Area has lain fallow from agricultural use for 25 years, with some grazing occurring during a few of those years. The vegetation in the Petition Area is dominated by hardy, invasive non-native species. Only three common native plant species, `ilima (*Sida fallax*), `uhaloa (*Waltheria indica*) and `a`ali`i (*Dodonaea viscosa*) were found, all of which are widespread and common throughout Hawai`i. No

special habitats for native plants were found in the Petition Area. Thus, the proposed Project does not raise any special botanical concern.

Fauna. The fauna recorded in the Petition Area is largely non-native in character. Axis deer are abundant throughout the area and have significantly modified the habitat by reducing plant species to a few hardy dominants. This, in turn, has a somewhat limiting effect on resource availability for other mammals, birds, and insects.

No endangered Hawaiian bats were detected in the Petition Area. They are rare on Lāna`i but could occur in this area occasionally. However, there are no trees in the Petition Area or in the Palawai Basin for bats to roost. The US Fish & Wildlife Service has guidelines that ensure that these bats are not harmed should they show up.

Two native bird species were detected: the kōlea and the pueo. The kolea breed and raise their young in the Arctic and then migrate to tropical places like Hawai`i to overwinter. Many thousands of kolea come to Hawai`i every winter. Kolea are quite common and are not deemed threatened or endangered. The pueo is a race of the short-eared owl species that is endemic to Hawai`i. It occurs on all the islands, but is rare on O`ahu. It is wide ranging in grasslands and shrublands on Lāna`i. The pueo is not deemed threatened or endangered.

Two indigenous seabirds, the `ua`u and `a`o, both of which are deemed threatened species, fly over the Petition Area during dusk to access their burrows high in the mountains and again at dawn to head out to sea. Young birds taking their first fledging flights are often disoriented by bright lights and crash into light structures where they become vulnerable to injury and predators. Lighting shall be established in a manner so as to not adversely impact the surrounding areas. To avoid and minimize

impacts to seabirds, USFWS has established standard guidance for seabirds and lighting, which is to be incorporated into all exterior lighting. These include, but are not limited to, fully shielded outdoor lights of a cool color, exterior motion sensor lighting, and dark skies during the fledging period.

8. Impact on Water Resources

Water for the Miki Basin Industrial Park is currently provided by the Manele Water System, which is owned, operated and maintained by the Lāna`i Water Company. The system, sourced by Wells No. 2 (State Well No. 5-4953-001) and 4 (State Well No. 5-4952-002), also provides service to Manele, Hulopoe, and the Palawai Irrigation Grid.

At full build out, average daily water demand for the Miki Basin Industrial Park is estimated to be 1.309 mgd. As currently configured, Wells No. 2 and 4 will be able to supply the Miki Basin Industrial Park with only 107,000 gpd. Full build out, therefore, will require the development of a new well or multiple wells.

The entire island of Lāna`i has a sustainable yield of 6 mgd, with 3 mgd each allocated to the Windward and Leeward aquifer sectors. Most of the pumping wells are located in the Leeward aquifer, where the current pumping (on a 12-month moving average) is 1.577 mgd.

The Lāna`i Water Use and Development Plan discusses the following option for development of a new well to meet future demand requirements.

- Drill a Leeward high level well between Hi`i Tank and Well 3
- Recommission Well 7, which is currently out of service, which would provide reliability for both the Lāna`i City system and the Irrigation Grid

- Install a permanent interconnection with the Lānaʻi City System

Initial development of the Miki Basin Industrial Park can be accommodated with the existing Manele Water System. However, an additional new water source or sources will have to be developed to support full build out of the Project.

9. Economic Impacts

(i) Short-Term Employment Opportunities

During the Miki Basin Industrial Park's 30-year development period, construction employment is expected to average about 28 jobs per year. Due to the limited construction labor force on the island of Lānaʻi, depending on the pace of construction, a number of the construction workers may have to come from off-island.

Indirect employment related to the development of the industrial park is expected to average about 39 jobs per year. Thus, total direct-plus-indirect employment associated with construction activities will average about 67 jobs per year. The actual job count will fluctuate over time, depending on the pace of construction.

(ii) Long-Term Employment Opportunities

Onsite operating employment is expected to grow to approximately 360 net new jobs at full development. These jobs will include entry-level positions to highly skilled professionals.

(iii) Fiscal Benefits - County

Development activity is expected to have a negligible impact on County finances inasmuch as the developer will provide or pay its fair-share of support infrastructure (interior roads, water distribution, sewerlines, drainage, etc.).

At full development, the Project is expected to generate net income to the County of approximately \$2.0 million per year. Net revenues are positive largely because of property taxes.

Inasmuch as the Miki Basin Industrial Park is expected to be developed in conjunction with forecasted population growth for Lāna`i, the County is not expected to realize significant additional increases in expenditure as a direct result of the Project.

(iv) Fiscal Benefits - State

Unlike the County, the State derives substantial net revenues from development activity. Over the estimated 30-year construction period, the State will net about \$28.3 million from construction and related economic activities associated with the Project, or an average of about \$0.94 million per year.

At full development, the Project is expected to generate net income to the State of about \$1.9 million per year. The positive return to the State reflects the various taxes on economic activities associated with the Miki Basin Industrial Park. As with County services, additional State expenditures are not anticipated to be required to support operations for the Project.

10. Housing Impacts

During the 1920s, as pineapple production rapidly expanded on Lāna`i, more than 800 plantation-style houses were constructed by Hawaiian Pineapple Company to house the influx of workers. The island now has around 1,400 dwelling units, most of which were built during the 1980s and 1990s. Lāna`i may be on the cusp of another expansion in housing construction that could double the number of housing units if current plans to diversify the island's economy are realized.

Housing affordability is a problem throughout the State and the County, and Lānaʻi is no exception. Shortages of reasonably priced housing can contribute to high rates of crowding and lower ownership rates. Housing affordability can improve when residences are built near employment, services, and existing infrastructure. (LCP, p. 11-1)

A large number of capital improvement projects initiated by Pūlama Lānaʻi in 2013 boosted the island's employment, which, in turn, sharply increased the need for housing, creating a housing shortage. Development of the Miki Basin Industrial Park will add to Lānaʻi's employment base, and further increase the need for housing. To address the need for affordable housing, Pūlama Lānaʻi is developing a 201H housing project for Lānaʻi City. (A separate application for this housing project will be filed with the State Land Use Commission this year.) The location of 201H project will be convenient for workers in the Miki Basin Industrial Park.

11. Traditional and Customary Native Hawaiian Rights

As part of major ethnographic work conducted by Kepa and Onaona Maly for the development of the Lānaʻi Culture & Heritage Center, a full history of land tenure on Lānaʻi in the period between 1848 and 1960 has been conducted and made available to the public.

The *Mahele Aina* of 1848 set the foundation for fee-simple property rights in the Hawaiian Islands. A total of 110 claims were made for Lānaʻi. Fifty-six claims were awarded. Although 51 of these awards were made to native tenants and individuals of lower chiefly lineage, the total acreage amounted to little over 600 acres of the

approximately 89,000 acres of land on Lānaʻi. No Land Commission Awards are associated with the Petition Area.

No known traditional cultural practices or resources are associated with the Petition Area. Therefore, development of the Miki Basin Industrial Park would not have an adverse impact on traditional and customary Native Hawaiian rights, *ergo*, no mitigation measures are necessary.

12. Relationship to Other Projects in Vicinity

The Petition Area surrounds the 20-acre Miki Basin Industrial Condominium. Currently, this industrial CPR is not fully occupied. The Miki Basin Industrial Park would blend in with this Industrial CPR.

Another project adjacent to the Petition Area is the extension of the Lānaʻi Airport runway. The Miki Basin Industrial Park is compatible with this project.

Pūlama Lānaʻi is developing a 201H housing project for Lānaʻi City. A separate application for this housing project will be filed with the State Land Use Commission this year. The location of 201H project will be convenient for workers in the Miki Basin Industrial Park and will help address the housing shortage that is likely to be exacerbated by the population and employment gains anticipated with the development of the Miki Basin Industrial Park.

IX. AVAILABILITY AND ADEQUACY OF PUBLIC SERVICES AND FACILITIES

The Miki Basin Industrial Park is not expected to house industries that are large economic drivers on the island. Instead, it is anticipated that the enterprises populating the industrial park will largely be ancillary to economic activities occurring elsewhere on the island or arising as a result of population increases. Thus, development of the

Project will not require additional government services beyond what is already projected in County plans. Where existing or planned public facilities are not available or adequate to accommodate the Miki Basin Industrial Park, they will be provided by either the master developer or developers of component projects within the industrial park.

1. Schools

Lāna`i High and Elementary School is the only school serving the kindergarten to grade 12 educational needs on the island of Lāna`i. Capacity of the school is 700 students; present and recent enrollment has been relatively steady at around 550 to 575 students.

The Department of Education has prepared a Lāna`i High and Elementary School Master Plan to guide the physical expansion and development of the school over the next 25+ years. The Master Plan encompasses the existing school facilities and grounds and an additional 50 acres makai or to the west of the school. The master-planned facility would incorporate pre-school, elementary school, middle school, high school and community college components.

2. Parks

Currently, Lāna`i's public parks total 26.5 acres. Many of the island's largest and important parks and public spaces are owned and managed by Pūlama Lāna`i, including Dole Park, Cavendish Golf Course, the community swimming pool, and Hulopo`e Beach Park and Campground. The County owns or leases a number of parks and facilities in Lāna`i City, including the gymnasium, the community center in Dole Park, the baseball and softball fields, and tennis courts in the Lāna`i Community Center

Complex. Pūlama Lāna`i also owns and manages much of the island's open space, conservation areas, and hunting areas. (LCP, p. 8-1).

The LCP has identified as the goal for parks on Lāna`i: "A comprehensive system of parks, recreational facilities, and programs that meet resident and visitor needs." Development of a master plan for the island's parks, recreational facilities, and programs would have Maui County Department of Parks and Recreation as the lead agency in participation with Maui County Department of Planning, Pūlama Lāna`i, and the community

3. . Wastewater Systems

Lāna`i's municipal wastewater collection system is situated in and around Lāna`i City. The Manele Wastewater System, an affiliate of Petitioner, also provides wastewater services on the island. Currently, there is no existing County or privately-owned or operated wastewater treatment system in the vicinity of Miki Basin.

At full build-out it is estimated that the Miki Basin Industrial Park will generate 365,904 gpd of wastewater.

The wastewater plan for the Miki Basin Industrial Park is for each development component to provide its own wastewater treatment system and associated wastewater collection system. Such onsite Individual Wastewater Systems (IWS), decentralized wastewater treatment plants (WWTP), and collections systems are ideal for areas that are remote and have factors that can make tying into an existing wastewater system difficult or infeasible. The type of treatment system used and the sizing of each system will be determined by the size and type of development in accordance with State Department of Health (DOH) requirements and regulations.

IWS are required to consist of a septic tank and soil absorption system, sand filter, subsurface irrigation system or other treatment unit as approved by DOH. Cesspools are prohibited. Where developments do not meet the requirements for an IWS, decentralized WWTP are recommended. WWTPs can be sized to accommodate flows from multiple properties located in the same general area.

4. Solid Waste Disposal

There are a number of solid waste disposal options on Lāna`i. The Lāna`i Landfill on Kaumālapa`u Highway accepts municipal solid waste and construction debris dropped-off from commercial and residential customers. In addition, personal delivery to the landfill of municipal solid waste, green waste, and trash is available.

Pūlama Lāna`i sponsors rural recycling collection events for hard to recycle items, including appliances, small scrap metal, vehicles, and vehicle batteries and tires. The County has recycling programs for computers/electronics and household batteries. DOH, in conjunction with Maui Disposal, provides refundable glass and can recycling.

Pūlama Lāna`i provides green waste recycling with subsequent compost available to residents. It also compresses cardboard for shipment to the H-Power plant on Oahu.

The extensive recycling programs available on Lāna`i and other disposal options are more than adequate to accommodate the additional solid waste that is expected to be generated by the development of the industrial park. However, during the initial short-term construction phase of the development, the contractor will be expected to develop and implement a construction-generated waste disposal plan.

5. Drainage

Development of the proposed Industrial Park will increase the amount of impervious area, increasing the runoff generated within the Petition Area by 339.88 cfs. Facilities to appropriately handle the increased runoff will be developed by the master developer of the Miki Basin Industrial Park.

Offsite runoff will be intercepted before entering the project site by drainage ditches which will divert runoff around the perimeter of the Petition area to an offsite discharge point downstream. Onsite runoff will be collected by a proposed underground storm drain system consisting of pipes and inlets. Runoff from approximately 165 acres of the Petition Area will be discharged to the existing drainageway that drains to Miki Basin. Runoff from the remaining 35 acres will drain to the existing Palawai Basin.

At a depth of 10 feet, the existing Miki Basin has a capacity of 891 acre-feet. Since the increase in runoff from the Petition Area contributes 38.1 acre-feet, the increase in runoff depth and flow rate will be contained within the existing basin. At a depth of 10 feet, the existing Palawai Basin has a capacity of 3010 acre-feet. Since the runoff from the Petition Area into the Palawai Basin will contribute only 2.5 acre-feet, the increase in runoff depth and flow rate will be contained within the existing basin.

6. Water

Water for the Miki Basin Industrial Park is currently provided by the Manele Water System, which is owned, operated and maintained by the Lānaʻi Water Company. The system, sourced by Wells No. 2 (State Well No. 5-4953-001) and 4 (State Well No. 5-4952-002), also provides service to Manele, Hulopoe, and the Palawai Irrigation Grid.

At full build out, average daily water demand for the Miki Basin Industrial Park is estimated to be 1.309 mgd. As currently configured, Wells No. 2 and 4 will be able to supply the Miki Basin Industrial Park with only 107,000 gpd. Full build out, therefore, will require the development of a new well or multiple wells.

The entire island of Lāna`i has a sustainable yield of 6 mgd, with 3 mgd each allocated to the Windward and Leeward aquifer sectors. Most of the pumping wells are located in the Leeward aquifer, where the current pumping (on a 12-month moving average) is 1.577 mgd.

The Lāna`i Water Use and Development Plan discusses the following option for development of a new well to meet future demand requirements.

- Drill a Leeward high level well between Hi`i Tank and Well 3
- Recommission Well 7, which is currently out of service, which would provide reliability for both the Lāna`i City system and the Irrigation Grid
- Install a permanent interconnection with the Lāna`i City System

Initial development of the Miki Basin Industrial Park can be accommodated with the existing Manele Water System. However, an additional new water source or sources will have to be developed to support full build out of the Project.

7. Transportation Systems

Current access to the Petition Area is via Miki Road, which is a generally north-south, two-way, privately-owned roadway that begins to the north at an intersection with Kaumālapa`u Highway and extends approximately 2.95 miles to the south, primarily through undeveloped land. Kaumālapa`u Highway is a two-lane, two-way State-owned roadway that runs generally east-west perpendicular to Miki Road.

At least two driveway access points will be provided for the Project along Miki Road. At full build-out, the Project is anticipated to generate 431 trips during the AM peak hour of traffic and 354 trips during the PM peak hour traffic. Approximately 75 percent of the trips were assumed to originate from and be destined towards the east and the remaining 25 percent of the trips were assumed to originate from and be destined towards the west.

The traffic analysis recommended the following roadway modifications to address traffic impacts resulting from the development of the Miki Basin Industrial Park:

- Widen Miki Road between its intersection with Kaumālapa`u Highway to the Project driveways. Miki Road is currently estimated to be 13 feet wide, and should be widened to accommodate the design vehicle (lowboy with crane) and full side-by-side bidirectional travel with intersection geometries capable of accommodating turning movements;
- Provide an exclusive northbound left-turn lane; and
- Provide an exclusive westbound left-turn deceleration lane.

8. Public Utilities

Except for a few small individually owned and operated solar facilities (e.g., Sensei Farms), MECO is the provider of electricity on the entire island of Lāna`i. MECO's generating station is adjacent to the Petition Area. Individual component developments within the Miki Basin Industrial Park will be responsible for their own arrangements for electrical service from MECO.

9. Police and Fire

Lānaʻi Fire Station is located in Lānaʻi City. It houses one Engine Company and one Tanker, and currently has a total staffing of 18 personnel.

Police services for Lānaʻi is provided by the Maui Police Department (MPD). The current Lānaʻi Police Station is situated in Lānaʻi City in an 8,000 square-foot facility that includes three jail cells, a juvenile cell, and office space. Currently, there are 11 full-time officers, which, according to the LCP, provides sufficient staffing within 2030 planning time frame.

Development of the Project will not require additional police or fire services beyond what is already projected in County plans.

10. Civil Defense

The Maui Emergency Management Agency (MEMA) has the responsibility for the administration and operation of the various local, state, and federal civil defense programs for the Mayor. MEMA is tasked with planning, preparing, and coordinating operations with all service-providing entities in the County to address major natural and human-caused disasters, wartime conditions for the preservation of life and property, and the recovery of the community from the effects of such disasters.

Representatives from numerous Maui County departments and agencies collaborated with MEMA in the preparation and update to the County's Hazard Mitigation Plan. The Plan addresses various hazards, risks, vulnerability and mitigation within the County and assigns lead agencies and responsibilities.

Emergency shelters are established and operated by volunteers from the American Red Cross. MEMA assists the American Red Cross by ensuring access to facilities that have been identified as shelter locations.

MEMA periodically conducts Community Emergency Response Team training on Lānaʻi. This training is a multi-day course, taught in several sessions. MEMA notes that disaster preparedness is an individual and family responsibility and that the two most important precautions people need to take are (1) developing a Personal Preparation Plan and (2) assembling an Emergency Survival Kit.

Pūlama Lānaʻi has an emergency management structure for the company, an Emergency Operations Plan, and a designated Company Emergency Manager, who has the authority to implement the Emergency Operations Plan, and to take necessary action to provide for the safety and protection of the island's population, and the property and natural assets of the island of Lānaʻi.

The Emergency Operations Plan is intended to guide Pūlama Lānaʻi's response to disasters and emergencies by defining potential hazards, identifying response assets and capabilities, organizing the Company's Emergency Management Team, defining and implementing a concept of operations for the Company, and integrating the Company's response efforts with the efforts of other stakeholders, Maui County and the State of Hawaiʻi. It is organized consistently with the principles of the National Incident Management System (NIMS) and the Incident Command System.

11. Emergency Medical Services and Medical Facilities

On July 1, 2017, the Lānaʻi Community Hospital, along with Maui Memorial Medical Center, Maui Memorial Medical Center Outpatient Clinic, Kula Hospital, and

Kula Clinic, became part of Maui Health System, which is affiliated with Kaiser Permanente. Lānaʻi Community Hospital is the only hospital on the island of Lānaʻi. It has limited 24-hour emergency care, acute care and diagnostic imaging. It also provides long-term care, including skilled and intermediate nursing care. Lānaʻi Community Hospital is open to everyone regardless of health insurance coverage.

The moderate pace of development of the Miki Basin Industrial Park over a 30-year period ensures that any need for additional emergency medical services and medical facilities resulting from the Project will not outpace the growth in the availability of such services and facilities.

X. CONFORMITY WITH LAND USE PLANS AND POLICIES

1. Conformity to Standards for Determining Boundaries for Urban District.

HAR § 15-15-18 sets forth the standards for determining urban district boundaries as follows:

1. *Proposed development of Petition Area characterized by “city-like” concentrations of people, structures, streets, urban level of services and other related land uses.*
2. *Petition Area proximate to centers of trading and employment.*
3. *Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection.*
4. *Sufficient reserve areas for foreseeable urban growth.*
5. *Petition Area has satisfactory topography, drainage, and is reasonably free from danger of any flood, tsunami, unstable soil condition, and other adverse environmental effects.*
6. *Petition Area is contiguous with existing urban areas and is indicated for future urban use on county community plan*

7. *Petition Area is in appropriate location for new urban concentrations as shown on community plan.*
8. *Development of Petition Area will not contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.*
9. *General slope of Petition Area is less than 20%.*

The Petition Area is well-suited for industrial development. It is adjacent to the most significant industrial uses on Lānaʻi, the Lānaʻi Airport, the Miki Basin Industrial Condominium, and Maui Electric Company's (MECO) generating facility. At 3.2 miles southwest of Lānaʻi City, it is far enough removed from the island's main business center and residential area as to minimize those impacts common to industrial areas, such as noise, odors, and heavy vehicles. Yet, the Petition Area is close enough to be conveniently accessible to businesses, residents, and the workforce.

The LCP currently designates the Petition Area for Light/Heavy Industrial Use. A reclassification of the Petition Area from Agriculture to Urban is necessary to conform with and implement the LCP's vision. Following reclassification, Pūlama Lānaʻi will apply to the County for rezoning of these lands to accommodate light and heavy industrial uses.

The island's primary industrial areas are located southwest of Lānaʻi City, near the airport and at Kaumālapaʻu Harbor. They comprise a very small percentage of the total lands on Lānaʻi and have very little room for expansion. Reclassifying the Petition Area to Urban, followed by rezoning, will increase in the supply of industrial spaces necessary for economic growth and diversification.

Development of the 200-acre industrial park will (i) allow existing industrial facilities inappropriately scattered in business and residential areas in Lānaʻi City to

relocate to more appropriate locations having the infrastructure and buffers necessary for industrial uses; and (ii) provide opportunities for future industrial development on Lānaʻi, which will add to the diversification of Lānaʻi's economy and thereby contribute to the island's resiliency and sustainability.

The Petition Area slopes at about 5% from Miki Road toward the southeast. It is within Flood Zone X, meaning moderate to low flood risk. Thus, the topography is suitable for urban development.

2. Conformity With Hawaiʻi State Plan and Functional Plans

The Hawaiʻi State Plan, HRS Chapter 226, is a comprehensive guide for the future long-range development of the State. The Plan identifies goals, objectives, policies and priorities for the State and provides a basis for determining priorities and allocating limited resources. State Functional Plans further define and implement statewide goals, objectives and policies identified in the Hawaiʻi State Plan. Priority guidelines and principles to promote sustainability and to address the impacts of climate change were added to the Hawaiʻi State Plan in 2011 and 2012, respectively.

HRS § 226-102 sets forth the overall direction of the Hawaiʻi State Plan:

The State shall strive to improve the quality of life for Hawaiʻi's present and future population through the pursuit of desirable courses of action in seven major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.

The first economic priority identified is “to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaiʻi's people and achieve a stable and diversified economy[.]” HRS § 226-103(a). This

priority is reflected in a number of the goals and objectives throughout the Hawai'i State Plan and the Functional Plans.

Diversification of Lāna'i's economy is also a priority identified by Lānaians. To achieve that goal, the LCP recognized that increasing the supply of commercial and industrial spaces and providing appropriate infrastructure are critical to attracting and developing new industries. (LCP – Economic Development, Strategy 1A).

Currently, only about 3000 acres, or 3.4 percent of the land on Lāna'i is in the Urban District. Most of the Urban lands are in the Lāna'i City central business area and along the coastline, areas not ideal for a variety of industrial activities.

The island's primary industrial areas are located southwest of Lāna'i City, near the airport and at Kaumālapa'u Harbor. They comprise a very small percentage of the total lands on Lāna'i and have very little room for expansion. Thus, an increase in the supply of industrial spaces for economic growth and diversification requires an expansion of lands classified as Urban sited in an area suitable for industrial activities.

The Petition Area is well-suited for industrial development. It is adjacent to the most significant industrial uses on Lāna'i, the Lāna'i Airport, the Miki Basin Industrial Condominium, and Maui Electric Company's (MECO) generating facility. At 3.2 miles southwest of Lāna'i City, it is far enough removed from the island's main business center and residential area as to minimize those impacts common to industrial areas, such as noise, odors, and heavy vehicles. Yet, the Petition Area is close enough to be conveniently accessible to businesses, residents, and the workforce.

Another State Plan priority is for planning and resource management to effect desired growth rates and distribution. As a 30-year project, development of the Miki

Basin Industrial Park will match the moderate growth desired and envisioned by Lānaians. By setting aside enough land for light and heavy industrial uses over the long-term will ensure that industrial uses are not scattered haphazardly around the island, and importantly, industrial uses that are not coastal-dependent will not be located along coastal areas where most of the Urban lands on Lāna`i are currently located.

3. Conformity with Coastal Zone Management Program

The Coastal Zone Management Program, HRS Chapter 205A, establishes numerous objectives, policies and standards to guide and regulate public and private uses in the Coastal Zone Management Area (“CZMA”). The Petition Area is within the CZMA, but is not within the County of Maui’s Special Management Area. Although the coastal zone objectives and policies are not directly applicable, the Project is consistent with them in that it directs industrial uses that are not coastal-dependent to a more appropriate inland location, and thus protects and preserves coastal ecosystems and resources.

4. Conformity with County Plans

The Maui County General Plan sets forth the long-term social, economic, environmental, and land use needs of the County within goals, objectives, policies and actions. The General Plan consists of three parts: (1) the Countywide Policy Plan, (2) the Maui Island Plan, and (3) nine community plans.

The Countywide Policy Plan provides the policy framework for the Maui Island Plan and the nine community plans. Core themes identified in the Countywide Policy Plan include the following:

- Protect the Natural Environment
- Preserve Local Cultures and Traditions
- Improve Education
- Strengthen Social and Healthcare Services
- Expand Housing Opportunities for Residents
- Strengthen the Local Economy
- Improve Parks and Public Facilities
- Diversify Transportation Options
- Improve Physical Infrastructure
- Promote Sustainable Land Use and Growth Management
- Strive for Good Governance

The Lāna`i Community Plan 2016 is one of the nine community plans that are part of the Maui County General Plan. The LCP reflects current and anticipated future conditions on Lāna`i and establishes planning goals, objectives, policies and implementation considerations to guide decision-making and actions through the year 2025.

For decades, Lāna`i's economy has been almost entirely dependent upon the pineapple industry. Today, Lāna`i's economy is again too reliant on a single industry, this time luxury tourism. A key goal of Lānaians, as expressed in the LCP, is the diversification of Lāna`i's economy. To achieve that goal, the LCP recognized that increasing the supply of commercial and industrial spaces and providing appropriate infrastructure are critical to attracting and developing new industries. (LCP – Economic Development, Strategy 1A).

Currently, only about 3000 acres, or 3.4 percent of the land on Lāna`i is in the Urban District. Most of the Urban lands are in the Lāna`i City central business area and along the coastline, areas not ideal for a variety of industrial activities.

The island's primary industrial areas are located southwest of Lāna`i City, near the airport and at Kaumālapa`u Harbor. They comprise a very small percentage of the total lands on Lāna`i and have very little room for expansion. Thus, an increase in the supply of industrial spaces for economic growth and diversification requires an expansion of lands classified as Urban sited in an area suitable for industrial activities.

The Petition Area is well-suited for industrial development. It is adjacent to the most significant industrial uses on Lāna`i, the Lāna`i Airport, the Miki Basin Industrial Condominium, and Maui Electric Company's (MECO) generating facility. At 3.2 miles southwest of Lāna`i City, it is far enough removed from the island's main business center and residential area as to minimize those impacts common to industrial areas, such as noise, odors, and heavy vehicles. Yet, the Petition Area is close enough to be conveniently accessible to businesses, residents, and the workforce.

The Miki Basin Industrial Park is specifically recognized in the LCP. Section 9.4 of the LCP states:

Miki Basin Industrial – The existing industrial uses on Miki Road will be expanded into a proposed industrial area of approximately 200 acres, divided into approximately one hundred acres each of light and heavy industrial. Light industrial uses in Lanai City will also be moved and consolidated in this area. The area will also serve as a staging for shipments from the harbor to be distributed closer to town.

The LCP Land Use Map designates the Petition Area for Light/Heavy Industrial Use. A reclassification of the Petition Area from Agriculture to Urban is necessary to conform with and implement the LCP's vision. Following reclassification, Pūlama Lāna`i will apply to the County for rezoning of these lands to accommodate light and heavy industrial uses.

5. Climate Change Considerations

The Petition Area is located approximately 3.5 miles to the east of the Pacific Ocean at an elevation of 1,247 feet above mean sea level. Sea level rise, therefore, would not affect this proposed development. Moreover, industrial uses that are not coastal-dependent will be directed away from low-lying coastal areas that are susceptible to sea level rise.

Although climate change is expected to impact ground water resources upon which the proposed development will depend, how and to what extent are not yet known. The State Commission on Water Resource Management (CWRM), in cooperation with the US Geological Survey, is embarking on a 2.5-year study of future ground water recharge estimates under mid-century (2041-2071) and a range (dry and wet) of end-of-century projected climate conditions for Lānaʻi. Petitioner is participating in this study by providing financial support to CWRM for this study.

Carbon Footprint. The introduction and 50-year period of protecting non-native grazing herbivores, such as cattle and sheep, on Lānaʻi between 1780 and 1830 had denuded much of the native forest on Lānaʻi, thereby reducing the island's ability to absorb carbon dioxide. As part of the effort to redefine Lānaʻi as a sustainable community, Petitioner itself, and in partnership with other organizations, is managing and protecting Lānaʻi's natural resources with projects such as, but not limited to, native reforestation.

Additionally, in keeping with its vision of sustainability, Petitioner has incorporated energy efficiency and energy conservation in its numerous renovations and redevelopments on the island. Petitioner has also been a leader in recycling.

Pūlama Lāna`i sponsors rural recycling collection events for hard to recycle items, including appliances, small scrap metal, vehicles, and vehicle batteries and tires. The County has recycling programs for computers/electronics and household batteries. DOH, in conjunction with Maui Disposal, provides refundable glass and can recycling. Pūlama Lāna`i provides green waste recycling with subsequent compost available to residents. It also compresses cardboard for shipment to the H-Power plant on Oahu.

The carbon footprint of the Miki Basin Industrial Park cannot be known or even estimated at this time because the particular types of entities and activities that will populate the industrial park will not be known until the backbone infrastructure is developed and parcels are leased or sold for individual development. However, as the master developer of the Miki Basin Industrial Park, Petitioner will ensure that the industrial park incorporates, to the extent feasible and practicable, measures to promote energy conservation, sustainable design, environmental stewardship, and protection of the area's natural and cultural resources.

The Miki Basin Industrial Park has the potential of housing a solar farm of a size that could generate a significant amount of renewable energy to offset fossil fuels that are currently used by MECO to generate electricity for the island. Additionally, landscaping for the industrial park will bring trees into an area that currently has none. Moreover, Petitioner, as the master developer, as well as landowner of 98% of the island and the island's foremost employer, will encourage and promote the use of products that minimize or reduce carbon emissions, such as carbon encapsulating concrete.

Although the development of the Miki Basin Industrial Park will add to the island's carbon footprint, Petitioner has made, and will continue to make, strides in minimizing and mitigating the island's overall carbon footprint.

6. Sustainability Principles

The LCP identifies fostering a robust and diversified economy as a critical component to establishing a sustainable and resilient future for Lāna`i. The LCP explains:

This requires diversifying the tourism industry, supporting agriculture, encouraging new industries, expanding education and support services for small businesses, and providing necessary infrastructure, land, and affordable sea and air transportation options. Lowering energy costs by reducing dependence on fossil fuels and increasing renewable energy is also key to providing stronger economic opportunities and becoming more sustainable.

This will be achieved by increasing the generation and use of renewable energy sources, promoting the use of electric vehicles, and exploring options for biofuels, biodiesel, and waste-to-energy technology. Water resources will be used in a sustainable and economic manner by recycling one hundred percent of wastewater for irrigation and exploring options for reuse of household graywater for lawn and garden irrigation. (LCP, p. 2-12)

Some of the ventures identified in the foregoing paragraphs are industrial activities that would need to be located in industrial-zoned areas. Other enterprises listed will have ancillary needs for industrial spaces, such as warehouses, fleet baseyards, food collection and distribution systems, automotive sales and repair shops, plumbing, electrical and irrigation services and supplies, vehicle and equipment storage, among many others.

Generally, communities of similar size have the following types of light industrial uses: cold storage plants, commercial laundries, craft cabinet and furniture

manufacturing, general food, fruit, and vegetable processing and manufacturing plants, laboratories, machine shop or other metal working shops, small boat building, tire repair operation, warehouse, storage and loft building, minor utility facilities, etc. The heavy industrial uses in communities of this size would include automobile wrecking, lumber yards, machine shops, major utilities facilities, cement manufacture, asphalt manufacture, etc. Based on expected economic and population growth over the next 30 years, there will be a need for industrial-zoned lands on the island of Lāna`i as there is none available at the present time. The Miki Basin Industrial Park will provide space for growth of new businesses.

The Petition Area is well-suited for industrial development. It is adjacent to the most significant industrial uses on Lāna`i, the Lāna`i Airport, the Miki Basin Industrial Condominium, and Maui Electric Company's (MECO) generating facility. At 3.2 miles southwest of Lāna`i City, it is far enough removed from the island's main business center and residential area as to minimize those impacts common to industrial areas, such as noise, odors, and heavy vehicles. Yet, the Petition Area is close enough to be conveniently accessible to businesses, residents, and the workforce.

Development of the 200-acre industrial park will (i) allow existing industrial facilities currently scattered in business and residential areas in Lāna`i City to relocate to more appropriate locations having the infrastructure and buffers necessary for industrial uses; and (ii) provide opportunities for future industrial development on Lāna`i, which will add to the diversification of Lāna`i's economy and thereby contribute to the island's resiliency and sustainability.

In 2012, Lānaʻi was purchased by Larry Ellison, and Pūlama Lānaʻi was created to manage, preserve and protect Lānaʻi's precious land and natural resources, and to redefine Lānaʻi as a sustainable community. In Hawaiian, pūlama means to cherish or treasure; Pūlama Lānaʻi seeks to cherish the unique beauty and deep spirit of aloha on Lānaʻi by creating sustainable practices, cultural connections and economic opportunities that support the island and community. Exhibit 4 lists Pūlama Lānaʻi's numerous accomplishments in protecting and managing Lānaʻi's natural resources, building infrastructure and expanding essential services to improve the lives of Lānaʻi residents.

In keeping with this vision of sustainability, as the master developer of the Miki Basin Industrial Park, Petitioner will ensure that the industrial park incorporates, to the extent feasible and practicable, measures to promote energy conservation, sustainable design, environmental stewardship and protection of the area's natural and cultural resources.

XI. **WRITTEN COMMENTS RECEIVED**

XII. **SERVICE OF PETITION**

Pursuant to HAR § 15-15-48(a), copies of this Petition will be served upon the County of Maui Planning Department, the Lānaʻi Planning Commission, and the State of Hawaiʻi Office of Planning.

Petitioner is the sole owner of all lands within the Petition Area.

In accordance with HAR § 15-15-48(b), copies of the Petition will also be served upon potential intervenors upon receipt of a notice of intent to intervene pursuant to HAR § 15-15-52(b).

XIII. CONCLUSION

Based on the foregoing, Petitioner respectfully requests that the State Land Use Commission approve the reclassification of approximately 200 acres located within Miki Basin, Lāna`i, from the State Land Use Agricultural District to State Land Use Urban District to accommodate the proposed Miki Basin Industrial Park in conformance with the Lāna`i Community Plan.

DATED: Honolulu, Hawai`i _____, 2019.

YVONNE Y. IZU
KRIS N. NAKAGAWA
LIANNA L. FIGUEROA
Attorneys for Petitioner

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition Of	)	DOCKET NO. A19-809
)	
LĀNA`I RESORTS, LLC dba PŪLAMA)	
LĀNA`I)	
	)	VERIFICATION
To Amend the Land Use District)	
Boundaries of certain land situated at)	
Lāna`i City, Island of Lāna`i, consisting of)	
approximately 200 acres from the)	
Agricultural District to the Urban District,)	
Tax Map Key No. (2) 4-9-02:01 (por.))	
_____)	

VERIFICATION

STATE OF HAWAI`I)	
	)	SS.
CITY & COUNTY OF HONOLULU)	

KURT MATSUMOTO, being first duly sworn, on oath, deposes and says that:

1. I am the Chief Operating Officer of LĀNA`I RESORTS, LLC, dba Pūlama Lāna`i, and in this capacity I am familiar with matters relating to the land which is the subject of Docket No. _____ and knowledgeable to testify on behalf of Petitioner.
2. I have personal knowledge of the matters set forth in the foregoing Petition in Docket No. _____ and am qualified and competent to make this verification.
3. I make this verification pursuant to Hawai`i Administrative Rules § 15-15-39.

4. I have read the foregoing document and verify that the contents are true and correct to the best of my knowledge and belief.

DATED: Honolulu, Hawai'i, _____.

KURT MATSUMOTO

Subscribed and sworn to me

This ___ day of _____, 2019

Name _____

Notary Public State of Hawai'i

My commission expires _____

EXHIBIT 1



STATE OF HAWAII
OFFICE OF ASSISTANT REGISTRAR
RECORDED

June 22, 2012 3:29 PM

Doc No(s) T-8208437

on Cert(s) 469176

Issuance of Cert(s) 1044094



1 1/1
B-32082897

CHC

/s/ NICKI ANN THOMPSON
ASSISTANT REGISTRAR

Conveyance Tax: \$32888.80

LAND COURT SYSTEM

REGULAR SYSTEM

Return by Mail () Pickup (X) To:

Castle & Cooke, Inc.

C. Kurasaki Ph: 548-2909

Total Pages 6

Tax Map Key No.: (2) 4-9-002-001 portion

LIMITED WARRANTY DEED

THIS LIMITED WARRANTY DEED is made as of June 22, 2012, by **CASTLE & COOKE, INC.**, a Hawaii corporation, hereinafter called the "**Grantor**," in favor of **CASTLE & COOKE RESORTS, LLC**, a Hawaii limited liability company whose address is 680 Iwilei Rd., Suite 510, Honolulu, Hawaii 96817, hereinafter called the "**Grantee**."

WITNESSETH:

That for Ten Dollars (\$10.00) and other good and valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, the Grantor does hereby grant, bargain, sell and convey unto the Grantee, as tenant in severalty, all of the property more particularly described in **Exhibit A** attached hereto and made a part hereof;

And the reversions, remainders, rents, issues and profits thereof and all of the estate, right, title and interest of the Grantor, both at law and in equity, therein and thereto, including but not limited to, if any, water, minerals, metals and geothermal resources;

TO HAVE AND TO HOLD the same, together with all buildings, improvements, rights, easements, privileges and appurtenances thereon and thereto belonging or appertaining or held and enjoyed therewith, unto the Grantee according to the tenancy herein set forth, forever.

AND, in consideration of the premises, the Grantor does hereby covenant with the Grantee that the Grantor is lawfully seised in fee simple of the property herein described (the "Property") and has good right to sell and convey the Property; that the Property is free and clear of all encumbrances made or suffered by the Grantor, except as set forth in **Exhibit A** and except for the lien of real property taxes not yet by law required to be paid; and that the Grantor shall **WARRANT AND DEFEND** the foregoing against the lawful claims of all persons claiming by, through, or under the Grantor, unto the Grantee and the Grantee's successors and assigns, forever.

AND the Grantor quitclaims to the Grantee all rights, title and interests reserved, granted or acquired by the Grantor or its predecessors in interest with respect to land owned by others on the island of Lanai, including but not limited to, if any, rights and interests with respect to easements, rights of way, access, water, minerals, metals, geothermal resources, and restrictive covenants.


The rights and obligations of the Grantor and the Grantee shall be binding upon and inure to the benefit of their respective estates, heirs, personal representatives, successors, successors in trust, and assigns. The conveyance herein set forth and the warranties of the Grantor concerning the same are expressly declared to be in favor of the Grantee, and the Grantee's heirs, personal representatives, successors, successors in trust and assigns.

The terms "**Grantor**" and "**Grantee**," as and when used herein, or any pronouns used in place thereof, shall mean and include the masculine or feminine, the singular or plural number, individuals or corporations, limited liability companies or partnerships, and their and each of their respective, heirs, personal representatives, successors, successors in trust, and assigns, according to the context thereof.

This Deed is being made as a part of a larger sale of assets by the Grantor relating to the island of Lanai through which the Grantor is receiving consideration for this Deed by the transfer of assets from the Grantee and additional value from the Grantee and its affiliates.

IN WITNESS WHEREOF, the Grantor has executed these presents as of the day and year first above written.

CASTLE & COOKE, INC., a Hawaii
corporation

By: 

Name: HARRY A. SAUNDERS

Title: Senior Vice President

By: 

Name: RICHARD K. MIRIKITANI

Title: Vice President & Assistant Secretary

Grantor

EXHIBIT A

ALL OF THAT CERTAIN PARCEL OF LAND SITUATE ON THE ISLAND OF LANAI, COUNTY OF MAUI, STATE OF HAWAII, DESCRIBED AS FOLLOWS:

LOT 13-A-1-A, AREA 17,113.987 ACRES, MORE OR LESS, (DEDUCTING THEREFROM THE FOLLOWING LOTS OF LAND COURT APPLICATION 862:

LOT E-2-A-1-A-1-B,
LOT E-2-A-1-A-1-D,
LOT E-2-A-1-A-1-F,
LOT E-2-A-1-A-1-G,
LOT E-2-A-1-A-1-H AND
LOT E-2-A-1-A-1-J, AS SHOWN ON MAP 13;

LOT 35, AS SHOWN ON MAP 19;

LOT 37, AS SHOWN ON MAP 20;

LOT 44 AND 45, AS SHOWN ON MAP 21;

LOTS 724 TO 731, INCLUSIVE AND
LOTS 733 TO 743, INCLUSIVE, AS SHOWN ON MAP 48;

LOTS 746 TO 751, INCLUSIVE, AS SHOWN ON MAP 60;

EXCLUSIONS 13, 17, 18, 26 AND 36 AS SHOWN ON MAP 3;
AND ALL EXISTING GOVERNMENT ROADS
AND ALSO THE FOLLOWING LOTS OF LAND COURT CONSOLIDATION NO. 170; LOTS 12 AS SHOWN ON MAP 5; AND
LOTS 13-B TO 13-G, INCLUSIVE, AS SHOWN ON MAP 6; CONTAINING AN AREA OF 889.799 ACRES, MORE OR LESS),

AND CONTAINING A NET AREA OF 16,224.188 ACRES, MORE OR LESS, AS SHOWN ON MAP 15, FILED WITH LAND COURT CONSOLIDATION NO. 170 OF CASTLE & COOKE, INC.

TOGETHER WITH PERPETUAL RIGHTS AND EASEMENTS AS SET FORTH BY LAND COURT ORDER NO. 132974, FILED OCTOBER 12, 1998, AS FOLLOWS:

(A) PERPETUAL RIGHT AND EASEMENTS TO BUILD, CONSTRUCT, INSTALL, MAINTAIN, OPERATE, REPAIR AND/OR REPLACE POLE AND WIRE LINES OR UNDERGROUND LINES FOR POWER AND COMMUNICATIONS; UNDERGROUND WATER PIPELINES, INCLUDING FIRE HYDRANTS AND VALVES; UNDERGROUND CONCRETE AND/OR CORRUGATED IRON STRUCTURES FOR PURPOSES OF DRAINAGE AND IRRIGATION; AND UNDERGROUND SEWER LINES;

(B) PERPETUAL RIGHT AND EASEMENTS TO INSTALL, CONSTRUCT, LAY, MAINTAIN, REPAIR, REMOVE AND/OR REPLACE AN UNDERGROUND WATER PIPELINE OR PIPELINES ALONG, ACROSS, THROUGH AND UNDER LOTS 482-B, 553-B, 303-B, 549, 551-C AND 561-A, TOGETHER WITH THE RIGHT OF ACCESS FROM TIME TO TIME FOR THE PURPOSE AFORESAID; PROVIDED, HOWEVER, AND THIS RESERVATION IS ON THE CONDITION THAT, IF SAID EASEMENTS ARE NOT USED FOR THE AFORESAID PURPOSE AT ANY TIME FOR A PERIOD OF TWO (2) CONSECUTIVE YEARS, THEN THE SAME SHALL CEASE AND TERMINATE, AS RESERVED IN DEEDS, DATED DECEMBER 1, 1961, DECEMBER 1, 1961, JANUARY 30, 1962, JULY 27, 1962, APRIL 20, 1964 AND APRIL 20, 1964, FILED AS DOCUMENT NOS. 282714, 282715, 286951, 293717, 329739 AND 329740, RESPECTIVELY; AND

BEING LAND(S) DESCRIBED IN TRANSFER CERTIFICATE OF TITLE NO. 469,176
ISSUED TO: CASTLE & COOKE, INC., A HAWAII CORPORATION.

SUBJECT, HOWEVER, TO:

1. All encumbrances of record. (But no admission is made herein that such encumbrances are valid)
2. All customary and traditional rights, of native Hawaiians as provided for by the law of the State of Hawaii, for subsistence, cultural and religious purposes, which rights may involve access to the subject property.

EXHIBIT 2

OFFICE OF THE
ASSISTANT REGISTRAR, LAND COURT
STATE OF HAWAII
Bureau of Conveyances

The original of this document was
recorded as follows:

DOCUMENT NO. _____

DATE _____ Doc T-8310375
CT AS LISTED HEREIN
October 2, 2012 1:00 PM

CT _____

LAND COURT SYSTEM

REGULAR SYSTEM

After Recordation, Return by ☒ Mail or ☐ Pick-up

Mark F. Ito, Esq.
SCHLACK ITO
745 Fort Street, Suite 1500
Honolulu, Hawaii 96813
Telephone: (808) 523-6045

Total Page(s): 8

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

Petitioner: Lanai Resorts, LLC (formerly known as Castle & Cooke Resorts, LLC)

Affects Certificate of Title Nos.: 468,683; 468,684; 468,685; 468,686; 468,687; 468,688;
468,689; 468,690; 468,691; 468,692; 468,693; 468,694; 468,695; 468,696; 468,697;
468,698; 468,700; 468,702; 506,384; 583,970; 633,767; 799,954; 812,328; 852,675;
987,393; 1,044,092; 1,044,093; 1,044,094; 1,044,095; 1,044,096; 1,044,097; 1,044,098;
1,044,099; 1,044,100 and 1,044,101

IN THE LAND COURT OF THE STATE OF HAWAII

1 L. D. CASE NO. 12-1-3296

In the Matter of the Application

of

Various Applicants,

to register title to land situate at various
locations in the State of Hawaii

Land Court Application Nos. 590, 635, 786,
862 and 1590 Consolidation Nos. 170, 189
and 190

**PETITION FOR ORDER RE CHANGE OF NAME AND
ORDER**

2012 SEP 27 PM 2:14
FILED
OFFICE OF THE
REGISTRAR
HAWAII

Attorneys for Petitioner

MARK F. ITO 3692-0
SCHLACK ITO
A Limited Liability Law Company
745 Fort Street, Suite 1500
Honolulu, HI 96813
Telephone No.: (808) 523-6045

IN THE LAND COURT OF THE STATE OF HAWAII

In the Matter of the Application

of

Various Applicants,

to register title to land situate at various
locations in the State of Hawaii

Land Court Application Nos. 590, 635, 786,
862 and 1590 Consolidation Nos. 170, 189
and 190

**PETITION FOR ORDER RE CHANGE OF NAME AND
ORDER**

TO: THE HONORABLE PRESIDING JUDGE OF THE LAND COURT OF
THE STATE OF HAWAII:

The undersigned Petitioner respectfully shows unto this Court as follows:

1. The name of Petitioner has been legally changed on September 14, 2012 from
CASTLE & COOKE RESORTS, LLC to LANAI RESORTS, LLC as evidenced by the certified
copy of Articles of Amendment to Change Limited Liability Company Name filed in the
Department of Commerce and Consumer Affairs of the State of Hawaii attached hereto and
made a part hereof.

2. Petitioner desires that the change of name from CASTLE & COOKE RESORTS,
LLC to LANAI RESORTS, LLC be appropriately endorsed on the following Certificates of Title
describing land owned by Petitioner:

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

CERTIFICATE OF TITLE NO.	LAND COURT APPLICATION NO.	LAND COURT CONSOLIDATION NO.
468,683	862	
468,684	862	
468,685	862	
468,686	862	
468,687	862	
468,688	862	
468,689	862	
468,690	862	
468,691	862	
468,692	862	
468,693		170
468,694	862	
468,695		170
468,696	862	
468,697	862	
468,698		170
468,700		170
468,702	590	
506,384	862	
583,970	862	
633,767	862	
799,954	862	
812,328		170
852,675		170
987,393		170
1,044,092		170
1,044,093		189
1,044,094		170
1,044,095	590	
1,044,096	635	
1,044,097	786	
1,044,098	1590	
1,044,099	862	
1,044,100	590, 635 & 862	
1,044,101		190


PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

WHEREFORE, Petitioner respectfully prays that the Assistant Registrar of this Court be authorized and directed to endorse upon said Certificates of Title listed above the change of name of Petitioner from CASTLE & COOKE RESORTS, LLC to LANAI RESORTS, LLC.

DATED: Honolulu, Hawaii, September 25, 2012.

Petitioner: LANAI RESORTS, LLC

By


Mark F. Ito
Its Attorney

STATE OF HAWAII

)

) ss.

CITY AND COUNTY OF HONOLULU

)

On this 25th day of September, 2012, in the State of Hawaii, before me personally appeared **MARK F. ITO**, to me personally known or proved to me on the basis of satisfactory evidence of her signature and identity to be the aforesaid persons, who, being by me duly sworn or affirmed, did say that such persons executed the foregoing instrument as the free act and deed of such persons, and if applicable, in the capacities shown, having been duly authorized to execute such instrument in such capacities.

I hereby certify that the instrument to which this notary acknowledgment is attached is entitled **PETITION FOR ORDER RE CHANGE OF NAME AND ORDER**, and ☒ dated September 25, 2012 or ☐ undated at the time of notarization. The entire instrument, including the notary acknowledgment page(s) and attachment(s), if any, consists of 7-pages.





Print Name: Michele P. Makainai

Notary Public, State of Hawaii

My commission expires: 04/08/2016

PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

ORDER

Upon the record herein and good cause appearing, the prayer of Petitioner in the foregoing Petition for Order re Change of Name is hereby granted, and the Assistant Registrar of this Court is authorized and directed to comply herewith.

DATED: Honolulu, Hawaii, this _____ day of _____, SEP 27 2012

KATHLEEN HANAWAHINE

for

JUDGE OF THE LAND COURT OF THE
STATE OF HAWAII



PETITION FOR ORDER RE CHANGE OF NAME AND ORDER

www.BusinessRegistrations.com

FORM LLC-2
7/2008

FILED 09/14/2012 11:19 AM
Business Registration Division
DEPT. OF COMMERCE AND
CONSUMER AFFAIRS
State of Hawaii

STATE OF HAWAII
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
Business Registration Division
335 Merchant Street
Mailing Address: P.O. Box 40, Honolulu, Hawaii 96810
Phone No. (808) 586-2727



ARTICLES OF AMENDMENT TO CHANGE LIMITED LIABILITY COMPANY NAME

(Section 428-204, Hawaii Revised Statutes)

6495 C5

PLEASE TYPE OR PRINT LEGIBLY IN BLACK INK

The undersigned, for the purpose of amending the Articles of Organization, do hereby certify as follows:

1. The present name of the limited liability company is:
CASTLE & COOKE RESORTS, LLC
2. The name of the limited liability company is changed to:
LANAI RESORTS, LLC
3. The amendment was adopted with the consent of all, or a lesser number of, the members of the limited liability company as authorized by the operating agreement.

We certify, under the penalties set forth in the Hawaii Uniform Limited Liability Company Act, that we have read the above statements, we are authorized to make this change, and that the statements are true and correct.

Signed this 14th day of September, 2012

Lanai Islands Holdings, LLC, its Member
LIM Corporation, its Manager

PAUL T. MARINELLI, Vice President,

(Type/Print Name & Title)

(Signature)

Instructions: Articles must be typewritten or printed in black ink, and must be legible. The articles must be signed and certified by at least one manager of a manager-managed company or by at least one member of a member-managed company. All signatures must be in black ink. Submit original articles together with the appropriate fee.

Line 1. State the full name of the limited liability company prior to the change.

Line 2. State the new name of the limited liability company. The company name must contain the words *Limited Liability Company*, or the abbreviation, *L.L.C.* or *LLC*.

Filing Fees: Filing fee (\$25.00) is not refundable. Make checks payable to DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS. Dishonored Check Fee \$25.00.

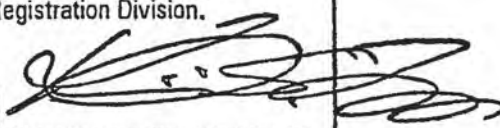
For any questions call (808) 586-2727. Neighbor islands may call the following numbers followed by 6-2727 and the # sign: Kauai 274-3141; Maui 954-2400; Hawaii 974-4000; Lanai & Molokai 1-800-466-4644 (toll free).
Fax: (808) 586-2733 Email Address: breg@dcca.hawaii.gov

NOTICE: THIS MATERIAL CAN BE MADE AVAILABLE FOR INDIVIDUALS WITH SPECIAL NEEDS. PLEASE CALL THE DIVISION SECRETARY, BUSINESS REGISTRATION DIVISION, DCCA, AT 586-2744, TO SUBMIT YOUR REQUEST.

ALL BUSINESS REGISTRATION FILINGS ARE OPEN TO PUBLIC INSPECTION. (SECTION 92F-11, HRS)

I HEREBY CERTIFY that this is a true and correct copy of the official record(s) of the Business Registration Division.




DIRECTOR OF COMMERCE AND
CONSUMER AFFAIRS

Date: September 18, 2012

EXHIBIT 3

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition Of	)	DOCKET NO.
)	
LĀNA`I RESORTS, LLC dba PŪLAMA)	
LĀNA`I)	
	)	DECLARATION OF KURT
To Amend the Land Use District	)	MATSUMOTO RE FINANCIAL
Boundaries of certain land situated at	)	STATUS OF PETITIONER
Lāna`i City, Island of Lāna`i, consisting of)	
approximately 200 acres from the)	
Agricultural District to the Urban District,)	
Tax Map Key No. (2) 4-9-02:01 (por.))	
)	
)	
)	
)	

DECLARATION OF KURT MATSUMOTO RE FINANCIAL STATUS OF PETITIONER

I, KURT MATSUMOTO, hereby declare:

1. I am the Chief Operating Officer of Lāna`i Resorts, LLC and the Vice President of LIH Corporation. I make this declaration based upon my personal knowledge, unless otherwise stated. If called upon, I am competent to testify to the facts related herein.

2. LIH Corporation is the Manager and 100% Member of Lāna`i Island Holdings, LLC, which in turn is the Manager and 100% Member of Lāna`i Resorts, LLC.

3. Lāna`i Island Holding, LLC presently holds unencumbered assets with a value well in excess of \$100 million.

I, KURT MATSUMOTO, declare, verify, certify and state under penalty of perjury that the foregoing is true and correct.

DATED: _____, 2019

KURT MATSUMOTO

EXHIBIT 4

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition Of	)	DOCKET NO.
)	
LĀNA`I RESORTS, LLC dba PŪLAMA)	
LĀNA`I)	
	)	DECLARATION OF KURT
To Amend the Land Use District	)	MATSUMOTO RE PETITIONER'S
Boundaries of certain land situated at	)	ACCOMPLISHMENTS
Lāna`i City, Island of Lāna`i, consisting of)	
approximately 200 acres from the)	
Agricultural District to the Urban District,)	
Tax Map Key No. (2) 4-9-02:01 (por.))	
)	
)	
)	
)	

DECLARATION OF KURT MATSUMOTO RE PETITIONER'S ACCOMPLISHMENTS

I, KURT MATSUMOTO, hereby declare:

1. I am the Chief Operating Officer of Lāna`i Resorts, dba Pūlama Lāna`i. I make this declaration based upon my personal knowledge, unless otherwise stated. If called upon, I am competent to testify to the facts related herein.

2. Since 2013, Pūlama Lāna`i and its affiliates have invested hundreds of millions of dollars in infrastructure and other improvements to maintain and upgrade long-neglected facilities and has constructed and redeveloped properties on Lāna`i, all with the aim of promoting the island's resiliency and self-sustainability.

3. Following is a list of accomplishments achieved by Pūlama Lāna`i and its affiliates from 2013 to the present.

- Conservation
 - Predator Proof Snail Fence

- U'au predator control and improve fledging success rate from +28% to +80%
- Built enclosures for endangered and endemic plants
- Increased hunting activity on the privately managed side of the island.
- Engaged with NFWF to create 20,000 acre enclosure for watershed protection, endangered seabird protection and runoff mitigation for near shore reef.
- Water
 - \$10 million invested in infrastructure.
 - 99% installation of Smart Water Meters to all service areas.
 - Reduction in water loss
 - Improvements in well head protection
- Environment
 - Metal Recycling program
 - Tires and Battery removal program
- Culture and Historic Preservation
 - Restore 40 Plantation Homes
 - Restoration of Filipino Community Center, Korean Dorm
 - Restoration of Commercial Buildings. Theater, Market, Hospice
 - Courthouse Restoration
 - Full funding and staffing Lāna'i Community Heritage Center
 - Establish maintenance activity at significant cultural sites
 - Waiaopae Fishpond Restoration
- Economic
 - Increased employment by +300 positions since 2012 either directly or thru Four Seasons.
 - Restoration and reposition Mānele Resort
 - Increased availability of rental housing for teachers at LHES
- Recreation
 - 100% funding of Community Pool operation for seniors to keiki.
- First ever competitive swim club
 - Multi-purpose field led to return of football to LHES
 - Fund recreational leagues for children
- Education
 - Funding for Dual College Credit Program – most successful in the state.
 - Funding professional college counseling services for all Freshmen – Seniors
- Introduced Community Services
 - Pharmacy
 - Physical Therapy Center
 - Women's Shelter
 - Hospice

- Theater
- Richards Market
- Community Pool

I, KURT MATSUMOTO, declare, verify, certify and state under penalty of perjury that the foregoing is true and correct.

DATED: _____, 2019

KURT MATSUMOTO

EXHIBIT 5



EXHIBIT 6

EXHIBIT 7



EXHIBIT 8

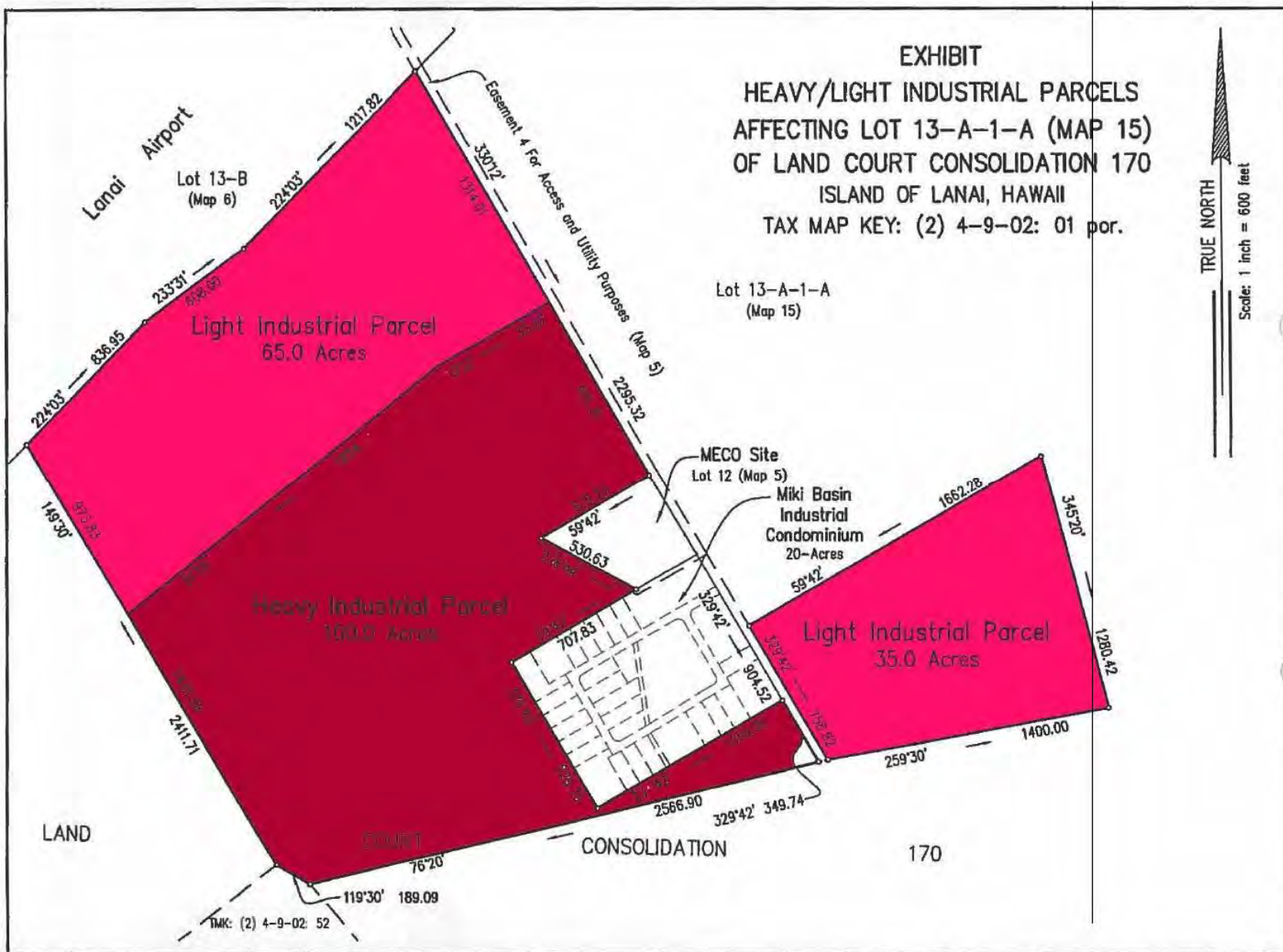
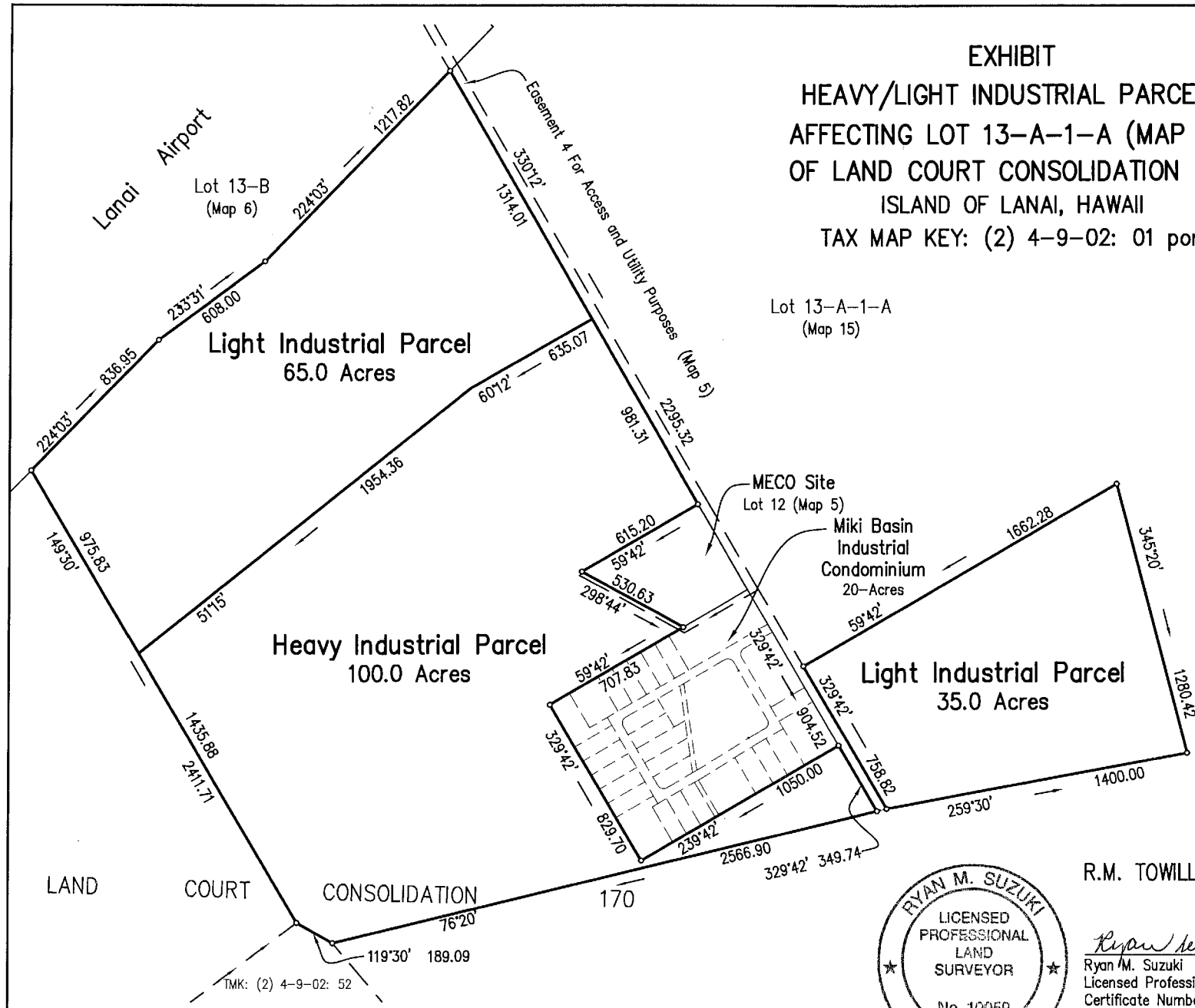
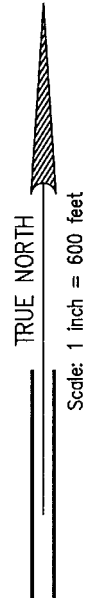


EXHIBIT 9

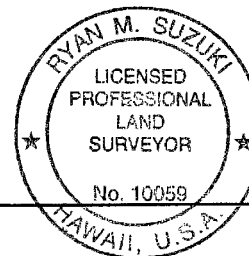
EXHIBIT
HEAVY/LIGHT INDUSTRIAL PARCELS
AFFECTING LOT 13-A-1-A (MAP 15)
OF LAND COURT CONSOLIDATION 170
ISLAND OF LANAI, HAWAII
TAX MAP KEY: (2) 4-9-02: 01 por.



RMTC Ref. No.: 1-23204-0-S
F.N.: Miki Fleet Yd Ind Park.Dwg



R. M. TOWILL CORPORATION
SINCE 1930



R.M. TOWILL CORPORATION

Ryan M. Suzuki 4/30/20
Ryan M. Suzuki (Expiration Date)
Licensed Professional Land Surveyor
Certificate Number 10059

2024 North King Street, Suite 200
Honolulu, Hawaii 96819
September 18, 2018

BEFORE THE LAND USE COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Petition Of	)	DOCKET NO. A19-809
)	
LĀNAʻI RESORTS, LLC dba PŪLAMA)	
LĀNAʻI)	
	)	CERTIFICATE OF SERVICE
To Amend the Land Use District)	
Boundaries of certain land situated at)	
Lānaʻi City, Island of Lānaʻi, consisting of)	
approximately 200 acres from the)	
Agricultural District to the Urban District,)	
Tax Map Key No. (2) 4-9-02:01 (por.))	
)	


CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was served upon the following by depositing the same in the U.S. Postal Service.

Office of Planning
State Office Tower
235 S. Beretania Street
Suite 600
Honolulu, HI 96813

County of Maui Planning Department
2200 Main Street
One Main Plaza, Suite 315
Wailuku, HI 96793

DATED: Honolulu, Hawaii, August 23, 2019.



YVONNE Y. IZU
KRIS N. NAKAGAWA
LIANNA L. FIGUEROA
Attorneys for Petitioner