

STATE OF HAWAI'I  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Forestry and Wildlife  
Honolulu, Hawai'i 96813

March 24, 2017

Chairperson and Members  
Board of Land and Natural Resources  
State of Hawai'i  
Honolulu, Hawai'i

Land Board Members:

SUBJECT: REQUEST APPROVAL OF THE RILEY DUREN FOREST STEWARDSHIP  
MANAGEMENT PLAN AND FOREST STEWARDSHIP AGREEMENT WITH  
OHIA FOREST TRUST TMK (3) 7-3-048:007, NORTH KONA, ISLAND OF  
HAWAI'I

AND

REQUEST APPROVAL OF DECLARATION OF EXEMPTION UNDER  
CHAPTER 343, HRS ENVIRONMENTAL COMPLIANCE REQUIREMENTS  
FOR THE PROJECT.

BACKGROUND:

The State of Hawai'i Forest Stewardship Program (FSP) provides technical and financial assistance to private landowners and land managers committed to the stewardship, conservation, and restoration of important forest resources across the state. These private properties provide a variety of public benefits for the residents of Hawaii, including but not limited to: fresh water capture and production, decreased soil erosion, wildlife habitat, forest products, recreational and educational opportunities, and local jobs. The assistance provided by FSP enables private landowners to develop and implement long-term multi-resource management plans to conserve, restore and maintain forested areas on their property.

The program was established through Chapter 195F-6, Hawai'i Revised Statutes (HRS). The Department of Land and Natural Resources (DLNR) has the authority to provide financial assistance to approved Forest Stewardship projects for private landowners to manage, protect, and restore important natural forest resources on forested and formerly forested properties. The Forest Stewardship Program is implemented pursuant to Chapter 195F, HRS, and Hawai'i Administrative Rules (HAR) Chapter 109. The program provides cost-share reimbursement for the development of long-term forest management plans and for the implementation of approved Forest Stewardship management plans.

To participate in FSP, interested landowners and managers follow a sequence of steps for the development of a long-term Forest Stewardship management plan, including review by the Forest Stewardship Advisory Committee (FSAC). Landowners interested in FSP submit an application to the FSAC, who reviews and recommends the development of a Forest Stewardship management plan based on program eligibility requirements, assuring the proposed project is in line with the program's goals of conservation, restoration and/or forest production. Landowners then create a forest management plan; submit the plan for review by Division staff and FSAC; revise their actions based on the feedback received; and ultimately the committee recommends the management plan for approval by the Division and Department.

The award of cost-share support for Forest Stewardship Agreement, which includes the implementation of approved management plans, follows a similar review and approval process. Upon approval of a project's management plan, the FSAC reviews the implementation schedule and budget summary to ensure that the practice costs are reasonable and follow the program's approved cost-share rates. The FSAC recommends approval by the Board of Land and Natural Resources (BLNR) for cost-share support for project implementation based on the 10-year implementation schedule. Review and approval of the Forest Stewardship project and management plan as well as authorization of cost-share support for the project by the BLNR is required in order for DLNR to enter into the Forest Stewardship Agreement. The Division has previously worked with the Department of the Attorney General to develop a Forest Stewardship Agreement template (Exhibit A) for eligible projects.

The Riley Duren Forest Stewardship project proposes to actively manage and restore approximately 20 acres of native forest on Tax Map Key number (3) 7-3-048:007 (22.5 acres), in the North Kona District of Hawai'i County. The Forest Stewardship project area is designated by the State of Hawai'i as Agriculture District and as Agriculture by the County of Hawai'i. The Riley Duren Forest Stewardship project is located on the western flank of Hualālai and was once part of Hu'ehu'e Ranch. The project area is east of Honua'ula Forest Reserve and makai of Pu'u Wa'awa'a. The 20-acre project area is characterized as having a patchy native canopy with an understory degraded by feral ungulates and colonization by invasive plants. In areas where the understory is dominated by invasive weeds, natural recruitment of native species is limited.

The FSAC approved the Haleakalā Ranch Forest Stewardship management plan at their meeting on January 20, 2017 and the State Forester/Division Administrator approved the Forest Stewardship Management Plan on March 3, 2017 (Exhibit B).

#### DISCUSSION:

The Division is requesting approval of a Forest Stewardship Agreement with Ohia Forest Trust for the implementation of the Riley Duren Forest Stewardship management plan and project. Over the course of the 10-year management plan, Ohia Forest Trust intends to promote the recovery and protection of the native forest in the project area by restoring five 4-acre management units, labeled zones 1-5 (Exhibit B). Zone 1 includes a number of collapsed and intact lava tube openings that serve as refugia for ferns and other understory species including the rare *Melicope hawaiiensis*. The

rest of the site has a native koa/‘ōhi‘a canopy with a number of invasive species found in the understory, such as Banana poka, German ivy, and Kahili ginger. Management approaches will focus on controlling invasive species and planting of regionally appropriate native species.

The first management activity will be installation of a perimeter fence around the property. Fencing is a requirement for the Hawaii Conservation Reserve Enhancement Program (CREP) project which only includes Zone 1, and is a recommended practice for FSP. After all feral ungulates are removed, site preparation will include chemical and manual weed control of weedy species such as banana poka and fireweed, beginning in Zone 1 and continuing each year into Zones 2-5. After invasive weeds have been controlled, trails will be hand cut to facilitate access for planting, and done in a manner that will minimize erosion and damage to native plants. Native trees and shrubs will be hand-planted in areas devoid of native trees and avoiding a 20-foot buffer around all lava tube openings. Ongoing maintenance such as weed control of the established areas will be undertaken on a regular basis after the initial planting and throughout the 10 years of the contract. Monitoring activities will include ground based monitoring and analysis of satellite imagery.

Ohia Forest Trust is seeking cost-share support for the implementation of their management plan from FSP and through partner programs with the U.S. Department of Agriculture. One of the objectives of the Hawaii Joint Forestry Memorandum of Understanding (MOU) between the DLNR, Hawaii Association of Conservation Districts, Natural Resource Conservation Service (NRCS) and U.S. Forest Service, is to improve communication between agencies and strengthen cooperation for the delivery of forestry-related conservation assistance to private landowners and land managers. As a part of this MOU the partners agreed to use the Forest Stewardship management plans as a way to increase the cooperation and planning for forestry landowners interested in the various assistance programs including FSP and Hawaii CREP.

The template for the Forest Stewardship management plans has been modified to incorporate resource concerns, threats, and needs that are common among forestry assistance programs with the ultimate goal being utilization of Forest Stewardship management plans for various cost-share assistance programs offered by the partners. The Riley Duren Forest Stewardship project is seeking support for implementation of the approved Forest Stewardship management plan from FSP.

A total of **\$73,661** in State Forest Stewardship funding is requested to provide cost-share support for the Riley Duren Forest Stewardship management plan and the Ohia Forest Trust Forest Stewardship Agreement. Ohia Forest Trust will be contributing an amount of **\$93,523** toward their Forest Stewardship Project implementation, and will also be receiving an additional **\$86,856** from Hawaii CREP and the NRCS Agricultural Management Assistance Program. The costs associated with the proposed practices are consistent with the intensity of management required for this type of project. Cost-share funds are provided as reimbursement payments for implementation of approved management practices through the State fiscal year 2028. In addition, Ohia Forest Trust has agreed to continue maintenance of the installed Forest Stewardship practices for an additional ten years following the completion of the State cost-share contributions, or through State fiscal year 2038.

CHAPTER 343 – ENVIRONMENTAL COMPLIANCE

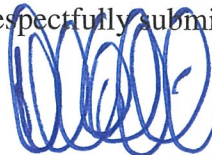
In accordance with “Exemption List for the Department of Land and Natural Resources, reviewed and concurred upon by the Environmental Council on June 5, 2015,” the proposed activities are exempt from the preparation of an environmental assessment. Specifically, the proposed activities fall under Exemption Class No. 3 Item 1; and Exemption Class 4 Item 6; Item 8; Item 12; Item 13; and Item 22. Refer to attached Exemption Notification labeled Exhibit C.

RECOMMENDATIONS:

That the Board:

1. Approve the Riley Duren Forest Stewardship management plan;
2. Approve cost-share support in the amount of **\$73,661** for the implementation of the Riley Duren Forest Stewardship management plan;
3. Authorize the Chairperson to amend, finalize and execute a Forest Stewardship Agreement with Ohia Forest Trust to participate in the State Forest Stewardship Program subject to the following:
  - A. Availability of State Forest Stewardship funds; and
  - B. Review and approval as to form of the Forest Stewardship Agreement by the Department of the Attorney General.
4. Declare that, after considering the potential effects of the proposed dispositions provided by Chapter 343, HRS, and Chapter 11-200, HAR, this project will likely have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.

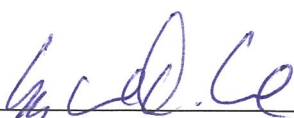
Respectfully submitted,



David G. Smith, Administrator  
Division of Forestry and Wildlife

Attachment: (Exhibit A, B, C)

APPROVED FOR SUBMITTAL:

  
\_\_\_\_\_  
Suzanne D. Case, Chairperson

**STATE OF HAWAII  
FOREST STEWARDSHIP AGREEMENT**

This AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the BOARD OF LAND AND NATURAL RESOURCES, STATE OF HAWAII (“STATE”), by its Chairperson, whose address is 1151 Punchbowl Street, Honolulu, Hawaii 96813, and \_\_\_\_\_ (“LANDOWNER”) whose address and federal and state taxpayer identification numbers are as follows: \_\_\_\_\_

\_\_\_\_\_  
*Business address*

\_\_\_\_\_  
*Federal and state taxpayer identification numbers*

**RECITALS**

WHEREAS, Chapter 195F, Hawaii Revised Statutes (HRS), provides for the establishment of a forest stewardship program to encourage and assist private landowners in managing, protecting, and restoring important watersheds, native vegetation, fish and wildlife habitats, isolated populations of rare and endangered plants, and other forest lands that are not recognized as potential natural area reserves; and

WHEREAS, in accordance with HRS Chapter 195F and Title 13, Subtitle 5, Part 1, Chapter 109 of the Hawaii Administrative Rules (HAR), the LANDOWNER has applied, and qualifies, for participation in the forest stewardship program; and

WHEREAS, the LANDOWNER has submitted a forest stewardship management plan, as set forth in Exhibit A hereto, that the STATE agrees is consistent with the policies, goals, and objectives of the forest stewardship program; and

WHEREAS, the STATE desires to assist the LANDOWNER in implementing the forest stewardship management plan with financial and other assistance; and

WHEREAS, money is available to fund this agreement pursuant to: Act 195, SLH 1993, Hawaii Revised Statutes, Section 247-7.

NOW, THEREFORE, in consideration of the promises contained in this AGREEMENT, the STATE and the LANDOWNER agree as follows:

**A. SCOPE OF SERVICES**

The LANDOWNER hereby agrees to implement the forest stewardship management plan set forth in Exhibit A and the project described in the “Scope of Services” set forth in Attachment S1 in proper and satisfactory manner as determined by the STATE, both of which are hereby made a part of this AGREEMENT. The STATE hereby agrees to assist the LANDOWNER in implementing the forest stewardship management plan, all in accordance with the terms and conditions set forth in Attachments S1, S2, S3, S4, S5, and S6, attached hereto.

**B. COMPENSATION**

The LANDOWNER shall be compensated for performance of the project under this AGREEMENT according to the “Compensation and Payment Schedule,” set forth in Attachment S2, which is hereby made a part of this Agreement.

**C. TIME OF PERFORMANCE**

The performance required of the LANDOWNER under this AGREEMENT shall be completed in accordance with the “Time of Performance” set forth in Attachment S3, which is hereby made a part of this AGREEMENT.

**D. CERTIFICATE OF EXEMPTION FROM CIVIL SERVICE**

The “State of Hawaii Certificate of Exemption from Civil Service,” set forth in Attachment S4, is hereby made a part of the AGREEMENT.

**E. OTHER TERMS AND CONDITIONS**

The “State of Hawaii Special and General Conditions for Forest Stewardship Program Agreements,” set forth in Attachment S5, and the General Conditions attached hereto, are hereby made a part of this AGREEMENT. For the purposes of this AGREEMENT the term “CONTRACTOR” in the “General Conditions” shall mean the LANDOWNER.

**F. STANDARDS OF CONDUCT DECLARATION**

The "Standards of Conduct Declaration" by LANDOWNER, set forth in Attachment S6, is hereby made a part of this AGREEMENT. For the purposes of this AGREEMENT the term "CONTRACTOR" in the "Standards of Conduct Declaration" shall mean the LANDOWNER.

IN WITNESS WHEREOF, the parties execute this AGREEMENT by their signatures to be effective as of the date first above written.

STATE

By \_\_\_\_\_  
Chairperson of the Board of Land and Natural Resources

\_\_\_\_\_  
Print Name

Date \_\_\_\_\_

LANDOWNER

By \_\_\_\_\_

\_\_\_\_\_  
Print Name

Date \_\_\_\_\_

Approved by the Board of  
Land and Natural Resources on

\_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
Deputy Attorney General



LANDOWNER'S ACKNOWLEDGMENT

STATE OF HAWAII )  
 ) SS.  
COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_, to me personally known, who being by me duly sworn, did say the he/she is the \_\_\_\_\_, the LANDOWNER named in the foregoing instrument, and the he/she is authorized to sign said instrument on behalf of the LANDOWNER, and acknowledges that he/she executed said instrument as the free act and deed of the LANDOWNER.

\_\_\_\_\_  
Notary Public, State of Hawaii

\_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

Date of the Notarized Document: \_\_\_\_\_

Number of Pages: \_\_\_\_\_

Identification or Description of the Document being Notarized: \_\_\_\_\_

\_\_\_\_\_  
Printed Name of Notary: \_\_\_\_\_ Circuit

\_\_\_\_\_  
Notary's Signature and Notary's Official Stamp or Seal Date



**STATE OF HAWAII**  
**CONTRACTOR'S**  
**STANDARDS OF CONDUCT DECLARATION**

For the purposes of this declaration:

"Agency" means and includes the State, the legislature and its committees, all executive departments, boards, commissions, committees, bureaus, offices; and all independent commissions and other establishments of the state government but excluding the courts.

"Controlling interest" means an interest in a business or other undertaking which is sufficient in fact to control, whether the interest is greater or less than fifty per cent (50%).

"Employee" means any nominated, appointed, or elected officer or employee of the State, including members of boards, commissions, and committees, and employees under contract to the State or of the constitutional convention, but excluding legislators, delegates to the constitutional convention, justices, and judges. (Section 84-3, HRS).

On behalf of \_\_\_\_\_, CONTRACTOR, the undersigned does declare as follows:

1. CONTRACTOR  is\*  is not a legislator or an employee or a business in which a legislator or an employee has a controlling interest. (Section 84-15(a), HRS).
2. CONTRACTOR has not been represented or assisted personally in the matter by an individual who has been an employee of the agency awarding this Contract within the preceding two years and who participated while so employed in the matter with which the Contract is directly concerned. (Section 84-15(b), HRS).
3. CONTRACTOR has not been assisted or represented by a legislator or employee for a fee or other compensation to obtain this Contract and will not be assisted or represented by a legislator or employee for a fee or other compensation in the performance of this Contract, if the legislator or employee had been involved in the development or award of the Contract. (Section 84-14 (d), HRS).
4. CONTRACTOR has not been represented on matters related to this Contract, for a fee or other consideration by an individual who, within the past twelve (12) months, has been an agency employee, or in the case of the Legislature, a legislator, and participated while an employee or legislator on matters related to this Contract. (Sections 84-18(b) and (c), HRS).

CONTRACTOR understands that the Contract to which this document is attached is voidable on behalf of the STATE if this Contract was entered into in violation of any provision of chapter 84, Hawaii Revised Statutes, commonly referred to as the Code of Ethics, including the provisions which are the source of the declarations above. Additionally, any fee, compensation, gift, or profit received by any person as a result of a violation of the Code of Ethics may be recovered by the STATE.

\* Reminder to Agency: If the "is" block is checked and if the Contract involves goods or services of a value in excess of \$10,000, the Contract must be awarded by competitive sealed bidding under section 103D-302, HRS, or a competitive sealed proposal under section 103D-303, HRS. Otherwise, the Agency may not award the Contract unless it posts a notice of its intent to award it and files a copy of the notice with the State Ethics Commission. (Section 84-15(a), HRS).

**CONTRACTOR**

By \_\_\_\_\_  
*(Signature)*  
 Print Name \_\_\_\_\_  
 Print Title \_\_\_\_\_  
 Name of Contractor \_\_\_\_\_  
 \_\_\_\_\_  
 Date \_\_\_\_\_



STATE OF HAWAII  
SCOPE OF SERVICES

SECTION 1 - SCOPE OF WORK

- 1.1 MANAGEMENT AREA - The project area to be managed is the \_\_\_\_\_ Forest Stewardship project area; TMK NUMBER(S) \_\_\_\_\_ as designated on maps found in \_\_\_\_\_ to this AGREEMENT.
- 1.2 THE PRIMARY OBJECTIVES - The STATE and LANDOWNER shall direct their efforts under this AGREEMENT to do the following: fund the management of and manage the natural resources of the \_\_\_\_\_ Forest Stewardship project area (“Forest Stewardship project area”) in accordance with the MANAGEMENT PLAN, attached as \_\_\_\_\_ to this AGREEMENT, and all approved amendments thereto, with the intention of \_\_\_\_\_ in the \_\_\_\_\_ community.
- 1.3 SCOPE OF WORK - The LANDOWNER shall perform the following technical and professional services:
- (a) Management plan. The LANDOWNER shall carry out the management activities outlined in the approved MANAGEMENT PLAN, attached as \_\_\_\_\_ to this AGREEMENT.
  - (b) Consultation. The LANDOWNER shall be available for consultation regarding progress, upon request by the STATE.
- 1.4 AUTHORITY TO CARRY OUT MANAGEMENT PLAN - The LANDOWNER hereby represents that it has authority to carry out the MANAGEMENT PLAN and that it is the landowner of “Forest Stewardship project area” as defined in Section 195F-2, Hawaii Revised Statutes, as amended.
- 1.5 NO INCONSISTENT ACTIVITIES - The LANDOWNER shall not take any action on the “Forest Stewardship project area”, which will undermine or conflict with the approved MANAGEMENT PLAN.

II. SECTION 2 - CONTROL AND PROGRESS OF THE WORK



STATE OF HAWAII  
SCOPE OF SERVICES

2.1 REPORTS - The LANDOWNER shall submit to the STATE, reports showing work accomplished at the following times:

- (a) Progress Reports. A progress report shall be due on December 31 of each year under this AGREEMENT for which funding has been approved. This report shall include a description of the approved MANAGEMENT PLAN accomplishments and activities, areas needing technical advice, an accounting of expenditures with documentation, and proposed modifications to the current year's management activities. This report shall be submitted to the STATE within 30 days following the due date. If the LANDOWNER would like more than 2 reimbursements per year, a progress report shall accompany each reimbursement request and the "Forest Stewardship project area" shall be made available for a site visit by Department of Land and Natural Resources personnel.
- (b) Annual Report. An annual report shall be due on or before June 30 of each year under this AGREEMENT for which funding has been approved. In the event the contract is executed less than 6 months prior to June 30, then no annual report is due on June 30 of that year. This report shall include a description of MANAGEMENT PLAN accomplishments and activities, areas needing technical advice, and proposed modifications to the next year's approved management objectives, projects and budget. This report shall also include a detailed accounting of expenditures for the preceding 12-month period to provide the basis for the annual reconciliation of the STATE's and the LANDOWNER's respective shares of funding as determined pursuant to Attachment S2, Section 1.1. This report shall be submitted to the STATE within 60 days of due date. This report may also request, subject to approval by the STATE, changes to the management plan, for either or both the practice implementation schedule and/or the budget/payment schedule in order to best consolidate and rectify the past year's outcomes or lack thereof.



## STATE OF HAWAII

# SCOPE OF SERVICES

2.2 DELEGATION OF AUTHORITY - As used herein and throughout this AGREEMENT, unless the context clearly indicates otherwise, the STATE shall include the State of Hawaii Department of Land and Natural Resources and its authorized employees, agents and representatives.



STATE OF HAWAII

COMPENSATION AND PAYMENT SCHEDULE

SECTION 1 – PAYMENT

1.1 SCOPE OF PAYMENT -

(a) STATE's Payment. In full satisfaction of the STATE's funding share of the approved MANAGEMENT PLAN, which is contingent upon satisfactory completion by the LANDOWNER of the management activities described in the approved MANAGEMENT PLAN, attached as Exhibit A to this AGREEMENT, the STATE agrees to pay the LANDOWNER a total sum not to exceed \_\_\_\_ .\_\_\_\_ 00/100 Dollars (\$ \_\_\_\_\_) according to the schedule outlined below that includes fiscal year 20XX through 20XX for completion of the management activities described in the approved MANAGEMENT PLAN. Payments shall be made by the STATE to the LANDOWNER as partial annual reimbursements for actual expenditures made by the LANDOWNER in completing the management activities described in the approved MANAGEMENT PLAN only after the corresponding progress or annual report has been reviewed by the STATE and all reported management activity accomplishments have been verified following an inspection of the “Forest Stewardship project area” by the STATE. Actual expenditures may include but are not limited to in-kind services such as heavy equipment operation and sources of labor. All funds to be paid by the STATE to the LANDOWNER shall be encumbered on an annual basis for the forthcoming fiscal year provided that the STATE has approved the continuation of management activities outlined in ..... of this AGREEMENT for the forthcoming fiscal year.

If in any fiscal year the allocated annual funds are not exhausted due to the LANDOWNER not completing all management activities described in the MANAGEMENT PLAN for that year, the LANDOWNER may request that these funds be incorporated in the following year’s encumbrances to complete the management activities which were not completed. If there are sufficient funds available to accommodate LANDOWNER’s request and the STATE approves the



STATE OF HAWAII

**COMPENSATION AND PAYMENT SCHEDULE**

request, this change will be incorporated by written amendment to the AGREEMENT.

If in any fiscal year the STATE does not appropriate, and/or the STATE does not approve the expenditure of, funds sufficient to meet the STATE's funding share of the approved MANAGEMENT PLAN, this AGREEMENT shall automatically terminate without penalty at the end of the last fiscal year for which any funds have been appropriated and approved, subject to Attachment S5, Section 4.1, regarding partial State funding.

- (b) LANDOWNER's Share. In full satisfaction of the LANDOWNER's funding share of the approved MANAGEMENT PLAN, the LANDOWNER agrees to fully complete the management activities described in the approved MANAGEMENT PLAN, and to initially assume all corresponding actual annual expenditures in expectation of the STATE's partial reimbursement for satisfactory completion of these management activities. Expenditures for implementation of the approved MANAGEMENT PLAN which are less than the amounts allocated in the approved budget may be made by the LANDOWNER in its discretion so long as the quality of materials and work as called for in the approved MANAGEMENT PLAN are not adversely affected.



STATE OF HAWAII  
**COMPENSATION AND PAYMENT SCHEDULE**

**PATRICK & SHEILA CONANT FOREST STEWARDSHIP  
PROJECT BUDGET/PAYMENT SCHEDULE:**

<b>YEAR</b>	<b>Total Budget</b>	<b>Land Owner share</b>	<b>State Share</b>
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
<b>Total</b>			

1.2 PAYMENT SCHEDULE –

- (a) Progress Payment. Within 30 days following receipt of the progress report as provided in Attachment S1, Section 2.1(a) for each year for which the STATE has agreed to pay the LANDOWNER as outlined in the schedule above and for which funding has been appropriated, the STATE shall pay to the LANDOWNER a portion of the STATE’s funding share of the approved MANAGEMENT PLAN as a partial reimbursement of actual expenditures made to complete approved management activities. This payment shall be subject to the LANDOWNER’s satisfactory completion of the corresponding approved management activities described in the approved MANAGEMENT PLAN, attached as Exhibit A to this AGREEMENT, and calculated on the basis of actual expenditures made by the LANDOWNER. This payment shall also be subject to the STATE's approval of such progress report.
  
- (b) Annual/Final Payment. Within 30 days of receipt of the annual report as provided in Attachment S1, Section 2.1(b), the STATE shall pay to the LANDOWNER the balance of the STATE’s approved annual funding share. This payment shall be subject to the LANDOWNER’s satisfactory completion of the corresponding





STATE OF HAWAII

**COMPENSATION AND PAYMENT SCHEDULE**

annual management activities described in the approved MANAGEMENT PLAN, attached as Exhibit A to this AGREEMENT, and calculated on the basis of actual expenditures made by the LANDOWNER.

- (1) Annual or Final Acceptance and Payment - Annual or final acceptance means a written notice from the STATE to the LANDOWNER advising the LANDOWNER of the satisfactory fulfillment of the AGREEMENT's annual or final requirements.

- 1.3 UNAUTHORIZED WORK - The LANDOWNER shall not receive matching STATE funds for management activities not designated in the approved MANAGEMENT PLAN. All work completed by the LANDOWNER prior to receipt of a fully-executed copy of this AGREEMENT, and prior to STATE approval of funding for any subsequent years and prior to STATE approval of any subsequent amendments to the approved MANAGEMENT PLAN, shall be at the LANDOWNER's own volition and risk, including work performed during the period of any deliberations by the STATE in anticipation of approval; provided, however, that if funding and/or amendments applicable to such work are subsequently approved, the LANDOWNER may be paid for such work even if performed prior to such approval.

SECTION 2 - FISCAL RECORDS MAINTENANCE, RETENTION, AND ACCESS

- 2.1 The LANDOWNER shall maintain, in accordance with generally acceptable accounting practices, fiscal records and supporting documents and related files, papers and reports that adequately reflect all direct and indirect expenditures and management and fiscal practices materially related to the LANDOWNER's performance of services paid for by State funds under this AGREEMENT.

- (a) The STATE, the Comptroller of the State of Hawaii, and any of their authorized representatives, the committees (and their staff) of the Legislature of the State of Hawaii, and the Legislative Auditor of the State of Hawaii shall have the right of access to any book, document, paper, file, or other records of the LANDOWNER



STATE OF HAWAII

**COMPENSATION AND PAYMENT SCHEDULE**

that is materially related to the performance by the LANDOWNER of services funded by the STATE under this AGREEMENT, in accordance with generally accepted audit procedures, for the purposes of monitoring and evaluating the LANDOWNER's performance of services and the LANDOWNER's management program and fiscal practices to assure the proper and effective expenditure of funds under this AGREEMENT; provided, however, that no party conducting any such audit or examination shall copy, distribute, or retain any of such information or records, with the understanding that it is not the intention that the LANDOWNER's financial and other records and information be made public.

- (b) The right of access shall not be limited to the required retention period but shall last as long as the records are retained. The LANDOWNER shall retain all records related to the LANDOWNER's performance of services funded under this AGREEMENT for at least 3 years after the date of submission of the LANDOWNER's annual reports for any designated period and payment for such expenditures by the STATE in accordance with its matching share, except that if any litigation, claim, negotiation, investigation, audit, or other action involving the records has been started before the expiration of the 3-year period, the LANDOWNER shall retain the records until completion of the action and resolution of all issues that arise from it or until the end of the regular 3-year retention period, whichever occurs later.



STATE OF HAWAII  
**TIME OF PERFORMANCE**

SECTION 1 - EXECUTION OF AGREEMENT

- 1.1 EXECUTION OF AGREEMENT - This AGREEMENT shall be promptly executed by the STATE and the LANDOWNER upon approval by each party.
  
- 1.2 CERTIFICATION AND APPROVAL OF AGREEMENT - This AGREEMENT shall not be considered binding upon the STATE, unless the availability of the funds therefore has been duly certified as prescribed by Section 103-39, Hawaii Revised Statutes, as amended. Further, this AGREEMENT shall not be considered to be fully executed unless the Office of the Attorney General of the State of Hawaii has approved this AGREEMENT as to form.

SECTION 2 - TERM

- 2.1 INITIAL TERM - The initial term will be for a minimum of Thirteen (13) years following the completion of any and all management practices for which the LANDOWNER has received cost-share assistance. Accordingly, this AGREEMENT shall commence on the date of full execution hereof and shall be in effect until \_\_\_\_\_; subject, however to earlier termination as provided in this AGREEMENT.
  
- 2.2 STATE FUNDING CONDITION - This AGREEMENT is subject to continued funding of the STATE's share of the approved management budget as outlined in Attachment S2, Section 1.1. Annual funding is provided by the Conveyance Tax pursuant to Act 195, SLH 1993, Section 247-7, Hawaii Revised Statutes, whereby twenty-five percent of the amount collected from this tax shall be paid into the natural area reserve fund from which funds are dispersed to the natural area partnership and forest stewardship programs, and by way of Act 269, SLH 2000 to projects undertaken in accordance with watershed management plans. Payments are then made through the forest stewardship program to reimburse landowners for implementing approved stewardship management practices. Any balance remaining in this fund at the end of any fiscal year shall be carried forward



STATE OF HAWAII  
**TIME OF PERFORMANCE**

into the fund for the next fiscal year. If in any fiscal year the STATE does not appropriate, and/or the STATE does not approve the expenditure of, funds sufficient to meet its share of the approved management budget, this AGREEMENT shall automatically terminate without penalty at the end of the last fiscal year for which any funds have been appropriated and approved, subject to Attachment S5, Section 4.1, regarding partial State funding.



STATE OF HAWAII

**CERTIFICATE OF EXEMPTION  
FROM CIVIL SERVICE**

**1. By Heads of Departments Delegated by the Director of the Department of Human Resources Development (“DHRD”).\***

Pursuant to a delegation of the authority by the Director of DHRD, I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to § 76-16, Hawaii Revised Statutes (HRS).

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Print Title)

\* This part of the form may be used by all department heads and the heads of attached agencies to whom the Director of DHRD expressly has delegated authority to certify § 76-16, HRS, civil service exemptions. The specific paragraph(s) of § 76-16, HRS, upon which an exemption is based should be noted in the contract file. If an exemption is based on § 76-16(b)(15), the contract must meet the following conditions:

- (1) It involves the delivery of completed work or product by or during a specific time;
- (2) There is no employee-employer relationship; and
- (3) The authorized funding for the service is from other than the "A" or personal services cost element.

**NOTE:** Not all attached agencies have received a delegation under § 76-16(b)(15). If in doubt, attached agencies should check with the Director of DHRD prior to certifying an exemption under § 76-16(b)(15). Authority to certify exemptions under §§ 76-16(b)(2), and 76-16(b)(12), HRS, has not been delegated; only the Director of DHRD may certify §§ 76-16(b)(2), and 76-16(b)(12) exemptions.

**2. By the Director of DHRD, State of Hawaii.**

I certify that the services to be provided under this Contract, and the person(s) providing the services under this Contract are exempt from the civil service, pursuant to §76-16, HRS.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Print Title, if designee of the Director of DHRD)



STATE OF HAWAII  
SPECIAL CONDITIONS

SECTION 1 – INSPECTIONS

1.1 The STATE shall have the right to make inspections of the “Forest Stewardship project area” after prior notice to the LANDOWNER. In addition, the STATE shall be obligated to inspect the work on the “Forest Stewardship project area” not less frequently than once per year under this AGREEMENT, and more frequently in the case of a LANDOWNER default as provided in Section 4.1(d) below or when the LANDOWNER makes more than 2 reimbursement requests per year as provided in Attachment S1, Section 2.1. The STATE shall notify the LANDOWNER within a reasonable time thereafter of any perceived defaults in the LANDOWNER's implementation of the approved MANAGEMENT PLAN. The LANDOWNER hereby represents that it has authority to allow access to the “Forest Stewardship project area” by the STATE in connection with this AGREEMENT, conditional upon receipt of a liability waiver, acceptable to the LANDOWNER for all state personnel visiting the “Forest Stewardship project area”.

SECTION 2 - AMENDMENTS

2.1 The LANDOWNER may propose for approval by the STATE, and the STATE may approve, minor alterations to the approved MANAGEMENT PLAN, which will not have a material adverse impact on the achievement of the overall management objectives of the approved MANAGEMENT PLAN. This includes minor changes to the practice implementation schedule and/or changes in the budget/payments schedule so long as the total management activities do not subtract from or exceed the total scope of the approved MANAGEMENT PLAN and the budget/payments schedule does not exceed the total annual budget allocations up to and including the budget request for that year, and so long as the STATE has sufficient funding available to accommodate such a request.

2.1 The LANDOWNER may propose for approval by the STATE, and the STATE may approve, significant changes to the approved MANAGEMENT PLAN or budget to adapt to current conditions. Significant amendments to the approved MANAGEMENT PLAN shall include an amended budget, which will increase the overall STATE's funding share



STATE OF HAWAII  
SPECIAL CONDITIONS

above the total amount set forth in the approved budget/payment schedule. The STATE shall make the proposed amendments available for public review prior to final approval.

- 2.3 The proposed amendments may include, without limitation, re-establishment of management priorities, increase or reduction of the specified work, increases to the budget/payments schedule, or time for performance of specified tasks, all as determined considering the natural conditions of the “Forest Stewardship project area,” existing management priorities, threats, potential for decline of the natural resource during any period under consideration, availability of specialized labor or technical expertise, permitting requirements and time needed to obtain permits, and other material factors.
- 2.4 Any proposed expenditures which will increase the overall STATE's funding share above the amount set forth in the approved budget of the approved MANAGEMENT PLAN, which are proposed either as a result of additional costs required to implement the approved MANAGEMENT PLAN or as a result of amendments to the approved MANAGEMENT PLAN, must be mutually agreed upon in advance by and between the STATE and the LANDOWNER. If so agreed upon the approval of these expenditures shall be incorporated in written amendment to this AGREEMENT.
- 2.5 Economic Hardship. Notwithstanding other provisions of this AGREEMENT, in the event that the LANDOWNER determines in good faith that it is financially unable without undue economic hardship to fulfill its funding share as provided in Attachment S2, Section 1.1(b), or to carry out fully the management activities described in the approved MANAGEMENT PLAN, attached as Exhibit A to this AGREEMENT, within the budget and time period established thereby, the LANDOWNER may apply to the STATE to renegotiate the terms thereof.
- (a) Negotiation of Amendment. In such event, the STATE and the LANDOWNER shall meet and negotiate in good faith an acceptable amendment to the approved MANAGEMENT PLAN that seeks to accomplish the significant objectives of the approved MANAGEMENT PLAN reasonably within the LANDOWNER's



STATE OF HAWAII  
SPECIAL CONDITIONS

financial means. The amendment may include, without limitation, re-establishment of management priorities and reduction and/or deferral of the specified work, involving significant costs, and/or extension of time for performance of specified tasks, all as determined considering the natural conditions of the “Forest Stewardship project area,” existing management priorities, threats, potential for decline of the natural resource during any period under consideration, other potential sources of funding, and other material factors.

- (b) Disputes. If the STATE and the LANDOWNER are unable to agree reasonably and in good faith on a suitable amendment to the approved MANAGEMENT PLAN, the parties shall refer any such disputes to arbitration as provided in the General Conditions, Section 11.
- (c) No Termination for Economic Hardship. This provision shall not be construed to allow the LANDOWNER or the STATE to terminate this AGREEMENT for economic hardship; it is rather intended to provide a mechanism for reasonable revisions to the approved MANAGEMENT PLAN for economic hardship.

SECTION 3 - PAYBACK OF STATE FUNDS

3.1 In the event that the LANDOWNER sells, conveys, or otherwise transfers LANDOWNER’s right, title, or interest in the “Forest Stewardship project area,” or any portion thereof, during the initial term of this AGREEMENT as defined in Attachment S3, Section 2.1, the LANDOWNER shall within 90 days of the sale, conveyance or transfer of title or interest in the “Forest Stewardship project area,” pay back to the STATE a portion of the amount paid by the STATE to the LANDOWNER pursuant to this AGREEMENT. The amount to be paid back to the STATE shall be that fraction of the total matching funds received by the LANDOWNER under this AGREEMENT that is equal to the fraction of the “Forest Stewardship project area” that is sold, conveyed or otherwise transferred by the LANDOWNER.





STATE OF HAWAII  
SPECIAL CONDITIONS

3.2 In the event that the LANDOWNER sells, conveys, or otherwise transfers LANDOWNER's right, title, or interest in the "Forest Stewardship project area," or any portion thereof, during the initial term of this AGREEMENT as defined in Attachment S3, Section 2.1, the LANDOWNER will not be required to reimburse the STATE as set forth in Attachment S5, Section 3.1 for the cost-share assistance received if the person(s) who acquire the property contractually agree to assume full responsibility for this AGREEMENT for the initial term of the AGREEMENT, including but not limited to management and financial responsibilities and penalties contained herein. See Agenda Item \_\_\_\_\_, as amend, approved at the Board of Land and Natural Resources ..... meeting. Nothing in this provision shall relieve the LANDOWNER of its obligations under this AGREEMENT.

SECTION 4 - TERMINATION; DEFAULT; PENALTY PAYBACK

4.1 TERMINATION OF THE AGREEMENT - It is mutually agreed that this AGREEMENT may be terminated for any one of the following reasons on the following terms:

(a) No State Funding. This AGREEMENT shall be terminated if the STATE does not approve funding for the forthcoming fiscal year of the approved MANAGEMENT PLAN. In such event, this AGREEMENT shall automatically terminate without penalty at the end of the funding period then in effect.

(b) Partial State Funding. This AGREEMENT may be terminated by the LANDOWNER if the STATE approves only a portion of its share of funding for the forthcoming fiscal year as outlined in the budget provided in the approved MANAGEMENT PLAN.

(1) In such event, the LANDOWNER shall elect, by written notice to the STATE, either:

(A) to terminate this AGREEMENT without penalty at the end of the funding period then in effect; or



STATE OF HAWAII  
SPECIAL CONDITIONS

- (B) to revise the approved MANAGEMENT PLAN and budget in the LANDOWNER's reasonable discretion to accomplish significant management goals which can reasonably be funded with the amount of STATE funding actually approved.
- (c) Transfer to Government Agency. This AGREEMENT may be terminated without penalty if the “Forest Stewardship project area” is transferred or sold to a government agency committed to forest stewardship and that possesses the technical and professional skills to manage the “Forest Stewardship project area” natural resources.
- (d) LANDOWNER Default. This AGREEMENT may be terminated by the STATE upon substantial evidence that progress being made by the LANDOWNER in carrying out the approved MANAGEMENT PLAN is inadequate, incorrect, or insufficient to substantially complete on a timely basis the work called for in the approved MANAGEMENT PLAN subject to the lack of performance notification provisions set forth below.
- (1) Penalties Apply. In the event of termination for default in accordance with these provisions, the penalty payback provisions set forth below shall apply.
- (2) Lack of Performance Notification. In such event, the STATE may terminate for default, provided the STATE adheres to the following procedures for notice and opportunity to cure prior to termination:
- (A) The STATE shall first notify the LANDOWNER in writing of any perceived inadequacy, incorrectness or insufficient progress. The STATE and the LANDOWNER shall meet within two weeks



STATE OF HAWAII  
SPECIAL CONDITIONS

thereafter, and every three months thereafter until one year following the date of the notice, and discuss in good faith the perceived failure and the reasons therefore and any subsequent progress or lack thereof. If the reason for the failure is a good faith inability of the LANDOWNER to carry out the terms of the MANAGEMENT PLAN for reasons beyond the LANDOWNER's reasonable control, including without limitation economic hardship as described in Attachment S5, Section 2.5 above, the STATE and the LANDOWNER shall specifically consider the need to amend the approved MANAGEMENT PLAN, including extending the time to carry out the work called for in the approved MANAGEMENT PLAN and/or revising the budget established in the approved MANAGEMENT PLAN, subject to the provisions of Attachment S1, Section 1.5 and Attachment S5, Section 2 of this AGREEMENT regarding amendments to this AGREEMENT and the approved MANAGEMENT PLAN. Following the date of the notice, the STATE shall be obligated to inspect the “Forest Stewardship project area” once each quarter after notifying the LANDOWNER, to determine the updated status of the perceived default.

- (B) Following the expiration of the one year period following notice of default given by the STATE to the LANDOWNER and failure of the LANDOWNER to remedy the default, or to make significant progress to remedy the default if by its nature the default cannot reasonably be remedied within one year, the STATE may elect to notify the LANDOWNER of its intention to terminate this AGREEMENT for default. Such notice shall be in writing, shall state that the STATE will terminate the AGREEMENT for default on a date not less than 3 months thereafter if the LANDOWNER



STATE OF HAWAII  
SPECIAL CONDITIONS

does not remedy the default, or to make significant progress to remedy the default if by its nature the default cannot reasonably be remedied within 3 months, and shall specify that penalties as provided under this AGREEMENT shall apply.

- (C) If the LANDOWNER fails to remedy the default within 3 months thereafter, or to make significant progress to remedy the default if by its nature the default cannot reasonably be remedied within 3 months, the STATE may terminate this AGREEMENT effective immediately for default by written notice thereof to the LANDOWNER.
  - (D) The STATE shall be deemed to have complied with these provisions if it attempts in good faith to meet with the LANDOWNER and to inspect the “Forest Stewardship project area” as provided above, whether or not the LANDOWNER cooperates in such procedures.
- (3) All disputes regarding default and termination under this AGREEMENT, which cannot be resolved by the parties, shall be referred to arbitration as provided in the General Conditions, Section 11.
  - (4) If the LANDOWNER has not fully performed its work under this AGREEMENT on expiration or termination of this AGREEMENT, the STATE may withhold the final payment to the LANDOWNER pending full completion of the LANDOWNER's work. This withheld payment shall be paid by the STATE to the LANDOWNER on final acceptance and tax clearance as provided in Attachment S2, Section 1.2 (b) and the General Conditions, Section 17.



STATE OF HAWAII  
SPECIAL CONDITIONS

4.2 PENALTY PAYBACK -

(a) Payback and Penalties. In the event that the LANDOWNER defaults on this AGREEMENT as provided in Attachment S5, Section 4.1(d) above and the STATE has followed the Lack of Performance Notification procedures as outlined in Attachment S5, Section 4.1(d)(2) above, the LANDOWNER shall promptly pay to the STATE the following payback and penalty monies:

(1) Refund of State Funds - 3 Years. All funds paid from the initial date of this AGREEMENT by the STATE to the LANDOWNER in the previous 3 years (or such portion thereof as STATE shall have funded if this AGREEMENT shall have been in effect for less than 3 years) shall be returned to the STATE. In the event that this AGREEMENT shall have been in effect for more than 3 years, the LANDOWNER shall be liable to pay back State funds for the immediately preceding 3 years. In addition, the LANDOWNER shall pay to the STATE a penalty of two percent of the total of funds that are returned to the STATE.

(b) No Other Party Liable. Only the LANDOWNER receiving State funding under the FOREST STEWARDSHIP PROGRAM shall be liable to the STATE under this AGREEMENT for the payback and penalty.

(c) Disputes. The LANDOWNER shall have the right to submit any disputes to the arbitration procedure as outlined in the General Conditions, Section 11 if it feels that the imposition of payback, and/or additional penalties is unwarranted.

4.3 VIOLATIONS OF AGREEMENT - It is expressly understood and agreed that violations which are not caused by the LANDOWNER shall not constitute or give rise to a default by the LANDOWNER under this AGREEMENT and no penalty provisions shall apply to the LANDOWNER.



STATE OF HAWAII  
SPECIAL CONDITIONS

4.4 EFFECT OF EMINENT DOMAIN -

- (a) Full Condemnation. If any action in eminent domain for the condemnation of the fee title of the entire “Forest Stewardship project area” described herein is filed, or if the “Forest Stewardship project area” is acquired in lieu of eminent domain for a public improvement by a public agency or person or whenever there is any such action or acquisition by the federal government or the state government or any person, instrumentality or agency acting under authority or power of the federal government or the state government, this AGREEMENT shall be deemed null and void without penalty as to the land actually being condemned or so acquired as of the date the action is filed, and upon the termination of such a proceeding, this AGREEMENT shall be null and void without penalty for all land actually taken or acquired.
- (b) Partial Condemnation. When such an action to condemn or acquire less than all the entire “Forest Stewardship project area” is filed, this AGREEMENT shall be deemed null and void without penalty as to the portion so condemned or acquired.
- (c) Adjustment of approved MANAGEMENT PLAN. The land actually taken by the means set forth above in this Section shall be removed from this AGREEMENT and the approved MANAGEMENT PLAN and budget adjusted accordingly on a reasonable basis by the STATE and the LANDOWNER.

SECTION 5 - INCORPORATION OF CHAPTER 195F, HAWAII REVISED STATUTES

- 5.1 Incorporation. The provisions of chapter 195F, Hawaii Revised Statutes, as amended, are incorporated by reference into this AGREEMENT. In the event that there is any conflict between the provisions of this AGREEMENT and the provisions of chapter 195F, Hawaii Revised Statutes, the latter shall be controlling.



STATE OF HAWAII  
SPECIAL CONDITIONS

5.2 Renumbering. In the event that chapter 195F, or any of the sections under chapter 195F, Hawaii Revised Statutes, are renumbered, any references to the chapter or sections in this AGREEMENT shall be deemed renumbered accordingly.

EXHIBIT A

\_\_\_\_\_ Forest Stewardship Management Plan.





**Forest Management Plan  
for  
Riley Duren  
PO Box 1454, LaCanada-Flintridge, CA 91012  
[klaverstat@yahoo.com](mailto:klaverstat@yahoo.com)  
818-687-9802**

**by  
Jill Wagner  
Future Forests Nursery, LLC  
PO Box 847 Kailua Kona, HI 96745  
[jillw@hawaii.rr.com](mailto:jillw@hawaii.rr.com)  
808-325-2377**

**revision: Jan 1, 2017**

**TMK: (3)7-3-048:007  
Agricultural Land: Kaloko mauka Subd.,  
North Kona, Island of Hawaii  
Property Area: 22.5 acres  
FSP Area: 20 acres  
Elevation: 4800-5300'  
73-4319 HueHue Street, Kailua Kona, HI 96740  
Slope: 10-20%**

**Forest Stewardship Plan Signature Page**

Professional Resource Consultant Certification: I have prepared (revised) this Forest Stewardship Plan. Resource Professionals have been consulted and/or provided input as appropriate during the preparation of this plan.

Prepared by:  
Jill Wagner

Professional Resource Consultant's Signature:

Jill Wagner

Date: 2-25-17

Applicant Certification: I have reviewed this Forest Stewardship Plan and hereby certify that I concur with the recommendations contained within. I agree that resource management activities implemented on the lands described shall be done so in a manner consistent with the practices recommended herein.

Prepared for:  
Riley M. Duren

Applicant's Signature: Riley M. Duren

Date: 2-25-2017

State Forester's Approval: This plan meets the criteria established for Forest Stewardship Plans by Hawaii's Forest Stewardship Advisory Committee. The practices recommended in the plan are eligible for funding according to state of Hawaii Forest Stewardship Program guidelines and administrative rules.

Approved by:  
David G. Smith, State Forester

State Forester's Signature: David G. Smith

Date: 3/3/17

Forest Stewardship Advisory Committee Approval: This plan was reviewed and approved by the Forest Stewardship Advisory Committee on

Date of approval: January 20, 2017

See attached (Appendix D)

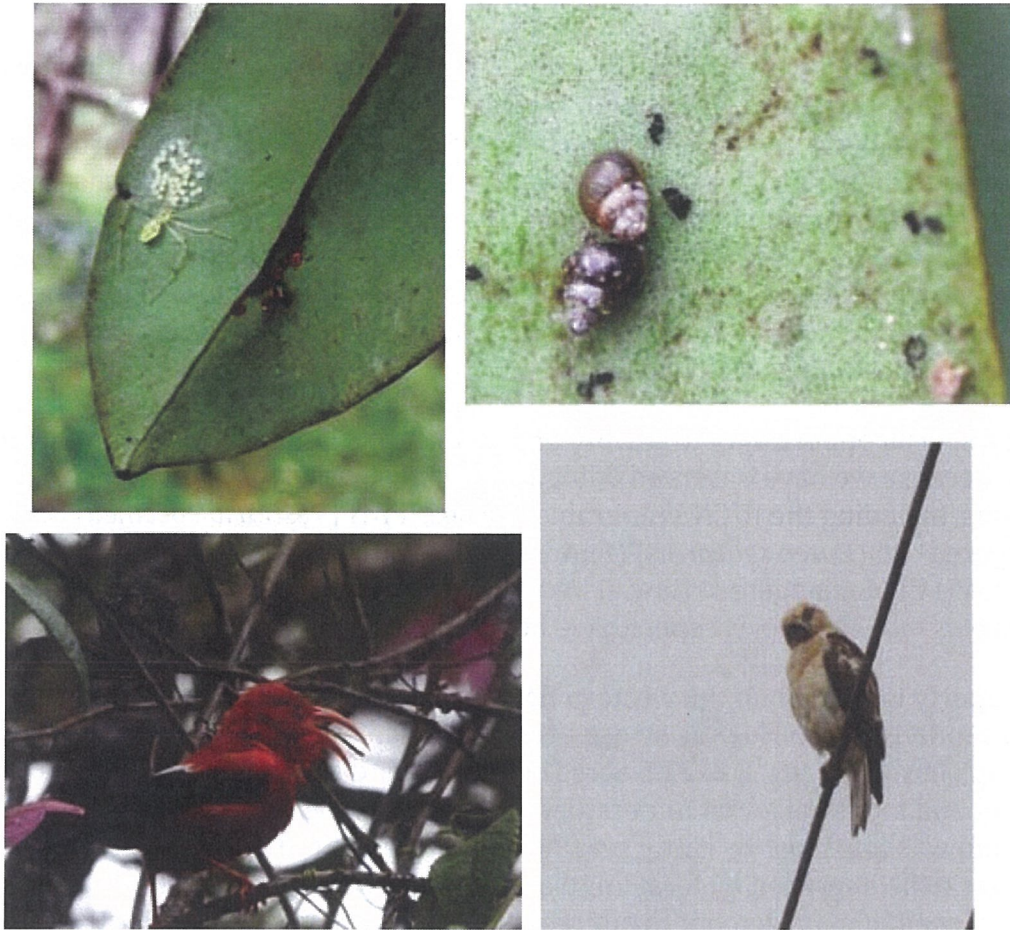
## I. Introduction

The vision and long term goal for the property is to preserve and restore a Hawaiian forest at the top of Kaloko. The property was purchased with the intention of preserving the forest and endemic species, rather than developing a large house site or other development such as agriculture, that would change or disturb the forest. The beauty of this forest is that there are large foundational trees such as *Acacia koa* and *Metrosideros polymorpha*. The understory is quite degraded by past logging and grazing but we do find remnant understory species and are propagating them to increase their numbers. Most of the forest has filtered light that is conducive to young plants becoming established.

This is a special opportunity to restore and protect this land, which we feel is very unique because we have observed adult and juvenile native birds on numerous occasions, including the IUCN Vulnerable species, 'Iwi (*Vestiaria coccinea*) and Endangered<sup>1</sup> 'Io (*Buteo solitarius*) (figure 1). According to NRCS species maps (section VI) the Endangered<sup>1</sup> Hawaii 'Akepa (*Loxops coccineus*) and Hawaii Creeper (*Oreomystis mana*) honeycreepers have been sighted in this area in the recent past.

The property is located on the western flank of Hualalai at the top of the Kaloko Mauka subdivision, on Huehue street – the last and highest street of the subdivision (see maps in section VI). It is 22.5 acres of unbuilt land consisting of koa/ohia forest with wet and montane forest understory. The property was once part of Huehue ranch and was impacted by cattle grazing and logging in the past. The understory continues to be degraded by feral ungulates and colonization by invasive plants, and is now in need of management to address the ongoing threats. The objectives are to increase diversity in the forest, protect forest birds and enhance their habitat, and eradicate non-native plants and animals. Mr. Duren would also like to provide opportunities for outreach in order to improve public awareness about Hawaiian forests and the need for restoration and conservation in Hawaii. He intends to share webcam videos, photos and information about the forest through a website.

The forest is probably about 1000 years old based on ohia diameter measurements. The understory is sparse except for a number of collapsed lava tube openings that serve as refugia for ferns and other understory species including the rare *Melicope hawaiiensis*. There are pigs in the area and they are disturbing the understory of the forest and killing the naturally regenerating seedlings. Mr. Duren has installed a hogwire fence around a 0.8 acre area where we could learn about specifics of the site such as soil depth, the question of irrigation needs, and survival of various species. In May 2015 we planted 100 understory plants in the fenced area (list below); 98% of the experimental outplantings have survived to date. This was the beginning of a planting plan that we propose to expand and implement throughout the property.



**Figure 1** Examples of animal species seen frequently on the property. Clockwise from upper left: happy-face spider, snails, 'Io, and 'I'iwi

As the result of our “experimental planting” in the 0.8 acre fenced area and sustained measurements from an on-site weather station, we have found that it doesn’t seem necessary to irrigate. The cloud forest environment provides considerable moisture and mist in the atmosphere and the soil stays moist. If we plant during the rainy months (typically September through January in this area), we believe the plants can become established without irrigation.

**Experimental planting (May 17, 2015) – 100 plants total:**

- Clermontia hawaiiensis*, ‘oha
- Rubus hawaiiensis*, ‘akala
- Sophora chrysophylla*, mamane
- Pittosporum hosmeri*, ho’awa
- Myrsine lessertiana*, kolea
- Ilex anomala*, kawau
- Dodonaea viscosa*, aali’i
- Psychotria hawaiiensis*, kopiko
- Perotettia sandwicensis*, olomea

*Osteomeles anthyllidifolia*, 'ulei  
*Pipturus albidus*, mamaki  
*Cheirodendron platyphyllum*, olapa  
*Kadua terminalis*, manono  
*Astelia menziesiana*, painui

## II. Land and Resource Description

The existing overstory is fairly open and composed of primary native species (koa and ohia). The understory is sparse and composed primary of non-native vines, herbs and grasses. There are a variety of native species still found on the property, but many have been covered by invasive vines (e.g., banana poka, honeysuckle, and german ivy). A number of collapsed lava tube openings contain a diverse assemble of native trees, shrubs, and ferns that are protected from predation from pigs by the steep sides of the openings. The understory is sparse and needs restoration, as well as protection from threats. The existing forest includes the following species:

### Native plant species:

*Acacia koa*, koa  
*Metrosideros polymorpha*, ohia  
*Rubus hawaiiensis*, Akala  
*Pittosporum hosmeri*, ho'awa  
*Myrsine lessertiana*, kolea  
*Ilex anomala*, kawau  
*Dodonaea viscosa*, a'ali'i  
*Pipturus albidus*, mamaki  
*Cheirodendron platyphyllum*, olapa  
*Microlepia strigosa*, palapalai  
*Cibotium menziesii*, hapu'u  
*Styphelia tameiameia*, pukiawe  
*Vaccinium reticulatum*, ohelo  
*Dryopteris wallichiana*, laukahi  
*Melicope (Pelea hawaiiensis)*, alani \*rare  
*Sadleria cyatheoides*, amau  
*Coprosma rhynchocarpa*, pilo  
*Myoporum sandwicense*, naio

### Invasive weeds:

*Passiflora tarminiana*, banana poka  
*Delairea odorata*, German ivy  
*Hedychium gardnerianum*, kahili ginger  
*Lonicera japonica*, Japanese honeysuckle  
*Rubus argutus*, sawtooth blackberry  
*Pennisetum setaceum*, fountain grass

*Persicaria capitata*, knotweed  
*Ehrharta stipoides*, meadow rice grass  
*Senecio madagascariensis*, fireweed

### **Native fauna**

*Hemignathus virens*, 'Amakihi  
*Himatione ganguinea*, 'Apapane  
*Vestiaria coccinea*, I'iwi \*Vulnerable  
*Buteo solaris*, I'o \*Endangered  
*Theridion grallator*, nananana makaki'i (happy face spider)

Additionally, many native insects, spiders and snails have been observed on the property including (according to entomologist Steve Montgomery) signs of *Vanessa tameamea* (Kamehameha butterfly) larvae feeding on mamaki plants.

### **Non-native fauna**

Pigs

Rats

Birds: *Lophura leucomelanos* (kalij pheasant), *Zosterops japonicas* (Japanese white-eye), *Leiothrix lutea* (red-billed leiothrix), *Amazona viridigenalis* (red-crowned amazon parrot)

### **Threats**

The most serious immediate threats to the forest's health are pigs and invasive weeds; these warrant aggressive management. Potential future threats include "rapid ohia death" (*Ceratocystis* wilt) and Naio thrips; these warrant monitoring and preventive measures. [The subject property was surveyed for *Ceratocystis* wilt by Dr. Flint Hughes (US Forest Service) in April 2015 – negative results.]

Feral pigs are abundant at the top of Kaloko and do significant damage to the understory of the forest, particularly to ferns, *clermontia*, and other native plants. Mr. Duren has used a game camera to capture photos of pigs and the damage they cause (figures 2-4). The pigs are breeding on the property and given the lack of a fence and limited hunting there are no real constraints on their population and access to the property. Goats and sheep are a potential threat at the top of Kaloko although none have been observed on the property and are considered to be less of a concern however we will consider this in our fence strategy.



**Figure 2** Pigs are seen frequently around the property



**Figure 3** Typical pig damage to tree ferns; resulting in water pools and mosquito breeding ground



**Figure 4** Soil disturbance and tree damage from pigs

In many areas the forest is also being smothered by banana poka (*Passiflora tarminiana*), German ivy (*Delairea odorata*), and Japanese Honeysuckle (*Lonicera japonica*) – see figures 5-7. These and other weeds have become established along the roads that border the north and west boundaries of the property and are spreading inward. Many trees are being impacted. These are high priority invasive species that must be eradicated. In addition to posing a direct threat to overstory and understory plants the banana poka has come to serve as a food source for native honey creepers. We have observed ‘iwi, Amakihi and Apapane feeding on nectar from poka blossoms and/or fruits on numerous occasions (figure 8). This suggests the need to replace banana poka with native nectar producing plants such as *clermontia* in order to maintain a reliable food source for the birds.

### **Soils**

The property is located at a range of 4800-5300’ elevations. Based on NRCS soil maps (section VI) there are three main soil components on the property; 113-Puna-Lava flows complex on 10-20 percent slopes, 149-Kona-Napoopoo complex on 10-20 percent slopes, and 161-Kekake-Mawae complex on 10-20 percent slopes. The soils have good percolation and we do not see evidence of ponding. Water saturation happens within a depth of 72 inches. We have found good areas with cinders and humic matter with depths of one foot or more.





**Figure 5** The forest has a denuded understory



**Figure 6** Honeysuckle covers the hillside in many places



**Figure 7** Banana poka is smothering native trees



**Figure 8** 'T'iwi feeding on banana poka blossoms

## **Fire**

Fire hazard is determined to be low due to the absence of accumulated light and medium fuels such as dead grasses and brush. In addition, afternoon mists are

common throughout the year, and the forest cover keeps the ground moist. This is supported by leaf wetness measurements by the onsite weather station. The property receives about 30 inches of rainfall per year on average. The relative humidity averages about 85% because of persistent cloud forest effect. A few trails will be made for access and fire pre-suppression. Maintenance of roadside areas to alleviate potential build up of grasses and the introduction of new weeds/fuels is planned. In the case of a fire the contractor or owner will contact the Hawaii County Fire Department immediately, and alert neighbors in the area.

### **Public Benefit**

In addition to restoring native biodiversity, improving the watershed health and function through control of invasive species, enhancing native wildlife habitat, and contributing to carbon sequestration, the Duren forest management project will:

1. Setup webcams in the forest to broadcast live video feeds of bird life, weather, and a view of Hawaiian forest habitat to people all over the world. A prototype system has already been tested over a wireless (cellular modem) link . This is a low impact way to educate people about the uniqueness of the Hawaiian forest. Due to the fragility and hazards associated with collapsed lava tube openings and holes, it is not possible to bring groups of people to the property.

2. Contribute weather data for the Kona area via the following website. <http://www.wunderground.com> In October 2014 Mr. Duren set up an automated weather station on the property that monitors the dew point, temperature, wind speed and direction, precipitation, leaf wetness, and solar radiation.

3. Share 10% of the seed recovered from forest species for other restoration project needs. The seed will be stored in the Hawaiian Island Native Seed Bank.

### **III. Management Objectives and Practices**

The first step of the overall plan for the property is to address the resource threats, including installing a fence around 20 acres of the property<sup>1</sup>, followed by treatment of invasive plants, and outplanting of native species including those that support foraging by native birds. As weeds are managed, native understory plants will be outplanted to restore the forest. Mr Duren plans to utilize available financial assistance programs, such as Hawaii CREP, NRCS forestry programs, and the Forest Stewardship Program to accomplish the needed management actions

There will be a strategic weed maintenance plan that begins with the borders and most degraded areas and moves towards the center and healthier areas. As the weed maintenance proceeds we will be able to plant with native understory species

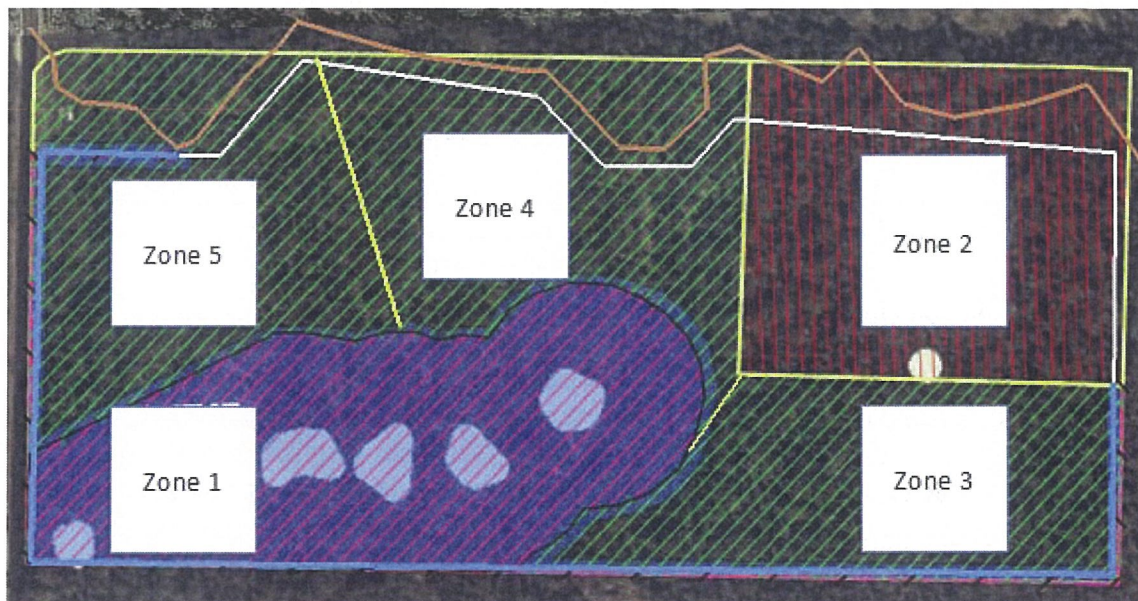
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<sup>1</sup> There is an easement road for the mauka neighbor, covering approximately 2.5 acres of the subject property, that will not be included in this program.

to restore the forest.

We would like to plant to increase diversity of the forest with species that occur on Hualalai mountain, in the Kaloko area. We want to especially increase *Clermontia hawaiiensis* as it is a nectar bearing plant, as we decrease the banana poka vines that are smothering the forest but that the native birds have adapted to feeding on for nectar. The dominant grass in the forest is *Ehrharta stipoides*, which is not dense and is easy to plant in. It is also fairly easy for native species to regenerate in it. We feel hopeful that not only will we have high survival of the out-planted species but that they will be able to regenerate in the current conditions if we choose areas that have been managed for weeds such as ginger, German ivy, banana poka and honeysuckle, and are pig free.

Following installation of the perimeter fence we will restore approximately 4 acres per year during the first 5 years. By year 6 we will complete the site preparation and planting efforts (covering a total of 20 acres). Year 7 through 10 will focus on ongoing weed control, any additional supplemental planting (if needed), and monitoring of the project area. Figure 9 illustrates the 5 zones where practices will be implemented.



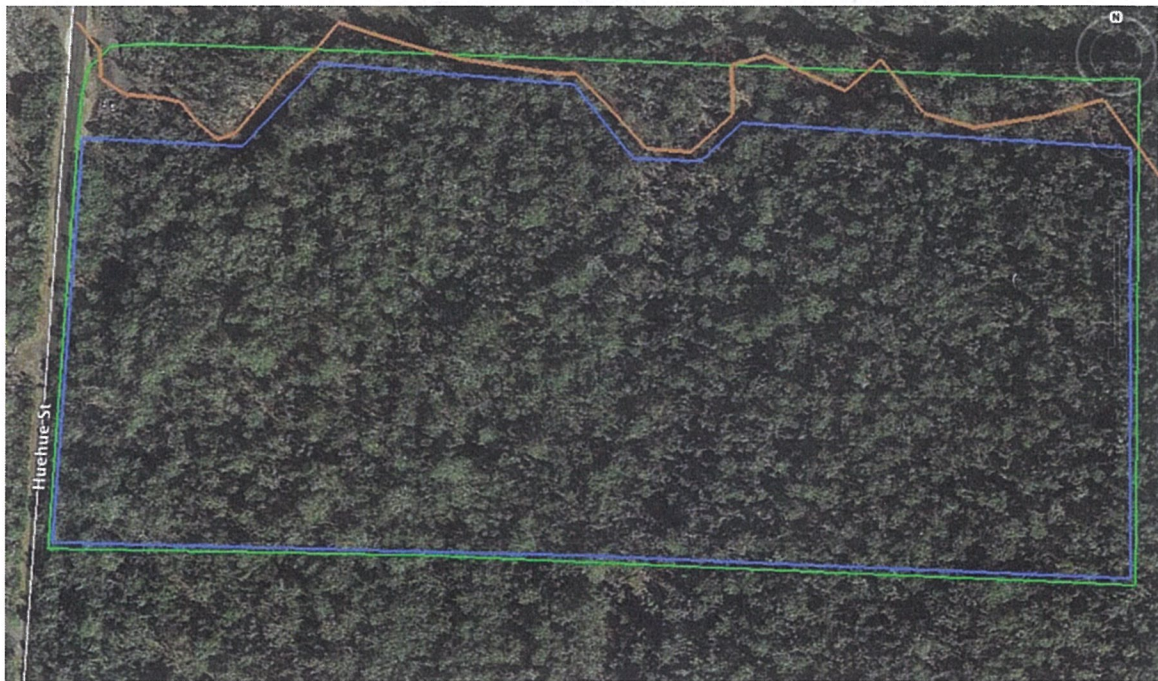
**Figure 9** Project site map showing the notional plan for applying management practices in five zones, each approximately 4 acres in size. In year 1 the perimeter fence is established under the CREP and FSP programs (blue and white lines, respectively). The fence follows an access road to the north of the project area. As soon as the fence is completed in year 1, site preparation and out-planting will be done in zone 1 to establish buffer areas around cave entrances (native riparian habitats). Also in year 1, a previously initiated site preparation project in zone 2 (funded by AMA) will be completed. In year 2, zone 2 will be out-planted while site preparation proceeds in zone 3. This sequential process continues until by year 6 all five zones (20 acres total) have been planted and are undergoing sustained weed control, monitoring and maintenance that continues through year 10. Legend: Blue outline: CREP fence; white outline: FSP fence; orange line: existing easement

road; purple hatching: CREP project area; blue outlines: cave entrances in CREP area; red hatching: existing AMA weed management area. Note that the CREP area is 5 acres total but only the purple area (4 acres) will have site prep and planting practices in year 1 (blue areas are cave entrances with established native plants).

### Fence and Feral Ungulate Control

In year 1 a six foot high, 4260 linear feet fence will be installed around a perimeter spanning 20 acres (woven wire, barb ground wire w/anchors, no skirt, 3.5in corner pipes, 6-8 ft post spacing). See figure 10. The fence lines will be manually installed to minimize disturbance to the forest – the same approach used with the previously described 0.8 acre experimental fenced area (Figure 11).

A “pig drive” will be conducted to clear the property of pigs prior to closing the makai/western fence-line. The fenced area will then be monitored for pig activity and if necessary traps and snares will be employed to rid the area of residual animals. Long-term monitoring will be done on the fence and maintenance as required to address breaks or signs of burrowing.



**Figure 10** Plan for fence installation. Blue line indicates the perimeter fence encompassing the 20 acres to be restored and protected under this plan. The Orange line indicates a driveway easement for the neighboring mauka property not covered by this plan. Green line indicates TMK boundaries for the subject property.

### Trail Construction

The property is steep in some areas so some trails need to be hand cut to facilitate access for planting, weeding, maintenance and potential fire management. We anticipate hand-cutting about 3000 linear feet of trails in year 2. The trails will be positioned to facilitate access to key sections of the property while minimizing damage to native vegetation. Efforts will also be made to minimize erosion.



**Figure 11** Four foot high hogwire fence with ground skirt for existing 0.8 acre enclosure illustrating the need to hand-cut fence lines in the dense forest. The proposed perimeter fence would be six feet tall.

### Site preparation

Much of the site preparation will consist of clearing the existing infestation of noxious alien weeds. A 3 person crew will sequentially clear each 4-acre zone (figure 9). The tree/shrub site preparation consists of spraying vines and woody plant material with Garlon. Vines will be cut and sprayed but not pulled from the trees. Pulling breaks branches and causes unnecessary damage to the trees. Broken branches also provide entry points for pests and disease. The grasses and annual weeds such as fireweed are treated with Fusilade. The herbicides are applied in accordance with registered uses. Shoes, tools and equipment are properly cleaned and inspected to reduce the chance of introducing new weeds or ohia wilt to the site. Spraying only occurs on windless days and with a minimum four hour period

before rain.

Mulching is often important at other properties where plants are exposed to hot sunlight. Our experience with the previously described experimental planting is that this property generally has significant overstory ohia and koa trees that provide gentle filtered sunlight. The frequent presence of mist also helps cool the plants. Therefore we don't envision that mulching will be necessary for out planting on this property.

### Tree/Shrub Establishment

We plan to plant 4000 plants total, which is an average of 200 plants per acre. We will select the areas to focus on each year - starting with the CREP project area (zone 1). A three-person crew, supervised by Ms. Wagner will plant an average of 800 plants per year per zone (Figure 9). Each year following a planting, the out-plants from the previous year will be monitored for survival and general health and growth. The restored areas will be maintained for "touch up" weeding, for regrowth and new weeds emerging from the seed bank in the soil. The objective is to kill the weeds before they flower and seed so the seed bank in the soil is diminished.

Plants are ordered up to a year in advance as it takes from 6 months to a year for propagation- seed to field ready. Plants are grown in root training band pots. Seedlings will be planted at the beginning of the wet season (December-April) and monitored throughout the year. Plants are planted at least to the depth of the pot so the roots are not sitting above the soil line and the stem is not covered with soil, which can cause rotting. The plants are "firmed"<sup>2</sup> in so air pockets can't dry out the roots under the ground. Plants are spaced at least 10 feet from each other and nearby established plants.

### Proposed plant list

*Clermontia hawaiiensis*, 'oha  
*Rubus hawaiiensis*, 'akala  
*Sophora chrysophylla*, mamane  
*Pittosporum hosmeri*, ho'awa  
*Myrsine lessertiana*, kolea  
*Ilex anomala*, kawau  
*Dodonaea viscosa*, aali'i  
*Psychotria hawaiiensis*, kopiko  
*Perotettia sandwicensis*, olomea  
*Osteomeles anthyllidifolia*, 'ulei  
*Pipturus albidus*, mamaki  
*Cheirodendron platyphyllum*, olapa

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<sup>2</sup> Firming is a horticultural term that refers to planting without compacting the soil, nor leaving it too loose. Compacting the soil can break tiny filament roots of plants; conversely, leaving soil too loose can leave large air pockets that can dry out the roots.

*Kadua terminalis*, manono  
*Astelia menziesiana*, painui  
*Coprosma rhynchocarpa*, pilo  
*Santalum paniculatum*, `iliahi

### Monitoring and Maintenance

Monitoring, replanting and weeding of restored areas will begin in year 2 and will be the primary focus of the project for years 7-10. Fence-lines will be walked frequently; any signs of damage or burrowing will be repaired. Plants will be monitored from the beginning of the project and each year to assess seedling survival, pest issues, weed encroachment and water availability for young plants.

Regarding pests, two are of potential concern. *Clermontia* are at risk of being girdled by slugs. We have not yet observed this with our experimental planting however if necessary we will use Sluggo or install small window-screen cages around the base of the plants. Naio (*Myoporum sandwicense*) are also susceptible to galling by *Myoporum* thrips. There are some established naio trees on the property. We may consider attempting to propagate naio on the property. If we attempt to plant naio, all plantings will be persistently monitored for signs of thrip infestation. If necessary we will apply pesticides (e.g., Movento) or bio-controls that have been approved for use against *Myoporum* thrips.

We will also determine the frequency that will be necessary to conduct weed maintenance in the previously restored areas. Initially, monitoring will occur at a quarterly cadence (4 acres/year) increasing to roughly bi-weekly by start of year 7 (at which time 20 acres/year will be monitored). Weed control will be conducted using methods described under "Site Preparation".

In terms of managing potential future threats to forest health, Mr. Duren is encouraged not to bring diseased plants to the property and to clean and inspect shoes, tools and equipment brought in from other locations. In particular no ohia will be imported to the property in light of the *Ceratocystis* wilt threat. Plants will be inspected for coqui frogs, which are found in ever higher locations in Kaloko, as well as fire ants and other pests.

Future Forests Nursery, LLC will be growing the plants for the project. The nursery has been a certified nursery with the Department of Agriculture since 1994. The nursery uses sterile media for propagation, and is inspected by the Department of Agriculture on a regular basis, and is aware of current pest issues in Hawaii. No soil is brought to the property.

Mr. Duren has also been made aware of current DOFAW Best Management Practices through the link: [www.state.hi.us/dlnr/dofaw/pubs/BMP\\_bestmanagement.pdf](http://www.state.hi.us/dlnr/dofaw/pubs/BMP_bestmanagement.pdf).



#### **IV. Practice Implementation Schedule (updated)**

Mr. Duren would like to coordinate the restoration activities across the potential cost-sharing programs: CREP, NRCS forestry programs, and the Forest Stewardship Program. We have planned the budget assuming these cost-sharing partnerships based on preliminary discussions with the different program representatives.

The fence cost estimate is derived from previous quotes from fence contractors including recent installation of a similar fence covering a 0.8 acre area on the property. The costs reflect the need to hand-cut 6 foot fence lines in the presence of steep terrain while minimizing disturbances in the dense forest. The plant costs are based on cleaning seed that is collected, and propagating plants that cannot be grown in forestry tubes. Native Hawaiian understory species (unlike Koa which grows well in tubes) require larger pots for root development. These plants also take time for germination.

The fence cost will be split between CREP, FSP and the owner as described in the table. The year 1 activity is focused on zone 1 in order to protect the entire property and establish buffers around the cave entrances on the lower half of the property which serve as refugia for native riparian ecosystems.

Note that an AMA project to remove noxious weeds in the upper north-east corner of the project (zone 2) was already initiated in 2016 and is scheduled to be complete in 2017. Therefore site prep for zone 2 is not included in this FSP management plan. Zone 2 will be ready for out-planting in year 2 of this project.

The remaining zones will undergo site preparation and planting sequentially. The proposed order of site prep and planting is based on the assessed vulnerability and current degree of degradation of each zone (e.g., zone 1 is considered most vulnerable while zones 2 & 3 are both heavily overgrown due to weeds on the neighboring mauka property).

Table 1 outlines the proposed practice implementation schedule with annual costs including a 1.5%/year inflation adjustment starting in year 2. [An enlarged version of the table is included as an addendum to this document]

### Table 1 Practice Implementation Schedule (updated)

Practice Component	Component	units	Cost/Unit <sup>3</sup>	Total Cost	Other program	Other program Share	Applicant Share	FSP Share	FSP share of unit cost
<b>Year1</b>									
Fence <sup>1</sup>	access control 382	4260 linear feet <sup>2a</sup>	\$15	\$63,297	CREP	\$25,611	\$25,016	\$12,670	\$7.0 per foot
Zone 1 Tree/shrub site prep	tree/shrub prep 490	4 acres	\$1,438	\$5,752	CREP	\$2,876	\$2,876		\$0.0 per acre
Zone 1 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 391	800 seedlings (avg 200/acre)	\$11.6	\$9,280	CREP	\$4,640	\$4,640		\$0.0 per seedling
<b>Totals</b>				<b>\$78,329</b>		<b>\$33,127</b>	<b>\$32,532</b>	<b>\$12,670</b>	
<b>Year2</b>									
Trail Construction	trail construction 383	3000 linear feet	\$5	\$15,000			\$7,500	\$7,500	\$2.5 per foot
Zone 3 Tree/shrub site prep <sup>5</sup>	tree/shrub prep 490	4 acres	\$1,438	\$5,752	NRCS	\$2,876	\$1,438	\$1,438	\$359.5 per acre
Zone 2 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	800 seedlings (avg 200/acre)	\$11.8	\$9,440			\$4,720	\$4,720	\$5.9 per seedling
Weed control (of restored acres)	weed control 315	4 acres <sup>4</sup>	\$560	\$2,240	NRCS	\$1,432	\$404	\$404	\$101.0 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	4 acres <sup>4</sup>	\$125	\$500			\$250	\$250	\$62.5 per acre/yr
<b>Totals</b>				<b>\$32,932</b>		<b>\$4,308</b>	<b>\$14,312</b>	<b>\$14,312</b>	
<b>Year3</b>									
Zone 4 Tree/shrub site prep	tree/shrub prep 490	4 acres	\$1,460	\$5,838	NRCS	\$2,919	\$1,460	\$1,460	\$364.9 per acre
Zone 3 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	800 seedlings (avg 200/acre)	\$12.0	\$9,600			\$4,800	\$4,800	\$6.0 per seedling
Weed control (of restored acres)	weed control 315	8 acres <sup>4</sup>	\$568	\$4,547	NRCS	\$2,586	\$981	\$981	\$122.6 per acre/yr
web cameras (public outreach)		5 cameras	\$300	\$1,500			\$750	\$750	
Maintenance and Monitoring	maintenance & monitoring 645	8 acres <sup>4</sup>	\$127	\$1,015			\$508	\$508	\$63.4 per acre/yr
<b>Totals</b>				<b>\$22,500</b>		<b>\$5,505</b>	<b>\$8,498</b>	<b>\$8,498</b>	
<b>Year4</b>									
Zone 5 Tree/shrub site prep	tree/shrub prep 490	4 acres	\$1,481	\$5,926	NRCS	\$2,963	\$1,481	\$1,481	\$370.4 per acre
Zone 4 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	800 seedlings (avg 200/acre)	\$12.1	\$9,680			\$4,840	\$4,840	\$6.1 per seedling
Weed control (of restored acres)	weed control 315	12 acres <sup>4</sup>	\$577	\$6,923	NRCS	\$3,774	\$1,575	\$1,575	\$131.2 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	12 acres <sup>4</sup>	\$129	\$1,545			\$773	\$773	\$64.4 per acre/yr
<b>Totals</b>				<b>\$24,074</b>		<b>\$6,736</b>	<b>\$8,669</b>	<b>\$8,669</b>	
<b>Year5</b>									
Zone 5 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	800 seedlings (avg 200/acre)	\$12.3	\$9,825			\$4,913	\$4,913	\$6.1 per seedling
Weed control (of restored acres)	weed control 315	16 acres <sup>4</sup>	\$586	\$9,369	NRCS	\$4,997	\$2,186	\$2,186	\$136.6 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	16 acres <sup>4</sup>	\$131	\$2,091			\$1,046	\$1,046	\$65.4 per acre/yr
<b>Totals</b>				<b>\$21,286</b>		<b>\$4,997</b>	<b>\$8,145</b>	<b>\$8,145</b>	
<b>Year6</b>									
Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$594	\$11,887	NRCS	\$6,256	\$2,816	\$2,816	\$140.8 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$133	\$2,653			\$1,327	\$1,327	\$66.3 per acre/yr
<b>Totals</b>				<b>\$14,541</b>		<b>\$6,256</b>	<b>\$4,143</b>	<b>\$4,143</b>	
<b>Year7</b>									
Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$603	\$12,066	NRCS	\$6,345	\$2,860	\$2,860	\$143.0 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$135	\$2,693			\$1,347	\$1,347	per acre/yr
<b>Totals</b>				<b>\$14,759</b>		<b>\$6,345</b>	<b>\$4,207</b>	<b>\$4,207</b>	
<b>Year8</b>									
Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$612	\$12,247	NRCS	\$6,435	\$2,906	\$2,906	\$145.3 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$137	\$2,734			\$1,367	\$1,367	\$68.3 per acre/yr
<b>Totals</b>				<b>\$14,980</b>		<b>\$6,435</b>	<b>\$4,272</b>	<b>\$4,272</b>	
<b>Year9</b>									
Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$622	\$12,430	NRCS	\$6,527	\$2,952	\$2,952	\$147.6 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$139	\$2,775			\$1,387	\$1,387	\$69.4 per acre/yr
<b>Totals</b>				<b>\$15,205</b>		<b>\$6,527</b>	<b>\$4,339</b>	<b>\$4,339</b>	
<b>Year10</b>									
Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$631	\$12,617	NRCS	\$6,620	\$2,998	\$2,998	\$149.9 per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$141	\$2,816			\$1,408	\$1,408	\$70.4 per acre/yr
<b>Totals</b>				<b>\$15,433</b>		<b>\$6,620</b>	<b>\$4,406</b>	<b>\$4,406</b>	
				<b>\$254,039</b>		<b>\$86,856</b>	<b>\$93,523</b>	<b>\$73,661</b>	

<sup>1</sup>property includes an easement for neighbor's driveway that will not be fenced; unit costs reflect manual fence line clearing in dense forest and steep terrain (fence will be 6 ft tall woven wire, barb ground wire w/anchors, no skirt, 3.5in corner pipes, 6-8 ft post spacing)

<sup>2a</sup>CREP will cover 2450 linear feet of fence (\$4.51/ft initially plus 40% of total cost when all practices complete) ; FSP will cover 1810 linear feet (\$7/ft)

<sup>2</sup>establishment cost = purchase price of \$7/seedling + planting labor of \$4.8/seedling

<sup>3</sup>includes 1.5%/year inflation for recurring practices

<sup>4</sup>weeding, monitoring and maintenance ramp-up starts with 4 days/year for 4 acres, increasing to 20 days/year for 20 acres by year 6

<sup>5</sup>Zone 2 site prep is being conducted by an already underway AMA project that will be completed in parallel in year 1

## V. Budget summary

Table 2 summarizes the total budget. See table 1 for per-year cost estimates.

**Table 2** Budget Summary

<b>Year</b>	<b>Total Budget</b>	<b>Other Cost Share</b>	<b>Applicant Share</b>	<b>FSP Share</b>	<b>Practices</b>
Year 1	\$78,329	\$33,127	\$32,532	\$12,670	establish fence; site prep & planting
Year 2	\$32,932	\$4,308	\$14,312	\$14,312	establish trails, site prep, planting, weeding, monitoring
Year 3	\$22,500	\$5,505	\$8,498	\$8,498	site prep, planting, weeding, monitoring
Year 4	\$24,074	\$6,736	\$8,669	\$8,669	site prep, planting, weeding, monitoring
Year 5	\$21,286	\$4,997	\$8,145	\$8,145	site prep, planting, weeding, monitoring
Year 6	\$14,541	\$6,256	\$4,143	\$4,143	weeding, monitoring
Year 7	\$14,759	\$6,345	\$4,207	\$4,207	weeding, monitoring
Year 8	\$14,980	\$6,435	\$4,272	\$4,272	weeding, monitoring
Year 9	\$15,205	\$6,527	\$4,339	\$4,339	weeding, monitoring
Year 10	\$15,433	\$6,620	\$4,406	\$4,406	weeding, monitoring
<b>totals</b>	<b>\$254,039</b>	<b>\$86,856</b>	<b>\$93,523</b>	<b>\$73,661</b>	

## VI. Maps and additional information

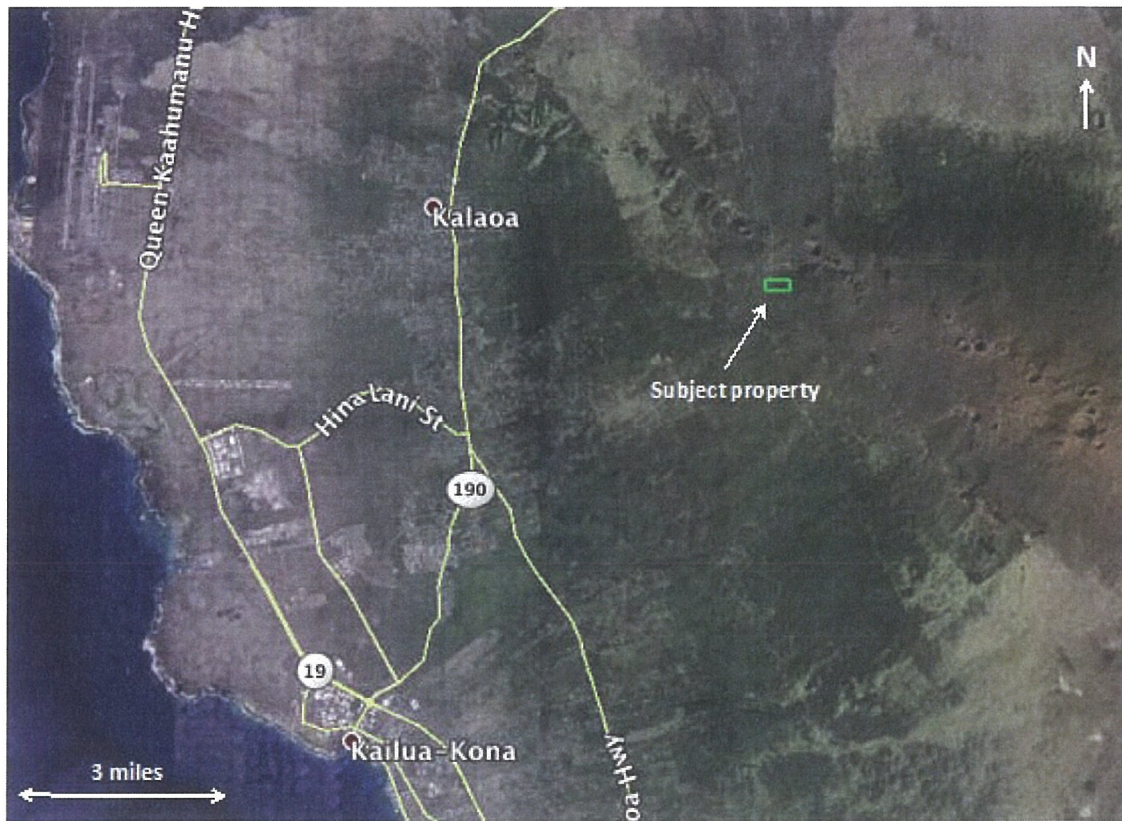


Figure 12 Location map



Figure 13 Topographic map. Elevation contours in feet.

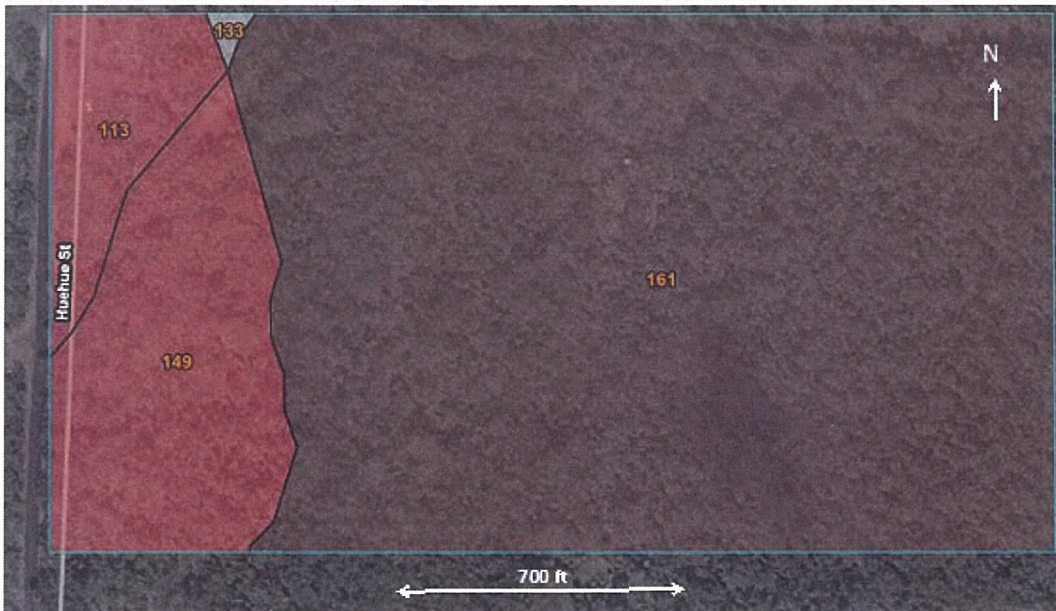


Figure 14 NRCS soil map indicating three main soil components on the property; 113-Puna-Lava flows complex, 149-Kona-Napoopoo complex, and 161-Kekake-Mawae complex, all on 10-20 percent slopes.

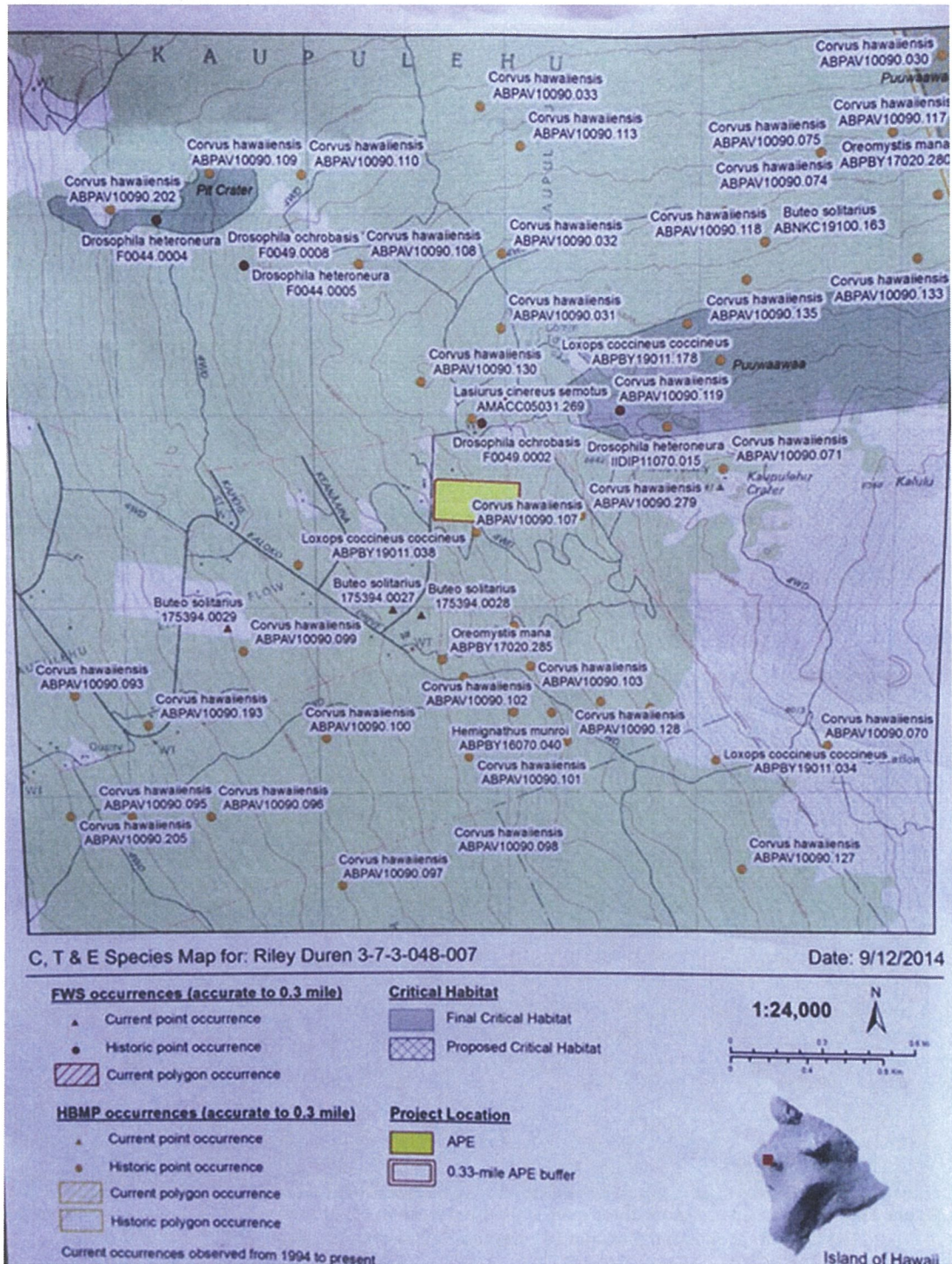
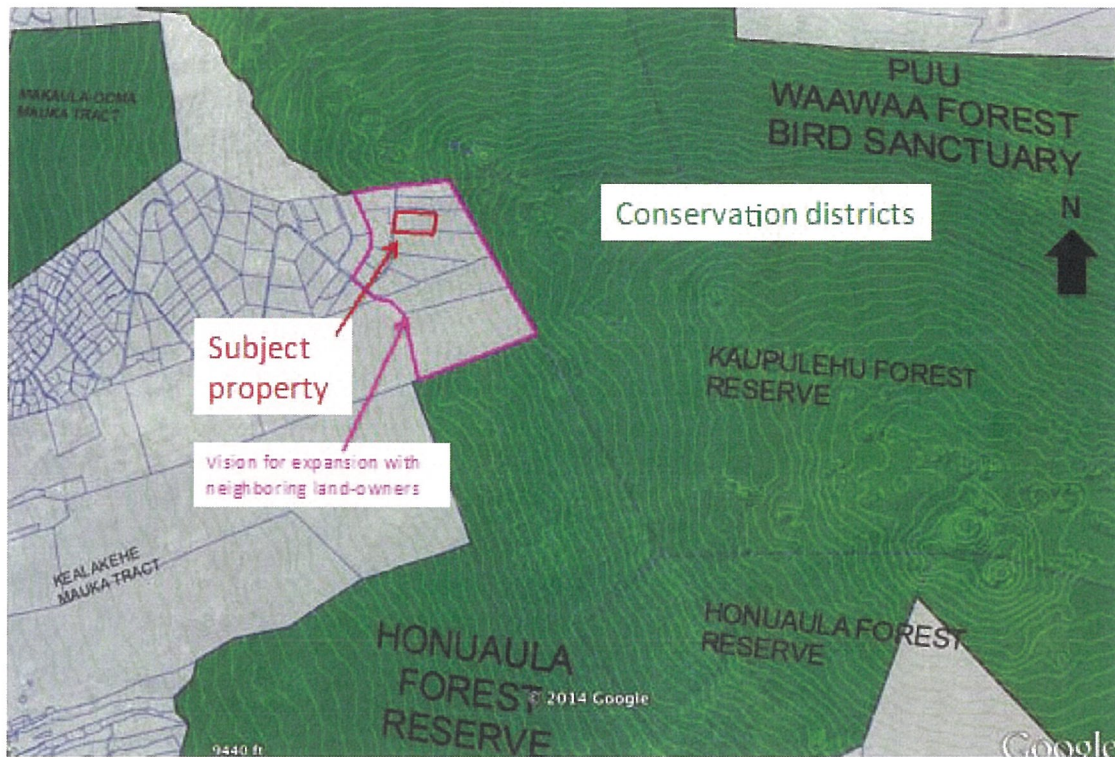
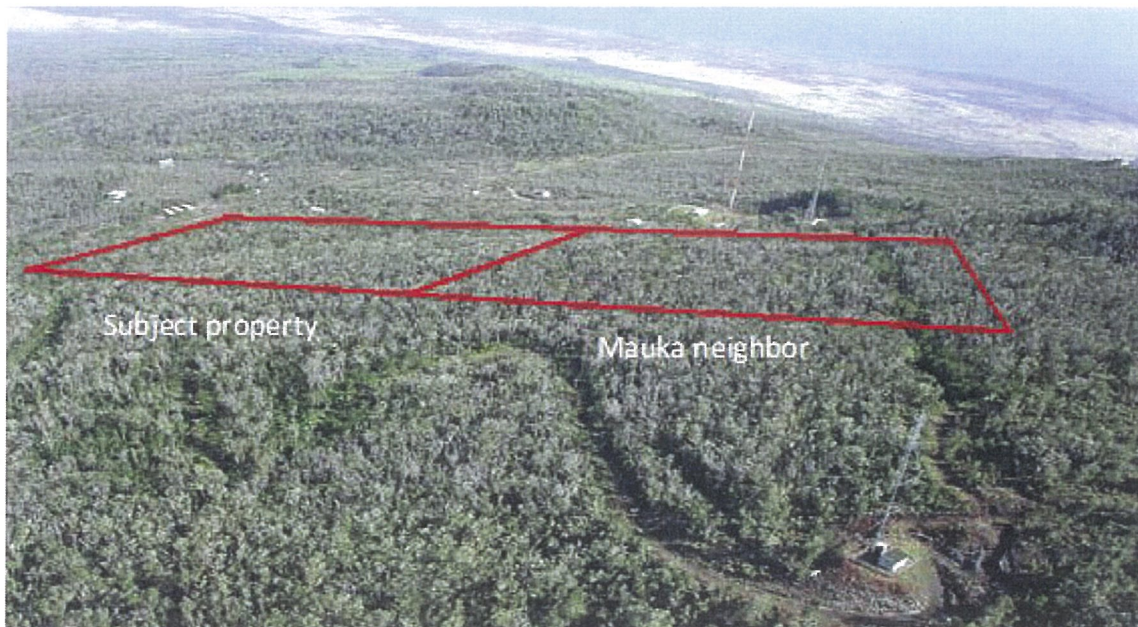


Figure 13 NRCS species map for subject property



**Figure 16** Proximity to existing forest reserves and vision for future expansion through education of and collaboration with neighboring land owners.



**Figure 17** Aerial photo (looking north west) of subject property and mauka neighbor property.

**Addendum: enlarged version of table 1 (practice implementation schedule and budget).  
Program cost shares shown here are notional and preliminary**

<u>Practice Component</u>	<u>Component</u>	<u>units</u>	<u>Cost/ Unit<sup>3</sup></u>	<u>Total Cost</u>	<u>Other program</u>	<u>Other program Share</u>	<u>Applicant Share</u>	<u>FSP Share</u>	<u>FSP share of unit cost</u>
<b>Year1</b>									
Fence <sup>1</sup>	access control 382	linear feet <sup>1a</sup> 4260	\$15	\$63,297	CREP	\$25,611	\$25,016	\$12,670	\$7.0 per foot
Zone 1 Tree/shrub site prep	tree/shrub prep 490	4 acres	\$1,438	\$5,752	CREP	\$2,876	\$2,876		\$0.0 per acre
Zone 1 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 391	seedlings (avg 200/acre) 800	\$11.6	\$9,280	CREP	\$4,640	\$4,640		per \$0.0 seedling
<b>Totals</b>				<b>\$78,329</b>		<b>\$33,127</b>	<b>\$32,532</b>	<b>\$12,670</b>	
<b>Year2</b>									
Trail Construction	trail construction 383	linear feet 3000	\$5	\$15,000			\$7,500	\$7,500	\$2.5 per foot
Zone 3 Tree/shrub site prep <sup>5</sup>	tree/shrub prep 490	4 acres	\$1,438	\$5,752	NRCS	\$2,876	\$1,438	\$1,438	\$359.5 per acre
Zone 2 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	seedlings (avg 200/acre) 800	\$11.8	\$9,440			\$4,720	\$4,720	per \$5.9 seedling
Weed control (of restored acres)	weed control 315	4 acres <sup>4</sup>	\$560	\$2,240	NRCS	\$1,432	\$404	\$404	per \$101.0 acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	4 acres <sup>4</sup>	\$125	\$500			\$250	\$250	per \$62.5 acre/yr
<b>Totals</b>				<b>\$32,932</b>		<b>\$4,308</b>	<b>\$14,312</b>	<b>\$14,312</b>	
<b>Year3</b>									
Zone 4 Tree/shrub site prep	tree/shrub prep 490	4 acres	\$1,460	\$5,838	NRCS	\$2,919	\$1,460	\$1,460	\$364.9 per acre
Zone 3 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	seedlings (avg 200/acre) 800	\$12.0	\$9,600			\$4,800	\$4,800	per \$6.0 seedling
Weed control (of restored acres)	weed control 315	8 acres <sup>4</sup>	\$568	\$4,547	NRCS	\$2,586	\$981	\$981	per \$122.6 acre/yr



web cameras (public outreach)		5 cameras	\$300	\$1,500				\$750	\$750	
Maintenance and Monitoring	maintenance & monitoring 645	8 acres <sup>4</sup>	\$127	\$1,015				\$508	\$508	per acre/yr
<b>Totals</b>				<b>\$22,500</b>				<b>\$5,505</b>	<b>\$8,498</b>	<b>\$8,498</b>

Year4

Zone 5 Tree/shrub site prep	tree/shrub prep 490	4 acres	\$1,481	\$5,926	NRCS	\$2,963	\$1,481	\$1,481	\$370.4	per acre
Zone 4 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	800 200/acre)	\$12.1	\$9,680			\$4,840	\$4,840	\$6.1	per seedling
Weed control (of restored acres)	weed control 315	12 acres <sup>4</sup>	\$577	\$6,923	NRCS	\$3,774	\$1,575	\$1,575	\$131.2	per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	12 acres <sup>4</sup>	\$129	\$1,545			\$773	\$773	\$64.4	per acre/yr
<b>Totals</b>				<b>\$24,074</b>		<b>\$6,736</b>	<b>\$8,669</b>	<b>\$8,669</b>		

Year5

Zone 5 Tree/shrub establishment <sup>2</sup>	tree/shrub establish 612	800 200/acre)	\$12.3	\$9,825			\$4,913	\$4,913	\$6.1	per seedling
Weed control (of restored acres)	weed control 315	16 acres <sup>4</sup>	\$586	\$9,369	NRCS	\$4,997	\$2,186	\$2,186	\$136.6	per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	16 acres <sup>4</sup>	\$131	\$2,091			\$1,046	\$1,046	\$65.4	per acre/yr
<b>Totals</b>				<b>\$21,286</b>		<b>\$4,997</b>	<b>\$8,145</b>	<b>\$8,145</b>		

Year6

Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$594	\$11,887	NRCS	\$6,256	\$2,816	\$2,816	\$140.8	per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$133	\$2,653			\$1,327	\$1,327	\$66.3	per acre/yr
<b>Totals</b>				<b>\$14,541</b>		<b>\$6,256</b>	<b>\$4,143</b>	<b>\$4,143</b>		

Year7

Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$603	\$12,066	NRCS	\$6,345	\$2,860	\$2,860	\$143.0	per acre/yr
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Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$135	\$2,693			\$1,347	\$1,347	per acre/yr
<b>Totals</b>				<b>\$14,759</b>			<b>\$6,345</b>	<b>\$4,207</b>	<b>\$4,207</b>

Year8

Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$612	\$12,247	NRCS		\$2,906	\$2,906	per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$137	\$2,734			\$1,367	\$1,367	per acre/yr
<b>Totals</b>				<b>\$14,980</b>			<b>\$4,272</b>	<b>\$4,272</b>	

Year9

Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$622	\$12,430	NRCS		\$2,952	\$2,952	per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$139	\$2,775			\$1,387	\$1,387	per acre/yr
<b>Totals</b>				<b>\$15,205</b>			<b>\$4,339</b>	<b>\$4,339</b>	

Year10

Weed control (of restored acres)	weed control 315	20 acres <sup>4</sup>	\$631	\$12,617	NRCS		\$2,998	\$2,998	per acre/yr
Maintenance and Monitoring	maintenance & monitoring 645	20 acres <sup>4</sup>	\$141	\$2,816			\$1,408	\$1,408	per acre/yr
<b>Totals</b>				<b>\$15,433</b>			<b>\$4,406</b>	<b>\$4,406</b>	

**\$254,039      \$86,856      \$93,523      \$73,661**

<sup>1</sup>property includes an easement for neighbor's driveway that will not be fenced; unit costs reflect manual fence line clearing in dense forest and steep terrain (fence will be 6 ft tall woven wire, barb ground wire w/anchors, no skirt, 3.5in corner pipes, 6-8 ft post spacing)

<sup>1a</sup>CREP will cover 2450 linear feet of fence (\$4.51/ft initially plus 40% of total cost when all practices complete) ; FSP will cover 1810 linear feet (\$7/ft)

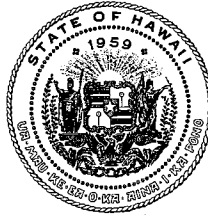
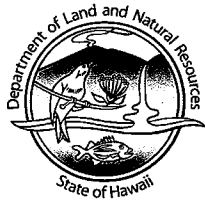
<sup>2</sup>establishment cost = purchase price of \$7/seedling + planting labor of \$4.8/seedling

<sup>3</sup>includes 1.5%/year inflation for recurring practices

<sup>4</sup>weeding, monitoring and maintenance ramp-up starts with 4 days/year for 4 acres, increasing to 20 days/year for 20 acres by year 6

<sup>5</sup>Zone 2 site prep is being conducted by an already underway AMA project that will be completed in parallel in year 1

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



SUZANNE D. CASE  
CHAIRPERSON  
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CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
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KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**

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**EXHIBIT C**

**EXEMPTION NOTIFICATION**

Regarding the preparation of an environmental assessment pursuant to Chapter 343, Hawaii Revised Statutes.

Project Title:	Riley Duren Forest Stewardship management plan and Forest Stewardship Agreement with Ohia Forest Trust
Project Number:	N/A
Project Description:	<p>Forest Stewardship Agreement and associated management plan for the Riley Duren, Ohia Forest Trust, Tax Map Key (3) 7-3-048:007, North Kona, Hawai'i County. The project proposes to actively manage approximately 20 acres of degraded native forest that is characterized as having a patchy native canopy. Much of the project site has an understory dominated by invasive plant species that limits natural recruitment of native species. The specific long-term goal of this FSP project is to restore these 20 acres of native forests, which serve as important watershed and provide additional benefits to native plants, wildlife, and other important resources.</p> <p>Over the course of the 10-year management plan and agreement, practices that Ohia Forest Trust intends implement to accomplish the overarching goal of native forest recovery are as follows. The first management action will be to install a perimeter fence. After all feral ungulates are removed, site preparation will be completed using chemical and manual weed control. Planting of native species will be concentrated in areas devoid of native trees. Canopy and sub-canopy species will be hand planted. Restoration of the 20 acres has been divided into five zones; and the goal is to plant one zone per year over the course of five years. Once planting is complete Ohia Forest Trust will conduct ongoing maintenance, such as weed control throughout the 10 years of the agreement. Monitoring activities will include ground based monitoring and analysis of satellite imagery.</p>
Chapter 343 Trigger:	Use of State Funds
Consulted Parties:	U.S. Fish and Wildlife Service, Natural Resources Conservation Service, and The Office of Conservation and Coastal Lands were consulted and all

	agencies concurred with the use of the exemption.
Exemption Class & Description:	<p>Exemption Class No. 3, Item 1, Fences around or to manage rare, threatened or endangered plants, covered or open areas for endangered species, game birds and mammals, auxiliary buildings for food or equipment storage, incubators and brooders, open-top breeding and release pens, field aviaries, and hacking boxes, and for watershed and native forest management and restoration.</p> <p>Exemption Class No. 4, Item 6, Minor vegetation clearing and management, including mowing, pruning, trimming, and application of federal and state approved herbicides in conformance with label instructions.</p> <p>Exemption Class No. 4, Item 8, Removal of invasive vegetation utilizing cutting, mowing, application of federal and state approved herbicides in conformance with label instructions, distribution of biocontrol agents approved by the State of Hawaii, and other approved methods.</p> <p>Exemption Class No. 4, Item 12, Establish temporary or permanent vegetative cover including trees, shrubs, grasses, and sod for landscaping, reforestation, soil stabilization, watershed protection, native wildlife habitat, native ecosystem restoration, and rare plant preservation; provided, however, that this exemption shall not apply to vegetation that is likely to be invasive or for tree plantings for which harvesting is planned or is reasonably foreseeable.</p> <p>Exemption Class No. 4, Item 13, Gathering plant seed, cuttings, or other vegetative matter for propagation.</p> <p>Exemption Class No. 4, Item 22, Natural resource management actions that the Department declares are designed specifically to monitor, conserve, or enhance the status of native species or native species' habitats, such as removal of introduced vegetation, reintroduction of native species into their historic range, or construction of fencing. This exemption would not apply to biocontrol of invasive species or commercial logging.</p>
Recommendation:	It is anticipated that this project will have minimal or no significant negative effect on the environment and is presumed to be exempt from the preparation of an environmental assessment.

\_\_\_\_\_  
Suzanne D. Case, Chairperson

\_\_\_\_\_  
Date