

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Forestry and Wildlife  
Honolulu, Hawaii 96813

May 25, 2018

Chairperson and Members  
Board of Land and Natural Resources  
State of Hawaii  
Honolulu, Hawaii

Land Board Members:

SUBJECT: REQUEST APPROVAL OF THE HŌKŪ NUI FOREST STEWARDSHIP  
MANAGEMENT PLAN AND FOREST STEWARDSHIP AGREEMENT  
WITH HŌKŪ NUI FARMS LLC TMK (2) 2-4-012:005, (2) 2-4-012:039, (2)  
2-4-012:040, (2) 2-4-012:041, (2) 2-4-012:042, (2) 2-4-012:039-043, (2) 2-4-  
012:044, (2) 2-4-012:045, AND (2) 2-4-012:046, MAKAWAO, ISLAND OF  
MAUI

AND

REQUEST APPROVAL OF DECLARATION OF EXEMPTION TO  
CHAPTER 343, HAWAII REVISED STATUTES 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 Hawai‘i, 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 Forest Stewardship Program was established through Chapter 195F-6, Hawai‘i Revised Statutes (HRS) and provides the Department of Land and Natural Resources with the authority to provide financial assistance to approved Forest Stewardship projects for private landowners to manage, protect, and restore important natural resources on forested and formerly forested properties. The Forest Stewardship Program is implemented pursuant to Chapter 195F, HRS, and Section 109, Hawaii Administrative Rules (HAR). 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 application steps in the process of developing a long-term Forest Stewardship management plan. All interested landowners submit their project for review by the Forest Stewardship Advisory Committee (FSAC). The FSAC reviews the project based on program eligibility requirements and assures the proposed project is in line with the program's goals of conservation, restoration and/or forest production. Further, the FSAC recommends the development of and reviews all Forest Stewardship management plans. The Forest Stewardship management plan is created by landowners in partnership with natural resource professional/experts and reviewed and approved by both Division and the FSAC, and may be recommended for approval by the Department.

The award of cost-share support for Forest Stewardship management plan implementation follows a similar process to the development of a management plan. Upon approval of a project's Forest Stewardship 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 cost-share support for project implementation based on the 10-year implementation schedule that is submitted to the Board of Land and Natural Resources (Board) for consideration. Review and approval of the Forest Stewardship project and management plan, as well as authorization of cost-share support for the project by the Board is required for the Department 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 (Attachment A) for eligible projects.

The Hōkū Nui Forest Stewardship project proposes to actively manage and reforest approximately 13.49-acres of native forest and multi-story agroforestry on Tax Map Key numbers (2) 2-4-012:005; 039; 040; 041; 042; 043; 044; 045; and 046, in the Makawao area of Maui County. The Forest Stewardship project area is designated by the State of Hawai'i as Agriculture District and as Agriculture by the County of Maui. The Hōkū Nui Forest Stewardship project is located on the northern side of Maui, northeast of Kīhei. The project area is west of the Makawao and Ko'olau Forest Reserves and also borders a University of Hawai'i Agricultural Station. The 13.49-acre project area is a portion of a 258-acre area that was historically used for pineapple cultivation. Presently, the previously cultivated areas are mostly used for rotational grazing. The proposed FSP project area has two main vegetation types: open pastureland; and forested gulch. The landowners seek to improve watershed function and wildlife habitat through reforestation of the area, while also reconnecting people to the land through the planting of culturally significant food trees and shrubs in an agroforestry system.

The FSAC approved the Hōkū Nui Forest Stewardship management plan at their meeting on January 19, 2018 and the State Forester/Division Administrator approved the Forest Stewardship Management Plan on May 8, 2018 (Attachment B).

## DISCUSSION:

The Division is requesting approval of a Forest Stewardship Agreement with Hōkū Nui Farms LLC for the implementation of the Hōkū Nui Forest Stewardship management plan and project. Over the course of the 10-year management plan, Hōkū Nui Farms LLC intends to promote the recovery and protection of the native forest in the project area by reforesting 8.59-acres in conjunction with an 4.9 acre agroforestry across the existing open pasture. The 13.49-acre project area consists of a highly disturbed pasture area dominated by Guinea grass and Elephant grass, as well as Black wattle and fireweed. There are two native species found in the pastures, ‘uhaloa (*Waltheria indica*) and pōpolo (*Solanum americanum*). The vision of this project is to enhance watershed function, provide habitat for wildlife, and connect people to Hawaii’s native forests. The established native forest and agroforestry system will support other ongoing community and cultural education programs like Keali’i Reichel’s Hālau Ke‘alaokamaile cultural and native plant project. Agricultural products produced from the agroforestry practices will be sold at local markets to help offset the cost of management practices.

The first management activity will be installation of perimeter fences, one around the agroforestry and native forest areas. The fence will exclude deer and grazing cattle and sheep from the managed areas. To mitigate other threats, such as wind and drought, dense plantings of native trees and short-term crops and groundcover will be planted and catchment ponds with irrigation system will be installed. Site preparation will require mechanical measures to mitigate decades of pineapple cultivation, along with manual weed and green manure mulching prior to planting ground covers, native tree and shrub species, and multistory agroforest species. Ongoing maintenance, such as weed control, will be done on a regular basis after the initial planting and throughout the 10 years of the contract.

A total of **\$146,465** in state Forest Stewardship funding is requested to provide cost-share support for the Hōkū Nui Forest Stewardship management plan and the Hōkū Nui Farms LLC Forest Stewardship Agreement. Hōkū Nui will be contributing an amount of **\$217,790** toward the implementation of their project through the FSP. 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, Hōkū Nui Farms LLC 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 ASSESSMENT

In accordance with the requirements of Chapter 343, Hawaii Revised Statutes (HRS), and Section 11-200-8, Hawaii Administrative Rules (HAR), and the Exemption List for the Department of Land and Natural Resources as approved by the Environmental Council on June 5, 2015, the subject project is exempt from the preparation of an environmental assessment pursuant to the exemption classes listed in Attachment C.

### Exemption consultation

<b>Agency</b>	<b>Comment</b>
U.S. Department of Agriculture - Natural Resources Conservation Service	No comments received.
U.S. Department of Interior - Fish and Wildlife Service	No comments received.
DLNR - Commission on Water Resource Management	No comments received.
County of Maui – Department of Planning	No comments received.

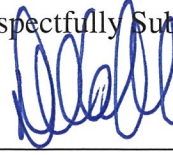
### RECOMMENDATIONS:

That the Board:

1. Approve the Hōkū Nui Forest Stewardship management plan;
2. Approve cost-share support in the amount of **\$146,465** for the implementation of the Hōkū Nui Forest Stewardship management plan;
3. Authorize the Chairperson to amend, finalize and execute a Forest Stewardship Agreement with Hōkū Nui Farms LLC 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. Declares, after considering the potential effects of the proposed project as provided by Chapter 343, HRS, and Chapter 11-200, HAR, that this project will likely have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment under the exemption classes listed in the Declaration of Exemption (Attachment C).



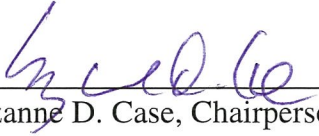
Respectfully Submitted,



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DAVID G. SMITH, Administrator  
Division of Forestry and Wildlife

APPROVED FOR SUBMITTAL:



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Suzanne D. Case, Chairperson

Attachment: (Attachment A, B, C)

**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.

Exhibit A

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: \_\_\_\_\_

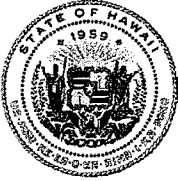
Date of the Notarized Document: \_\_\_\_\_

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

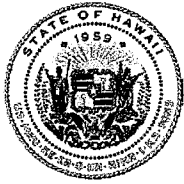
# SCOPE OF SERVICES

- 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.



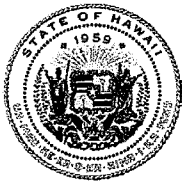
**STATE OF HAWAII**  
**COMPENSATION AND PAYMENT SCHEDULE**

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

YEAR	Total Budget	Land Owner share	State Share
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 \_\_\_\_\_ ( ) 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





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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



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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



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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.



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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



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- (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



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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





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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.



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**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.



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#### 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.



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- 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.

## GENERAL CONDITIONS

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## GENERAL CONDITIONS

1. Coordination of Services by the STATE. The head of the purchasing agency ("HOPA") (which term includes the designee of the HOPA) shall coordinate the services to be provided by the CONTRACTOR in order to complete the performance required in the Contract. The CONTRACTOR shall maintain communications with HOPA at all stages of the CONTRACTOR'S work, and submit to HOPA for resolution any questions which may arise as to the performance of this Contract. "Purchasing agency" as used in these General Conditions means and includes any governmental body which is authorized under chapter 103D, HRS, or its implementing rules and procedures, or by way of delegation, to enter into contracts for the procurement of goods or services or both.
2. Relationship of Parties: Independent Contractor Status and Responsibilities, Including Tax Responsibilities.
  - a. In the performance of services required under this Contract, the CONTRACTOR is an "independent contractor," with the authority and responsibility to control and direct the performance and details of the work and services required under this Contract; however, the STATE shall have a general right to inspect work in progress to determine whether, in the STATE'S opinion, the services are being performed by the CONTRACTOR in compliance with this Contract. Unless otherwise provided by special condition, it is understood that the STATE does not agree to use the CONTRACTOR exclusively, and that the CONTRACTOR is free to contract to provide services to other individuals or entities while under contract with the STATE.
  - b. The CONTRACTOR and the CONTRACTOR'S employees and agents are not by reason of this Contract, agents or employees of the State for any purpose, and the CONTRACTOR and the CONTRACTOR'S employees and agents shall not be entitled to claim or receive from the State any vacation, sick leave, retirement, workers' compensation, unemployment insurance, or other benefits provided to state employees.
  - c. The CONTRACTOR shall be responsible for the accuracy, completeness, and adequacy of the CONTRACTOR'S performance under this Contract. Furthermore, the CONTRACTOR intentionally, voluntarily, and knowingly assumes the sole and entire liability to the CONTRACTOR'S employees and agents, and to any individual not a party to this Contract, for all loss, damage, or injury caused by the CONTRACTOR, or the CONTRACTOR'S employees or agents in the course of their employment.
  - d. The CONTRACTOR shall be responsible for payment of all applicable federal, state, and county taxes and fees which may become due and owing by the CONTRACTOR by reason of this Contract, including but not limited to (i) income taxes, (ii) employment related fees, assessments, and taxes, and (iii) general excise taxes. The CONTRACTOR also is responsible for obtaining all licenses, permits, and certificates that may be required in order to perform this Contract.
  - e. The CONTRACTOR shall obtain a general excise tax license from the Department of Taxation, State of Hawaii, in accordance with section 237-9, HRS, and shall comply with all requirements thereof. The CONTRACTOR shall obtain a tax clearance certificate from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of the Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid and submit the same to the STATE prior to commencing any performance under this Contract. The CONTRACTOR shall also be solely responsible for meeting all requirements necessary to obtain the tax clearance certificate required for final payment under sections 103-53 and 103D-328, HRS, and paragraph 17 of these General Conditions.
  - f. The CONTRACTOR is responsible for securing all employee-related insurance coverage for the CONTRACTOR and the CONTRACTOR'S employees and agents that is or may be required by law, and for payment of all premiums, costs, and other liabilities associated with securing the insurance coverage.

- g. The CONTRACTOR shall obtain a certificate of compliance issued by the Department of Labor and Industrial Relations, State of Hawaii, in accordance with section 103D-310, HRS, and section 3-122-112, HAR, that is current within six months of the date of issuance.
- h. The CONTRACTOR shall obtain a certificate of good standing issued by the Department of Commerce and Consumer Affairs, State of Hawaii, in accordance with section 103D-310, HRS, and section 3-122-112, HAR, that is current within six months of the date of issuance.
- i. In lieu of the above certificates from the Department of Taxation, Labor and Industrial Relations, and Commerce and Consumer Affairs, the CONTRACTOR may submit proof of compliance through the State Procurement Office's designated certification process.

3. Personnel Requirements.

- a. The CONTRACTOR shall secure, at the CONTRACTOR'S own expense, all personnel required to perform this Contract.
- b. The CONTRACTOR shall ensure that the CONTRACTOR'S employees or agents are experienced and fully qualified to engage in the activities and perform the services required under this Contract, and that all applicable licensing and operating requirements imposed or required under federal, state, or county law, and all applicable accreditation and other standards of quality generally accepted in the field of the activities of such employees and agents are complied with and satisfied.

4. Nondiscrimination. No person performing work under this Contract, including any subcontractor, employee, or agent of the CONTRACTOR, shall engage in any discrimination that is prohibited by any applicable federal, state, or county law.

5. Conflicts of Interest. The CONTRACTOR represents that neither the CONTRACTOR, nor any employee or agent of the CONTRACTOR, presently has any interest, and promises that no such interest, direct or indirect, shall be acquired, that would or might conflict in any manner or degree with the CONTRACTOR'S performance under this Contract.

6. Subcontracts and Assignments. The CONTRACTOR shall not assign or subcontract any of the CONTRACTOR'S duties, obligations, or interests under this Contract and no such assignment or subcontract shall be effective unless (i) the CONTRACTOR obtains the prior written consent of the STATE, and (ii) the CONTRACTOR'S assignee or subcontractor submits to the STATE a tax clearance certificate from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR'S assignee or subcontractor have been paid. Additionally, no assignment by the CONTRACTOR of the CONTRACTOR'S right to compensation under this Contract shall be effective unless and until the assignment is approved by the Comptroller of the State of Hawaii, as provided in section 40-58, HRS.

- a. Recognition of a successor in interest. When in the best interest of the State, a successor in interest may be recognized in an assignment contract in which the STATE, the CONTRACTOR and the assignee or transferee (hereinafter referred to as the "Assignee") agree that:

- (1) The Assignee assumes all of the CONTRACTOR'S obligations;
- (2) The CONTRACTOR remains liable for all obligations under this Contract but waives all rights under this Contract as against the STATE; and
- (3) The CONTRACTOR shall continue to furnish, and the Assignee shall also furnish, all required bonds.

- b. Change of name. When the CONTRACTOR asks to change the name in which it holds this Contract with the STATE, the procurement officer of the purchasing agency (hereinafter referred to as the "Agency procurement officer") shall, upon receipt of a document acceptable or satisfactory to the

Agency procurement officer indicating such change of name (for example, an amendment to the CONTRACTOR'S articles of incorporation), enter into an amendment to this Contract with the CONTRACTOR to effect such a change of name. The amendment to this Contract changing the CONTRACTOR'S name shall specifically indicate that no other terms and conditions of this Contract are thereby changed.

- c. Reports. All assignment contracts and amendments to this Contract effecting changes of the CONTRACTOR'S name or novations hereunder shall be reported to the chief procurement officer (CPO) as defined in section 103D-203(a), HRS, within thirty days of the date that the assignment contract or amendment becomes effective.
  - d. Actions affecting more than one purchasing agency. Notwithstanding the provisions of subparagraphs 6a through 6c herein, when the CONTRACTOR holds contracts with more than one purchasing agency of the State, the assignment contracts and the novation and change of name amendments herein authorized shall be processed only through the CPO's office.
- 7. Indemnification and Defense. The CONTRACTOR shall defend, indemnify, and hold harmless the State of Hawaii, the contracting agency, and their officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys' fees, and all claims, suits, and demands therefore, arising out of or resulting from the acts or omissions of the CONTRACTOR or the CONTRACTOR'S employees, officers, agents, or subcontractors under this Contract. The provisions of this paragraph shall remain in full force and effect notwithstanding the expiration or early termination of this Contract.
  - 8. Cost of Litigation. In case the STATE shall, without any fault on its part, be made a party to any litigation commenced by or against the CONTRACTOR in connection with this Contract, the CONTRACTOR shall pay all costs and expenses incurred by or imposed on the STATE, including attorneys' fees.
  - 9. Liquidated Damages. When the CONTRACTOR is given notice of delay or nonperformance as specified in paragraph 13 (Termination for Default) and fails to cure in the time specified, it is agreed the CONTRACTOR shall pay to the STATE the amount, if any, set forth in this Contract per calendar day from the date set for cure until either (i) the STATE reasonably obtains similar goods or services, or both, if the CONTRACTOR is terminated for default, or (ii) until the CONTRACTOR provides the goods or services, or both, if the CONTRACTOR is not terminated for default. To the extent that the CONTRACTOR'S delay or nonperformance is excused under paragraph 13d (Excuse for Nonperformance or Delay Performance), liquidated damages shall not be assessable against the CONTRACTOR. The CONTRACTOR remains liable for damages caused other than by delay.
  - 10. STATE'S Right of Offset. The STATE may offset against any monies or other obligations the STATE owes to the CONTRACTOR under this Contract, any amounts owed to the State of Hawaii by the CONTRACTOR under this Contract or any other contracts, or pursuant to any law or other obligation owed to the State of Hawaii by the CONTRACTOR, including, without limitation, the payment of any taxes or levies of any kind or nature. The STATE will notify the CONTRACTOR in writing of any offset and the nature of such offset. For purposes of this paragraph, amounts owed to the State of Hawaii shall not include debts or obligations which have been liquidated, agreed to by the CONTRACTOR, and are covered by an installment payment or other settlement plan approved by the State of Hawaii, provided, however, that the CONTRACTOR shall be entitled to such exclusion only to the extent that the CONTRACTOR is current with, and not delinquent on, any payments or obligations owed to the State of Hawaii under such payment or other settlement plan.
  - 11. Disputes. Disputes shall be resolved in accordance with section 103D-703, HRS, and chapter 3-126, Hawaii Administrative Rules ("HAR"), as the same may be amended from time to time.
  - 12. Suspension of Contract. The STATE reserves the right at any time and for any reason to suspend this Contract for any reasonable period, upon written notice to the CONTRACTOR in accordance with the provisions herein.
    - a. Order to stop performance. The Agency procurement officer may, by written order to the CONTRACTOR, at any time, and without notice to any surety, require the CONTRACTOR to stop all or any part of the performance called for by this Contract. This order shall be for a specified



period not exceeding sixty (60) days after the order is delivered to the CONTRACTOR, unless the parties agree to any further period. Any such order shall be identified specifically as a stop performance order issued pursuant to this section. Stop performance orders shall include, as appropriate: (1) A clear description of the work to be suspended; (2) Instructions as to the issuance of further orders by the CONTRACTOR for material or services; (3) Guidance as to action to be taken on subcontracts; and (4) Other instructions and suggestions to the CONTRACTOR for minimizing costs. Upon receipt of such an order, the CONTRACTOR shall forthwith comply with its terms and suspend all performance under this Contract at the time stated, provided, however, the CONTRACTOR shall take all reasonable steps to minimize the occurrence of costs allocable to the performance covered by the order during the period of performance stoppage. Before the stop performance order expires, or within any further period to which the parties shall have agreed, the Agency procurement officer shall either:

- (1) Cancel the stop performance order; or
  - (2) Terminate the performance covered by such order as provided in the termination for default provision or the termination for convenience provision of this Contract.
- b. Cancellation or expiration of the order. If a stop performance order issued under this section is cancelled at any time during the period specified in the order, or if the period of the order or any extension thereof expires, the CONTRACTOR shall have the right to resume performance. An appropriate adjustment shall be made in the delivery schedule or contract price, or both, and the Contract shall be modified in writing accordingly, if:
- (1) The stop performance order results in an increase in the time required for, or in the CONTRACTOR'S cost properly allocable to, the performance of any part of this Contract; and
  - (2) The CONTRACTOR asserts a claim for such an adjustment within thirty (30) days after the end of the period of performance stoppage; provided that, if the Agency procurement officer decides that the facts justify such action, any such claim asserted may be received and acted upon at any time prior to final payment under this Contract.
- c. Termination of stopped performance. If a stop performance order is not cancelled and the performance covered by such order is terminated for default or convenience, the reasonable costs resulting from the stop performance order shall be allowable by adjustment or otherwise.
- d. Adjustment of price. Any adjustment in contract price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

13. Termination for Default.

- a. Default. If the CONTRACTOR refuses or fails to perform any of the provisions of this Contract with such diligence as will ensure its completion within the time specified in this Contract, or any extension thereof, otherwise fails to timely satisfy the Contract provisions, or commits any other substantial breach of this Contract, the Agency procurement officer may notify the CONTRACTOR in writing of the delay or non-performance and if not cured in ten (10) days or any longer time specified in writing by the Agency procurement officer, such officer may terminate the CONTRACTOR'S right to proceed with the Contract or such part of the Contract as to which there has been delay or a failure to properly perform. In the event of termination in whole or in part, the Agency procurement officer may procure similar goods or services in a manner and upon the terms deemed appropriate by the Agency procurement officer. The CONTRACTOR shall continue performance of the Contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services.
- b. CONTRACTOR'S duties. Notwithstanding termination of the Contract and subject to any directions from the Agency procurement officer, the CONTRACTOR shall take timely, reasonable, and

necessary action to protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest.

- c. Compensation. Payment for completed goods and services delivered and accepted by the STATE shall be at the price set forth in the Contract. Payment for the protection and preservation of property shall be in an amount agreed upon by the CONTRACTOR and the Agency procurement officer. If the parties fail to agree, the Agency procurement officer shall set an amount subject to the CONTRACTOR'S rights under chapter 3-126, HAR. The STATE may withhold from amounts due the CONTRACTOR such sums as the Agency procurement officer deems to be necessary to protect the STATE against loss because of outstanding liens or claims and to reimburse the STATE for the excess costs expected to be incurred by the STATE in procuring similar goods and services.
- d. Excuse for nonperformance or delayed performance. The CONTRACTOR shall not be in default by reason of any failure in performance of this Contract in accordance with its terms, including any failure by the CONTRACTOR to make progress in the prosecution of the performance hereunder which endangers such performance, if the CONTRACTOR has notified the Agency procurement officer within fifteen (15) days after the cause of the delay and the failure arises out of causes such as: acts of God; acts of a public enemy; acts of the State and any other governmental body in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress, and if such failure arises out of causes similar to those set forth above, the CONTRACTOR shall not be deemed to be in default, unless the goods and services to be furnished by the subcontractor were reasonably obtainable from other sources in sufficient time to permit the CONTRACTOR to meet the requirements of the Contract. Upon request of the CONTRACTOR, the Agency procurement officer shall ascertain the facts and extent of such failure, and, if such officer determines that any failure to perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the CONTRACTOR'S progress and performance would have met the terms of the Contract, the delivery schedule shall be revised accordingly, subject to the rights of the STATE under this Contract. As used in this paragraph, the term "subcontractor" means subcontractor at any tier.
- e. Erroneous termination for default. If, after notice of termination of the CONTRACTOR'S right to proceed under this paragraph, it is determined for any reason that the CONTRACTOR was not in default under this paragraph, or that the delay was excusable under the provisions of subparagraph 13d, "Excuse for nonperformance or delayed performance," the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to paragraph 14.
- f. Additional rights and remedies. The rights and remedies provided in this paragraph are in addition to any other rights and remedies provided by law or under this Contract.

14. Termination for Convenience.

- a. Termination. The Agency procurement officer may, when the interests of the STATE so require, terminate this Contract in whole or in part, for the convenience of the STATE. The Agency procurement officer shall give written notice of the termination to the CONTRACTOR specifying the part of the Contract terminated and when termination becomes effective.
- b. CONTRACTOR'S obligations. The CONTRACTOR shall incur no further obligations in connection with the terminated performance and on the date(s) set in the notice of termination the CONTRACTOR will stop performance to the extent specified. The CONTRACTOR shall also terminate outstanding orders and subcontracts as they relate to the terminated performance. The CONTRACTOR shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated performance subject to the STATE'S approval. The Agency procurement officer may direct the CONTRACTOR to assign the CONTRACTOR'S right, title, and interest under terminated orders or subcontracts to the STATE. The CONTRACTOR must still complete the performance not terminated by the notice of termination and may incur obligations as necessary to do so.

- c. Right to goods and work product. The Agency procurement officer may require the CONTRACTOR to transfer title and deliver to the STATE in the manner and to the extent directed by the Agency procurement officer:

- (1) Any completed goods or work product; and
- (2) The partially completed goods and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing material") as the CONTRACTOR has specifically produced or specially acquired for the performance of the terminated part of this Contract.

The CONTRACTOR shall, upon direction of the Agency procurement officer, protect and preserve property in the possession of the CONTRACTOR in which the STATE has an interest. If the Agency procurement officer does not exercise this right, the CONTRACTOR shall use best efforts to sell such goods and manufacturing materials. Use of this paragraph in no way implies that the STATE has breached the Contract by exercise of the termination for convenience provision.

- d. Compensation.

- (1) The CONTRACTOR shall submit a termination claim specifying the amounts due because of the termination for convenience together with the cost or pricing data, submitted to the extent required by chapter 3-122, HAR, bearing on such claim. If the CONTRACTOR fails to file a termination claim within one year from the effective date of termination, the Agency procurement officer may pay the CONTRACTOR, if at all, an amount set in accordance with subparagraph 14d(3) below.
- (2) The Agency procurement officer and the CONTRACTOR may agree to a settlement provided the CONTRACTOR has filed a termination claim supported by cost or pricing data submitted as required and that the settlement does not exceed the total Contract price plus settlement costs reduced by payments previously made by the STATE, the proceeds of any sales of goods and manufacturing materials under subparagraph 14c, and the Contract price of the performance not terminated.
- (3) Absent complete agreement under subparagraph 14d(2) the Agency procurement officer shall pay the CONTRACTOR the following amounts, provided payments agreed to under subparagraph 14d(2) shall not duplicate payments under this subparagraph for the following:
  - (A) Contract prices for goods or services accepted under the Contract;
  - (B) Costs incurred in preparing to perform and performing the terminated portion of the performance plus a fair and reasonable profit on such portion of the performance, such profit shall not include anticipatory profit or consequential damages, less amounts paid or to be paid for accepted goods or services; provided, however, that if it appears that the CONTRACTOR would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;
  - (C) Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to subparagraph 14b. These costs must not include costs paid in accordance with subparagraph 14d(3)(B);
  - (D) The reasonable settlement costs of the CONTRACTOR, including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the Contract and for the termination of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this Contract. The total sum to be paid the CONTRACTOR under this subparagraph shall not exceed the

total Contract price plus the reasonable settlement costs of the CONTRACTOR reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph 14d(2), and the contract price of performance not terminated.

- (4) Costs claimed, agreed to, or established under subparagraphs 14d(2) and 14d(3) shall be in accordance with Chapter 3-123 (Cost Principles) of the Procurement Rules.

15. Claims Based on the Agency Procurement Officer's Actions or Omissions.

- a. Changes in scope. If any action or omission on the part of the Agency procurement officer (which term includes the designee of such officer for purposes of this paragraph 15) requiring performance changes within the scope of the Contract constitutes the basis for a claim by the CONTRACTOR for additional compensation, damages, or an extension of time for completion, the CONTRACTOR shall continue with performance of the Contract in compliance with the directions or orders of such officials, but by so doing, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:
- (1) Written notice required. The CONTRACTOR shall give written notice to the Agency procurement officer:
- (A) Prior to the commencement of the performance involved, if at that time the CONTRACTOR knows of the occurrence of such action or omission;
- (B) Within thirty (30) days after the CONTRACTOR knows of the occurrence of such action or omission, if the CONTRACTOR did not have such knowledge prior to the commencement of the performance; or
- (C) Within such further time as may be allowed by the Agency procurement officer in writing.
- (2) Notice content. This notice shall state that the CONTRACTOR regards the act or omission as a reason which may entitle the CONTRACTOR to additional compensation, damages, or an extension of time. The Agency procurement officer, upon receipt of such notice, may rescind such action, remedy such omission, or take such other steps as may be deemed advisable in the discretion of the Agency procurement officer;
- (3) Basis must be explained. The notice required by subparagraph 15a(1) describes as clearly as practicable at the time the reasons why the CONTRACTOR believes that additional compensation, damages, or an extension of time may be remedies to which the CONTRACTOR is entitled; and
- (4) Claim must be justified. The CONTRACTOR must maintain and, upon request, make available to the Agency procurement officer within a reasonable time, detailed records to the extent practicable, and other documentation and evidence satisfactory to the STATE, justifying the claimed additional costs or an extension of time in connection with such changes.
- b. CONTRACTOR not excused. Nothing herein contained, however, shall excuse the CONTRACTOR from compliance with any rules or laws precluding any state officers and CONTRACTOR from acting in collusion or bad faith in issuing or performing change orders which are clearly not within the scope of the Contract.
- c. Price adjustment. Any adjustment in the price made pursuant to this paragraph shall be determined in accordance with the price adjustment provision of this Contract.

16. Costs and Expenses. Any reimbursement due the CONTRACTOR for per diem and transportation expenses under this Contract shall be subject to chapter 3-123 (Cost Principles), HAR, and the following guidelines:

- a. Reimbursement for air transportation shall be for actual cost or coach class air fare, whichever is less.
- b. Reimbursement for ground transportation costs shall not exceed the actual cost of renting an intermediate-sized vehicle.
- c. Unless prior written approval of the HOPA is obtained, reimbursement for subsistence allowance (i.e., hotel and meals, etc.) shall not exceed the applicable daily authorized rates for inter-island or out-of-state travel that are set forth in the current Governor's Executive Order authorizing adjustments in salaries and benefits for state officers and employees in the executive branch who are excluded from collective bargaining coverage.

17. Payment Procedures; Final Payment; Tax Clearance.

- a. Original invoices required. All payments under this Contract shall be made only upon submission by the CONTRACTOR of original invoices specifying the amount due and certifying that services requested under the Contract have been performed by the CONTRACTOR according to the Contract.
- b. Subject to available funds. Such payments are subject to availability of funds and allotment by the Director of Finance in accordance with chapter 37, HRS. Further, all payments shall be made in accordance with and subject to chapter 40, HRS.
- c. Prompt payment.
  - (1) Any money, other than retainage, paid to the CONTRACTOR shall be disbursed to subcontractors within ten (10) days after receipt of the money in accordance with the terms of the subcontract; provided that the subcontractor has met all the terms and conditions of the subcontract and there are no bona fide disputes; and
  - (2) Upon final payment to the CONTRACTOR, full payment to the subcontractor, including retainage, shall be made within ten (10) days after receipt of the money; provided that there are no bona fide disputes over the subcontractor's performance under the subcontract.
- d. Final payment. Final payment under this Contract shall be subject to sections 103-53 and 103D-328, HRS, which require a tax clearance from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid. Further, in accordance with section 3-122-112, HAR, CONTRACTOR shall provide a certificate affirming that the CONTRACTOR has remained in compliance with all applicable laws as required by this section.

18. Federal Funds. If this Contract is payable in whole or in part from federal funds, CONTRACTOR agrees that, as to the portion of the compensation under this Contract to be payable from federal funds, the CONTRACTOR shall be paid only from such funds received from the federal government, and shall not be paid from any other funds. Failure of the STATE to receive anticipated federal funds shall not be considered a breach by the STATE or an excuse for nonperformance by the CONTRACTOR.

19. Modifications of Contract.

- a. In writing. Any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract permitted by this Contract shall be made by written amendment to this Contract, signed by the CONTRACTOR and the STATE, provided that change orders shall be made in accordance with paragraph 20 herein.
- b. No oral modification. No oral modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract shall be permitted.

- c. Agency procurement officer. By written order, at any time, and without notice to any surety, the Agency procurement officer may unilaterally order of the CONTRACTOR:
    - (A) Changes in the work within the scope of the Contract; and
    - (B) Changes in the time of performance of the Contract that do not alter the scope of the Contract work.
  - d. Adjustments of price or time for performance. If any modification increases or decreases the CONTRACTOR'S cost of, or the time required for, performance of any part of the work under this Contract, an adjustment shall be made and this Contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined, where applicable, in accordance with the price adjustment clause of this Contract or as negotiated.
  - e. Claim barred after final payment. No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if written modification of the Contract is not made prior to final payment under this Contract.
  - f. Claims not barred. In the absence of a written contract modification, nothing in this clause shall be deemed to restrict the CONTRACTOR'S right to pursue a claim under this Contract or for a breach of contract.
  - g. CPO approval. If this is a professional services contract awarded pursuant to section 103D-303 or 103D-304, HRS, any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract which increases the amount payable to the CONTRACTOR by at least \$25,000.00 or ten per cent (10%) of the initial contract price, whichever increase is higher, must receive the prior approval of the CPO.
  - h. Tax clearance. The STATE may, at its discretion, require the CONTRACTOR to submit to the STATE, prior to the STATE'S approval of any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Contract, a tax clearance from the Director of Taxation, State of Hawaii, and the Internal Revenue Service, U.S. Department of Treasury, showing that all delinquent taxes, if any, levied or accrued under state law and the Internal Revenue Code of 1986, as amended, against the CONTRACTOR have been paid.
  - i. Sole source contracts. Amendments to sole source contracts that would change the original scope of the Contract may only be made with the approval of the CPO. Annual renewal of a sole source contract for services should not be submitted as an amendment.
20. Change Order. The Agency procurement officer may, by a written order signed only by the STATE, at any time, and without notice to any surety, and subject to all appropriate adjustments, make changes within the general scope of this Contract in any one or more of the following:
- (1) Drawings, designs, or specifications, if the goods or services to be furnished are to be specially provided to the STATE in accordance therewith;
  - (2) Method of delivery; or
  - (3) Place of delivery.
- a. Adjustments of price or time for performance. If any change order increases or decreases the CONTRACTOR'S cost of, or the time required for, performance of any part of the work under this Contract, whether or not changed by the order, an adjustment shall be made and the Contract modified in writing accordingly. Any adjustment in the Contract price made pursuant to this provision shall be determined in accordance with the price adjustment provision of this Contract. Failure of the parties to agree to an adjustment shall not excuse the CONTRACTOR from proceeding with the Contract as changed, provided that the Agency procurement officer promptly and duly makes the provisional adjustments in payment or time for performance as may be reasonable. By

proceeding with the work, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, or any extension of time for completion.

- b. Time period for claim. Within ten (10) days after receipt of a written change order under subparagraph 20a, unless the period is extended by the Agency procurement officer in writing, the CONTRACTOR shall respond with a claim for an adjustment. The requirement for a timely written response by CONTRACTOR cannot be waived and shall be a condition precedent to the assertion of a claim.
- c. Claim barred after final payment. No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if a written response is not given prior to final payment under this Contract.
- d. Other claims not barred. In the absence of a change order, nothing in this paragraph 20 shall be deemed to restrict the CONTRACTOR'S right to pursue a claim under the Contract or for breach of contract.

21. Price Adjustment.

- a. Price adjustment. Any adjustment in the contract price pursuant to a provision in this Contract shall be made in one or more of the following ways:
  - (1) By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
  - (2) By unit prices specified in the Contract or subsequently agreed upon;
  - (3) By the costs attributable to the event or situation covered by the provision, plus appropriate profit or fee, all as specified in the Contract or subsequently agreed upon;
  - (4) In such other manner as the parties may mutually agree; or
  - (5) In the absence of agreement between the parties, by a unilateral determination by the Agency procurement officer of the costs attributable to the event or situation covered by the provision, plus appropriate profit or fee, all as computed by the Agency procurement officer in accordance with generally accepted accounting principles and applicable sections of chapters 3-123 and 3-126, HAR.
- b. Submission of cost or pricing data. The CONTRACTOR shall provide cost or pricing data for any price adjustments subject to the provisions of chapter 3-122, HAR.

22. Variation in Quantity for Definite Quantity Contracts. Upon the agreement of the STATE and the CONTRACTOR, the quantity of goods or services, or both, if a definite quantity is specified in this Contract, may be increased by a maximum of ten per cent (10%); provided the unit prices will remain the same except for any price adjustments otherwise applicable; and the Agency procurement officer makes a written determination that such an increase will either be more economical than awarding another contract or that it would not be practical to award another contract.

23. Changes in Cost-Reimbursement Contract. If this Contract is a cost-reimbursement contract, the following provisions shall apply:

- a. The Agency procurement officer may at any time by written order, and without notice to the sureties, if any, make changes within the general scope of the Contract in any one or more of the following:
  - (1) Description of performance (Attachment 1);
  - (2) Time of performance (i.e., hours of the day, days of the week, etc.);
  - (3) Place of performance of services;

- (4) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the STATE in accordance with the drawings, designs, or specifications;
  - (5) Method of shipment or packing of supplies; or
  - (6) Place of delivery.
- b. If any change causes an increase or decrease in the estimated cost of, or the time required for performance of, any part of the performance under this Contract, whether or not changed by the order, or otherwise affects any other terms and conditions of this Contract, the Agency procurement officer shall make an equitable adjustment in the (1) estimated cost, delivery or completion schedule, or both; (2) amount of any fixed fee; and (3) other affected terms and shall modify the Contract accordingly.
  - c. The CONTRACTOR must assert the CONTRACTOR'S rights to an adjustment under this provision within thirty (30) days from the day of receipt of the written order. However, if the Agency procurement officer decides that the facts justify it, the Agency procurement officer may receive and act upon a proposal submitted before final payment under the Contract.
  - d. Failure to agree to any adjustment shall be a dispute under paragraph 11 of this Contract. However, nothing in this provision shall excuse the CONTRACTOR from proceeding with the Contract as changed.
  - e. Notwithstanding the terms and conditions of subparagraphs 23a and 23b, the estimated cost of this Contract and, if this Contract is incrementally funded, the funds allotted for the performance of this Contract, shall not be increased or considered to be increased except by specific written modification of the Contract indicating the new contract estimated cost and, if this contract is incrementally funded, the new amount allotted to the contract.
24. Confidentiality of Material.
- a. All material given to or made available to the CONTRACTOR by virtue of this Contract, which is identified as proprietary or confidential information, will be safeguarded by the CONTRACTOR and shall not be disclosed to any individual or organization without the prior written approval of the STATE.
  - b. All information, data, or other material provided by the CONTRACTOR to the STATE shall be subject to the Uniform Information Practices Act, chapter 92F, HRS.
25. Publicity. The CONTRACTOR shall not refer to the STATE, or any office, agency, or officer thereof, or any state employee, including the HOPA, the CPO, the Agency procurement officer, or to the services or goods, or both, provided under this Contract, in any of the CONTRACTOR'S brochures, advertisements, or other publicity of the CONTRACTOR. All media contacts with the CONTRACTOR about the subject matter of this Contract shall be referred to the Agency procurement officer.
26. Ownership Rights and Copyright. The STATE shall have complete ownership of all material, both finished and unfinished, which is developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract, and all such material shall be considered "works made for hire." All such material shall be delivered to the STATE upon expiration or termination of this Contract. The STATE, in its sole discretion, shall have the exclusive right to copyright any product, concept, or material developed, prepared, assembled, or conceived by the CONTRACTOR pursuant to this Contract.
27. Liens and Warranties. Goods provided under this Contract shall be provided free of all liens and provided together with all applicable warranties, or with the warranties described in the Contract documents, whichever are greater.



28. Audit of Books and Records of the CONTRACTOR. The STATE may, at reasonable times and places, audit the books and records of the CONTRACTOR, prospective contractor, subcontractor, or prospective subcontractor which are related to:
- a. The cost or pricing data, and
  - b. A state contract, including subcontracts, other than a firm fixed-price contract.
29. Cost or Pricing Data. Cost or pricing data must be submitted to the Agency procurement officer and timely certified as accurate for contracts over \$100,000 unless the contract is for a multiple-term or as otherwise specified by the Agency procurement officer. Unless otherwise required by the Agency procurement officer, cost or pricing data submission is not required for contracts awarded pursuant to competitive sealed bid procedures.
- If certified cost or pricing data are subsequently found to have been inaccurate, incomplete, or noncurrent as of the date stated in the certificate, the STATE is entitled to an adjustment of the contract price, including profit or fee, to exclude any significant sum by which the price, including profit or fee, was increased because of the defective data. It is presumed that overstated cost or pricing data increased the contract price in the amount of the defect plus related overhead and profit or fee. Therefore, unless there is a clear indication that the defective data was not used or relied upon, the price will be reduced in such amount.
30. Audit of Cost or Pricing Data. When cost or pricing principles are applicable, the STATE may require an audit of cost or pricing data.
31. Records Retention.
- (1) Upon any termination of this Contract or as otherwise required by applicable law, CONTRACTOR shall, pursuant to chapter 487R, HRS, destroy all copies (paper or electronic form) of personal information received from the STATE.
  - (2) The CONTRACTOR and any subcontractors shall maintain the files, books, and records that relate to the Contract, including any personal information created or received by the CONTRACTOR on behalf of the STATE, and any cost or pricing data, for at least three (3) years after the date of final payment under the Contract. The personal information shall continue to be confidential and shall only be disclosed as permitted or required by law. After the three (3) year, or longer retention period as required by law has ended, the files, books, and records that contain personal information shall be destroyed pursuant to chapter 487R, HRS or returned to the STATE at the request of the STATE.
32. Antitrust Claims. The STATE and the CONTRACTOR recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the purchaser. Therefore, the CONTRACTOR hereby assigns to STATE any and all claims for overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from violations commencing after the price is established under this Contract and which are not passed on to the STATE under an escalation clause.
33. Patented Articles. The CONTRACTOR shall defend, indemnify, and hold harmless the STATE, and its officers, employees, and agents from and against all liability, loss, damage, cost, and expense, including all attorneys fees, and all claims, suits, and demands arising out of or resulting from any claims, demands, or actions by the patent holder for infringement or other improper or unauthorized use of any patented article, patented process, or patented appliance in connection with this Contract. The CONTRACTOR shall be solely responsible for correcting or curing to the satisfaction of the STATE any such infringement or improper or unauthorized use, including, without limitation: (a) furnishing at no cost to the STATE a substitute article, process, or appliance acceptable to the STATE, (b) paying royalties or other required payments to the patent holder, (c) obtaining proper authorizations or releases from the patent holder, and (d) furnishing such security to or making such arrangements with the patent holder as may be necessary to correct or cure any such infringement or improper or unauthorized use.

34. Governing Law. The validity of this Contract and any of its terms or provisions, as well as the rights and duties of the parties to this Contract, shall be governed by the laws of the State of Hawaii. Any action at law or in equity to enforce or interpret the provisions of this Contract shall be brought in a state court of competent jurisdiction in Honolulu, Hawaii.
35. Compliance with Laws. The CONTRACTOR shall comply with all federal, state, and county laws, ordinances, codes, rules, and regulations, as the same may be amended from time to time, that in any way affect the CONTRACTOR'S performance of this Contract.
36. Conflict Between General Conditions and Procurement Rules. In the event of a conflict between the General Conditions and the procurement rules, the procurement rules in effect on the date this Contract became effective shall control and are hereby incorporated by reference.
37. Entire Contract. This Contract sets forth all of the agreements, conditions, understandings, promises, warranties, and representations between the STATE and the CONTRACTOR relative to this Contract. This Contract supersedes all prior agreements, conditions, understandings, promises, warranties, and representations, which shall have no further force or effect. There are no agreements, conditions, understandings, promises, warranties, or representations, oral or written, express or implied, between the STATE and the CONTRACTOR other than as set forth or as referred to herein.
38. Severability. In the event that any provision of this Contract is declared invalid or unenforceable by a court, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining terms of this Contract.
39. Waiver. The failure of the STATE to insist upon the strict compliance with any term, provision, or condition of this Contract shall not constitute or be deemed to constitute a waiver or relinquishment of the STATE'S right to enforce the same in accordance with this Contract. The fact that the STATE specifically refers to one provision of the procurement rules or one section of the Hawaii Revised Statutes, and does not include other provisions or statutory sections in this Contract shall not constitute a waiver or relinquishment of the STATE'S rights or the CONTRACTOR'S obligations under the procurement rules or statutes.
40. Pollution Control. If during the performance of this Contract, the CONTRACTOR encounters a "release" or a "threatened release" of a reportable quantity of a "hazardous substance," "pollutant," or "contaminant" as those terms are defined in section 128D-1, HRS, the CONTRACTOR shall immediately notify the STATE and all other appropriate state, county, or federal agencies as required by law. The Contractor shall take all necessary actions, including stopping work, to avoid causing, contributing to, or making worse a release of a hazardous substance, pollutant, or contaminant, and shall promptly obey any orders the Environmental Protection Agency or the state Department of Health issues in response to the release. In the event there is an ensuing cease-work period, and the STATE determines that this Contract requires an adjustment of the time for performance, the Contract shall be modified in writing accordingly.
41. Campaign Contributions. The CONTRACTOR is hereby notified of the applicability of 11-355, HRS, which states that campaign contributions are prohibited from specified state or county government contractors during the terms of their contracts if the contractors are paid with funds appropriated by a legislative body.
42. Confidentiality of Personal Information.
- a. Definitions.
- "Personal information" means an individual's first name or first initial and last name in combination with any one or more of the following data elements, when either name or data elements are not encrypted:
- (1) Social security number;
  - (2) Driver's license number or Hawaii identification card number; or

- (3) Account number, credit or debit card number, access code, or password that would permit access to an individual's financial information.

Personal information does not include publicly available information that is lawfully made available to the general public from federal, state, or local government records.

"Technological safeguards" means the technology and the policy and procedures for use of the technology to protect and control access to personal information.

b. Confidentiality of Material.

- (1) All material given to or made available to the CONTRACTOR by the STATE by virtue of this Contract which is identified as personal information, shall be safeguarded by the CONTRACTOR and shall not be disclosed without the prior written approval of the STATE.
- (2) CONTRACTOR agrees not to retain, use, or disclose personal information for any purpose other than as permitted or required by this Contract.
- (3) CONTRACTOR agrees to implement appropriate "technological safeguards" that are acceptable to the STATE to reduce the risk of unauthorized access to personal information.
- (4) CONTRACTOR shall report to the STATE in a prompt and complete manner any security breaches involving personal information.
- (5) CONTRACTOR agrees to mitigate, to the extent practicable, any harmful effect that is known to CONTRACTOR because of a use or disclosure of personal information by CONTRACTOR in violation of the requirements of this paragraph.
- (6) CONTRACTOR shall complete and retain a log of all disclosures made of personal information received from the STATE, or personal information created or received by CONTRACTOR on behalf of the STATE.

c. Security Awareness Training and Confidentiality Agreements.

- (1) CONTRACTOR certifies that all of its employees who will have access to the personal information have completed training on security awareness topics relating to protecting personal information.
- (2) CONTRACTOR certifies that confidentiality agreements have been signed by all of its employees who will have access to the personal information acknowledging that:
  - (A) The personal information collected, used, or maintained by the CONTRACTOR will be treated as confidential;
  - (B) Access to the personal information will be allowed only as necessary to perform the Contract; and
  - (C) Use of the personal information will be restricted to uses consistent with the services subject to this Contract.

d. Termination for Cause. In addition to any other remedies provided for by this Contract, if the STATE learns of a material breach by CONTRACTOR of this paragraph by CONTRACTOR, the STATE may at its sole discretion:

- (1) Provide an opportunity for the CONTRACTOR to cure the breach or end the violation; or
- (2) Immediately terminate this Contract.

In either instance, the CONTRACTOR and the STATE shall follow chapter 487N, HRS, with respect to notification of a security breach of personal information.

e. Records Retention.

- (1) Upon any termination of this Contract or as otherwise required by applicable law, CONTRACTOR shall, pursuant to chapter 487R, HRS, destroy all copies (paper or electronic form) of personal information received from the STATE.
- (2) The CONTRACTOR and any subcontractors shall maintain the files, books, and records that relate to the Contract, including any personal information created or received by the CONTRACTOR on behalf of the STATE, and any cost or pricing data, for at least three (3) years after the date of final payment under the Contract. The personal information shall continue to be confidential and shall only be disclosed as permitted or required by law. After the three (3) year, or longer retention period as required by law has ended, the files, books, and records that contain personal information shall be destroyed pursuant to chapter 487R, HRS or returned to the STATE at the request of the STATE.

**Hōkū Nui, Maui**  
**Forest Stewardship Management Plan**

**I. Cover Sheet**

**Applicant information**

Applicant name: Hoku Nui Maui LLC  
Mailing address: P.O. Box 1355, Makawao, HI 96768  
Email: andrea@hokunui.com or greg@hokunui.com  
Phone and fax number: 808-960-3727 (Andrea Dean) or 914-319-6708 (Greg Raab)

**Property information** (same as project proposal)

Landowner name: Hoku Nui Maui LLC  
Lease/License holder name: Hoku Nui Farms LLC  
Tax Map Key number(s): 2-4-012:005, 039-046  
State and County land use district or (zone) designation: Agricultural  
Property acreage: 258  
Farm Service Agency Tract Number (if you already have one):  
Acres of stewardship management area: 13.49 acres  
Approximate elevation: 1630–2080 ft asl  
Average annual rainfall (use <http://rainfall.geography.hawaii.edu/>): 1740–2460 mm (69–97 inches)  
(interactive map, Giambelluca 2013)  
Slope: 5–15% on arable regions, up to an estimated 40% adjacent to the steepest gulches  
Perennial or intermittent stream courses: Yes, water flows intermittently in meandering shallow valleys through the center of the site and in a gulch along western boundary.

**Consultant information**

Consultant's name, title: Craig Elevitch  
Company, address: Permanent Agriculture Resources, P.O. Box 428, Holualoa, HI 96725  
Email: cre@agroforestry.net  
Phone number: 808-324-4427  
Date the plan was completed (or revised): April 23, 2018 (4th revision for submission to FSP manager)

## II. 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: Craig Elevitch

Professional Resource Consultant's Name

Professional Resource Consultant's Signature: Craig Elevitch

Date: December 27, 2017

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: Hoku Nui Maui LLC

Applicant's Name

Applicant's Signature: [Signature]

Date: December 27, 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: \_\_\_\_\_

State Forester's Name

State Forester's Signature: [Signature]

Date: 5/8/18

Forest Stewardship Advisory Committee Approval: This plan was reviewed and approved by the Forest Stewardship Advisory Committee on January 19, 2018

Date of approval

### **III. Introduction**

#### **A. Vision and Long-Term Goals of the Project**

Hōkū Nui’s vision is “to create a thriving self-sustaining community where the health and vibrancy of nature is paramount.” With thoughtful and in-depth planning, it is envisioned that this Forest Stewardship project will plant 13.49 acres of the 258-acre site with Hawaiian native forest and multistory agroforestry. No commercial timber plantings are planned. This project complements the managed intensive non-selective rotational grazing currently taking place on about 100 acres for livestock by enhancing watershed function and providing biodiverse habitat. In the future, forty home lots are planned for sustainable island living in clusters throughout the site, occupying a total of approximately 20 acres. A Hawaiian cultural and native planting for Keali’i Reichel’s Hālau Ke’alaokamaile is currently being established on 6 acres adjacent to the Forest Stewardship management area, including a teaching facility and collection of plant materials for hula, clothing, craft, and lā’au lapa’au. Native forest will support the cultural education programs of the hālau and Hōkū Nui’s engagement with the Hawaiian community. The remainder of the property is used for farm infrastructure, water storage in ponds, and road access.

#### **Regenerative long-term goals of the project include:**

- Improve watershed function through tree planting and sound conservation practices
- Reconnect people to the land and cultural heritage
- Utilize agroforestry techniques for native forest establishment
- Integrate agroforestry for agricultural production
- Improve water, soil, and vegetation resources
- Prevent waste of financial, human, and natural resources

#### **B. Description of the Property**

The 258-acre property is located in the Makawao ahupua’a, Hāmākua Poko Moku. Property is immediately above St. Joseph’s Church in Makawao, borders the western edge of Pi’iholo Road for approximately 1.5 mile along the eastern boundary, the University of Hawai’i Experiment Station to the south, and Huluhulu li’ili’i and Kū’aihulumoa gulches to the west.

#### **C. Project Management Objectives and Goals**

This project includes the following management objectives:

##### **Forest Stewardship management plan development (this document)**

The project is the result of thoughtful planning over several years by the Hōkū Nui team and its advisors. This Forest Stewardship management plan was prepared in close collaboration with the Hōkū Nui team, including Erik Frost, Karin Frost, Joshua Chavez, Gregory Raab, William Abreu, Puna Krauss, Nicholas Sickles, and Andrea Dean. Koa, Kepa, and Ka’awa Hewahewa co-developed the overall site and implementation plans with deep sensitivity to the life of the land. Mana’o from Kumu Keali’i Reichel connected design thinking to cultural roots. Anna Palomino provided expertise in native

plant selection. Two previous site surveys by Forest and Kim Starr and James McIntosh and Paul L. Cleghorn (included as Attachments 1 and 2) were foundational to the design process. Finally, Darren Doherty provided inspired overarching concepts for the regenerative farm plan.

#### **Native forest (8.59 acres)**

Central to this plan is the establishment of native forest to address resource concerns such as soil degradation and erosion, while creating habitat for native flora and fauna. This part of the project will be a learning environment to study native forest restoration and the role of the watershed. It is expected that the native forest area will become a site for practitioners to gather natural materials for cultural purposes complementing the adjacent 6-acre native forest project by Hālau Ke‘alaokamaile. The Starr and Starr (2014) native flora survey provides a sense of the original native forest. Additionally, the project managers have consulted extensively with a number of Maui-based native plant and cultural experts about the species that were present prior to disturbances. It is expected that many of the original species and the forest structure can be reestablished. During the first 3–5 years of each new planting, a few traditional canoe crops will be grown together with the young native plants in order to provide beneficial growth conditions such as wind shelter as well as yielding food for the community and generating income to help cover the expenses of forestry establishment.

#### **Agroforestry, production (4.90 acres)**

Open pasture will be converted to multistory agroforestry including fruit and nut trees and shrubs planted in a multistory, biodiverse system. It will also include some native trees and shrubs to provide ecosystem services, cultural connection, and potentially serve a minor role in providing native habitat to complement the native forest plantings. Production from this agroforest will supply the local market with fresh produce and help cover the costs of the other management objectives implemented under this plan. A secondary benefit to the community is the visibility of the project from Pi‘iholo Road, serving as a demonstration to others for planting biodiverse food systems as an alternative to monocultures.

#### **Fencing (5,213 linear feet)**

Proposed forestry activities require fencing to protect planted areas from deer and to provide an additional safeguard against the cattle and sheep in adjoining pastures. Cattle and sheep graze about half of the property and are an integral part of the financial sustainability of the Hōkū Nui Farms business plan. Exclusion fencing that provides protection from livestock and feral deer will be built to comply with state and federal fencing guidelines to protect the significant forest stewardship and owner investment in new tree plantings.



#### **D. Maps (see Sections V and VIII)**

Map 1: location of Hōkū Nui on Maui

Map 2: topographic map of Hōkū Nui

Map 3: proposed FSP practices at Hōkū Nui

#### **E. Land Use History and Description of Present Conditions**

The site vegetation and condition was carefully evaluated for Hōkū Nui by Starr Environmental (Forest and Kim Starr) in January 2014 in a 19-page report entitled, “Botanical and Faunal Survey, Hoku Nui Sustainable Community, Pihiolo, Maui,” included with this plan as Attachment 1. This report states, “The original vegetation on the site would have been a diverse mesic native forest. Typical canopy species would have included koa (*Acacia koa*), ohia (*Metrosideros polymorpha*), halapepe (*Chrysodracon auwahiensis*), and olopua (*Nestegis sandwicensis*). After the arrival of humans, a series of forces including fire, agriculture, and introduced plants, animals, and diseases transformed the site to predominantly non-native vegetation.”

The arable portions of the land were previously used for pineapple cultivation beginning in the late 1800’s until circa 2005. These previously cultivated areas are currently being used primarily for rotational grazing by cattle, sheep, and chicken (in sequence).

Steep gulch areas along the western boundary and a few isolated patches are occupied by secondary, exotic forest regrowth: “... comprised of predominantly nonnative kukui nut (*Aleurites moluccana*), Christmas berry (*Schinus terebinthifolius*), black wattle (*Acacia mearnsii*), and eucalyptus (*Eucalyptus* spp.)” (Starr and Starr 2014).

A comprehensive archaeological survey that included the project site was carried out in May 2008 (see Attachment 2, “Archaeological Inventory Survey (TMK (2) 2-4-12: 5, 9)” by James McIntosh and Paul L. Cleghorn of Pacific Legacy, Inc.). The survey concluded that two archeological sites of significance were present on the site. One of these is a well-documented burial site (Site 50-50-06-5501) on the edge of the property immediately adjacent to Pi’iholo Road. The other archeological site (Site 50-50-06-6274) consists of a retaining wall and associated terrace and is located adjacent to the gulch at on the west side of the property. The landowner will passively preserve these two sites. The report further states that if alterations of the site near the gulch are planned, “further archaeological investigation at this site should be undertaken prior to any ground altering activities.” No such alterations are contemplated.

### **IV. Land and Resource Description**

Brief summaries of the Starr and Starr (2014) findings are included where noted in this section.

#### **A. Existing Vegetation/Forest Types**

Starr and Starr (2014) report, “The vegetation on the site is predominantly non-native. There are two main vegetation types, open pasture and forested gulch. The relatively flat open areas that make up the

bulk of the site are an open grassland of numerous non-native pasture grasses. The most common grasses in the pastures include Guinea grass (*Megathyrsus maximus*), molasses grass (*Melinis minutiflora*), Natal red (*Melinis repens*), broom sedge (*Andropogon virginicus*), Kikuyu grass (*Cenchrus clandestinus*), cane grass (*Cenchrus purpureus*), pangola grass (*Digitaria eriantha*), sourgrass (*Digitaria ciliaris*), and vasey grass (*Paspalum urvillei*).

Herbaceous plants in the pastures include fireweed (*Senecio madagascariensis*), tick clover (*Desmodium* spp.), partridge pea (*Chamaecrista nictitans*), Spanish needle (*Bidens pilosa*), hairy cat's ear (*Hypochoeris radicata*), and balloon plant (*Asclepias physocarpa*). Some savannah occurs in the SW corner of the property, where the pastures include young trees of non-native black wattle (*Acacia mearnsii*). This area also contains nonnative tree species escaping from the nearby University of Hawaii Agricultural Station, predominantly pines (*Pinus* spp.) and Acacia (*Acacia* spp.).

The only native plants in the pastures are uhaloa (*Waltheria indica*) and popolo (*Solanum americanum*), both species are considered questionably indigenous and are common in Hawaii and elsewhere.”

“The gulches that approximate the western boundary of the property are forested. The mauka portion of these gulches is generally dominated by eucalyptus (*Eucalyptus* spp.) and black wattle (*Acacia mearnsii*). The makai portion is mostly dominated by kukui nut (*Aleurites moluccana*) and Christmasberry (*Schinus terebinthifolius*). Other, less common, tree species in the gulches include strawberry guava (*Psidium cattleianum*), java plum (*Syzygium cumini*), jacaranda (*Jacaranda mimosifolia*), camphor (*Cinnamomum camphora*), and tropical ash (*Fraxinus uhdei*). The understory is rather open, in many places it is bare soil. Predominant in some areas of the gulch bottom are ape (*Xanthosoma robustum*). Other non-native understory plants include Jerusalem cherry (*Solanum pseudocapsicum*), bamboo grass (*Osplimenus hirtellus*), panic veldt grass (*Ehrharta erecta*), and thimbleberry (*Rubus rosifolius*).

There are two native fern species in the gulch. The most common of these is palapalai (*Microlepia strigosa*), of which patches of various sizes can be found scattered about the gulch understory, especially where there are kukui nut trees. The other native fern in the gulch is pakahakaha (*Lepisorus thunbergianus*), which was on tree trunks. On the gulch edge was koali awa (*Ipomoea indica*), a common indigenous vine.”

## **B. Existing Forest Health and Function**

### **i. Invasive species**

Nearly all species on the site as listed above are considered invasive.

### **ii. Threats (disease, insect, rodents, fire, etc)**

Threats to new plantings include rodents, certain birds, pigs, and axis deer. Wind and drought are significant environmental challenges for this site. Livestock and poultry grazing on the property also pose a threat if not reliably contained and carefully managed during rotation.

### C. Soils

The arable areas of the site are classified as Makawao Series (7–15% slope), and the gulches are classified Rock Land (0–70% Slope). Individual descriptions are given below. The text and tables describing these soils are excerpted from Hawai'i Soil Atlas (<http://gis.ctahr.hawaii.edu/SoilAtlas>), which draws primarily from the USDA NRCS soil maps.

#### **Makawao Series (7–15% slope)**

This prime-farmland soil is found on the upland slopes of Makawao on Maui. This soil is primarily used for pasture, with some areas used for small-scale farming.

Water	Moderate water holding capacity. Fast permeability. Little chance of runoff and erosion.
Fertility	Naturally infertile (Fertility Class = Infertile). Low nutrient holding capacity. Often deficient in calcium, magnesium, and potassium. However, with proper nutrient amendment, it can be productive.
Phosphorous	High phosphorus reactivity. “Fixes” phosphorus, making added phosphorus initially unavailable to plants. Requires high phosphorus additions to compensate.
Acidity	Extremely acidic to slightly acidic (pH = 4.3–6.0). Aluminum toxicity is common if pH drops below 5.5. Acidity expected to increase if have history of plantation agriculture (i.e., sugarcane, pineapple). May require liming when intensively farmed.
Structure	Strong physical structure that provides good soil tilth and stable conditions for engineering and construction.
Taxonomy	Very-fine, parasesquic, isothermic Ustic Palehumults

#### **Rock Land (0–70% Slope)**

These areas have very shallow soils, also comprised of exposed bedrock. They are found on all islands, particularly on mountain ridges that range in elevation and slope. These areas are mostly forested.

Water	High water holding capacity for areas covered with soil. Little to no water holding capacity for portions covered by bedrock. Limited permeability. Very susceptible to runoff and erosion on steep slopes.
Fertility	Infertile (Fertility Class = Other). Not suited to farming due to slope and exposed bedrock. Uses are limited to pasture, woodland, or wildlife habitat.
Phosphorous	Low phosphorus reactivity. Phosphorus readily available to plants.
Acidity	Near neutral to slightly alkaline (pH = 6.6–7.3).
Structure	Weak physical structure and steep slope make these lands unsuitable for engineering and cultivation. Thin soil layer also swells when wetted and shrinks when dried.
Taxonomy	Lithic Ustorthents

#### D. General Slope and Aspect

The majority of the site is 7–15% slope with generally northwest aspect. Some areas with steeper slope exist along road cuts. Steep slopes border the Huluhulu li‘ili‘i and Kū‘aihulumoa gulches on the western side of the property.

#### E. Water Resources

Historical annual rainfall is 1740–2460 mm (69–97 inches) (Giambelluca 2013) with peak rainfall during the Nov.–April period.

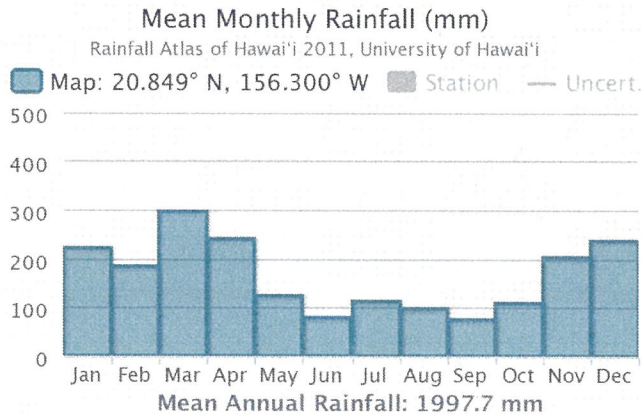


Figure 1: Historical rainfall pattern at Hōkū Nui.

A series of seven catchment ponds are planned to retain water for forestry, agricultural and livestock use. The farm roads are designed as catchment surfaces to direct surface water from the property into the catchment ponds. The first of these ponds was constructed in December 2016. Hōkū Nui has also installed a photovoltaic powered well at the bottom of the site for residential potable water use.

#### F. Timber Resources

No significant timber resources exist on the site.

#### G. Wetland Resources

There exist no wetland resources on the site.

#### H. Significant Historic and Cultural Resources

As mentioned above, two isolated burial sites were identified. For further detail, see the archeological survey, Attachment 2.

#### I. Existing Wildlife

Starr and Starr (2014) state, “In the gulches trails and tracks of wild axis deer (*Axis axis*) were visible. A few mongoose (*Herpestes javanicus*) were observed running across the roads into the grass. ... Other mammals likely to utilize this property, ... include wild pigs (*Sus scrofa*), rats (*Rattus* spp.), mice (*Mus domesticus*), and cats (*Felis domesticus*). ... Some of the most prevalent birds on the site were Scaly-

breasted Munia (*Lonchura punctulata*), .... Also conspicuous were Cattle Egrets (*Bubulcis ibis*), Common Mynas (*Acridotheres tristis*), Skylarks (*Alauda arvensis*), and Ring-necked Pheasants (*Phasianus colchicus*).” Native wildlife is covered in the next section.

#### **J. Threatened and Endangered Species**

Starr and Starr (2014) report, “Most of the project area has been heavily impacted by previous human disturbances and is currently dominated by hardy non-native plants. The native plant species found on the site are common throughout Hawaii and elsewhere and are of no special conservation concern. No special native plant habitats occur on the project site.”

“Bats [Hawaiian hoary bat or ‘ōpe‘ape‘a, an endangered species] are relatively common in the Olinda/Piihola area of Maui, and are regularly observed on and near the Hoku Nui property. ... Hawaiian Hoary Bats roost in tall trees in sheltered areas, such as on the branch tips of mature Eucalyptus trees. The bats give birth to and raise their young in the summer. Avoiding cutting large trees during the summer months [n.b. USFWS recommends June 1–September 15] will help minimize potential impact to young bats that have not yet learned to fly.”

Starr and Starr (2014) and those who work on the site also report that Nene (*Branta sandvicensis*) and Kolea (*Pluvialis fulva*) are known to forage in the pasture. “Pueo (*Asio flammeus sandwichensis*) was mentioned by site workers as occasionally present. This native owl likely utilizes the pastures for hunting and possibly nesting. The project calls for continued grazing and pasturage, which would continue to benefit this native owl.”

#### **K. Existing Recreational and Aesthetic Values**

The site currently has limited recreational or aesthetic values. It is noteworthy for future activities, that the site is quite visible from Pi‘ihola Road, indicating the potential for demonstrating agroforestry to passersby.

#### **L. Infrastructure and Access Conditions**

The site has good access from multiple entries along Pi‘ihola Road. Within the property, a number of dirt access roads (some inherited from legacy pineapple operations) give ample access throughout the agricultural areas of the property. An existing farm stand will be a major outlet for farm produce.

### **V. Management Objectives and Practices**

Implementation techniques for native forest restoration, agroforestry, and windbreaks will be very similar. All of these management objectives will convert areas that are currently being mowed or utilized as open pasture, which means that similar establishment techniques can be used. The primary differences in implementing these three objectives are species selection and, to some extent, spacing. Practices were developed to meet USDA Organic standards, in case such a certification is eventually desired.

Table 1: Units installed per year.

Year	Native forest (ac)	Agroforestry, production (ac)	Total acres/year	Fence (ft)
1	0	2.4	2.4	2,363
2	0	2.5	2.5	2,850
3	2.44	0	2.44	
4	1.91	0	1.91	
5	1.78	0	1.78	
6	1.17	0	1.17	
7	1.29	0	1.29	
8	0	0	0	
9	0	0	0	
10	0	0	0	
<b>Totals</b>	<b>8.49</b>	<b>4.90</b>	<b>13.49</b>	<b>5,213</b>

Table 2: Units maintained per year. This assumes 3 years of maintenance including the installation year.

Year	Native forest (ac)	Agroforestry, production (ac)	<b>Total (ac)</b>
1	0	2.4	2.4
2	0	4.9	4.9
3	2.44	4.9	7.34
4	4.35	2.5	6.85
5	6.13	0	6.13
6	4.86	0	4.86
7	4.24	0	4.24
8	2.46	0	2.46
9	1.29	0	1.29
10	0	0	0



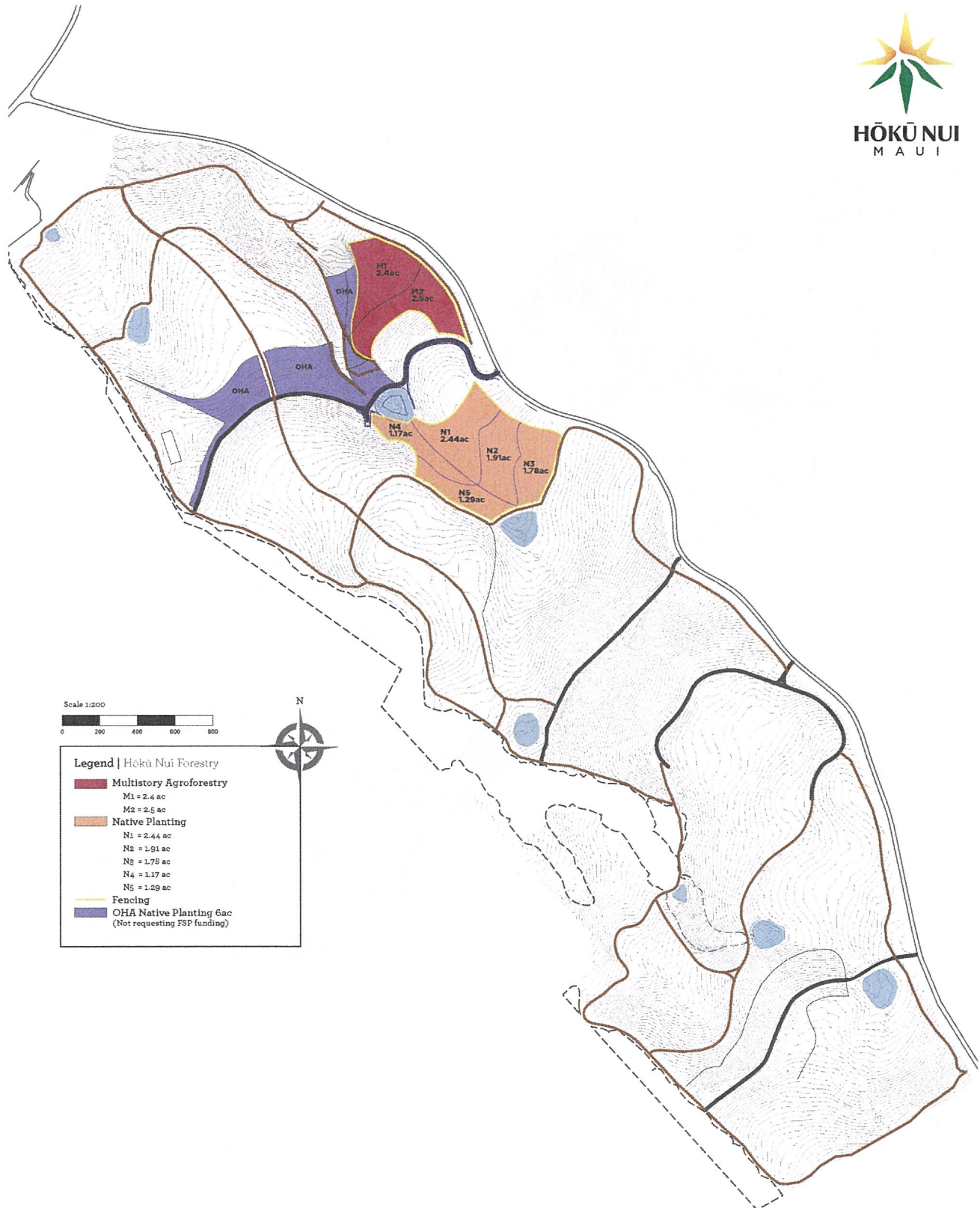


Figure 2. Hōkū Nui Maui FSP implementation map.



Figure 3: Hōkū Nui Maui full farm map with FSP implementation.





Figure 4: Larger scale map of FSP implementation areas (as well as OHA areas).

## Fence

### (Fence NRCS Practice Code 382)

A woven wire fence will be installed prior to planting in order to protect the plantings from deer and cattle. The 6 ft tall exclusion fence will comply with state and federal fencing guidelines. Hōkū Nui's skilled workers will build the fence. As a cost-saving measure, ClipEx brand fencing materials (<http://clipex.com.au/>) will be used, which meet or exceed NRCS specifications, but include labor saving design features including built-in wire clips that replace tie wires. The fence will be inspected with a walk-around at regular intervals to ensure that there are no deficiencies in its structure.

All materials meet State and Federal Regulations

- 8.5 ft (260 cm) galvanized T-posts with built-in clips
- 5.9 ft (180 cm) coated woven wire
- All posts will be set at 30 inch depth
- All posts will be set at maximum 16.5 ft apart
- Bracing to be applied in accordance with NRCS specifications
- Pressure treated brace posts of approved diameter.



## Tree and Shrub Site Preparation

### (Tree/Shrub Site Preparation NRCS practice code 490)

The forest management team at Hōkū Nui has been developing cost-effective techniques for converting open pasture to forest that adhere to requirements of the USDA organic standard. The land preparation is more costly than applying herbicides, however, not only does the method described below adhere to organic standards, but it helps reverse compaction from decades of industrial agriculture as well as optimizing growth of the new planting. Rapid and healthy initial growths saves costs by suppressing weed growth within the planting rows through light, water, and nutrient competition. The initial site preparation involves weakening the pasture grasses (primarily Guinea grass [*Megathyrsus maximus*] and elephant grass [*Pennisetum purpureum*]) by shallow tilling twice, roughly 2–3 weeks apart. Deep subsoil ripping along the contour with a Yeomans Plough will also be carried out as part of the land preparation treatment where the terrain and substrate allow. This ripping greatly increases infiltration of rainwater into soil strata, reducing erosion and increasing soil water storage capacity.

Immediately after tilling, a cover of Sunn hemp (*Crotalaria juncea*) and/or pigeon pea (*Cajanus cajan*) are planted (Figure 5) to colonize the bare soil before weeds can become established, and to provide a large quantity of organic matter for mulching the new planting 4–6 months later (see also Mulching below). This method of in-place mulch production is expected to save a significant amount of money compared with hauling and spreading all of the needed organic mulch from off-site sources.

These are the steps used for land preparation:

- 1) Box scrape to weaken grasses
- 2) Rake out rocks
- 3) Till
- 4) After 2–3 weeks till again
- 5) Rake out rocks
- 6) Add amendments as needed
- 7) Sow cover crop



Figure 5: Immediately after soil preparation, initial green manure planting for the Mulching practice gives full coverage to suppress grass growth, create abundant mulch for planting, and establish a quick windbreak for the new planting.



## Mulching

### (Mulching NRCS Practice Code 484)

As a component of site preparation, the planting of a green manure crop of Sunn hemp (*Crotalaria juncea*) and pigeon pea (*Cajanus cajan*) is expected to produce 40–60,000 lb/ac of above-ground biomass within 4–6 month's time that will either be chipped into small pieces using a flail mower or lodged using a roller-crimper in order to mulch the planting rows. The mulch provided by this method is expected to cover the planting rows at least two inches deep with organic matter. Additionally, the green manure crop contributes a large amount of organic matter below ground in their root systems. As shown in Figure 6, 7–8 ft wide strips of the Sunn hemp/pigeon pea will be left in the alleys between every other planting row for wind protection for the new planting. In areas where this green manure method fails due to various factors such as weather, mulch will be hauled in and spread a minimum of 3 inches deep along the planting rows. The other alleys between planting rows will continue to be mowed for mulch as a range of species (expected to be dominated by Guinea grass) re-establishes.

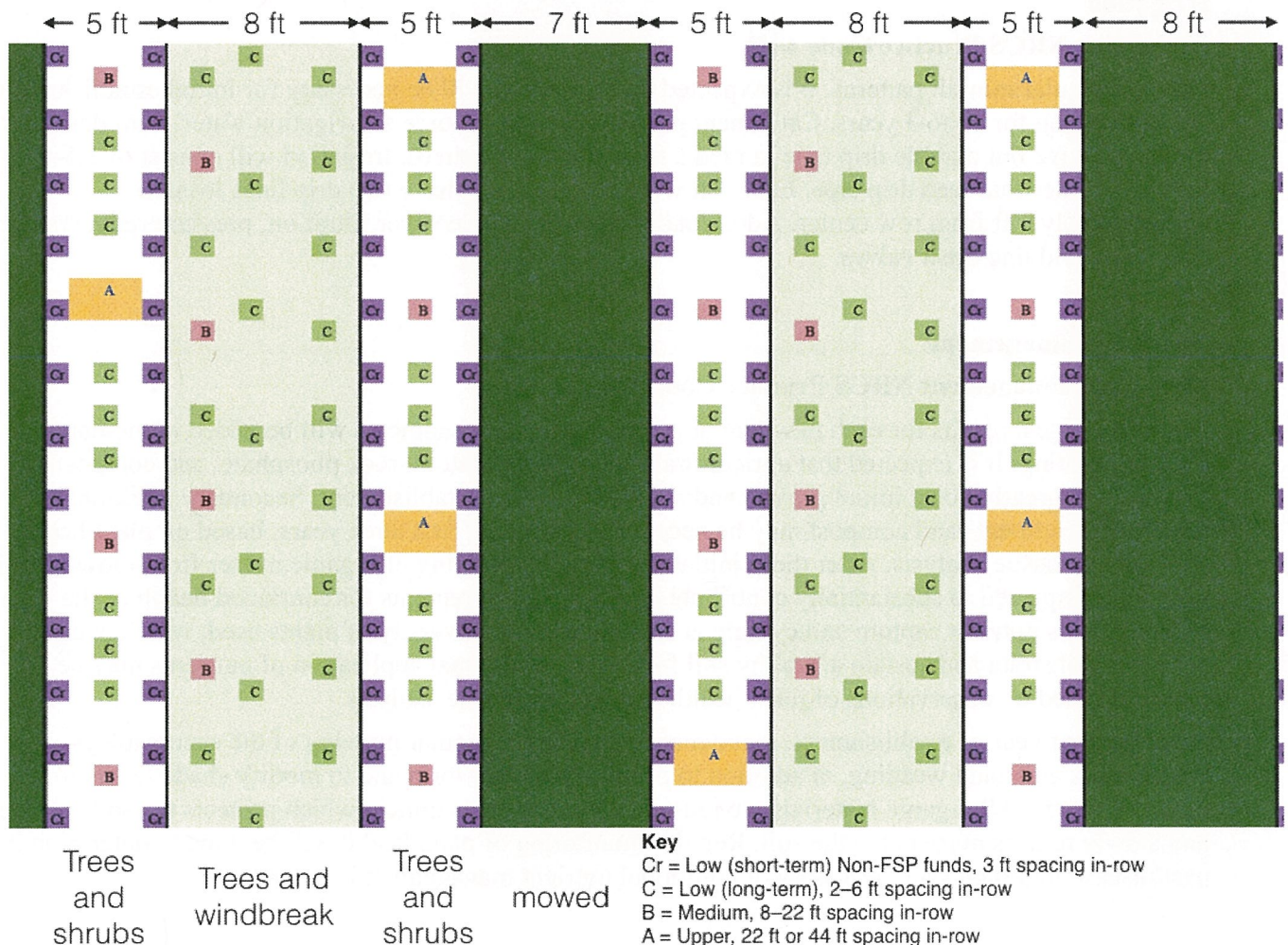


Figure 6: Initial planting immediately after mowing green manure for both Multistory Cropping (agroforestry) and Tree/Shrub Establishment (native reforestation). The species used are selected from their respective size categories in Tables 3 and 4.

## **Groundcover Establishment**

### **(Conservation Cover NRCS Practice Code 327)**

In addition to a dense planting of trees and shrubs, a permanent ground cover will be planted within the tree rows. This cover will displace undesirable weeds and form a ground layer that captures nutrients and adds organic matter to the soil. Additionally, ground layer growth will effectively reduce rain impact erosion and help trap suspended solids during heavy rainfall. Ground cover species that will be used include perennial peanut (*Arachis* sp.), 'iliee (*Plumbago zeylanica*), pohuehue (*Ipomoea pes-caprae* subsp. *Brasiliensis*), nanea (*Vigna marina*), sweet potato (*Ipomoea batatas*), and other NRCS-approved noninvasive ground covers. Ground cover planting will occur immediately after the green manure crop is mowed, simultaneously with planting of trees and shrubs. The advantages of this system are that reduced open space will be available for weeds and weed control costs are partially offset by anticipated income from short-term crops.

## **Irrigation**

### **(Irrigation NRCS Practice Code 441)**

Due to irregular rainfall patterns, it is expected that irrigation will be necessary for initial establishment and continuing for up to 3 years. Catchment ponds will be the source of irrigation water, with delivery by inexpensive but durable drip tape (a media filter will be required). Irrigation will consist of 1.5–2 inch main lines that feed drip tape. Each 4 ft wide crop row will have two drip lines located approximately 1 ft from row center. Additional materials include water filtration, pressure reducers (for drip tape), and line flush valves.

## **Nutrient Management**

### **(Nutrient Management NRCS Practice Code 590)**

Pending soil test results for each new planting area, nutrient amendments will be added immediately prior to planting. It is expected that agricultural lime (non-hydrated), rock phosphate, and composted manure will greatly boost initial growth and aid in rapid plant establishment. Secondary additions of mineral amendments and compost may be necessary during the first three years, based on plant health and soil and tissue analysis. After these initial amendments, cycling of organic matter from mowing and pruning is expected to substantially contribute to nutrient requirements for continued health of the planting. This nutrient capture and cycling is enhanced by the diversity of plants used, which occupy different soil strata and sustain a healthy soil food web. Additional application of nutrients may be required based on observations of plant health and soil and tissue analysis.

After the first year of establishment, maintenance consists of regular mowing of the access alleys, weedeating, and hand weeding, in addition to pruning for plant form and to modify shade levels for lower canopies. All organic materials are reused in the system as mulch, which protects the soil surface and slowly returns nutrients to the soil. Regular monitoring of plant health will be done to determine if pest/disease treatments are necessary or additional nutrient management is necessary.

## **Weed Control**

### **(Herbaceous Weed Control NRCS Practice Code 315)**

Weed control will be carried out by mechanical means including mowing, brush cutting, and by hand close to crops and other desired plants. Additionally, as described above, perennial ground covers and short-term crops will occupy the open space between the slower growing long-term trees and shrubs. As the canopy closes, the ground covers will become displaced.

## **Tree and Shrub Establishment**

### **(includes Multistory Cropping for agroforestry (NRCS Practice Code 379) and Tree/Shrub Establishment for native forestry (NRCS Practice Code 612))**

Planting for the native forestry and agroforestry management objectives will both follow the spatial pattern and spacing as depicted in Figure 6 with species listed in Table 3 and Table 4. The planting pattern (Figure 6) permits a diverse range of species to be arranged in a multistory agroforest consistent with the NRCS Multistory Cropping practice standard. The species lists allow for selection of species based upon performance on the site and availability of plant material.

Planting of long-term low, medium, and upper strata plants, as well as short-term low strata crops (not FSP cost-shared) will take place immediately after mulching. As noted above, the short-term crops will be grown in the space between plants to provide early environmental benefits, such as ground cover and wind protection to the long term trees and shrubs, in addition to an early income stream to help offset the cost of establishment. These short-term crops will be phased out as the long-term trees and shrubs close canopy.

Table 3: Tree/Shrub Establishment (native reforestation) species

Low (short-term) Non-FSP funds	Low (long-term)	Medium	Upper	Short-term windbreak
‘awa ( <i>Piper methysticum</i> ) taro ( <i>Colocasia esculenta</i> ) turmeric ( <i>Curcuma longa</i> ) ‘uala ( <i>Ipomoea batatas</i> )	‘a‘ali‘i ( <i>Dodonaea viscosa</i> ) ala ala wai nui ( <i>Plectranthus parviflora</i> ) alahe‘e ( <i>Psydrax odoratum</i> ) hoi kuahiwi ( <i>Smilax melastomifolia</i> ) kokio ( <i>Hibiscus kokio</i> ) māmaki ( <i>Pipturus albidus</i> ) naio ( <i>Myoporum sandwicense</i> ) naupaka kuahiwi ( <i>Scaevola gaudichaudiana</i> ) ‘oha wai nui ( <i>Clermontia kakeana</i> ) pilo ( <i>Coprosma</i> sp.) pukiawe ( <i>Styphelia tameiameia</i> )	halapepe ( <i>Pleomele halapepe</i> ) ho‘awa ( <i>Pittosporum</i> sp.) ‘iliahi (native <i>Santalum</i> sp.) koai‘a ( <i>Acacia koa</i> ) kolea ( <i>Myrsine</i> sp.) kopiko ( <i>Psychotria</i> sp.) lama ( <i>Diospyros sandwicensis</i> ) maile ( <i>Alyxia oliviformis</i> ) mamane ( <i>Sophora chrysophylla</i> ) nenele‘au ( <i>Rhus sandwicensis</i> ) olopua ( <i>Nestegis sandwicensis</i> ) papala ( <i>Charpentiera obovate</i> ) papala kepau ( <i>Pisonia umbellifera</i> ) wiliwili ( <i>Erythrina sandwicensis</i> )	koa ( <i>Acacia koa</i> ) lo‘ulu ( <i>Pritchardia</i> spp.) maua ( <i>Xylosma hawaiiense</i> ) ohe mauka ( <i>Tetraplasandra</i> sp.) ‘ōhi‘a ( <i>Metrosideros polymorpha</i> ) olapa ( <i>Cheirodendron</i> sp.)	banana (dwarf apple) ( <i>Musa</i> sp.) pigeon pea ( <i>Cajanus cajan</i> ) kō (sugar cane) ( <i>Saccharum officinarum</i> )

Table 4: Multistory Cropping (agroforestry) species

Low (short-term) Non-FSP funds	Low (long-term)	Medium	Upper	Short-term windbreak
awa ( <i>Piper methysticum</i> ) taro ( <i>Colocasia esculenta</i> ) turmeric ( <i>Curcuma longa</i> )	'a'ali'i ( <i>Dodonaea viscosa</i> ) abiu ( <i>Pouteria caimito</i> ) cherimoya ( <i>Annona cherimola</i> ) coffee ( <i>Coffea arabica</i> ) fig ( <i>Ficus carica</i> ) māmaki ( <i>Pipturus albidus</i> ) pomegranate ( <i>Punica granatum</i> ) tea ( <i>Camilla sinensis</i> ) vanilla ( <i>Vanilla planifolia</i> )	citrus ( <i>Citrus</i> spp.) koai'a ( <i>Acacia koa</i> ) iliahi (native <i>Santalum</i> spp.) jaboticaba ( <i>Plinia cauliflora</i> ) mountain apple ( <i>Syzygium malaccense</i> ) nenele'au ( <i>Rhus sandwicensis</i> ) papaya (short term) ( <i>Carica papaya</i> ) soursop ( <i>Annona muricata</i> ) starfruit ( <i>Averrhoa carambola</i> ) white sapote ( <i>Casimiroa edulis</i> )	<i>Araucaria</i> sp. avocado ( <i>Persea americana</i> ) breadfruit ( <i>Artocarpus altilis</i> ) ice cream bean ( <i>Inga jinicuil</i> ) jackfruit ( <i>Artocarpus heterophyllus</i> ) koa ( <i>Acacia koa</i> ) kukui ( <i>Aleurites mollucana</i> ) longan ( <i>Dimocarpus longan</i> ) lychee ( <i>Litchi chinensis</i> ) macadamia ( <i>Macadamia integrifolia</i> )	banana (dwarf apple) ( <i>Musa</i> sp.) pigeon pea ( <i>Cajanus cajan</i> ) kō (sugar cane) ( <i>Saccharum officinarum</i> )

## VI. Practice Implementation Schedule

See Practice Implementation Schedule below.

## VII. Budget Summary

Year	Total Budget	Applicant Share	FSP Share	EQIP funding
Year 1	\$100,903	\$54,903	\$27,904	\$18,096
Year 2	\$86,924	\$41,987	\$26,087	\$18,850
Year 3	\$55,204	\$30,806	\$24,398	-
Year 4	\$45,051	\$25,033	\$20,018	-
Year 5	\$41,562	\$23,118	\$18,444	-
Year 6	\$35,532	\$22,236	\$13,296	-
Year 7	\$29,784	\$16,586	\$13,198	-
Year 8	\$4,093	\$2,047	\$2,047	-
Year 9	\$2,147	\$1,073	\$1,073	-
Year 10	-	-	-	-
<b>TOTALS</b>	<b>\$401,201</b>	<b>\$217,790</b>	<b>\$146,465</b>	<b>\$36,946</b>

## VIII. Required Maps

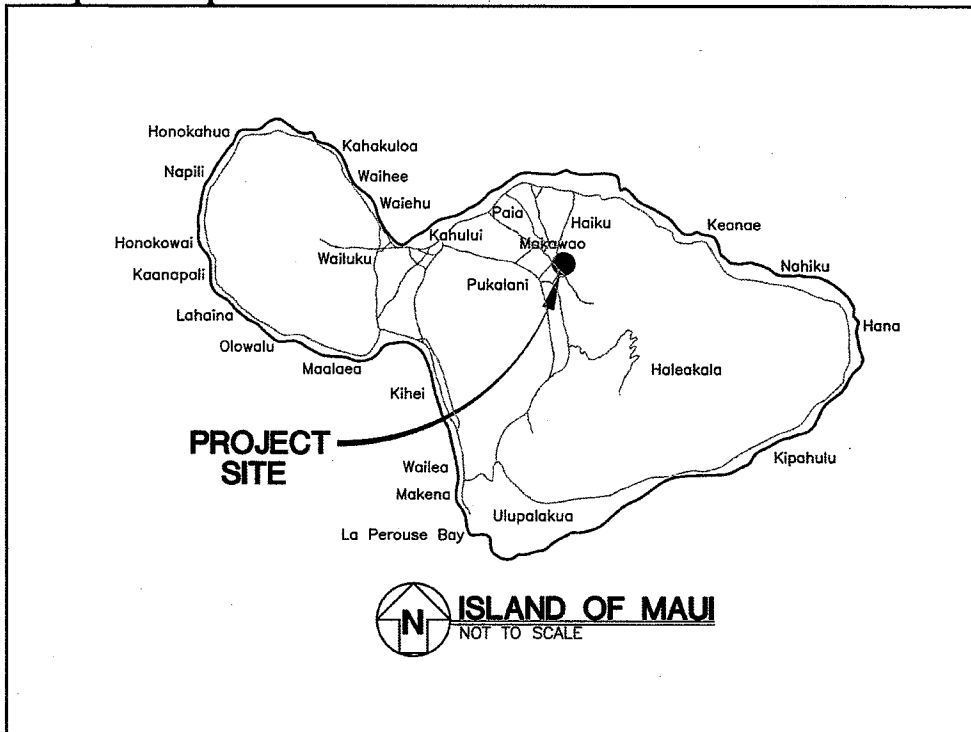


Figure 7: Project location.

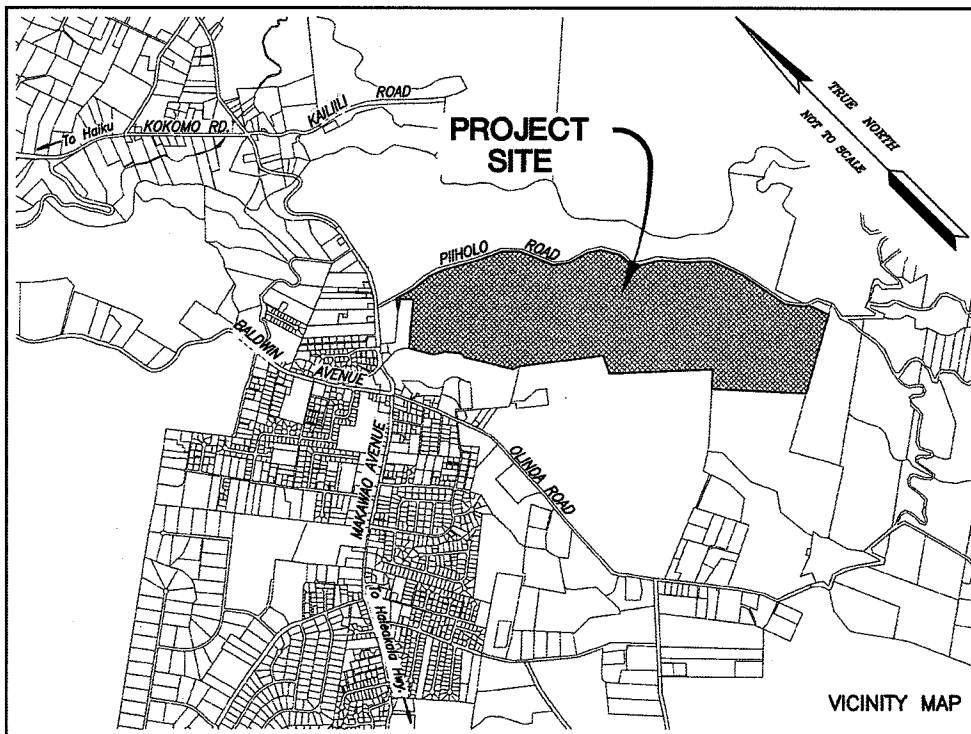


Figure 8: Project site identified.



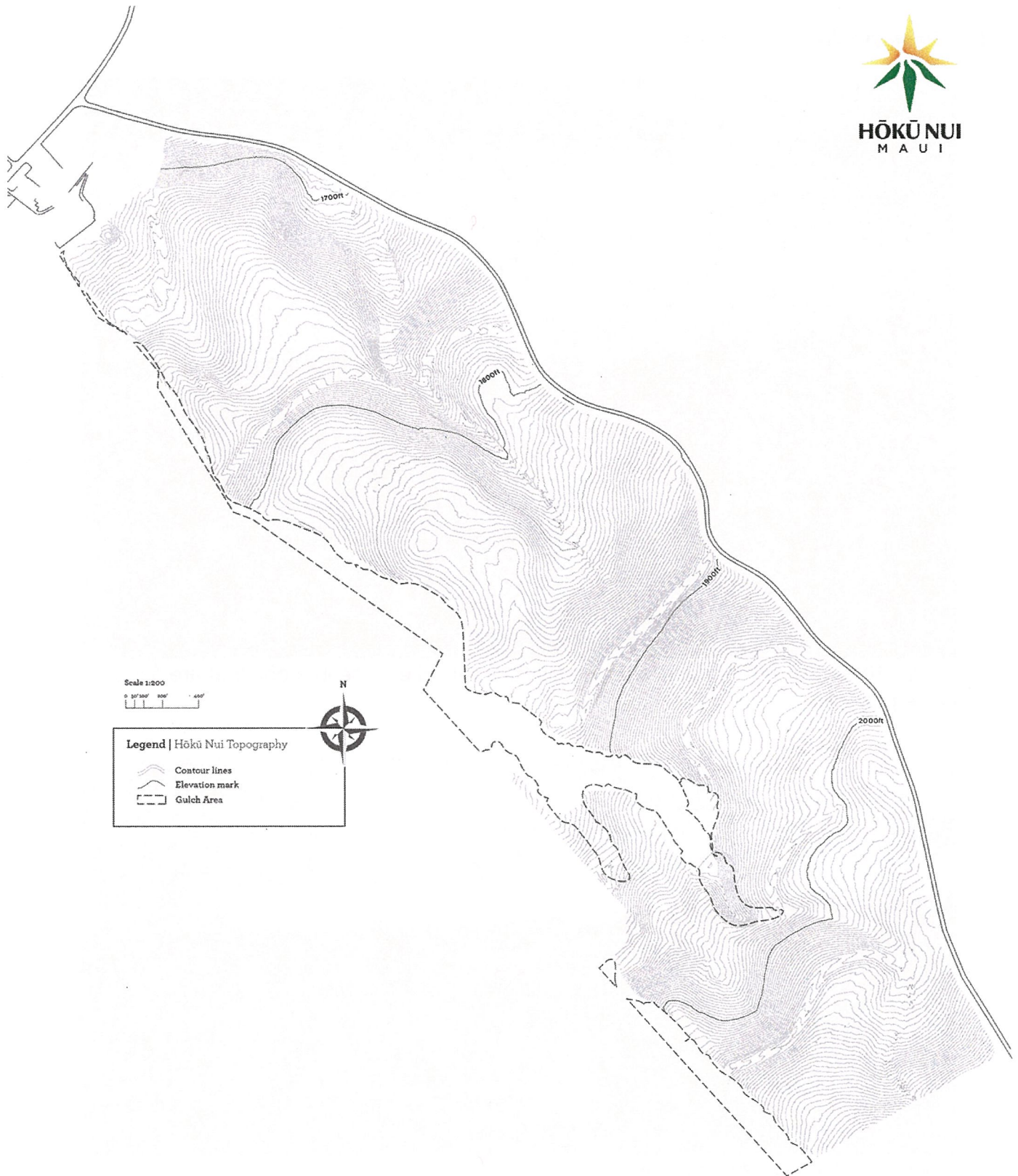


Figure 9: Site topographic map



## IX. Photographs of Project Site



Figure 10: Overview of project site. All activities will take place in areas that are currently in cattle pasture.



Figure 11: Cattle grazing on site.





Figure 12. Native plant nursery at Hōkū Nui.



Figure 13. Yeomans plough at Hōkū Nui for deep subsoil ripping.

## **X. Monitoring Activities**

The forest management team at Hōkū Nui has a person assigned to recording field data on planting, maintenance, and harvest. This person will also be in charge of the implementation and maintenance schedules for this Forest Stewardship project. As the project will be implemented incrementally over several years, it is essential to track implementation and maintenance schedules to balance workloads over time. An additional staff member will be in charge of required reporting to the Forest Stewardship Program.

## **XI. Other Attachments if Available**

Attachment 1. “Archaeological Inventory Survey (TMK (2) 2-4-12: 5, 9)” by James McIntosh and Paul L. Cleghorn of Pacific Legacy, Inc., May 2008.

Attachment 2. “Botanical and Faunal Survey, Hoku Nui Sustainable Community, Piihola, Maui” by Starr Environmental (Forest and Kim Starr), January 2014.

## **References**

Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte, 2013: Online Rainfall Atlas of Hawai‘i. Bull. Amer. Meteor. Soc. 94, 313-316, doi: 10.1175/BAMS-D-11-00228.1.

Prepared by Craig Elevitch, Permanent Agriculture Resources.  
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Outplanting Plant Count (by Year)											TOTAL
	0	1	2	3	4	5	6	7	8	9	10
Multistory Cropping (Agroforestry) Acres:	0.00	2.40	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tree/Shrub (Native Reforestation) Acres:	0.00	0.00	0.00	2.44	1.91	1.78	1.17	1.29	0.00	0.00	0.00
TOTAL:	0.00	2.40	2.50	2.44	1.91	1.78	1.17	1.29	0.00	0.00	0.00
Fencing (Linear Ft):	0	2,363	2,850	0							
											5,213

Multistory Cropping (Agroforestry) Acres:  
Tree/Shrub (Native Reforestation) Acres:  
TOTAL:  
Fencing (Linear Ft):

PROJECT NAME: Hōkū Nui Maui, LLC

YEAR 1										
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application		Estimated costs				
				# of Units	Unit	Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share
Plan	1 FS Management Plan Development	Management Plan*								
M1&2,N1	2 Fence	Fence	382	2,363	Linear Ft	\$ 10,000	\$ 10,000	\$ 5,000	\$ 5,000	\$ -
All	4 Irrigation	Agricultural water line flush valves	No Share	216	Tape Ends	\$ 10,000	\$ 23,630	\$ 11,815	\$ 11,815	\$ -
All	5 Irrigation	Agricultural water line pressure reducer	No Share	216	Per PVC	\$ 10,000	\$ 2,160	\$ 2,160	\$ -	\$ -
All	6 Irrigation	Agricultural water filters	No Share	1	Filter	\$ 900	\$ 2,808	\$ 2,808	\$ -	\$ -
All	T Irrigation	Portable Irrigation System	N/A	506	Misc	\$ 11,600	\$ 5,868	\$ 5,868	\$ -	\$ -
All	T Irrigation	Irrigation (Total)	441	39,564	Linear Ft	\$ 0.50	\$ 3,284	\$ 1,642	\$ 1,642	\$ -
M1	9 Tree and Shrub Site Preparation	Deep Tillage	324	2,040	Acres	\$ 480	\$ 979	\$ 490	\$ 490	\$ -
M1	10 Tree and Shrub Site Preparation	Tree and Shrub Site Preparation	490	2.40	Acres	\$ 1,980	\$ 4,752	\$ 2,842	\$ 1,910	\$ -
M1	T Mulching	Mulching	484	104,544	Square Feet	\$ 0.084	\$ 8,813	\$ 4,407	\$ 4,407	\$ -
M1	T Tree and Shrub Establishment	Multistory Cropping (Agroforestry) Total	379	4,397	Trees	\$ 7.38	\$ 32,429	\$ 14,333	\$ -	\$ 18,096
M1	16 Ground Cover Establishment	Conservation Cover	327	2.40	Acres	\$ 1,400	\$ 3,360	\$ 1,680	\$ 1,680	\$ -
M1	17 Weed Control	Herbaceous Weed Control	315	2.40	Acres	\$ 400	\$ 960	\$ 480	\$ 480	\$ -
M1	19 Nutrient Management	Nutrient Management	590	2.40	Acres	\$ 400	\$ 960	\$ 480	\$ 480	\$ -
		TOTAL				\$ 100,903	\$ 54,903	\$ 27,904	\$ 27,904	\$ 18,096

YEAR 2										
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application		Estimated costs				
				# of Units	Unit	Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share
N2-5	2 Fence	Fence	382	2,850	Linear Ft	\$ 10,000	\$ 28,500	\$ 14,250	\$ 14,250	\$ -
M2	9 Tree and Shrub Site Preparation	Deep Tillage	324	2,130	Acres	\$ 480	\$ 1,020	\$ 510	\$ 510	\$ -
M2	10 Tree and Shrub Site Preparation	Tree and Shrub Site Preparation	490	2.50	Acres	\$ 1,980	\$ 4,950	\$ 2,960	\$ 1,990	\$ -
M1-M2	T Mulching	Mulching	484	108,900	Square Feet	\$ 0.103	\$ 11,254	\$ 5,627	\$ 5,627	\$ -
M2	T Tree and Shrub Establishment	Multistory Cropping (Agroforestry) Total	379	4,580	Trees	\$ 7.38	\$ 33,780	\$ 14,930	\$ -	\$ 18,850
M2	16 Ground Cover Establishment	Conservation Cover	327	2.50	Acres	\$ 1,400	\$ 3,500	\$ 1,750	\$ 1,750	\$ -
M1-M2	17 Weed Control	Herbaceous Weed Control	315	4.90	Acres	\$ 400	\$ 1,960	\$ 980	\$ 980	\$ -
M1-M2	19 Nutrient Management	Nutrient Management	590	4.90	Acres	\$ 400	\$ 1,960	\$ 980	\$ 980	\$ -
		TOTAL				\$ 86,924	\$ 41,987	\$ 26,087	\$ 26,087	\$ 18,850

YEAR 3										
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application		Estimated costs				
				# of Units	Unit	Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share
N1	9 Tree and Shrub Site Preparation	Deep Tillage	324	2,070	Acres	\$ 480	\$ 996	\$ 498	\$ 498	\$ -
N1	10 Tree and Shrub Site Preparation	Tree and Shrub Site Preparation	490	2.44	Acres	\$ 1,980	\$ 4,831	\$ 2,889	\$ 1,942	\$ -
N1	T Mulching	Mulching	484	106,286	Square Feet	\$ 0.124	\$ 13,194	\$ 6,597	\$ 6,597	\$ -
N1	T Tree and Shrub Establishment	Tree/Shrub (Native Reforestation) Total	612	6,539	Trees	\$ 4.11	\$ 26,896	\$ 16,178	\$ 10,718	\$ -
N1	16 Ground Cover Establishment	Conservation Cover	327	2.44	Acres	\$ 1,400	\$ 3,416	\$ 1,708	\$ 1,708	\$ -
M1-M2,N1	17 Weed Control	Herbaceous Weed Control	315	7.34	Acres	\$ 400	\$ 2,936	\$ 1,468	\$ 1,468	\$ -
M1-M2,N1	19 Nutrient Management	Nutrient Management	590	7.34	Acres	\$ 400	\$ 2,936	\$ 1,468	\$ 1,468	\$ -
		TOTAL				\$ 55,204	\$ 30,806	\$ 24,398	\$ 24,398	\$ -

YEAR 4											
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application # of Units	Unit	Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share	Comments/Justification (optional)
N2	9 Tree and Shrub Site Preparation	Deep Tillage	324	1.62 Acres		\$ 480	\$ 779	\$ 390	\$ 390	\$ -	85% is accessible
N2	10 Tree and Shrub Site Preparation	Tree and Shrub Site Preparation	490	1.91 Acres		\$ 1,980	\$ 3,782	\$ 2,261	\$ 1,520	\$ -	Prep for Sun Hemp
M2,N1-2	T Mulching	Mulching	484	83,200 Square Feet		\$ 0.136	\$ 11,282	\$ 5,641	\$ 5,641	\$ -	Seeding, Roller/Crimper and Mowing Ppe & SunHemp
N2	T Tree and Shrub Establishment	Tree/Shrub (Native Reforestation) Total	612	5,119 Trees		\$ 4.11	\$ 21,054	\$ 12,664	\$ 8,390	\$ -	Cost Share Max \$12 per Tree w/labor (5-20 min/Tree)
N2	16 Ground Cover Establishment	Conservation Cover	327	1.91 Acres		\$ 1,400	\$ 2,674	\$ 1,337	\$ 1,337	\$ -	
M2,N1-2	17 Weed Control	Herbaceous Weed Control	315	6.85 Acres		\$ 400	\$ 2,740	\$ 1,370	\$ 1,370	\$ -	3 Years of outplanting
M2,N1-2	19 Nutrient Management	Nutrient Management	590	6.85 Acres		\$ 400	\$ 2,740	\$ 1,370	\$ 1,370	\$ -	3 Years of outplanting
	TOTAL					\$ 45,051	\$ 25,033	\$ 20,018	\$ -	\$ -	

YEAR 5											
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application # of Units	Unit	Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share	Comments/Justification (optional)
N3	9 Tree and Shrub Site Preparation	Deep Tillage	324	1.51 Acres		\$ 480	\$ 726	\$ 363	\$ 363	\$ -	85% is accessible
N3	10 Tree and Shrub Site Preparation	Tree and Shrub Site Preparation	490	1.78 Acres		\$ 1,980	\$ 3,524	\$ 2,108	\$ 1,417	\$ -	Prep for Sun Hemp
N1-N3	T Mulching	Mulching	484	77,537 Square Feet		\$ 0.133	\$ 10,295	\$ 5,147	\$ 5,147	\$ -	Seeding, Roller/Crimper and Mowing Ppe & SunHemp
N3	T Tree and Shrub Establishment	Tree/Shrub (Native Reforestation) Total	612	4,770 Trees		\$ 4.11	\$ 19,621	\$ 11,802	\$ 7,819	\$ -	Cost Share Max \$12 per Tree w/labor (5-20 min/Tree)
N3	16 Ground Cover Establishment	Conservation Cover	327	1.78 Acres		\$ 1,400	\$ 2,492	\$ 1,246	\$ 1,246	\$ -	
N1-N3	17 Weed Control	Herbaceous Weed Control	315	6.13 Acres		\$ 400	\$ 2,452	\$ 1,226	\$ 1,226	\$ -	3 Years of outplanting
N1-N3	19 Nutrient Management	Nutrient Management	590	6.13 Acres		\$ 400	\$ 2,452	\$ 1,226	\$ 1,226	\$ -	3 Years of outplanting
	TOTAL					\$ 41,562	\$ 23,118	\$ 18,444	\$ -	\$ -	

YEAR 6											
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application # of Units	Unit	Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share	Comments/Justification (optional)
All	Irrigation	Portable Irrigation System	No Share	506 Misc		\$ 11.60	\$ 5,868	\$ 5,868	\$ -	\$ -	NO COST SHARE
All	T Irrigation	Irrigation (Total)	441	39,564 Linear Ft		\$ 0.50	\$ 3,284	\$ 1,642	\$ 1,642	\$ -	Drip Tape & PVC <=1"
N4	9 Tree and Shrub Site Preparation	Deep Tillage	324	0.99 Acres		\$ 480	\$ 477	\$ 239	\$ 239	\$ -	85% is accessible
N4	10 Tree and Shrub Site Preparation	Tree and Shrub Site Preparation	490	1.17 Acres		\$ 1,980	\$ 2,317	\$ 1,385	\$ 931	\$ -	Prep for Sun Hemp
N2-N4	T Mulching	Mulching	484	50,965 Square Feet		\$ 0.117	\$ 5,982	\$ 2,991	\$ 2,991	\$ -	Seeding, Roller/Crimper and Mowing Ppe & SunHemp
N4	T Tree and Shrub Establishment	Tree/Shrub (Native Reforestation) Total	612	3,136 Trees		\$ 4.11	\$ 12,897	\$ 7,758	\$ 5,139	\$ -	Cost Share Max \$12 per Tree w/labor (5-20 min/Tree)
N4	16 Ground Cover Establishment	Conservation Cover	327	0.59 Acres		\$ 1,400	\$ 819	\$ 410	\$ 410	\$ -	
N2-N4	17 Weed Control	Herbaceous Weed Control	315	4.86 Acres		\$ 400	\$ 1,944	\$ 972	\$ 972	\$ -	3 Years of outplanting
N2-N4	19 Nutrient Management	Nutrient Management	590	4.86 Acres		\$ 400	\$ 1,944	\$ 972	\$ 972	\$ -	3 Years of outplanting
	TOTAL					\$ 35,552	\$ 22,236	\$ 13,296	\$ -	\$ -	

YEAR 7											
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application # of Units	Unit	Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share	Comments/Justification (optional)
N5	9 Tree and Shrub Site Preparation	Deep Tillage	324	1.10 Acres		\$ 480	\$ 526	\$ 263	\$ 263	\$ -	85% is accessible
N5	10 Tree and Shrub Site Preparation	Tree and Shrub Site Preparation	490	1.29 Acres		\$ 1,980	\$ 2,554	\$ 1,527	\$ 1,027	\$ -	Prep for Sun Hemp
N3-N5	T Mulching	Mulching	484	56,192 Square Feet		\$ 0.130	\$ 7,286	\$ 3,643	\$ 3,643	\$ -	Seeding, Roller/Crimper and Mowing Ppe & SunHemp
N5	T Tree and Shrub Establishment	Tree/Shrub (Native Reforestation) Total	612	3,457 Trees		\$ 4.11	\$ 14,220	\$ 8,553	\$ 5,666	\$ -	Cost Share Max \$12 per Tree w/labor (5-20 min/Tree)
N5	16 Ground Cover Establishment	Conservation Cover	327	1.29 Acres		\$ 1,400	\$ 1,806	\$ 903	\$ 903	\$ -	
N3-N5	17 Weed Control	Herbaceous Weed Control	315	4.24 Acres		\$ 400	\$ 1,696	\$ 848	\$ 848	\$ -	3 Years of outplanting
N3-N5	19 Nutrient Management	Nutrient Management	590	4.24 Acres		\$ 400	\$ 1,696	\$ 848	\$ 848	\$ -	3 Years of outplanting
	TOTAL					\$ 29,784	\$ 16,586	\$ 13,198	\$ -	\$ -	

YEAR 8												
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application		Cost/Unit	Total Cost	App Share	FSP Share	EQIP Share	Comments/Justification (optional)	
				# of Units	Unit							
N4-N5	17 Weed Control	Herbaceous Weed Control	315	2.46	Acres	\$ 400	\$ 984	\$ 492	\$ 492	\$ -	-	3 Years of outplanting
N4-N5	18 Mulching	Mulching	484	107,158	Square Feet	\$ 0.020	\$ 2,125	\$ 1,063	\$ 1,063	\$ -	-	Mowing Ppe & SuniHelp) 1.2 hrs/acre/Mth, \$60/hr, 3yrs
N4-N5	19 Nutrient Management	Nutrient Management	590	2.46	Acres	\$ 400	\$ 984	\$ 492	\$ 492	\$ -	-	3 Years of outplanting
TOTAL							\$ 4,093	\$ 2,047	\$ 2,047	\$ -	-	

YEAR 9												
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application		Cost/Unit	Estimated costs					Comments/Justification (optional)
				# of Units	Unit		Total Cost	App Share	FSP Share	EQIP Share		
N5	17 Weed Control	Herbaceous Weed Control	315	1.29	Acres	\$ 400	\$ 516	\$ 258	\$ 258	\$ -	-	3 Years of outplanting
N5	18 Mulching	Mulching	484	56,192	Square Feet	\$ 0.020	\$ 1,115	\$ 557	\$ 557	\$ -	-	Mowing Ppe & SunHelp) 1.2 hrs/acre/Mth, \$60/hr, 3yrs
N5	19 Nutrient Management	Nutrient Management	590	1.29	Acres	\$ 400	\$ 516	\$ 258	\$ 258	\$ -	-	3 Years of outplanting
TOTAL							\$ 2,147	\$ 1,073	\$ 1,073	\$ -	-	

YEAR 10												
Mgmt unit (opt)	FSP Practice	Practice Components	NRCS Code	Practice Application		Cost/Unit	Estimated costs				Comments/Justification (optional)	
				# of Units	Unit		Total Cost	App Share	FSP Share	EQIP Share		
	17 Weed Control	Herbaceous Weed Control	315	0.00	Acres	\$ 400	\$ -	\$ -	\$ -	\$ -	3 Years of outplanting	
	18 Mulching	Mulching	484	0.00	Square Feet	\$ 0.020	\$ -	\$ -	\$ -	\$ -	Mowing Ppe & SunHelp) 1.2 hrs/acre/Mth, \$60/hr, 3yrs	
	19 Nutrient Management	Nutrient Management	590	0.00	Acres	\$ 400	\$ -	\$ -	\$ -	\$ -	3 Years of outplanting	
		TOTAL				\$ -	\$ -	\$ -	\$ -	\$ -		



REVISED FINAL  
ARCHAEOLOGICAL INVENTORY SURVEY  
OF CA. 325 ACRES IN  
HALI'IMAILE AHUPUA`A,  
MAKAWAO DISTRICT,  
ISLAND OF MAUI

(TMK (2) 2-4-12: 5, 9)

*Prepared By:*  
Pacific Legacy, Inc.



*Pacific Legacy: Exploring the past, informing the present, enriching the future*



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May 2008

## ABSTRACT

Pacific Legacy, Inc. at the request of Piiholo South, LLC., conducted an archaeological inventory survey on approximately 325 acres of former pineapple and active pasture land in the *ahupua`a* of Hali`imaile, Makawao District, Island of Maui (TMK: (2) 2-4-12: 5, 9). The fieldwork was conducted over a five day period between March 7 and 15, 2007.

A previously identified burial (Site 50-50-06-5501) is located on the east side of the project area adjacent to Pi`iholo Road. This site is assessed as significant under criteria "d" and "e" and is being preserved.

A new site (50-50-06-6274) was identified in an un-named gulch on the west side of the project area. This site (a slope retaining wall and an associated soil terrace) is assessed as significant under criteria "d". The landowner would like to passively preserve this site. As a result, no subsurface testing was undertaken. However, if plans change and alterations to the site are planned, further archaeological investigation at this site should be undertaken prior to any ground altering activities.

An isolated adze fragment was recovered from the former pineapple field land. Further, a concrete slab and several unassociated waterlines were recorded during the survey. These resources are not significant. The pipelines identified are active and less than 50 years old. No further work is recommended.

Frontispiece: Overview of the project area looking *mauka* (southeast).

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## 1.0 INTRODUCTION

Pacific Legacy, Inc. at the request of Piipholo South, LLC., conducted an archaeological inventory survey on approximately 325 acres of former pineapple and active pasture land in Hali`imaile Ahupua`a, Makawao District, Island of Maui (TMK: (2) 2-4-12: 5, 9) (Figure 1). Fieldwork was conducted over a five day period between March 7 and 15, 2007. The survey was performed by James McIntosh, B.A. and Tanya Souza, B.A., and was under the direction of Paul L. Cleghorn, Ph.D.

The purpose of an archaeological inventory survey is to determine if archaeological and historic properties are present in the project area and, if so, so identify all such historic properties. In addition, the archaeological inventory survey must gather sufficient information to evaluate the significance of each historic property according to defined significance criteria (§13-275-6(b) and §13-276-3). The archaeological inventory survey consisted of four components:

- **Archival Research** is a review of traditional accounts, legends, early historic descriptions, and previous archaeological studies in the vicinity of the project area. This background information allows predictions to be made about the likelihood of finding archaeological and historic properties and for providing a context for those properties that are found.
- **Surface Survey** is a pedestrian survey of the project area searching for archaeological and historic properties such as walls, platforms, mounds, etc.
- **Test excavations** where warranted are generally conducted in areas where suspected subsurface deposits containing portable artifacts, midden, and features such as fire hearths and human burials are present. These subsurface deposits aid in evaluating the significance of the property.
- **Data Analysis and Report Preparation** is necessary at the conclusion of data collection. The data collected from archival research and survey are analyzed, so that the settlement and use patterns of the area can be described and the significance of the historic properties can be evaluated. The report also provides recommendations for the ultimate disposition of the historic properties identified.

### 1.1 PROJECT LOCATION AND ENVIRONMENT

The project area is located in the *ahupua`a* of Hali`imaile in the district of Makawao. The majority of the project area (some 245 acres) is covered in pineapple cultivation, approximately 67 acres are in pasture and the remaining ca. 15 acres are gulches. Although the streams in the gulches were dry, they are steep and narrow indicating rapid water movement when they flow with seasonal streams.

Vegetation in the area is predominantly introduced species and includes: pineapple (*Ananas comosus*), guava (*Psidium guajava*), christmas-berry (*Schinus terebinthifolius*), eucalyptus

(*Eucalyptus* sp.), coffee (*Coffea Arabica*), coconut (*Cocos nucifera*), papaya (*Carica papaya*), `ape (*Alocasia macrorrhiza*), mango (*Mangifera indica*), banana (*Musa paradisiacal*), kukui (*Aleurites moluccana*), lantana (*lantana camara*), and various ferns and grasses.

This area of Maui receives approximately 60 inches per year (Juvik and Juvik 1998: 56). Mean annual temperatures range from a minimum of 50° to 70° (10° to 21° C) to a maximum of 80° to 95° F (27° to 35° C) (Juvik and Juvik 1998). While there are no permanent streams present within the project area, the gulches provide seasonal drainage.

Soils are comprised of: Makawao Silty clay, 7 to 15 percent slopes and Rock Land.

#### **Makawao Series**

This series consists of well-drained soils on uplands on the island of Maui. These soils developed in volcanic ash and in material weathered from basic igneous rock. They are gently sloping to moderately sloping. Elevation range from 1,200 to 2,500 feet. The annual rainfall amounts to 60 to 90 inches. The mean annual soil temperature is 69° F. Makawao soils are geographically associated with Haiku, Kailua and Olinda soils. These soils are used for pasture. Small acerages are used for pineapple, truck crops and homesites. The natural vegetation consists of bermudagrass, eucalyptus, guava, hilograss, kaimicolor, and kikuyugrass (Foote et al. 1972: 89).

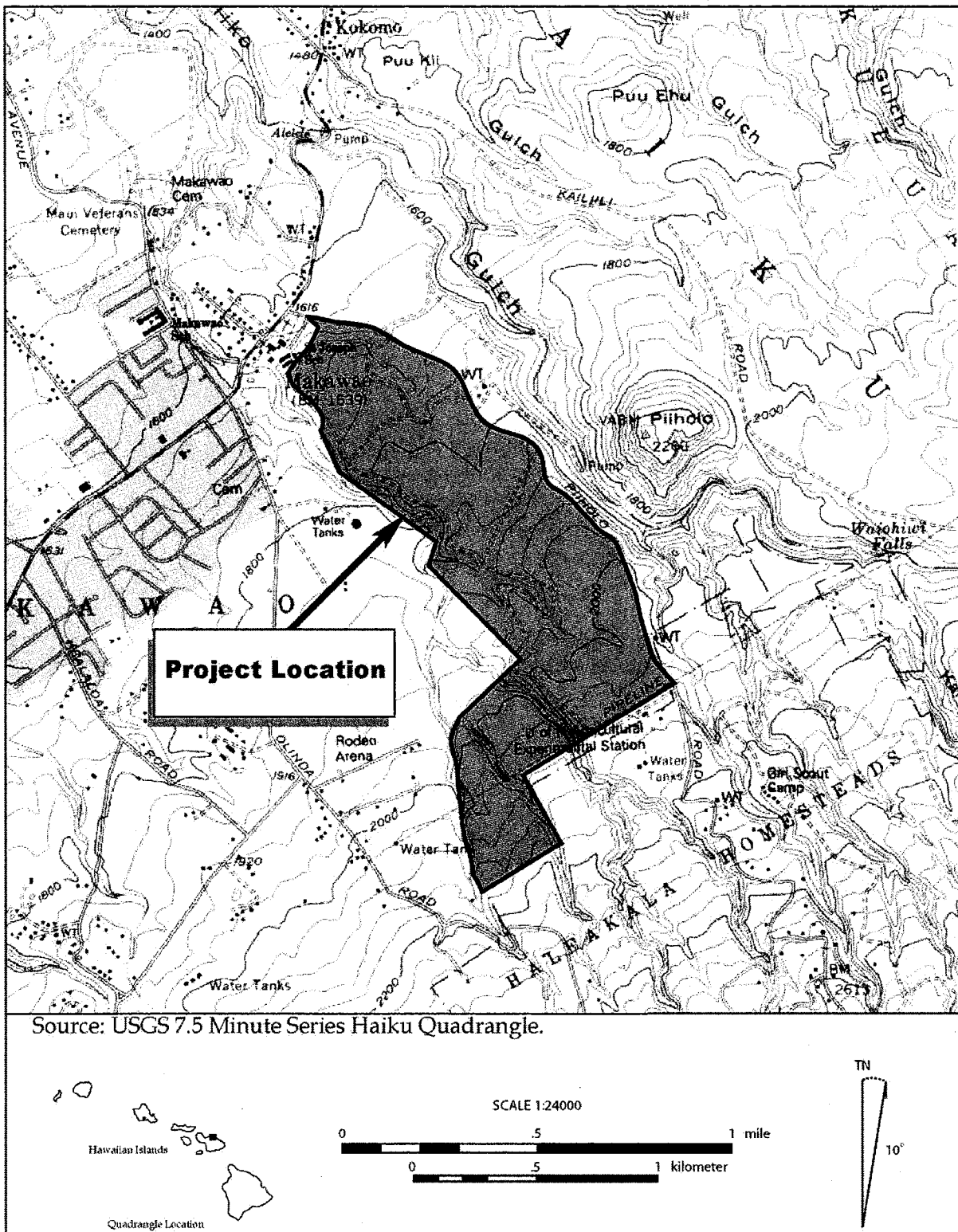
#### **Makawao Silty clay, 7 to 15 percent slopes**

This soil is similar to Makawao silty clay, 3 to 7 percent slopes, except that it is moderately sloping to strongly sloping. Runoff is slow to medium, and the erosion hazard is slight to moderate. (Foote et al. 1972: 90).

#### **Rock Land**

Rock Land is made up of areas where exposed rock covers 25 to 90 percent of the surface. It occurs on all five islands. The rock outcrops and very shallow soils are the main characteristics. The rock outcrops are mainly basalt andesite. This land type is nearly level to steep. Elevations range from nearly sea level to more than 6,000 feet. The annual rainfall amounts to 15 to 60 inches (Foote et al. 1972: 119).

Rock land is used for pasture, wildlife habitat, and water supply. The natural vegetation at the lower elevations consists mainly of kiawe, klu, piligrass, Japanese tea, and koa haole. Lantana, guava, Natal redtop, and molassesgrass are dominant at the higher elevations (Foote et al. 1972: 119).



**Figure 1. Project Location on USGS Map.**

## 2.0 BACKGROUND

### 2.1 TRADITIONAL ACCOUNTS

The accounts of the Hali`imaile and Makawao areas are few. Traditionally, the district of Makawao was part of the Hamakuapoko district but was subsequently changed after the 1848. Four formerly recognized districts make up the present Makawao district. They are: Honoua`ula, Kula, Hāmākuapoko, and Hāmākualoa.

Makawao translates literally as forest beginning (Pukui et al. 1974: 142). Pi`iholo, the name of the road that borders the northeast side of the project area literally translates to climb run (Pukui et al. 1974: 184), and Hāli`imaile mean *maile* vines strewn (Pukui et al. 1974: 39).

“On Maui, at Makawao, was the grove named Lilikoi, a famous place to rest, noted for its fragrant and sweet nuts” (Fornander, 1915 Vol. 5: 674) in Handy and Handy (1972).

The former ruler of Maui, Kaheliki, was said to have been born at Hali`imaile in Makawao (Sterling 1998: 97).

### 2.2 MĀHELE AND LAND COMMISSION AWARD DOCUMENTATION

Private land ownership was introduced into Hawaii during the Great Māhele (the division of Hawaiian lands) of 1848. Crown and *ali`i* lands were awarded in 1848 and *Kuleana* titles were awarded to the general populace in 1850 (Chinen 1958). The awarded lands were called Land Commission Awards (LCAs). Over time, government lands were sold off to pay government expenses. The purchasers of these lands were awarded Grants or Royal Patent Grants (Chinen 1958).

Research conducted at the Bureau of Conveyances determined that no LCA's have been awarded for the subject property. However, a number of Land Grants were awarded (Figure 2). They are detailed below:

Grant No.	Awardee	Date	Acerage
65	Kaleihopu	December 15, 1847	8.62
157	William McLane	October 20, 1849	370.00
317	Kahanapule	July 2, 1850	21.50
319	Kealoha	July 2, 1850	12.69
324	Naheana	July 1850	12.35
325	Honolulu	July 2, 1850	11.12
328	Nicole	July 2, 1850	8.90
498	Kalimaimoku	January 16, 1851	23.35
599	Kiaipu	May 14, 1857	11.62
602	Kalamaiahou	May 14, 1857	21.18
2840	Kekua	1852	110.50





## 2.3 HISTORIC PERIOD

Pineapple cultivation began on Maui in the late 1800's when the Baldwin family first planted pineapple in Haiku as an experiment. The Baldwin family, which had acquired a sizeable amount of land by the 1990's, saw a future for the pineapple. In the early 1900s the Baldwin's (lead by H.P. Baldwin and D. Dwight Baldwin) formed Keahua Ranch Company, Ltd., which later became the Maui Pineapple Company, Ltd. in 1932. It was around this time that pineapple cultivation spread into the plateau regions of east Maui including the Hali`imaile fields.

## 2.4 PREVIOUS ARCHAEOLOGY

A check of the State Historic Preservation Division libraries in Wailuku, Maui and at Kapolei, O`ahu, determined that only a few archaeological investigations have been conducted in this area of upcountry Maui. A single human burial has been identified on the border of the subject property and one archaeological investigation has occurred on the property. Further, several other investigations have occurred in the vicinity of the current project area and are detailed below.

In 1985, Wendell Kam, archaeologist for the Hawaii State Parks, conducted a field inspection for the then proposed Olinda Project Haleakala Homesteads in Makawao, Maui (Kam 1985). The subject parcels (TMK 2-4-13: 4, 5 and 53) are located *mauka* of the current project area. The survey failed to identify any resources on the parcels.

In 2003, Jeffrey Pantaleo Consultants, conducted an Archaeological and Cultural Assessment for a then proposed Pi`iholo well in Hali`imaile *ahupua`a*, (TMK 2-4-12: por. 6) located just to the northwest of the current project area across Pi`iholo Road (Pantaleo and Tsuha 2004). A cultural assessment identified the area as having been used traditionally for seasonal exploitation involving the gathering of koa, and collecting feathers. During the archaeological survey, no cultural remains or deposits were identified. No further work was recommended.

An inadvertent burial was found on 16 December 2003 by Maui Land and Pineapple Company workers who were excavating a waterline on the edge of Pi`iholo Road (on the southeast corner of the present project area) (Kirdendall 2003; see Appendix A). The burial was identified by Dr. Melissa Kirkendall (SHPD Maui archaeologist) and Dr. Manukian (Maui County Medical Examiner) as being a human female, approximately age 30 and of Asian ethnicity. The burial was located a clay matrix and there was no evidence of a coffin. The burial was assigned State Site Number 50-50-06-5501. Subsequently, Archaeological Services Hawaii, performed archaeological investigations in the area to determine if additional burials were present. Although there is no formal report of record of this testing, we do have a letter and an incomplete Burial Preservation Plan written by Lisa Rotunno-Hazuka (Appendix B). The burial Preservation Plan indicates that the burial was in a flexed position and is that of an adult female probably of Native Hawaiian ancestry. The displaced remains were reinterred in a pit adjacent to where they were originally found. The pit reinternment measured 2 feet by 2 feet and 1 foot deep. The remains were bundled and 6 inches of fill was placed over them. The pit was then covered with fresh concrete with the site number inscribed in it. An upright boulder was then

placed over the burial. The burial preservation plan also calls for an unspecified buffer zone, a rock wall and a plaque to be placed near the wall. It does not appear that this preservation plan was ever finished or formally submitted to the State Historic Preservation Division. The archaeological testing which apparently took place in September 2005 (the letter is dated 6 June 2006 but states that the testing was conducted on 12 September 2006), consisted of the mechanical excavation of four backhoe trenches adjacent to the burial to determine if further remains are present. The trenches measured 2 meters long, 0.6 meters wide and 1.7 meters deep. No human remains or burial pits were uncovered in any of the trenches. Unfortunately, this is the only record of these excavations as no report has ever been submitted to the State Historic Preservation Division; all of these records are included in Appendix A and B of this report as a means of documenting this previous work.

In 2004, Archaeological Services Hawaii (Pantaleo 2004), conducted an archaeological inventory survey of ca. 57 acres for the Taylor-Fewell Subdivision and Grove Ranch Agricultural Subdivision No. 2 (TMK: 2-4-001: 004, 019) located approximately 1.5 miles *makai* and northwest of the current project area. The survey identified two historic sites, 50-50-06-5554, a Portuguese oven and Site 50-50-06-5555, a cattle weighing scale. The sites were assessed as significant under criteria "c" and "d". Subsurface testing was also conducted on the property which failed to identify any cultural remains. The Portuguese oven was recommended for removal to the Sugar Museum or another area for preservation. No further work was recommended.

In 2005, Scientific Consultant Services, Inc., conducted an archaeological inventory survey for 13 acres in Pi`iholo and Ha`ikū *ahupua`a* (TMK: (2) 2-4-013-075) (Pickett and Dega 2005). The project area located *mauka* of the present project area, contained a single site (Site No. 50-50-06-5675), a historic site comprised of a privy, a cistern, a Portuguese oven and "a hole with an associated internal chamber". The site was deemed significant under criterion "d". Subsurface testing was conducted with no deposits encountered. No further archaeological work was recommended for the project.

## 2.5 SETTLEMENT PATTERN

Given the limited amount of archaeological information for this region of Maui, it is difficult to obtain a clear picture of the region's pre-contact use. However, in examining the literature for the rest of Maui and the other Hawaiian Islands (Kirch 1985), a general model of settlement can be described.

Traditionally, the Native Hawaiians settled the coastal areas that provided ample access to exploit the marine environs. The proximity to permanent streams was an obvious necessity to obtain fresh drinking water but also develop intricate *lo`i* system for *kalo* cultivation. Areas without permanent streams were used for dryland cultivation of sweet potatoes or yams. These crops were important in areas like East Maui where the climate was appropriate for these crops (Bartholomew and Bailey 1994: 124), and where the land tended to lack permanent streams (Kirch 2000). *Mauka* areas were utilized for collecting of plants and animals (i.e. collecting birds for feathers). These activities likely took place in the project area.

## 2.6 ARCHAEOLOGICAL PREDICTIONS

From the results of previous archaeological investigations in the area we can predict the archaeological sensitivity of the project area. Based on the relative archaeological sensitivity of each area, appropriate methods of identifying and resolving potential adverse effects to historic properties can be developed. The following predictions are offered for the project areas:

- Due to the limited disturbance, gulches have a higher potential of containing archaeological features such as stone terraces for traditional agricultural purposes, stone mounds, rock walls and stone alignments, C-shaped rock walls for temporary shelters, grinding surfaces for polishing traditional stone adzes, irrigation ditches and trail or roadway segments.
- Given the disturbances to the plateau areas from commercial agriculture and ranching, there is a low likelihood of finding traditional archaeological resources in these areas, however there is still the possibility of finding historic resources such as cattle features (walls, fences, loading ramps, roads) and irrigation features (ditches, tunnels).

### 3.0 METHODS

The plateau portions of the project area have been used for pasture or under pineapple cultivation for nearly 70 years. As a result, survey efforts concentrated in finding portable cultural remains that may be present on the surface or eroding out of the ground. The survey within the pineapple fields were constrained by thick grass some 3 to 6 feet high which limited ground visibility (Figure 3). Thus the survey in these plateau areas focused on exposed roads and drainage cuts.

The surface survey proceeded with the two member survey team spaced approximately 3- 15 meters apart depending on vegetation density. Transect lines within the gulches were walked in a roughly east/west direction. Digital photographs of the area were taken to record the current condition, vegetation, and use of the area.

When a cultural resource was encountered, its location was to be recorded on a site plan map and recorded using metric tapes and sighting compasses. Its location was also plotted with a Global Positioning System (GPS). Digital photographs of the resource were taken.



**Figure 3. Dense grass in the pineapple field roadway hampered surface visibility.**



## 4.0 RESULTS

### 4.1 PLATEAU AREAS

#### Site 50-50-06-5501

**GPS Location: N20 50.569 W156 17.576**

A single archaeological site was known to exist in the project area. This site is comprised of a single human burial first identified by Kirkendall (2003). The burial is located on the southeast corner of the current project area, along Piiholo Road (Figures 4 and 5). A check of the area revealed a ring of large boulders and a single upright boulder (presumably the reburial location). There is no indication that a burial is present at this location. Approximately 2 meters southeast of the upright boulder is a waterline valve which was likely the reason the burial was encountered in 2003. Also present is a yellow sign indicating a buried plastic pipeline.



**Figure 4. Site 50-50-06-5501, burial area, view to south.**





### Artifact 1

**GPS Location: N20 50.989 W156 18.157**

The bevel portion of a polished basalt adze fragment was recovered on the surface in the center of an eroded pineapple road located in the north central portion of parcel (Figure 5). It measures 4.23 cm long, 4.18 cm wide, 1.94 cm thick and weighs 63.4 gm. The polished fragment is broken with the tang end missing (Figure 6). No cultural deposit was observed in the area.



**Figure 6. Adze fragment recovered from an eroded pineapple road.**

### 4.2 GULCHES

**Site 50-50-06-6274**

**GPS Location: N20 50.926 W156 18.133**

The survey identified a single site (50-50-06-6273) in Gulch 4, a large basalt slope retaining wall and associated soil terrace (Figure 5, 7-10). The slope behind the wall is 20-45° slope (Figure 8). The wall measures 56 meters long, between 40 and 80 cm height and 50 to 70 cm in width. The retaining wall is constructed of stacked basalt cobbles and boulders and extends along the west side of the largest gulch in the project area. It is in fair condition showing some damage from the vegetation growth and cattle. A small segment of the wall appears to have been restacked and may indicate refuse or repairs made to the wall at a later time. A road extends into the gulch above the retaining wall from the adjacent property.



The soil terrace fronting the retaining wall measures between 6.5 m and 17.0 m deep and is approximately 50 m long. It is between 0.95 and 1.1 m above the currently dry stream bed. The terrace is located on the inside bend of the stream which helps to prevent erosion when the stream flows. Vegetation on the terrace consists of `ape , kukui and guava.

Mr. Billy Abreu, a lifelong Maui resident, says when he was young (1950-60's), a piggery operated in the area. He believes this wall is a remnant of it. Although no fence posts or fence remnants are present, there is a small portion of the wall which appears to have been restacked and may be indicative of this site being reused as a piggery (Figure 9).



Figure 7. Site 50-50-06-6274, slope retaining wall and soil terrace. View to north.



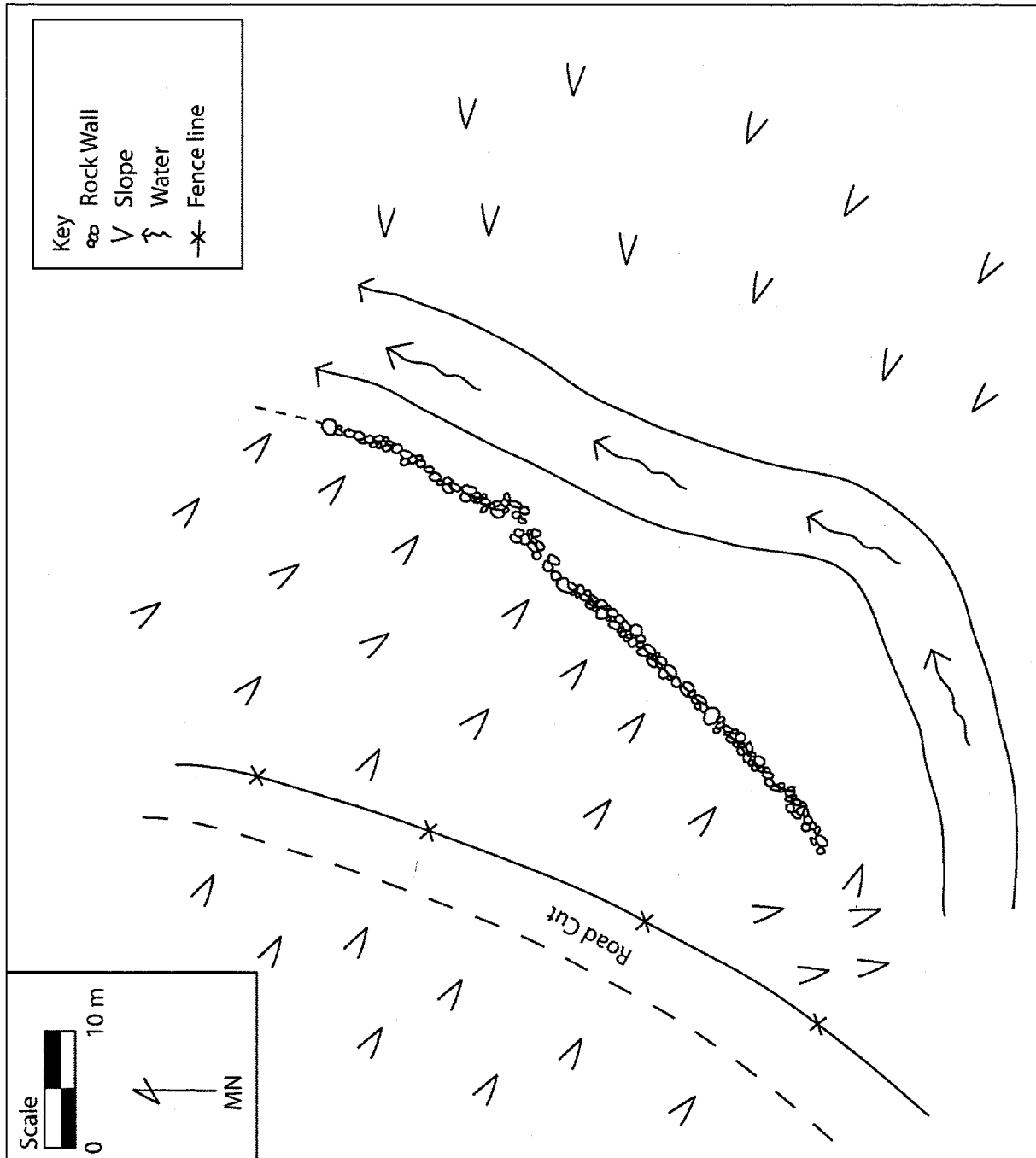


Figure 8. Site 50-50-06-6274, Retaining wall with associated terrace.



**Figure 9. Close-up of retaining wall. View to west.**



**Figure 10. Close-up of modified retaining wall.**



### 4.3 ADDITIONAL COMPONENTS

Several recent features were located in the course of the survey. Generally, these are recent constructions, some of which are still being used. They have not been assigned archaeological site designations, but are described below as a means of documenting current use of the area.

#### Gulch 1

##### Concrete Slab

**GPS Location: N20 50.445 W156 18.008**

A concrete slab was identified within Gulch 1 approximately 50 m southeast of the access road and extends across the floor of this narrow gulch (Figures 5 and 11). The slab measures 1.3 m long, 0.65 m wide and 0.10 m thick and is composed of concrete at basalt cobbles. This component serves no apparent function.



**Figure 11. Concrete slab located in Gulch 1.**

##### Pipeline

**GPS Location: N/A**

Approximately 100 m southeast of the concrete slab is a section of three-inch diameter galvanized pipeline which extends across the floor of the gulch. The pipeline is active and less than 50 years old. It is unknown where it starts or ends. No GPS data could be obtained at this location because of dense tree canopy.



## Gulch 2

### Pipe

**GPS Location:** N20 50.256 W156 18.069

At the head of Gulch 2, where the access road intersects with the gulch, a large corrugated pipe protrudes from the ground (Figure 12). The pipe measures 0.96 m in diameter and is covered with a metal cover. Within the pipe is a valve or bypass. Presumably this valve is for a waterline. The valve is active and less than 50 years old.



**Figure 12. Corrugated pipe containing a water valve.**

## Gulch 3

### Waterline

**GPS Location:** N20 50.527 W156 17.882

A rather extensive active waterline was identified about midway into Gulch 3. The pipeline is constructed of eight-inch diameter cast iron steel, which is supported by concrete footings vary in length with the longest being 1.54 m high, 0.26 m wide at the top and 0.38 m wide at the base (Figures 13 and 14). A drain valve is located on the west side of the pipeline. The pipeline is active and less than 50 years old. This may be the pipeline that shows up on both the USGS Quad and on the TMK Map.





**Figure 13. Eight-inch diameter cast iron steel pipe in Gulch 3.**



**Figure 14. Eight-inch diameter steel pipeline extending across the floor of the gulch.**

### PVC Pipes

**GPS Location: N20 50.421 W156 17.804**

Also within Gulch 3 (Figure 5), farther *mauka* at the boundary of the project area, are two sets of six-inch black PVC pipes these pipes also appear to be active and extend down the east side of the gulch, across the floor and back up the west side. These pipes appear to have been placed very recently.

### 4.4 SUBSURFACE TESTING

No subsurface testing appeared to be warranted in the project area so none was conducted. Upland plateau lands generally have a low potential to contain subsurface cultural deposits because they were not normally inhabited. Any evidence of traditional agricultural activities that may have occurred here was probably obliterated by modern mechanical farming. The one probable traditional site found in Gulch 4 was not tested because the land owners are willing to preserve this archaeological site.

## 5.0 SIGNIFICANCE ASSESSMENT

The National Historic Preservation Act of 1966 (as amended) authorizes the Secretary of Interior to expand and maintain a National Register of Historic Places (NRHP) that contains a listing of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology, engineering and culture. A property may be listed in the NRHP if it meets criteria for evaluation defined at 36 CFR §60.4:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

- (a) That are associated with the events that have made a significant contribution to the broad patterns of our history; or
- (b) That are associated with the lives of persons significant in our past; or
- (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) That have yielded, or may be likely to yield, information important in prehistory or history.

In addition, the State of Hawai'i has added a fifth criterion:

- (e) Site has yielded cultural significance; probable religious or burials present.

**Site 50-50-06-5501** has yet to be evaluated. It is our opinion that this site is significant under criteria "d" and "e" and should continue to be preserved in place.

**Site 50-50-06-6274** is significant under criteria "d". The land owner has stated that no work is planned for the gulch in the area of this site. As a result, no further work is recommended for this site. If ground altering activities are planned for this gulch, archaeological testing must be undertaken prior to any alteration.

The other resources identified in this project area determined to be not significant.



## 6.0 DISCUSSION AND RECOMMENDATION

Pacific Legacy, Inc. at the request of Piihilo South, LLC., conducted an archaeological inventory survey on approximately 325 acres of former pineapple and active pasture land in Hali`imaile Ahupua`a, Makawao District, Island of Maui. The survey was conducted over a five day period between March 7 and 15, 2007.

The plateau portions of the project area have been used for pasture or under pineapple cultivation for nearly 100 years. The pineapple roads are overgrown with vegetation since commercial agricultural activities have been halted on the property once the land was sold by Maui Land and Pineapple Company.

Site 50-50-06-5501, a previously identified burial of a female, located in the east corner of the project area along Piihilo Road is recommended for preservation. This site appears to be significant under criteria "d" and "e" and should be protected in perpetuity. Archaeological Services Hawaii apparently undertook archaeological investigations around the site to determine if additional burials were present. There is no formal record of these excavations but we do have an incomplete burial preservation plan and letter (Appendix B) discussing the burial and testing. No additional burials or pits were found during trenching. It appears that the burial is isolated and not apart of a "cemetery." The site is presently protected with large boulders and an upright boulder marks the location of the reinterred remains.

A single new site was identified, Site 50-50-06-6274 Located in the floor of an unnamed gulch (Gulch 4). This site consists of a slope retaining wall comprised of stacked basalt cobbles and boulders. The retaining wall functions to prevent the slope from eroding onto the soil terrace below. It's probable that this site is of pre-contact origins however, the site also exhibits a recent reuse. Mr. Billy Abreu maintains that this site was a piggery in the 1950 and 60's. This site appears to be significant under criteria "d". Piihilo South, LLC has no development plans for the gulch with and would like to passively preserve the site. No archaeological testing was undertaken at this site since the land owners want to preserve the retaining wall and terrace. If these plans change, archaeological testing should be carried out at this site prior to any alterations.

A single adze fragment was recovered from the north central portion of the project area from the center of an eroded pineapple road. No cultural deposit was associated with the fragment. The origin of the adze is unknown. Its location, in an eroded road, suggests that it could have come from almost anywhere upslope or even brought in for fill to repair pineapple roads. The fragment was collected and will be transferred to the land owner.

The remaining resources, an unidentified concrete slab and several waterlines do not appear to be significant because all of them are active and less than 50 years old. The concrete slab has an unknown function and origin thus cannot be evaluated. The remaining pipelines are additional components of the waterline which apparently feeds water tanks in the Makawao area. No further work is recommended.



Development plans for this area are to subdivide the plateau lands for single family housing. There are currently no plans to develop or modify the gulches. As such, the developers are willing to passively preserve Site 50-50-06-6274. This means that there are no plans to modify this part of the project area and that the site will be left alone. Likewise, there are no plans to interpret the site. If at some point in the future there are plans for development of Gulch 4, we recommend that consultations be instigated with the State Historic Preservation Division regarding future archaeological investigations, which may include archaeological testing, radiocarbon dating etc.

## 7.0 REFERENCES CITED

- Abreu, Billy  
2007 Personal communication to James McIntosh, March 17, 2007.
- Bartholomew, Gail and Bren Bailey.  
1994 *Maui Remembers: A Local History*. Mutual Publishing. Honolulu, Hawaii.
- Chinen, Jon.  
1958 *The Great Mahele*. University of Hawaii Press, Honolulu.
- Fornander, Abraham.  
1915 *Collection of Hawaiian Antiquities and Folk-lore*. Volume 5, B.P. Bishop Museum., Honolulu.
- Foote, D.E, E.L. Hill, S. Nakamura, and F. Stephens.  
1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. Washington D.C. Soil Conservation Service.
- Handy, E.S. Craighill and Elizabeth Green Handy.  
1972 *Native Planters in Old Hawaii: Their Life, Lore, & Environment*. Bishop Museum Press, Honolulu.
- Juvik, Sonia P. and James O. Juvik.  
1998 *Atlas of Hawaii*. Third Edition. University of Hawaii Press, Honolulu, Hawaii.
- Kam, Wendell.  
1985 *Field Inspection Report: Olinda Project at Haleaka Homesteads, Makawao, Maui*. TMK 2-4-13:4, 5, and 53. Report Number M-119 on file at the State Historic Preservation Division in Wailuku.
- Kirch, P.V.  
2000 *On the Road of the Winds*. University of California Press, Berkeley.
- 1985 *Feathered Gods and Fishhooks*. University of Hawaii Press, Honolulu.
- Kirdendall, Melissa.  
2003 *Letter Report: Inadvertent Burial Find, SIHP 50-50-06-5501, Hali`imaile Ahupua`a, Makawao District, Maui*. TMK (2) 2-4-12:9. Report Number M-1219 on file at the State Historic Preservation Division in Kapolei.

Pantaleo, Jeffrey.

- 2004 Archaeological Inventory Survey Report of the Taylor-Fewell Subdivision and Grove Ranch Agricultural Subdivision No. 2 Hali`imaile Ahupua`a, Makawao District, Island of Maui. TMK 2-4-001:004, 019. Report Number M-1307 on file at the State Historic Preservation Division in Kapolei.

Pantaleo, J. and K. Tsuha.

- 2003 Archaeological and Cultural Assessment of the Proposed Piiholo Road Well Site, Hali`imaile Ahupua`a, Makawao, Maui Island (TMK 2-4-12: por.6). Prepared for Maui Land and Pine. Jeffrey Pantaleo Consultants, LLC, Hawaii.

Pickett, Jenny Lyn and Mike Dega.

- 2005 An Archaeological Inventory Survey of 13 acres in Pi`iholo, Hai`ku Ahupua`a, Makawao District, Maui Island, Hawai`i. TMK: (2) 2-4-013-075. Report on file at the State Historic Preservation Division in Wailuku.

Pukui, Mary Kawena, Samuel Elbert, and Esther Mookini.

- 1974 *Place Names of Hawaii*. The University of Hawaii Press. Honolulu Hawaii.

Sterling, Elspeth.

1998. *Sites of Maui*. Bishop Museum Press, Honolulu.

## APPENDIX A

Melissa Kirkendall Letter Report  
2003

**Facsimile Memorandum**  
**Melissa Kirkendall, Maui Archaeologist**  
**State Historic Preservation Division, DLNR**  
**130 Mahalani Street**  
**Wailuku, Hawai'i 96793**

17 December 2003

**TO:** Cathy Dagher  
Holly McEldowney  
Sara Collins  
Nathan Napoka  
Kai Markell  
Kuna'i Kapeliela  
**FAX:** 808 692-8020

**TO:** Kenneth Bode, DOCARE  
984-8111

**FROM:** Melissa Kirkendall  
**FAX:** 808 243-5838

Total Number of Pages including cover sheet: 5

**Subject:** Inadvertent Burial Find, SHIP 50-50-06-5501  
Hali'imaile Ahupua'a, Makawao District, Maui  
TMK (2) 2-4-12:9

On 16 December 2003, 1:00pm, Dr. Melissa Kirkendall responded to a call from DOCARE regarding a burial identified during waterline excavation on Pi'iholo Road in Makawao. The call originated from Maui Police Department. MPD investigators were on the scene, awaiting the arrival of the coroner. Upon his arrival, Dr. Kirkendall and Dr. Manukian conferred and determined, based on skeletal evidence, that the burial was over 50 years of age, hence SHPD jurisdiction.

It was further determined by Drs. Manukian and Kirkendall that the burial represents a female of Asian ethnicity. Stature of the individual is estimated between 5' and 5'3", and she is 30+ years of age. Based on context, the burial appears to be primary disposition, although there is no evidence of a coffin. Approximately 25% of the individual was recovered from the back dirt pile and is temporarily curated at the Maui SHPD office. The right half of the mandible remains *in situ*, at a depth of approximately 60cmbs. The matrix is heavy clay.

The back dirt pile was covered with a tarp provided by Dr. Kirkendall (personal property). The area from which the burial originated within the trench was covered with plywood boards provided by Maui Land and Pine, with the backhoe bucket gently covering it, to prevent animals from digging in the area.

Maui Land and Pine was informed that they will need to secure an archaeologist to discuss appropriate mitigation with SHPD, as well as to monitor the trench excavation in the area, as they complete the waterline installation. SHPD requested that Maui Land and Pine have the

consulting archaeologist contact Dr. Kirkendall prior to proceeding additional trench excavation associated with the project. In addition, they will confer with the Burial Sites Staff regarding burial treatment.

The burial is in the south west corner of TMK (2) 2-4-12-9, and on the west side of Pi'iholo Road. The majority of this parcel is on the east side of Pi'iholo Road. The southwest corner of parcel nine is the only part on the west side of Pi'iholo Road: see attached map). The parcel, as reflected on the TMK, is part of Land Grant 7944.

Attachments: TMK map  
Inadvertent burial form



RSP Case No:

SHP 50-50-06-5501

**Department of Land and Natural Resources Checklist  
Inadvertent Discovery of Human Skeletal Remains  
Notification to Determination**

Reported by: DOCARE, MPD through SHPDDate & Time: 12/16/03 1:00 pmLocation/Project: Piholo RoadTMK: 2-4-1219Landowner/Agent: Hau Land & PineIsland/District: Hali'imaile

Upon notification of the inadvertent discovery of human skeletal remains, DLNR staff shall complete the following in accordance with §6E-43.6 HRS and §13-300-40(c) & (d):

**COMPLETED:**

Date/Time Initial

12/16/03  
12:00

HK Assure any activity ceases in the immediate area that could damage the remains or historic property and that appropriate actions are taken to protect integrity and character of site [§6E-43.6(a); §13-300-40(c)(1)]

Measures taken/verified: work on waterline shut down by MPD

12/16/03 12:00

HK Notify appropriate SHPD archaeologist or Burial Sites Program staff

Name/form of contact: M. Kirkendall notified by DOCARE/MPD

12/16/03 2:00

HK Determine jurisdiction by assuring that medical examiner's representative and qualified archaeologist determine if skeletal remains are human and over fifty years old [§6E-43.6(1); §13-300-40(c)(2)].

Determined by/basis for determination: met w/ coroner - determined burial is Asian female, and buried over 50 years old  
Human/non-human: human

12/16/03 1:00

MK Conduct a site inspection where necessary [§13-300-40(c)(3)].

If no inspection, why: \_\_\_\_\_

\_\_\_\_\_  
Gather sufficient information, including oral tradition, to document the nature of the burial context and determine appropriate treatment [§6E-43.6(c)(2)]. Seek individuals knowledgeable of families connected lineally or culturally to the discovered remains to help gather sufficient information [§13-300-40(c)(4)].

Appropriate effort: \_\_\_\_\_

Individuals to contact: \_\_\_\_\_

\_\_\_\_\_  
Complete departmental inadvertent discovery forms [§13-300-40(c)(5)]

\_\_\_\_\_  
Establish case file and assign number



BSP Case No:

2

## COMPLETED:

Date/Time

Initial

N/A

Non Hawaiian

Notify burial council member(s) representing the geographic region where the human remains were discovered [§13-300-40(c)(6)] and offer council members on-site examination [§6E-43.6(c)(2)]

Name/form of contact: \_\_\_\_\_

Site examination scheduled: \_\_\_\_\_

Notify Office of Hawaiian Affairs [§13-300-40(c)(6)]

Name/form of contact: \_\_\_\_\_

Inform the landowner or its agent of the discovery if different from person making report [§13-300-40(c)(7)]

Name/form of contact: \_\_\_\_\_

Number and condition of human remains discovered: \_\_\_\_\_

Other Actions Taken/Approved: \_\_\_\_\_

Landowner consent to voluntarily extend statutory time periods [§13-300-40(d)]

Consent form/letter signed: \_\_\_\_\_

Basis for extension: \_\_\_\_\_

Time of extension: \_\_\_\_\_

Determine whether to preserve in place or relocate the human skeletal remains [§13-300-40(c)(8)]

Justification and criteria applied [§§13-300-36 & 37]: \_\_\_\_\_

Per 13-300-40(d), H.A.R.

In the event an inadvertent discovery of:

**Single human skeleton:** on O'ahu the department shall have one working day to complete the above  
on Neighbor Islands the department shall have two working days to complete the above

**Multiple human skeletons:** on O'ahu the department shall have two working days to complete the above  
on Neighbor Islands the department shall have three working days to complete the above

The statutory time periods may be extended with voluntary written consent of the landowner or its authorized representative.

## APPENDIX B

Lisa Rotunno-Hazuka  
Archaeological Services Hawaii, LLC  
Burial Preservation Plan and Letter

Sep 01 05 07:35p

Cynthia Warner

808-573-0051

p.1

JUL-31-2005 01:35 AM

FROM: RONI 8910269 7/1/05  
TO:  
FROM: CINDY  
NOT SURE IF YOU HAVE THIS IN YOUR FILE YET.

P.01

**ARCHAEOLOGICAL SERVICES HAWAII, LLC**  
1930 A Vineyard; Wailuku HI; 96793  
808-244-2012; 808-244-9592

26 July 05

FASCIMILE TRANSMISSION 242 6912

TO: Mike

FROM: Lisa

SUBJECT: Maui Land and Pineapple Burial Site

Mike, I was in the field until 5:00 yesterday. I worked on this BPP at lunch and a little last night. I still need to fill in the blanks with data from my office. Unfortunately, since I moved, some of this stuff may still be packed. Anyway, I'll get what I can today and send it to you either tonight or tomorrow. I am in the field again today and am not sure when I'll get to the office to gather data. I will get the information together this weekend though.

Thank you.

Lisa

JUL-31-2005 01:33 AM

P.02

### LONG TERM MEASURES FOR HUMAN SKELETAL REMAINS OF SITE

Site \_\_\_\_\_ consists of a partial *in situ* burial of an adult female located within the corner of the project area (Figure ). The burial feature is in a flexed position and the *in situ* components consisted of the long bones. This site appeared to be a solitary burial feature probably of Native Hawaiian ancestry. This site will be preserved in perpetuity in the corner of the project area. The preservation measures are as follows:

1. **Surface Demarcation-** The displaced human skeletal remains from the backdirt pile of Site \_\_\_\_\_ were reinterred adjacent to the *in situ* burial feature located in the corner of the parcel. A reinterment pit measuring 2.0 ft. long by 2.0 ft. wide by 1.0 ft. deep was excavated by the archaeologist. An approximate 6 inch layer of fill was placed over the bundle of human skeletal remains and a layer of concrete measuring approximately 3.0 ft. long by 2.0 ft. wide by 4 inches thick was poured over the reinterment pit. The SHIP number was inscribed onto the concrete cap. An upright stone has been placed over the burial site and shall serve as a surface marker for the *in situ* burial and the reinterred remains. This burial site will be further protected by a buffer zone, landscaping, signage and a metes and bounds description of the permanent preservation area.
2. **Preservation Area/Buffer Zone-** The preservation area includes the burial site and the upright stone surrounded on four sides by a buffer zone. The buffer zone is a protective area for the burial and the rock platform. The buffer zone is a no build area in which temporary or permanent structures will not be placed or built. Subsurface utilities shall be routed outside of the buffer zone. The buffer zone shall be measured from the outer edges of the upright stone as follows: ft. on the north and west sides and ft. on the south and east sides. This buffer zone and the platform shall define the preservation area. The preservation area measures ft. long by ft. wide. The preservation area will be demarcated on the surface by a low rock wall (2 ft. high).
3. **Landscaping-** The area around the platform within the buffer zone will be planted with grass or native ground cover. No trees or deeply rooted plants shall be grown or maintained within the buffer zone.
4. **Signage-** A bronze plaque measuring 18 inches by 10 inches shall be permanently affixed to a wooden post along the rock wall. The plaque will be inscribed with the following:

Native Hawaiian Burial Site  
State Site Number 50-50-  
Please Respect This Area

5. **Recordation**-The preservation area shall be surveyed by a licensed surveyor and a metes and bounds description of the preservation area shall be recorded along with the Burial Preservation Plan at the State of Hawaii Bureau of Conveyance within 90 days of written acceptance of the Burial Preservation Plan by the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD). The DLNR-SHPD and the Maui/Lanai Islands Burial Council (M/LIBC) shall be provided with copies of the recorded Burial Preservation Plan.

6. **Maintenance**-The platform and signage shall be maintained by the landowner. If the plaque and or platform should be damaged or fade over time, it will be replaced by the landowner.

To ensure perpetual protection of this burial feature, periodic site inspections by SHPD may be conducted to verify that the signage, platform and all long-term preservation measures are in place and the site is adequately protected. Site inspections will be performed at mutually agreed upon times between the landowner and SHPD staff.

7. **Access**-No lineal descendant claims have been received by the SHPD for these human skeletal remains. Thus, no access to this burial site is afforded to lineal descendants at this time. Should the SHPD receive a lineal descendancy claim in the future, the landowner shall be informed by SHPD of the receipt of such claim and the timetable for, and manner in which the claim will be processed. Lineal descendancy claims must be formally recognized by the M/LIBC as stated in Chapter 13-300 HAR entitled "Rules of Practice and Procedure Relating to Burial Sites & Human Remains". In the event that a lineal descendancy claim is recognized by the M/LIBC, access to the specific burial feature(s) shall be permitted at a reasonable dates & times mutually agreed upon by the landowner, lineal descendants and SHPD in consultation with M/LIBC.

## Auku'u Land Consulting

P.O. Box 33  
Makawao, HI 96768

Ph: 808 573 0081 Ex: 808 573 0090  
hstarr@maui.net

3 pages  
including cover

August 24, 2005

To: Cindy Warner  
VIA FAX

Re: Baldwin Remnant Lot

Aloha Cindy:

After actually looking at the tax map, the situation is different than how I had described it.

The tax map shows part of Peter's grant on the south side of Pihiolo Road.

However, the actual Pihiolo Road, according to Ken's survey, runs along the edge of Peter's grant...thus also along the boundary of Pihiolo South.

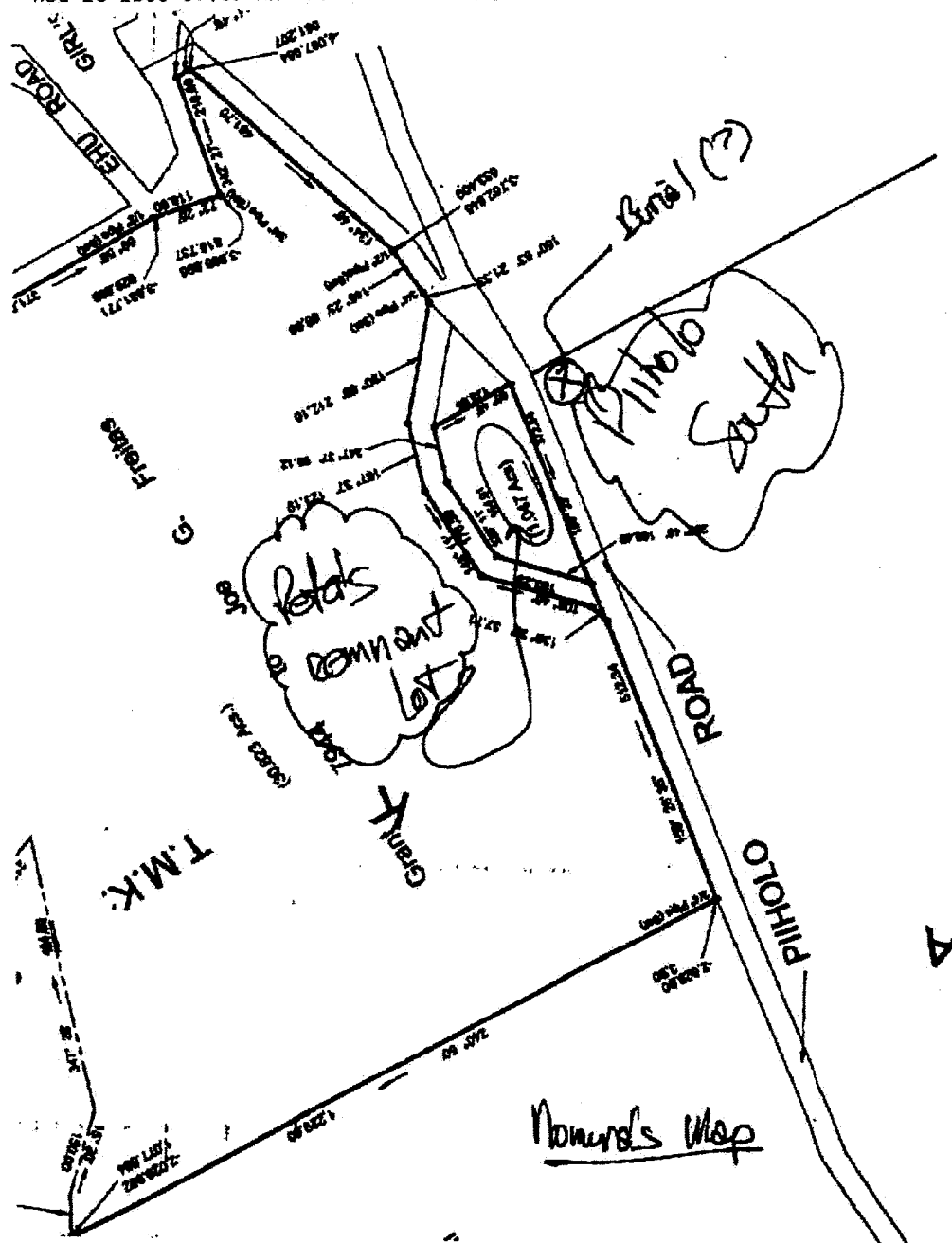
So, the remnant land is Peter's and it's on the North side of Pihiolo South and the actual Pihiolo Road; it's in-between the actual Pihiolo Road and the Pihiolo Road right-of-way as shown on the tax map.

Thus the burial is on Pihiolo South land.

Call me if you have questions.

Thanks, Hugh









**ARCHAEOLOGICAL SERVICES HAWAII, LLC.,**

**1930 A Vineyard Wailuku, HI; 96793**

**Ph. 808-244-2012; Fx. 808-244-9592**

6 June 06


Piihono South LLC.,  
Mr. Ron Sturtz  
874 Kumulani Drive  
Kihei, HI 96753

Subject: Post Field Summary Letter of Archaeological Investigations at a Parcel TMK 2-4-12:05

Dear Ron,

Per your request, Archaeological Services Hawaii, LLC (ASH) performed test excavations adjacent to an inadvertent burial site designated State Inventory of Historic Places (SIHP) 50-50-06-5501 on 12 September 2006. Archaeological personnel consisted of Ms. Holly Formolo, who monitored and recorded the trenches, under the direction of Ms. Lisa Rotunno-Hazuka. The purpose of this investigation was to ascertain if additional burials were present in the immediate vicinity of the burial site. The test area measured approximately 10.0 meters long by 3.5 meters wide (30 ft. long by 10 ft. wide), where a series of four backhoe trenches were carefully excavated just west of Site 5501. The trenches were spaced approximately 1.2 m (4.0 ft.) apart, and measured 2.0 m long by .60 m wide by 1.7 m deep (6.0 ft. by 2.0 ft. by 5.0 ft.). All test excavations were negative for human skeletal remains and/or burial pits. The backhoe trenches were documented with photographs and representative stratigraphic sequences were documented. Upon the completion of the recording, all backhoe trenches were covered, and no further work was performed in the area.

Respectfully,

  
Lisa Rotunno-Hazuka  
Consulting Archaeologist

**BOTANICAL AND FAUNAL SURVEY**  
**HOKU NUI SUSTAINABLE COMMUNITY**  
**PIIHOLO, MAUI**



**Prepared By:**  
**FOREST & KIM STARR**  
**STARR ENVIRONMENTAL**

**Prepared For:**  
**HOKU NUI INC.**

**JANUARY 2014**



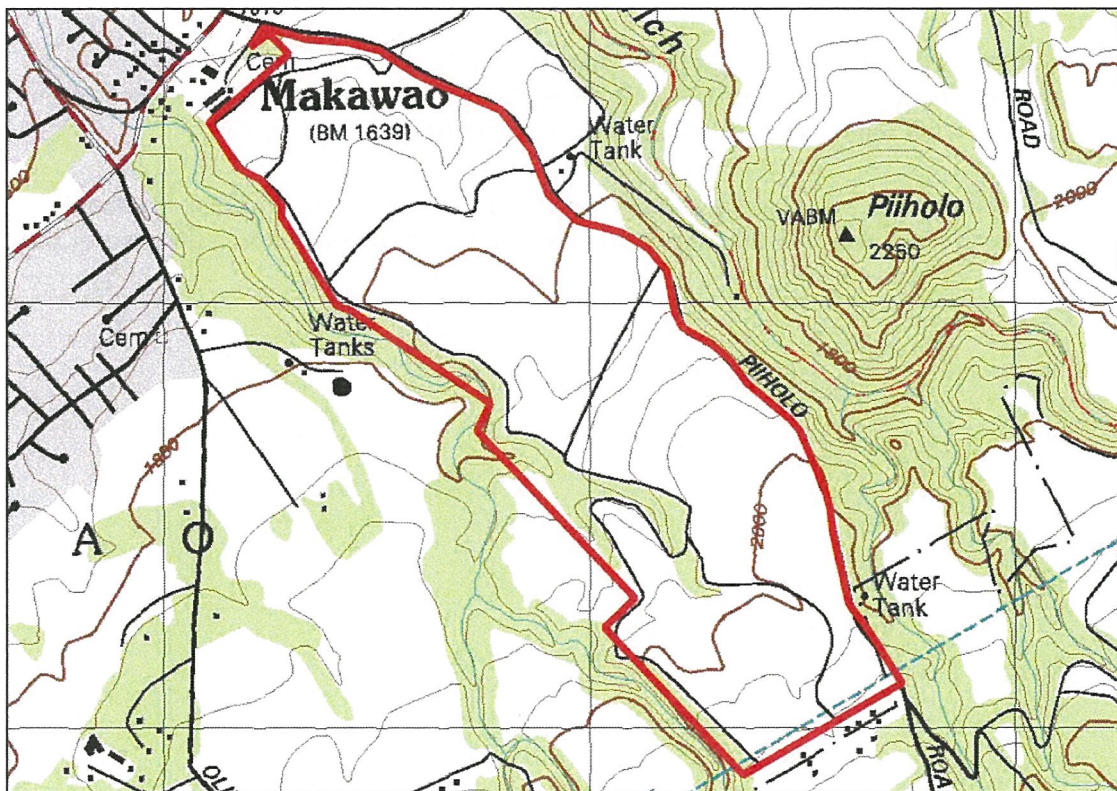
# **BOTANICAL AND FAUNAL SURVEY HOKU NUI SUSTAINABLE COMMUNITY PIIHOLO, MAUI**

## **INTRODUCTION**

The Hoku Nui Sustainable Community Project lies on 258 acres in Piiholo, Maui TMKs (2-4-012:005, 039, 040, 041, 042, 043, 044, 045, 046, 047, & 048). The project area is upslope of Makawao Town, with Piiholo Road forming the eastern boundary, a tributary of Maliko Gulch approximating the western boundary, a University of Hawaii Extension Station the mauka (upslope) boundary, and St. Joseph's Church the makai (downslope) boundary. The goal of the project is to develop a sustainable community. This study was initiated to gather information about the flora and fauna of the project area.

## **SITE DESCRIPTION**

The project area is situated on land previously cultivated in pineapple. Most of the land is moderately sloped and vegetated with pasture grasses and other forage. The western edge of the property contains steeper land with forested gullies. The project elevation ranges from 1630 to 2080 feet above sea level. Annual rainfall averages 70-90 inches. Annual air temperature averages 67 degrees Fahrenheit.



Project site, Piiholo, Maui.

## BIOLOGICAL HISTORY

The original vegetation on the site would have been a diverse mesic native forest. Typical canopy species would have included koa (*Acacia koa*), ohia (*Metrosideros polymorpha*), halapepe (*Chrysodracon auwahiensis*), and olopua (*Nestegis sandwicensis*).

After the arrival of humans, a series of forces including fire, agriculture, and introduced plants, animals, and diseases transformed the site to predominantly non-native vegetation. Major uses of the land included cattle grazing and pineapple cultivation.

Today the bulk of the site is open pasture consisting of non-native grasses that are grazed by cattle, sheep, and goats. The forested gulches are comprised of predominantly non-native kukui nut (*Aleurites moluccana*), Christmasberry (*Schinus terebinthifolius*), black wattle (*Acacia mearnsii*), and Eucalyptus (*Eucalyptus* spp.).

## SURVEY OBJECTIVES

The objectives of the survey were to:

- Document what plant and animal species occur on the site or may likely occur in the existing habitat.
- Document the status and abundance of each species.
- Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
- Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the flora and fauna in this part of the island.



## **BOTANICAL SURVEY**

### **SURVEY METHODS**

A walk-through botanical survey method was used following a route to ensure coverage of different habitat types. Notes were made on plant species, distribution and abundance. Extra emphasis was placed on areas with high diversity and areas where management was most feasible and likely. The site was surveyed on December 29 & 30, 2014.



**Taking notes on vegetation, Hoku Nui.**



## DESCRIPTION OF VEGETATION

The vegetation on the site is predominantly non-native. There are two main vegetation types, open pasture and forested gulch. Naturally occurring native plants of note include scattered patches of indigenous palapalai fern (*Microlepia strigosa*) in the gulches.

The relatively flat open areas that make up the bulk of the site are an open grassland of numerous non-native pasture grasses. The most common grasses in the pastures include Guinea grass (*Megathyrsus maximus*), molasses grass (*Melinis minutiflora*), Natal red top (*Melinis repens*), broom sedge (*Andropogon virginicus*), Kikuyu grass (*Cenchrus clandestinus*), cane grass (*Cenchrus purpureus*), pangola grass (*Digitaria eriantha*), sourgrass (*Digitaria ciliaris*), and vasey grass (*Paspalum urvillei*).

Herbaceous plants in the pastures include fireweed (*Senecio madagascariensis*), tick clover (*Desmodium* spp.), partridge pea (*Chamaecrista nictitans*), Spanish needle (*Bidens pilosa*), hairy cat's ear (*Hypochoeris radicata*), and balloon plant (*Asclepias physocarpa*).

Some savannah occurs in the SW corner of the property, where the pastures include young trees of non-native black wattle (*Acacia mearnsii*). This area also contains non-native tree species escaping from the nearby University of Hawaii Agricultural Station, predominantly pines (*Pinus* spp.) and Acacia (*Acacia* spp.).

The only native plants in the pastures are uhaloa (*Waltheria indica*) and popolo (*Solanum americanum*), both species are considered questionably indigenous and are common in Hawaii and elsewhere.

In a few spots are cultivated edible plants, such as bananas (*Musa* spp.), taro (*Colocasia esculenta*), and sugar cane (*Saccharum officinarum*). There are also a few cultivated native plants including dwarf koa (*Acacia koa*) and anapanapa (*Colubrina asiatica*).



Open pasture in flat areas transitions to a forest canopy in the steep gulches.



The gulches that approximate the western boundary of the property are forested. The mauka portion of these gulches is generally dominated by eucalyptus (*Eucalyptus* spp.) and black wattle (*Acacia mearnsii*). The makai portion is mostly dominated by kukui nut (*Aleurites moluccana*) and Christmasberry (*Schinus terebinthifolius*).

Other, less common, tree species in the gulches include strawberry guava (*Psidium cattleianum*), java plum (*Syzygium cumini*), jacaranda (*Jacaranda mimosifolia*), camphor (*Cinnamomum camphora*), and tropical ash (*Fraxinus uhdei*).

The understory is rather open, in many places it is bare soil. Predominant in some areas of the gulch bottom are ape (*Xanthosoma robustum*). Other non-native understory plants include Jerusalem cherry (*Solanum pseudocapsicum*), bamboo grass (*Osplimenus hirtellus*), panic veldt grass (*Ehrharta erecta*), and thimbleberry (*Rubus rosifolius*).

There are two native fern species in the gulch. The most common of these is palapalai (*Microlepia strigosa*), of which patches of various sizes can be found scattered about the gulch understory, especially where there are kukui nut trees. The other native fern in the gulch is pakahakaha (*Lepisorus thunbergianus*), which was on tree trunks. On the gulch edge was koali awa (*Ipomoea indica*), a common indigenous vine.



Kukui nut trees and palapalai ferns are common in the gulches.



## DISCUSSION AND RECOMMENDATIONS

Most of the project area has been heavily impacted by previous human disturbances and is currently dominated by hardy non-native plants. The native plant species found on the site are all common throughout Hawaii and elsewhere and are of no special conservation concern. No special native plant habitats occur on the project site. The proposed project is not expected to have a significant negative impact on the botanical resources in this part of Maui.

There is an opportunity to propagate the hardy native Palapalai ferns (*Microlepia strigosa*) naturally occurring in the gulches, for use in the housing landscaping and native plant restoration portions of the project.

### PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Taxonomy and nomenclature of the flowering plants are in accordance with Wagner et al. (1999).

For each species, the following information is provided:

- Scientific name
- Common English or Hawaiian name.
- Bio-geographical status. The following symbols are used:
  - Endemic = Native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.
  - Indigenous = Native to the Hawaiian Islands and also to one or more other geographic area(s).
  - Non-native = All those plants brought to the islands intentionally or accidentally after western contact.
- Abundance of each species within the project area:
  - Dominant = Forming a major part of the vegetation within the project area.
  - Common = Widely scattered throughout the area or locally abundant within a portion of it.
  - Occasional = Scattered sparsely throughout the area or occurring in a few small patches.
  - Rare = Only a few isolated individuals within the project area.

## PLANT SPECIES LIST

Scientific names	Common name	Nativity	Abundance
<i>Abutilon grandifolium</i>	Hairy abutilon	Non-native	Rare
<i>Acacia koaia</i>	Koaia	Endemic	Rare
<i>Acacia mearnsii</i>	Wattle	Non-native	Dominant
<i>Acacia spp.</i>	Non-native Acacia	Non-native	Occasional
<i>Adiantum hispidulum</i>	Rough maidenhair fern	Non-native	Occasional
<i>Adiantum raddianum</i>	Maidenhair fern	Non-native	Occasional
<i>Ageratina adenophora</i>	Maui pamakani	Non-native	Rare
<i>Ageratum conyzoides</i>	Billygoat weed	Non-native	Occasional
<i>Aleurites moluccana</i>	Kukui Nut	Polynesian	Dominant
<i>Alpinia sp.</i>	Ginger	Non-native	Rare
<i>Amaranthus spinosus</i>	Spiny amaranth	Non-native	Occasional
<i>Andropogon virginicus</i>	Broomsedge	Non-native	Common
<i>Arachis sp.</i>	Ground peanut	Non-native	Rare
<i>Asclepias physocarpa</i>	Balloon plant	Non-native	Common
<i>Axonopus compressus</i>	Wide-leaved carpetgrass	Non-native	Occasional
<i>Axonopus fissifolius</i>	Common carpetgrass	Non-native	Occasional
<i>Azolla pinnata</i>	Ferny azolla	Non-native	Rare
<i>Bidens alba var. radiata</i>	Beggartick	Non-native	Occasional
<i>Bidens pilosa</i>	Spanish needle	Non-native	Common
<i>Blechnum appendiculatum</i>	Blechnum	Non-native	Rare
<i>Brassica oleracea</i>	Kale	Non-native	Rare
<i>Broussonetia papyrifera</i>	Wauke	Polynesian	Rare
<i>Cajanus cajan</i>	Pigeon pea	Non-native	Occasional
<i>Capsicum annuum</i>	Pepper	Non-native	Rare
<i>Cenchrus clandestinus</i>	Kikuyu grass	Non-native	Dominant
<i>Cenchrus purpureus</i>	Cane grass	Non-native	Dominant
<i>Centella asiatica</i>	Asiatic pennywort	Non-native	Occasional
<i>Cerastium sp.</i>	Chickweed	Non-native	Rare
<i>Cestrum nocturnum</i>	Night blooming jasmine	Non-native	Occasional
<i>Chamaecrista nictitans</i>	Partridge pea	Non-native	Common
<i>Cinnamomum camphora</i>	Camphor tree	Non-native	Occasional
<i>Cirsium vulgare</i>	Bull thistle	Non-native	Occasional
<i>Cocos nucifera</i>	Coconut	Polynesian	Rare
<i>Colocasia esculenta</i>	Taro	Polynesian	Rare
<i>Colubrina asiatica</i>	Anapanapa	Indigenous	Rare
<i>Commelina diffusa</i>	Honohono	Non-native	Occasional
<i>Conyza bonariensis</i>	Hairy horseweed	Non-native	Common
<i>Cordyline fruticosa</i>	Ti leaf	Polynesian	Rare
<i>Crassocephalum crepidioides</i>	Crassocephalum	Non-native	Occasional
<i>Crotalaria pallida</i>	Smooth rattle pod	Non-native	Occasional
<i>Crotalaria pumila</i>	Small rattlepod	Non-native	Occasional
<i>Croton guatemalensis</i>	Copalchi	Non-native	Occasional
<i>Cucurbita sp.</i>	Squash	Non-native	Rare
<i>Cupressus macrocarpa</i>	Monterey cypress	Non-native	Occasional

Scientific names	Common name	Nativity	Abundance
<i>Cyclosorus sp.</i>	Christella	Non-native	Occasional
<i>Cynodon dactylon</i>	Bermuda grass	Non-native	Occasional
<i>Cyperus gracilis</i>	McCoy grass	Non-native	Occasional
<i>Cyperus involucratus</i>	Umbrella sedge	Non-native	Rare
<i>Cyperus rotundus</i>	Purple nut sedge	Non-native	Common
<i>Delairea odorata</i>	Cape ivy	Non-native	Rare
<i>Desmodium intortum</i>	Tick clover	Non-native	Occasional
<i>Desmodium triflorum</i>	Tick clover	Non-native	Occasional
<i>Digitaria abyssinica</i>	African couchgrass	Non-native	Occasional
<i>Digitaria ciliaris</i>	Henry's crab grass	Non-native	Common
<i>Digitaria eriantha</i>	Pangola grass	Non-native	Dominant
<i>Digitaria insularis</i>	Sourgrass	Non-native	Dominant
<i>Dysphania ambrosioides</i>	Mexican tea	Non-native	Rare
<i>Ehrharta erecta</i>	Panic veldt grass	Non-native	Occasional
<i>Eichhornia crassipes</i>	Water hyacinth	Non-native	Rare
<i>Eleusine indica</i>	Wire grass	Non-native	Common
<i>Emilia sp.</i>	Pualele	Non-native	Occasional
<i>Eragrostis pectinacea</i>	Carolina love grass	Non-native	Common
<i>Eriobotrya japonica</i>	Loquat	Non-native	Occasional
<i>Eucalyptus botryoides</i>	Bangalay	Non-native	Occasional
<i>Eucalyptus globosa</i>	Blue gum	Non-native	Common
<i>Eucalyptus robusta</i>	Swamp mahogany	Non-native	Common
<i>Eucalyptus tereticornis</i>	Forest red gum	Non-native	Occasional
<i>Ficus cairica</i>	Fig	Non-native	Rare
<i>Fortunella sp.</i>	Kumquat	Non-native	Rare
<i>Fraxinus uhdei</i>	Tropical ash	Non-native	Occasional
<i>Geranium homeanum</i>	Cranesbill	Non-native	Rare
<i>Gliricidia sepium</i>	Gliricidia	Non-native	Rare
<i>Gossypium sp.</i>	Cotton	Non-native	Rare
<i>Grevillea robusta</i>	Silky oak	Non-native	Occasional
<i>Hypochoeris radicata</i>	Hairy cat's ear	Non-native	Common
<i>Indigofera suffruticosa</i>	Upright indigo	Non-native	Common
<i>Ipomoea batatas</i>	Sweet potato	Non-native	Rare
<i>Ipomoea indica</i>	Koali awa	Indigenous	Rare
<i>Ipomoea ochracea</i>	Yellow morning glory	Non-native	Rare
<i>Jacaranda mimosifolia</i>	Jacaranda	Non-native	Occasional
<i>Justicia betonica</i>	White shrimp plant	Non-native	Rare
<i>Kyllinga brevifolia</i>	Green kyllinga	Non-native	Occasional
<i>Lantana camara</i>	Lantana	Non-native	Occasional
<i>Leonotis nepetifolia</i>	Lion's ear	Non-native	Rare
<i>Lepisorus thunbergianus</i>	Pakahakaha	Indigenous	Rare
<i>Lotus subiflorus</i>	Lotus	Non-native	Occasional
<i>Macroptilium lathyroides</i>	Cow pea	Non-native	Occasional
<i>Malvastrum coromandelianum</i> subsp. <i>coromandelianum</i>	False mallow	Non-native	Occasional
<i>Megathyrus maximus</i>	Guinea grass	Non-native	Dominant

<b>Scientific names</b>	<b>Common name</b>	<b>Nativity</b>	<b>Abundance</b>
<i>Melinis minutiflora</i>	Molasses grass	Non-native	Dominant
<i>Melinis repens</i>	Natal red top	Non-native	Dominant
<i>Microlepia strigosa</i>	Palapalai	Indigenous	Common
<i>Monstera deliciosa</i>	Swiss cheese plant	Non-native	Rare
<i>Moringa oleifera</i>	Drumstick tree	Non-native	Rare
<i>Musa acuminata</i>	Banana	Non-native	Rare
<i>Musa x paradisiaca</i>	Banana	Non-native	Rare
<i>Neonotonia wightii</i>	Glycine	Non-native	Occasional
<i>Nephrolepis sp.</i>	Sword fern	Non-native	Occasional
<i>Odontonema cuspidatum</i>	Firespike	Non-native	Rare
<i>Osplimenus hirtellus</i>	Bamboo grass	Non-native	Occasional
<i>Oxalis corniculata</i>	Yellow wood sorrel	Non-native	Occasional
<i>Oxalis debilis var. corymbosa</i>	Pink wood sorrel	Non-native	Occasional
<i>Paspalum conjugatum</i>	Hilo grass	Non-native	Common
<i>Paspalum urvillei</i>	Vasey grass	Non-native	Dominant
<i>Passiflora edulis</i>	Passion vine	Non-native	Occasional
<i>Passiflora subpeltata</i>	White passion flower	Non-native	Occasional
<i>Persea americana</i>	Avocado	Non-native	Occasional
<i>Phlebodium aureum</i>	Lauae haole	Non-native	Occasional
<i>Phyllanthus debilis</i>	Phyllanthus	Non-native	Common
<i>Phytolacca ocatandra</i>	Pokeweed	Non-native	Common
<i>Pinus sp.</i>	Pines	Non-native	Occasional
<i>Plantago lanceolata</i>	Narrow-leaved plantain	Non-native	Common
<i>Plectranthus amboinicus</i>	Mexican oregano	Non-native	Rare
<i>Polygala paniculata</i>	Milkwort, root beer plant	Non-native	Occasional
<i>Psidium cattleianum</i>	Strawberry guava	Non-native	Dominant
<i>Psidium guajava</i>	Guava	Non-native	Common
<i>Ricinus communis</i>	Castor bean	Non-native	Occasional
<i>Rubus rosifolius</i>	Thimbleberry	Non-native	Occasional
<i>Saccharum officinarum</i>	Sugar cane	Non-native	Rare
<i>Schinus terebinthifolius</i>	Christmas berry	Non-native	Dominant
<i>Senecio madagascariensis</i>	Fireweed	Non-native	Common
<i>Senna occidentalis</i>	Coffee senna	Non-native	Occasional
<i>Setaria palmifolia</i>	Palmgrass	Non-native	Rare
<i>Setaria parviflora</i>	Yellow foxtail	Non-native	Occasional
<i>Sida rhombifolia</i>	Sida, Cuban jute	Non-native	Common
<i>Sigesbeckia orientalis</i>	Small yellow crown beard	Non-native	Occasional
<i>Solanum americanum</i>	Glossy nightshade	Indigenous?	Occasional
<i>Solanum pseudocapsicum</i>	Jerusalem cherry	Non-native	Rare
<i>Sollanum linnaeanum</i>	Apple of sodom	Non-native	Occasional
<i>Sonchus oleraceus</i>	Sow thistle	Non-native	Occasional
<i>Spathodea campanulata</i>	African tulip tree	Non-native	Rare
<i>Sporobolus sp.</i>	Sporobolus	Non-native	Common
<i>Stachys arvensis</i>	Staggerweed	Non-native	Occasional
<i>Stachytarpheta cayennensis</i>	Vervain	Non-native	Occasional
<i>Symphytum officinale</i>	Common comfrey	Non-native	Rare

Scientific names	Common name	Nativity	Abundance
<i>Syngonium podophyllum</i>	Arrowhead plant	Non-native	Rare
<i>Syzygium cumini</i>	Java plum	Non-native	Occasional
<i>Triumfetta semitriloba</i>	Sacramento bur	Non-native	Common
<i>Urochloa mutica</i>	California grass	Non-native	Occasional
<i>Verbena littoralis</i>	Vervain	Non-native	Occasional
<i>Waltheria indica</i>	Uhaloa	Indigenous ?	Occasional
<i>Xanthosoma robustum</i>	Ape	Non-native	Occasional



Native palapalai ferns are relatively abundant in the gulches of Hoku Nui.



## FAUNAL SURVEY

### SURVEY METHODS

A walk-through survey method was conducted in conjunction with the botanical survey. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species, abundance, activities and location as well as observations of trails, tracks, scat and signs of feeding.

Conspicuous insects were noted. A sweep net was used to help with identification of insects that were difficult to get close looks at.

An evening visit was made to record crepuscular activities and vocalizations and to look for presence of Hawaiian Hoary Bats (*Lasiurus cinereus semotus*). Along with visually scanning the sky for bats, active and passive ultrasonic bat detectors were used to help detect bats. The site was surveyed on December 29 & 30, 2014.

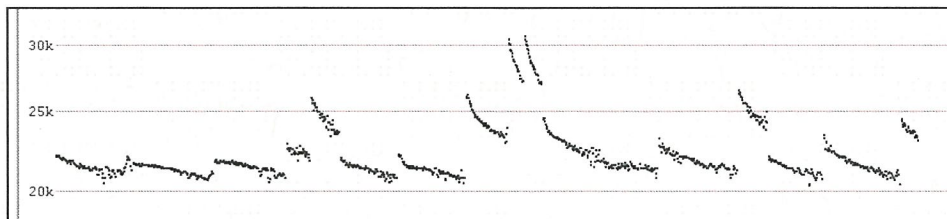


Sunset, Hoku Nui.



## BATS

Bats are relatively common in the Olinda/Piihola area of Maui, and are regularly observed on and near the Hoku Nui property. However, during the night survey, only a single lone bat was viewed off the property at a distance, and just a few ultrasonic bat calls were detected, with most of the calls long and drawn out, suggesting a bat transiting through the area, rather than utilizing the site for roosting or foraging.



**Compressed sonogram of ultrasonic bat calls detected on site, night of Dec. 29, 2014.**

Hawaiian Hoary Bats roost in tall trees in sheltered areas, such as on the branch tips of mature Eucalyptus trees. The bats give birth to and raise their young in the summer. Avoiding cutting large trees during the summer months will help minimize potential impact to young bats that have not yet learned to fly.

There appeared to be no suitable trees for bat roosts in the area planned for housing. The water features and areas of native plants proposed may provide additional food, shelter, and water resources for the bats in the area.



**Hawaiian Hoary Bat found dead in nearby Olinda. Sep, 2010.**



## NON-NATIVE MAMMALS

The bulk of the Hoku Nui project area is pasture actively grazed by cattle (*Bos taurus*), goats (*Capra hircus*), and sheep (*Ovis aries*). In the gulches trails and tracks of wild axis deer (*Axis axis*) were visible.

A few mongoose (*Herpestes javanicus*) were observed running across the roads into the grass. Dogs (*Canis familiaris*) were heard barking from nearby residential housing.

Other mammals likely to utilize this property, but which were not observed or heard include wild pigs (*Sus scrofa*), rats (*Rattus* spp.), mice (*Mus domesticus*), and cats (*Felis domesticus*).



Cattle grazing in pasture at Hoku Nui.



## BIRDS

Other than two Nene (*Branta sandvicensis*) that flew over the site, and a Pacific Golden-Plover or Kōlea (*Pluvialis fulva*) foraging in the pasture, all the birds observed on the site were common non-native species.

Some of the most prevalent birds on the site were Scaly-breasted Munia (*Lonchura punctulata*), that regularly flew by in flocks up to a few dozen birds. Also conspicuous were Cattle Egrets (*Bubulcus ibis*), Common Mynas (*Acridotheres tristis*), Skylarks (*Alauda arvensis*), and Ring-necked Pheasants (*Phasianus colchicus*).

Though not observed during surveys, the Hawaiian Short-eared Owl or Pueo (*Asio flammeus sandwichensis*) was mentioned by site workers as occasionally present. This native owl likely utilizes the pastures for hunting and possibly nesting. The project calls for continued grazing and pasturage, which would continue to benefit this native owl.

Nene were not observed utilizing the site, but are known from Piiholo and regularly fly over the site. If Nene breeding is found to be occurring on the site, the Department of Land and Natural Resources (DLNR) should be contacted to determine appropriate actions. Generally, this involves minimizing activity around the nesting site until the eggs hatch and the Nene are mobile enough to be relocated or leave on their own.

Hawaiian Petrels (*Pterodroma sandwichensis*) and other seabirds raise their young in Haleakala National Park and other upland sites of East Maui. After feeding at sea during the day, the birds fly up to the mountain burrows at night, using the moon, stars, and land features for navigation. Bright lights can disorient the birds. Using downward facing lights will help minimize distractions to these night flying birds.



Scaly-breasted Munia in tall grass, Hoku Nui.



## INSECTS

A complete inventory of the insects was beyond the scope of this survey. Conspicuous insects were noted and special effort was made to look for native insects of conservation concern.

The only native insect observed on the site was the indigenous Green Darner Dragonfly (*Anax junius*), which is common in Hawaii and elsewhere. More intensive surveys would undoubtedly turn up many more cryptic native species, though it is unlikely any would be of conservation concern.

Some of the more conspicuous non-native insects on the site were butterflies, including Passion Butterfly (*Agraulis vanillae*), Monarch Butterfly (*Danaus plexippus*), and Bean Butterfly (*Lampides boeticus*). Additionally, there were two species of butterflies relatively new to Maui, the Sleepy Orange Butterfly (*Abaeis nicippe*) and the Lesser Grass Blue Butterfly (*Zizina otis*).

Honey bees (*Apis mellifera*) were commonly observed, and numerous hives were being maintained on the site.

No tree tobacco (*Nicotiana glauca*) plants were observed. All solanaceous plants were checked for signs of Blackburn's Sphinx Moth (*Manduca blackburni*) eggs, larvae, frass, or damage. No signs of this endangered moth were observed.



Sweeping for insects, Hoku Nui.

## DISCUSSION & RECOMMENDATIONS

Most of the animals observed on the site are non-native and of no special conservation concern. Nene transit over the site, but apparently don't currently utilize it. Hawaiian Short-eared Owls utilize the pastures on the site and will continue to be able to do so in the proposed project. Hawaiian Hoary Bats transit over the site, may roost in the gulch areas, and will be able to continue to do so. The lone native insect species observed, Green Darner Dragonfly, hunts for insects on the site and will continue to be able to do so. No signs of the Blackburn's Sphinx Moth or Tree Tobacco were observed.

By contacting DLNR if Nene are thought to be nesting, not cutting large trees during summer months while bats are pupping, and using downward facing lights so as to not disorient night flying native seabirds, the proposed project is not expected to have a significant negative impact on the faunal resources in this part of Maui.

## ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged within three groups: Mammals, Birds and Insects. For each species the following information is provided:

- Common name
- Scientific name
- Bio-geographical status. The following symbols are used:
  - Endemic = Native only to Hawaii; not naturally occurring anywhere else in the world.
  - Indigenous = Native to the Hawaiian Islands and also to one or more other geographic area(s).
  - Non-native = All those animals brought to Hawaii intentionally or accidentally after western contact.
  - Migratory = Spending a portion of the year in Hawaii and a portion elsewhere.
- Abundance of each species within the project area:
  - Abundant = Many flocks or individuals seen throughout area at all times of day.
  - Common = A few flocks or well scattered individuals throughout the area.
  - Uncommon = Only one flock or several individuals seen within the project area.
  - Rare = only one or two seen within the project area.

## ANIMAL SPECIES LIST

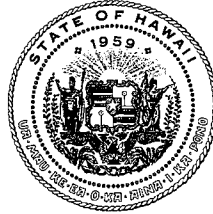
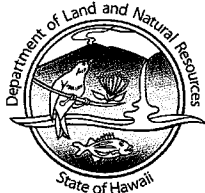
Scientific name	Common name	Status	Abundance
<b>Mammals</b>			
<i>Axis axis</i>	Axis deer	Non-native	Occasional
<i>Bos taurus</i>	Cow	Non-native	Occasional
<i>Capra hircus</i>	Goat	Non-native	Occasional
<i>Herpestes javanica</i>	Mongoose	Non-native	Occasional
<i>Lasiurus cinereus semotus</i>	Hawaiian Hoary Bat	Endemic	Occasional
<i>Ovis aries</i>	Sheep	Non-native	Occasional
<b>Birds</b>			
<i>Acridotheres tristis</i>	Common Myna	Non-native	Occasional
<i>Alauda arvensis</i>	Skylark	Non-native	Common
<i>Branta sandvicensis</i>	Nene	Endemic	Rare
<i>Bubulcis ibis</i>	Cattle Egret	Non-native	Common
<i>Cardinalis cardinalis</i>	Northern Cardinal	Non-native	Occasional
<i>Francolinus francolinus</i>	Black Francolin	Non-native	Rare
<i>Francolinus pondicerianus</i>	Grey Francolin	Non-native	Occasional
<i>Gallus gallus</i>	Chicken	Non-native	Rare
<i>Garrulax canorus</i>	Chinese Hwamei	Non-native	Occasional
<i>Geopelia striata</i>	Zebra Dove	Non-native	Occasional
<i>Lonchura punctulata</i>	Scaly-breasted Munia	Non-native	Common
<i>Paroaria coronata</i>	Brazilian Cardinal	Non-native	Occasional
<i>Passer domesticus</i>	House Sparrow	Non-native	Occasional
<i>Phasianus colchicus</i>	Ring-necked Pheasant	Non-native	Occasional
<i>Pluvialis fulva</i>	Pacific Golden-Plover	Migratory	Rare
<i>Streptopelia chinensis</i>	Spotted dove	Non-native	Occasional
<i>Zosterops japonicus</i>	Japanese White-eye	Non-native	Occasional
<b>Insects</b>			
<i>Abaeis nicippe</i>	Sleepy orange butterfly	Non-native	Occasional
<i>Adoretus sinicus</i>	Chinese rose beetle	Non-native	Common
<i>Aedes sp.</i>	Mosquito	Non-native	Common
<i>Agraulis vanillae</i>	Passion butterfly	Non-native	Common
<i>Anax junius</i>	Green darner dragonfly	Indigenous	Occasional
<i>Apis mellifera</i>	Honey bee	Non-native	Common
<i>Danaus plexippus</i>	Monarch butterfly	Non-native	Common
<i>Gasteracantha sp.</i>	Crab spider	Non-native	Occasional
<i>Herpetogramma licarsisalis</i>	Grass webworm	Non-native	Occasional
<i>Lampides boeticus</i>	Bean butterfly	Non-native	Common
<i>Pheidole megacephala</i>	Big-headed ant	Non-native	Common
<i>Polistes aurifer</i>	Paper wasp	Non-native	Occasional
<i>Spoladea recurvalis</i>	Beet webworm	Non-native	Occasional
<i>Vespula pennsylvanica</i>	Western yellow jacket	Non-native	Occasional
<i>Xylocopa sonorina</i>	Sonoran carpenter bee	Non-native	Common
<i>Zizina otis</i>	Lesser grass blue butterfly	Non-native	Common



## REFERENCES

- Giambelluca, T. W., X. Shuai, M. L. Barnes, R. J. Alliss, R. J. Longman, T. Miura, Q. Chen, A. G. Frazier, R. G. Mudd, L. Cuo, and A. D. Businger. 2014. Evapotranspiration of Hawaii. Final report submitted to the U.S. Army Corps of Engineers - Honolulu District, and the Commission on Water Resource Management, State of Hawaii.
- Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte, 2013: Online Rainfall Atlas of Hawai'i. *Bull. Amer. Meteor. Soc.* 94, 313-316, doi: 10.1175/BAMS-D-11-00228.1.
- Nishida, G. M. 2002. Hawaii Arthropod Checklist Fourth Edition. Bishop Museum Technical Report 22: iv+313 pp.
- Palmer, D. D. 2003. Hawaii's Ferns and Fern Allies. University of Hawaii Press, Honolulu, HI.
- Pyle, R.L., and P. Pyle. 2009. The Birds of the Hawaiian Islands: Occurrence, History, Distribution, and Status. B.P. Bishop Museum, Honolulu, HI, U.S.A. Version 1 (31 December 2009) <http://hbs.bishopmuseum.org/birds/rlp-monograph>
- Wagner, W. L., D. R. Herbst, and S. H. Sohmer. 1999. Manual of the Flowering Plants of Hawaii. Univ. of Hawaii Press and Bishop Museum Press, Honolulu, HI.

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FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

**DECLARATION OF EXEMPTION**

Regarding the preparation of an environmental assessment under the authority of  
Chapter 334, HRS and Chapter 11-200-8, HAR

Project Title:	Hōkū Nui Forest Stewardship Management Plan and Forest Stewardship Agreement with Hōkū Nui Farms LLC
Project Number:	N/A
Project Location:	Makawao District/Maui County Tax Map Key numbers (2) 2-4-012:005, (2) 2-4-012:039, (2) 2-4-012:040, (2) 2-4-012:041, (2) 2-4-012:042, (2) 2-4-012:039-043, (2) 2-4-012:044, (2) 2-4-012:045, and (2) 2-4-012:046
Chapter 343 Trigger(s):	Use of State Funds
Project Description:	<p>The Hōkū Nui Forest Stewardship project proposes to actively manage and reforest approximately 13.49-acres of native forest and multi-story agroforestry. The project area is designated by the State of Hawai'i as Agriculture District and as Agriculture by the County of Maui. The 13.49-acre project area is a portion of the 258-acre area that was historically used for pineapple cultivation. Presently, the previously cultivated areas are mostly used for rotational grazing. The proposed project area has two main vegetation types: open pasture land; and forested gulch. The landowners seek to improve watershed function and wildlife habitat through reforestation, while also reconnecting people to the land through the planting of culturally significant food trees and shrubs in an agroforestry system.</p> <p>Over the course of the 10-year management plan, Hōkū Nui Farms LLC intends to promote the recovery and protection of the native forest in the project area by reforesting 8.59-acres and agroforestry on 4.9 acres of open pasture. The 13.49-acre project area consists of a highly disturbed pasture area. The vision of this project is to offset the intensive rotational grazing on other portions of the property by reforesting and managing 13.49 acres of native forest and agroforestry to enhance watershed function and provide habitat for wildlife. The established native forest and agroforestry will support other cultural education programs. Agricultural products produced from the agroforestry practices will be sold at local markets to help offset the cost of management practices.</p>

	<p>Management activities include installation of two perimeter fences, one around the 4.9-acre agroforestry area and the other around the 8.59-acre native forest area. The fence will exclude deer and grazing cattle and sheep from the managed areas. Following this, any remaining ungulates within the fenced area will be removed. Due to the location of the property, wind and drought pose threats to the areas. To mitigate those threats, native trees, short term crops, and groundcovers will be densely planted together, and catchment ponds with drip tape will be installed for irrigation. Site preparation will include mechanical measures to mitigate for decades of pineapple cultivation and manual weed control of herbaceous and woody species. The project area will then undergo green manure mulching prior to planting ground covers, native tree and shrub species, and multistory agroforestry species. 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.</p>
Consulted Parties:	<p>U.S. Department of Agriculture, Natural Resources Conservation Service; U.S. Department of Interior, Fish and Wildlife Service; Department of Land and Natural Resources Commission on Water Resource Management; Office of Hawaiian Affairs</p>
Authorization:	<p>Approved by the Environmental Council on June 5, 2015</p>
Exemption Class & Description:	<p>Activities and actions associated with this project fall under the following Exemption Classes and Descriptions which are included in the Exemption List for the Department of Land and Natural Resources.  <a href="http://oeqc2.doh.hawaii.gov/Agency_Exemption_Lists/State-Department-of-Land-and-Natural-Resources-Exemption-List-2015-06-05.pdf">http://oeqc2.doh.hawaii.gov/Agency_Exemption_Lists/State-Department-of-Land-and-Natural-Resources-Exemption-List-2015-06-05.pdf</a></p> <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</p>

	<p>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>
Determination:	<p>The Board of Land and Natural Resources declares that this project will likely have minimal or no significant impact on the environment and is therefore exempt from the preparation of an environmental assessment under the above exemption classes.</p>

\_\_\_\_\_  
Suzanne D. Case, Chairperson  
Board of Land and Natural Resources

\_\_\_\_\_  
Date