



SUSTAINABLE
RESOURCES
GROUP INTN'L INC.



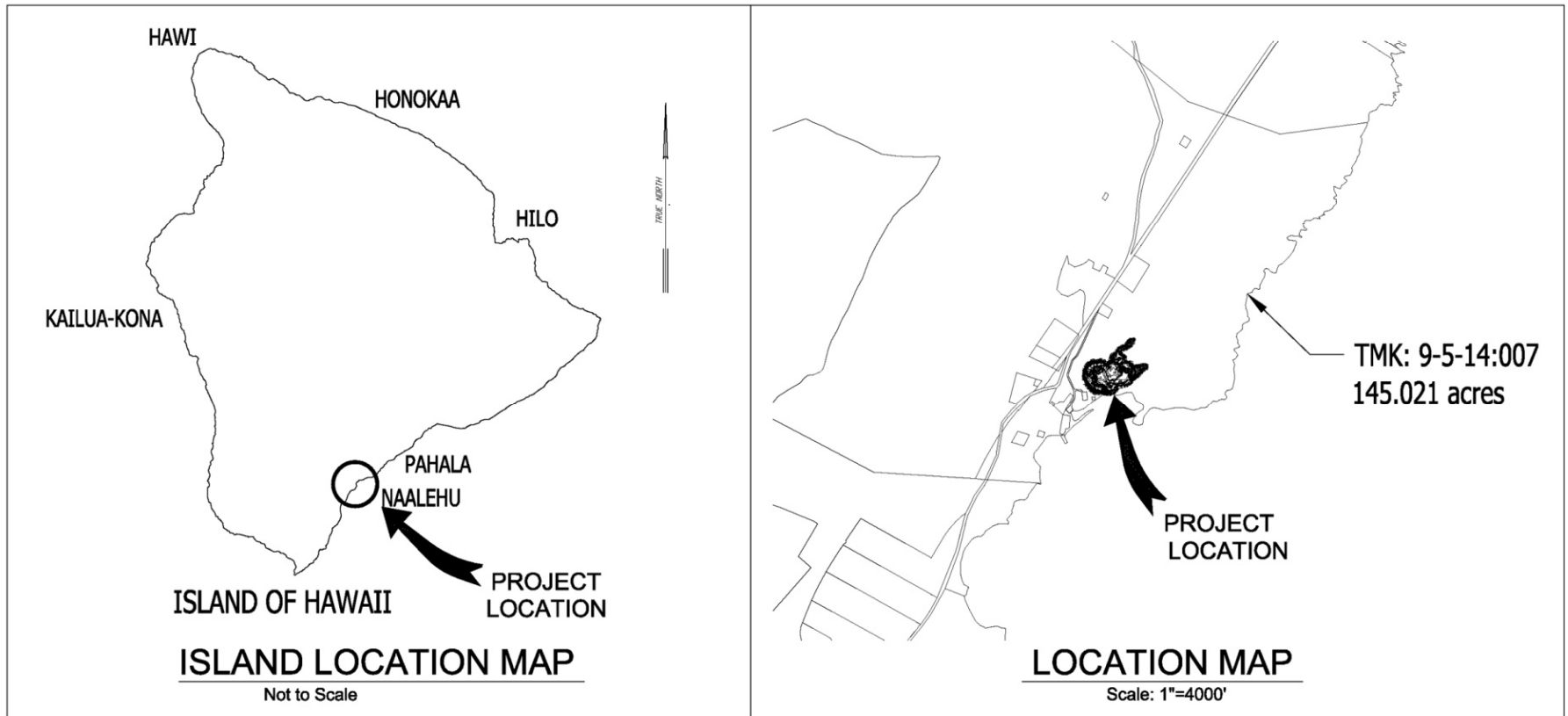
Ka 'Ohana O Honu'apo

Honu`apo Wetlands Habitat Restoration Plan

ORMP Working Group Meeting
Lehua Lopez-Mau and Andy Hood
June 2, 2011



Honu`apo Estuary and Wetland Location





Plan Contents

- **Introduction** (Background, Purpose)
- **Site Description** (Location, Prior Studies, Field Surveys, Physical Features, Ecological Features, Land Use, History, Regulatory, Community Input, *Resource Issues*)
- **Restoration Goals and Target Conditions**
- **Restoration Design** (Phases)
- **Project Management** (Responsibility, Maintenance, Monitoring, Recreation, Education)
- **Next Steps** (Funding, Permits)
- **Construction Plans** (Site, Grading, Grubbing, Vegetation)





Honu`apo Estuary, Wetlands and Whittington Beach Park





Existing Conditions





Existing Conditions





Existing Conditions





Existing Conditions





Restoration Objectives

Primary Objective: Enhance Resident and Migratory Bird Habitat

- Control avian predators
 - Active predator control
 - Predator-proof fence
- Manipulate vegetation
 - Remove alien vegetation
 - Plant endemic and native plants
- Restore eco-hydrologic regime
 - Alter topography to create suitable habitat structure
- Identify actions to implement plan
 - Permits
 - Funding options





Restoration Plan



GENERAL PLAN
Honu'apo Wetlands Restoration
1"=120' scale
Contour Interval = 0.35 foot





Permits and Approval

Act/Statute/Ordinance	Administering Agency	Permit or Approval
Federal		
Clean Water Act Section 404	USACE	Individual (Std/LOP), Nationwide, or General
National Environmental Policy Act	Federal Petitioner	EA or EIS
River & Harbors Act Section 10	USACE	Permit (or Section 404)
Clean Water Act Section 402	Hawai'i DOH	NPDES
Endangered Species Act Section 7	USFWS / NOAA NMFS	Approval
State		
Clean Water Act Section 401	Hawai'i DOH	Water Quality Certification
Clean Water Act Section 402	Hawai'i DOH	NPDES Permit
Coastal Zone Management Act Section 307	Hawai'i DBEDT	Approval
National Historic Preservation Act Section 106	Hawai'i SHPD	Approval
Conservation District Use Permit	Hawai'i DLNR-BLNR	Permit
County of Hawai'i		
Hawai'i Revised Statute 205A Special Management Area	Hawai'i County Planning Dpt	Permit (Major)
Grading/Grubbing/Stock Piling	Hawai'i County Planning Dpt	Permit
Flood Ordinance Compliance Hawaii County Floodplain Management Code	Hawai'i County Director of Public Works	Approval
Building Building Code (HCC Chapter 5)	Hawai'i County Department of Public Works	Permit



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Mahalo

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