

## O'AHU

**Homeland Defense Radar - Hawaii--(EISPN)**

<b>HRS §343-5(a) Trigger</b>	(1) Propose the use of state or county lands or the use of state or county funds (9)(E) Propose any power-generating facility	
<b>District(s)</b>	Ko'olauloa, Waialua, Wai'anae	
<b>TMK(s)</b>	(1) 5-8-002-006, 002; 5-7-002-001, 002; 6-9-003-002	
<b>Permit(s)</b>	various (see document)	
<b>Approving Agency</b>	Department of Land and Natural Resources, State of Hawai'i Marigold Zoll, O'ahu Forestry & Wildlife Manager, <a href="mailto:marigold.s.zoll@hawaii.gov">marigold.s.zoll@hawaii.gov</a> 2135 Makiki Heights Drive, Honolulu, HI 96822, (808) 973-9787	
<b>Applicant</b>	U.S. Department of Defense, Missile Defense Agency; 5700 18th Street, Fort Belvoir, VA 22060-5573 MDA Public Affairs, (256) 450-1599, <a href="mailto:MDAPressOperations@mda.mil">MDAPressOperations@mda.mil</a>	
<b>Consultant</b>	KFS-LLC; Wes Norris, (256) 713-1616, <a href="mailto:norrisw@kfs-llc.com">norrisw@kfs-llc.com</a> , 303 Williams Ave, Ste 116, Huntsville, AL 35801	
<b>Status</b>	Administrative 45-day public review and comment period starts. <b>Comments are due by July 23, 2018.</b> Please send comments to the approving agency and copy the applicant & consultant at: <a href="mailto:MDA.HDRH.EIS@kfs-llc.com">MDA.HDRH.EIS@kfs-llc.com</a> , by FAX @ (256) 713-1617, or by U.S. Postal Service to: KFS, LLC, Attn: MDA HDR-H EIS, 303 Williams Ave, Suite 116, Huntsville, AL 35801.	

The Missile Defense Agency (MDA) announces its intention to prepare an EIS to analyze the proposed construction and operation of a Homeland Defense Radar-Hawaii or HDR-H (a radar to identify, track, and classify long-range ballistic missile threats in mid-course flight), an In-Flight Interceptor Communication System Data Terminal (a facility that provides communication [incorporating data provided by HDR-H] between the Ground-Based Midcourse Defense fire control system and the interceptor that are both stationed elsewhere), and associated support facilities and infrastructure on O'ahu. The purpose is to support the United States ballistic missile defense system and enhance homeland defense capabilities in the Pacific region including Hawai'i.

Deployment of the HDR-H would be within an approximate 160-acre area at either Kuaokala Ridge, on mostly State land adjacent to the U.S. Air Force Kaena Point Satellite Tracking Station, or on the U.S. Army Kahuku Training Area. If deployed at Kuaokala Ridge, long-term use of approximately 160 acres of State land within the Agricultural District, as well as long-term right of access to the site, would be required. In addition to the build alternatives, the No Action Alternative will also be analyzed.

Public open house meetings on the project will be held where exhibits will be available for viewing and attendees will have opportunities to talk with various managers and specialists. The meetings will occur as follows:

- Hale'iwa: Tuesday, June 19 -- 6:00 to 9:00 p.m. -- Sunset Beach Elementary School, 59-360 Kamehameha Highway
- Honolulu: Wednesday, June 20 -- 6:00 to 9:00 p.m. -- Ke'ehi Lagoon Memorial Park, 2685 N. Nimitz Highway
- Wai'anae: Thursday, June 21 -- 6:00 to 9:00 p.m. -- Wai'anae High School, 85-251 Farrington Highway

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



FILE COPY  
JUN 8 2018

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER

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HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

May 29, 2018

MEMORANDUM:

TO: Scott Glenn, Director  
Office of Environmental Quality Control  
Department of Health

FROM: Suzanne D. Case, Chairperson *[Signature]*  
Department of Land and Natural Resources

RECIEVED  
18 MAY 29 A 9:48  
OFC. OF ENVIRONMENTAL  
QUALITY CONTROL

SUBJECT: Request for publication of Environmental Impact Statement Preparation Notice for United States Department of Defense, Missile Defense Agency, *Homeland Defense Radar - Hawaii* in the June 8, 2018 Edition of *The Environmental Notice*.

We respectfully request publication of the subject document in the June 8, 2018 edition of the Office of Environmental Quality Control's *The Environmental Notice*. Enclosed is one (1) hard copy of the Office of Environmental Quality Control's applicant publication form and the applicant's Environmental Impact Statement Preparation Notice. Also enclosed are three (3) compact disks with Microsoft Word files of the applicant publication form and .pdf files of the applicant's Environmental Impact Statement Preparation Notice.

In response to the applicant's request for an extended (45-day) comment period, and pursuant to the provisions of HAR Section 11-200-15(b), the public comment period is extended until July 23, 2018. Please make note of this extended (45-day) comment period in the action's entry in *The Environmental Notice*.

If there are any questions, please contact Marigold Zoll, Division of Forestry and Wildlife, at marigold.s.zoll@hawaii.gov or (808) 973-9787.

18-601

## APPLICANT PUBLICATION FORM

Project Name:	Homeland Defense Radar - Hawaii
Project Short Name:	HDR-H
HRS §343-5 Trigger(s):	343-5(a)(1) Propose the use of state or county lands; and 343-5(a)(9)(E) Proposed power-generating facility.
Island(s):	Oahu
Judicial District(s):	Waianae, Waialua, and Koolauloa
TMK(s):	5-8-002-006, 002; 5-7-002-001, 002; 6-9-003-002
Permit(s)/Approval(s):	<p><b>State of Hawaii</b></p> <p><u>Department of Health</u></p> <ul style="list-style-type: none"> <li>• CWA Section 401 Water Quality Certification (if permit from the Army Corps of Engineers is required).</li> <li>• CWA Section 402, National Pollution Discharge Elimination System (NPDES) Permits (Authorizing discharges associated with construction activity, hydro testing waters, and construction activity dewatering).</li> <li>• Clean Air Branch, air quality permit.</li> </ul> <p><u>Department of Land and Natural Resources</u></p> <ul style="list-style-type: none"> <li>• Board of Land and Natural Resources, Chapter 343 HRS final EIS acceptance.</li> <li>• Land Division and Division of Forestry and Wildlife, lease approvals.</li> <li>• State Historic Preservation Division, Chapter 6E Historic Review and NHPA Section 106.</li> </ul> <p><u>Office of Planning</u></p> <ul style="list-style-type: none"> <li>• Coastal Zone Management Consistency Determination</li> </ul> <p><b>Federal</b></p> <p><u>Army Corps of Engineers</u></p> <ul style="list-style-type: none"> <li>• CWA Section 404 Permit, if applicable</li> </ul> <p><u>US Fish and Wildlife Service</u></p> <ul style="list-style-type: none"> <li>• Endangered Species Act, Section 7 Consultation</li> </ul> <p><u>Federal Aviation Administration</u></p> <ul style="list-style-type: none"> <li>• Restricted Airspace, if applicable</li> </ul>
Approving Agency:	State of Hawaii, Department of Land and Natural Resources/Board of Land and Natural Resources
<i>Contact Name, Email, Telephone, Address</i>	Marigold Zoll, Oahu Forestry and Wildlife Manager 2135 Makiki Heights Drive, Honolulu, HI 96822, Telephone (808) 973-9787, E-mail marigold.s.zoll@hawaii.gov
Applicant:	U.S. Department of Defense, Missile Defense Agency (MDA). U.S. Air Force, U.S. Army, and U.S. Navy will be cooperating agencies in preparing the EIS.
<i>Contact Name, Email, Telephone, Address</i>	MDA Public Affairs Department of Defense, Missile Defense Agency, 5700 18th Street, Fort Belvoir, VA 22060-5573 Telephone (256) 450-1599, E-mail MDAPressOperations@mda.mil Written comments, statements, and/or concerns regarding the scope of the EIS or requests to be added to the EIS distribution list should be addressed to <i>MDA HDR-H EIS</i> and sent by email to MDA.HDRH.EIS@kfs-llc.com, by facsimile at 256-713-1617, or by U.S. Postal Service to: KFS, LLC, Attn: MDA HDR-H EIS, 303 Williams Ave, Suite 116, Huntsville, AL 35801.
Consultant:	KFS-LLC
<i>Contact Name, Email, Telephone, Address</i>	Wes Norris, 256-713-1616, norrisw@kfs-llc.com 303 Williams Ave, Ste 116, Huntsville, AL 35801

Status (select one)	Submittal Requirements
<input type="checkbox"/> DEA-AFNSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
<input type="checkbox"/> FEA-FONSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
<input type="checkbox"/> FEA-EISPN	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
<input checked="" type="checkbox"/> Act 172-12 EISPN ("Direct to EIS")	Submit 1) the approving agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
<input type="checkbox"/> DEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
<input type="checkbox"/> FEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
<input type="checkbox"/> FEIS Acceptance Determination	The approving agency simultaneously transmits to both the OEQC and the applicant a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
<input type="checkbox"/> FEIS Statutory Acceptance	The approving agency simultaneously transmits to both the OEQC and the applicant a notice that it did not make a timely determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and therefore the applicant's FEIS is deemed accepted as a matter of law.
<input type="checkbox"/> Supplemental EIS Determination	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
<input type="checkbox"/> Withdrawal	Identify the specific document(s) to withdraw and explain in the project summary section.
<input type="checkbox"/> Other	Contact the OEQC if your action is not one of the above items.

### Project Summary

The Missile Defense Agency (MDA) announces its intention to prepare an EIS to analyze the proposed construction and operation of a Homeland Defense Radar-Hawaii or HDR-H (a radar to identify, track, and classify long-range ballistic missile threats in mid-course flight), an In-Flight Interceptor Communication System Data Terminal (a facility that provides communication [incorporating data provided by HDR-H] between the Ground-Based Midcourse Defense fire control system and the interceptor that are both stationed elsewhere), and associated support facilities and infrastructure on the island of Oahu. The purpose of the Proposed Action is to support the United States ballistic missile defense system and enhance homeland defense capabilities in the Pacific region including Hawaii.

Deployment of the HDR-H would be within an approximate 160-acre area at either Kuaokala Ridge, on mostly State land adjacent to the U.S. Air Force Kaena Point Satellite Tracking Station, or on the U.S. Army Kahuku Training Area. If deployed at Kuaokala Ridge,

long-term use of approximately 160 acres of State land within the Agricultural District, as well as long-term right of access to the site, would be required. In addition to the build alternatives, the No Action Alternative will also be analyzed in the EIS.

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- Waianae: Thursday, June 21 -- 6:00 to 9:00 p.m. -- Wai'anae High School, 85-251 Farrington Highway

# Homeland Defense Radar – Hawaii *Environmental Impact Statement Preparation Notice*

***Prepared for:***

Hawaii Department of Land and Natural Resources



***Proposing Agency:***

Missile Defense Agency



***Prepared by:***

KFS, LLC



*Prepared pursuant to Chapter 343, Hawai'i Revised Statutes, and  
Chapter 11-200 Hawai'i Administrative Rules*

**May 2018**

Approved for Public Release  
18-MDA-9652 (22 May 18)

DISTRIBUTION STATEMENT A.  
Approved for public release;  
distribution is unlimited.

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## **Acronyms and Abbreviations**

AFSCN	Air Force Satellite Control Network
BMDS	Ballistic Missile Defense System
DLNR	Department of Land and Natural Resources
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISPN	EIS Preparation Notice
EMR	electromagnetic radiation
FAA	Federal Aviation Administration
FY	Fiscal Year
HAR	Hawaii Administrative Rules
HDR	Homeland Defense Radar
HDR-H	HDR–Hawaii
HEPA	Hawaii Environmental Policy Act
HES	HDR Equipment Shelter
HPP	HDR Power Plant
HRS	Hawaii Revised Statutes
IDT	In-Flight Interceptor Communications System Data Terminal
KPSTS	Kaena Point Satellite Tracking Station
KTA	Kahuku Training Area
kV	kilovolt
MDA	Missile Defense Agency
NEPA	National Environmental Policy Act
POL	petroleum, oil, and lubricant
UFC	Unified Facilities Criteria
U.S.	United States

# 1. Identification of the Proposing Agency

The proposing agency is the U.S. Department of Defense (DoD), Missile Defense Agency (MDA).

**Contact:** Mark Wright, Deputy Director  
MDA Public Affairs  
5700 18th Street  
Fort Belvoir, VA 22060-5573  
Telephone: (256) 450-1599,  
E-mail: [MDAPressOperations@mda.mil](mailto:MDAPressOperations@mda.mil)

# 2. Identification of the Accepting Authority

The accepting authority is the State of Hawaii, Department of Land and Natural Resources (DLNR)/Board of Land and Natural Resources.

**Contact:** Marigold Zoll, Oahu Forestry and Wildlife Manager  
Department of Land and Natural Resources  
2135 Makiki Heights Drive  
Honolulu, HI 96822  
Telephone: (808) 973-9787  
E-mail: [marigold.s.zoll@hawaii.gov](mailto:marigold.s.zoll@hawaii.gov)

# 3. Identification of the Consultant

The environmental consultant is KFS, LLC.

**Contact:** Wes Norris  
KFS, LLC  
303 Williams Ave, Ste 116  
Huntsville, AL 35801  
Telephone: (256) 713-1616  
E-mail: [norrisw@kfs-llc.com](mailto:norrisw@kfs-llc.com)

# 4. Description of the Proposed Action

## 4.1 Background

The MDA is preparing an Environmental Impact Statement (EIS) to analyze the proposed construction and operation of a Homeland Defense Radar-Hawaii or HDR-H (a radar to identify, track, and classify long-range ballistic missile threats in mid-course flight), an In-Flight Interceptor Communication System Data Terminal (IDT) (a facility that provides communication [incorporating data provided by HDR-H] between the Ground-Based Midcourse Defense fire control system and the interceptor that are both stationed elsewhere), and associated support facilities and infrastructure on the island of Oahu. The purpose of the Proposed Action is to

support the United States ballistic missile defense system (BMDS) and enhance homeland defense capabilities in the Pacific region including Hawaii. The EIS will be prepared in compliance with the provisions of the National Environmental Policy Act (NEPA) and the Hawaii Environmental Policy Act (HEPA).

The HDR-H alternative locations in Hawaii to be evaluated in the EIS are at Kuaokala Ridge on State land, adjacent to the U.S. Air Force's Kaena Point Satellite Tracking Station (KPSTS), and at the U.S. Army's Kahuku Training Area (KTA). Both locations are on the island of Oahu (**Figure 1**).

If the decision is made to proceed with project implementation, construction of the proposed HDR-H would begin in Fiscal Year (FY) 2021 with the radar facility being operational by the end of 2023.

## **4.2 Purpose and Need**

The purpose of the Proposed Action is to support the BMDS and enhance homeland defense capabilities in the Pacific region including Hawaii. The 2017 National Defense Authorization Act requires MDA to field a "discrimination radar" to improve the defense of Hawaii from ballistic missiles. The HDR-H project is a critical capability required by the U.S. Northern Command. When complete, the HDR-H and IDT would become part of the BMDS and be functionally capable through the command and communications network.

## **4.3 Decisions to Be Made**

Based on the direction contained in the 2017 National Defense Authorization Act, the decisions to be made by MDA are how and where to deploy the HDR-H in Hawaii. The EIS will consider and evaluate three alternative deployment locations on the island of Oahu. The deployment decisions will be based on the analysis results of the EIS, system performance and operational effectiveness, site constructability, and overall implementation costs.

The decisions to be made by the State of Hawaii are whether to revise existing leases of state lands to DoD services, provide DoD services new leases of state lands, and/or convey the right to use state lands by DoD in support of the HDR-H deployment in Hawaii. Such decisions by the state would be dependent upon MDA's preferred alternative for deployment after discussions with pertinent cooperating agencies. The DLNR would be the accepting authority for the HDR-H EIS analysis, as well as the approval authority for the state's actions to lease or convey property. Because the HDR-H would include a new power plant with a generating capacity over 5 megawatts, the State would also need to approve permitting.

## **4.4 Project Description**

This section provides a description of the overall approach to implementing the proposed HDR-H, including a description of the HDR-H facilities, site preparations and construction, and facility operations. Specific details for project implementation at the Kuaokala Ridge and KTA alternative sites are also described.

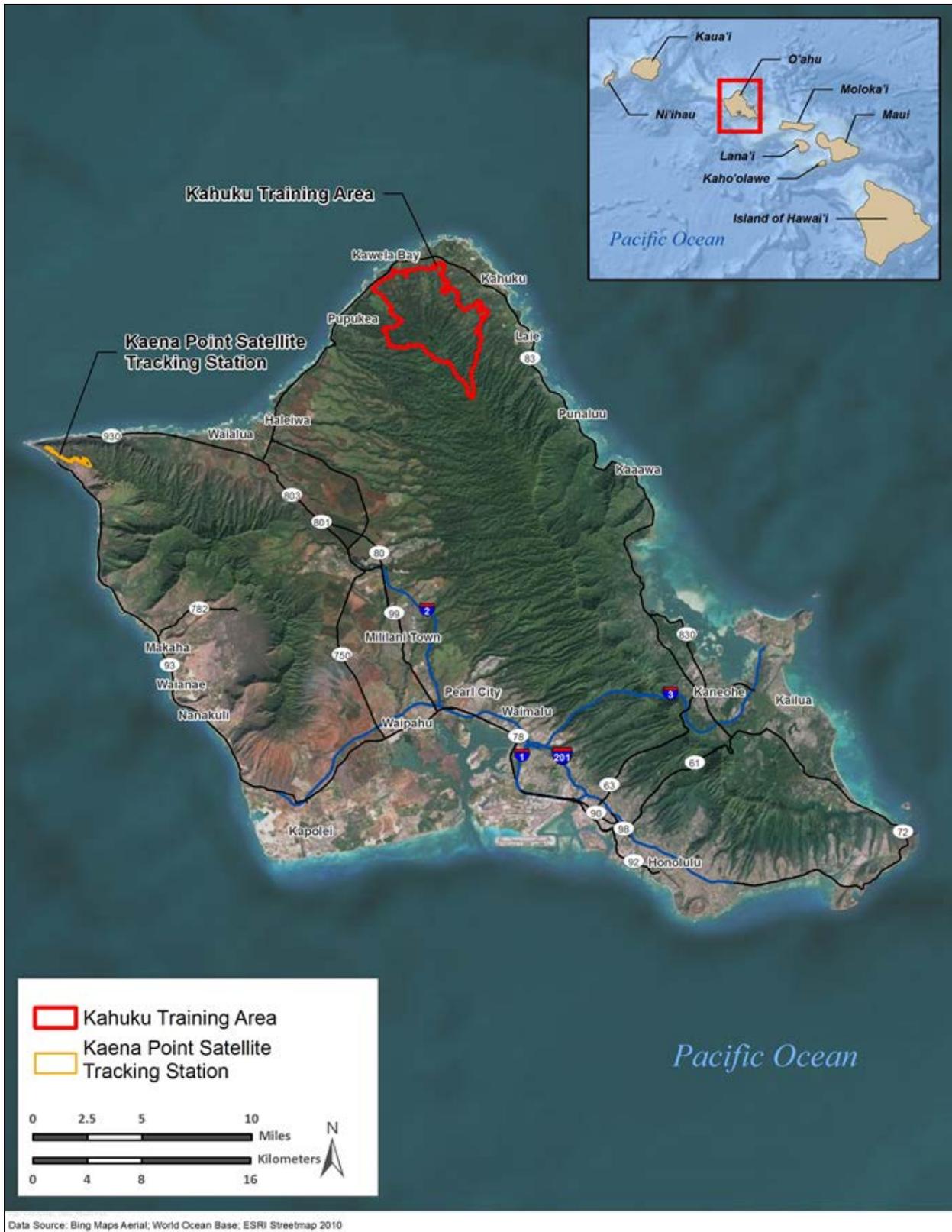


Figure 1. Candidate Installations for HDR-H Deployment on the Island of Oahu

#### 4.4.1 Facilities Description

##### 4.4.1.1 HDR-H MISSION FACILITIES

HDR-H Mission Facilities are integral and critical to the operation of the radar system in performing the mission and would be located within the fenced restricted area. These individual mission critical facilities are described in **Table 1**.

**Table 1. HDR-H Mission Facilities Description**

Facility	Description <sup>1</sup>
HDR Equipment Shelter (HES)	<ul style="list-style-type: none"> <li>Contains the radar system, and warehouse and maintenance space to operate and maintain the radar</li> <li>Multi-story structure 45 feet tall</li> </ul>
HDR Cooling Shelter	<ul style="list-style-type: none"> <li>A separate facility or could be co-located with the HES</li> <li>Uses a closed-circuit glycol coolant system to cool the radar array</li> </ul>
Mission Control Facility	<ul style="list-style-type: none"> <li>Contains the Missile Defense Operations Center, electronic equipment room, radar maintenance, heat plant, and personnel workspace</li> <li>Single story building</li> </ul>
In-flight Interceptor Communication System Data Terminal (IDT)	<ul style="list-style-type: none"> <li>Provides in-flight communications between the BMDS and the ground-based interceptor by transmitting target updates and receiving missile health and status</li> <li>Includes a radome, equipment, mechanical room, and 20-foot tall anemometer tower</li> </ul>
IDT Support Facility	<ul style="list-style-type: none"> <li>Provides IDT administrative and storage areas, communications, and maintenance space</li> </ul>
Satellite Communication Terminals	<ul style="list-style-type: none"> <li>A rigid radome antenna facility for military satellite communications, required only if existing fiber optic communications are unavailable at a designated site</li> <li>The rigid radome would be approximately 68 feet tall</li> </ul>
HDR Power Plant (HPP)	<ul style="list-style-type: none"> <li>An approximate 18 megawatt rated power plant containing three to four diesel-powered gensets providing backup power for mission facilities and operations</li> <li>Day fuel tanks and equipment would incorporate secondary containment systems</li> </ul>
Bulk Fuel Storage Area	<ul style="list-style-type: none"> <li>Diesel fuel storage for HPP operations</li> <li>Consists of three 50,000-gallon partially underground vaulted storage tanks</li> <li>Secondary containment systems for tanks and piping, along with leak detection systems, would be designed into the facility</li> </ul>

<sup>1</sup> Facility dimensions are approximate.

The restricted (boundary) inner fence and animal control outer fence would surround the perimeter with a clear zone between the two fences and a clear zone outside of the animal control fence. Both fences would be chain link with barbed wire, approximately 8 feet tall. A gravel surfaced perimeter security road would parallel outside the animal control fence.

Within the restricted area, supporting utilities and infrastructure would include heating, ventilation, and air conditioning systems; in-ground communication banks or conduits; electrical connections; potable water lines; sewer lines; fire protection and detection systems; stormwater drainage; and sidewalks. In general, all utilities within the restricted area would be placed underground. Other roadways and parking areas inside the restricted area would be paved or gravel surfaced.

Security lights would be located along the perimeter fences and surrounding the Entry Control Facility. All lighting would be shielded to the extent possible to minimize illumination of areas beyond the HDR-H facility.

#### 4.4.1.2 HDR-H MISSION SUPPORT FACILITIES

Mission Support Facilities host equipment or systems not required to operate or sustain the system but enhance site operations. These facilities would be located either within or outside of the restricted area and are described in **Table 2**.

**Table 2. HDR-H Mission Support Facilities Description**

Facility	Description <sup>1</sup>
Entry Control Facility <sup>2</sup>	<ul style="list-style-type: none"> <li>Serves as the entry checkpoint for passage of personnel and vehicles into the restricted area</li> </ul>
HDR Maintenance Facility <sup>3</sup>	<ul style="list-style-type: none"> <li>Provides warehouse and maintenance workspace</li> </ul>
Water Supply Building <sup>2</sup>	<ul style="list-style-type: none"> <li>Includes water softeners and other treatment systems, mechanical rooms, and water storage tanks (potable water and fire control)</li> </ul>
Water Treatment Building <sup>2</sup>	<ul style="list-style-type: none"> <li>For managing treatment and disposal of domestic wastewater</li> <li>Includes pumping systems, electrical, and mechanical rooms</li> </ul>
Electrical Substation <sup>3</sup>	<ul style="list-style-type: none"> <li>Contains substation electrical transformers and a switchgear building for supplying commercial power to the site</li> </ul>
Fuel Fill Station <sup>3</sup>	<ul style="list-style-type: none"> <li>Serves as the diesel fuel delivery truck unloading facility for the Bulk Fuel Storage Area</li> </ul>

<sup>1</sup> Facility dimensions are approximate.

<sup>2</sup> Located inside the restricted area fence.

<sup>3</sup> Located outside the restricted area fence.

The Mission Support Facilities would have similar utilities and infrastructure as described for the Mission Facilities. Electrical (commercial) power to the substation would be supplied via overhead power lines. Roadway access to the HDR-H site would utilize existing roads as much as possible, but may require two-lane roadway extensions, road widening, and paving.

Other Non-Mission Support Facilities and related infrastructure would be required for potential operational control of the new radar facility and are site specific. Such support facilities and improvements could include additional maintenance space; increased security force protection assets; expanded firefighting infrastructure; and related roadway and utility improvements.

Potable and non-potable water supply would be provided by connections to existing site distribution systems. If such systems are not available or acceptable, a new potable water well and new fire control water well (if applicable) would be established within or outside of the restricted area. The Water Supply Building would include separate water storage tanks for potable water and fire control. Sewage treatment for the site likely would require appropriate septic systems.

#### 4.4.2 Site Preparation and Construction

Construction of the HDR-H facilities would begin in FY 2021 for planned completion in 2023. Most ground-disturbing activities would occur during the first year.

Deployment of the HDR-H at a preferred site would require construction within an approximate 60-acre, preferably contiguous facility footprint, as much as topography and environmental conditions allow. It is expected that an additional 100 acres would be needed for construction laydown.

Preparations for the approximate 160-acre site would include use of heavy equipment to clear trees and other vegetation, grub, and grade (cut and fill) to level the site and establish positive drainage. Fill material would be trucked in from existing or new borrow locations that are permitted in accordance with applicable state and local regulations. For construction vehicle access, existing roadways would be used to the extent possible. However, roadway improvements to the HDR-H site, including two-lane roadway extensions, road widening, and paving, may be needed to accommodate trucks and related construction traffic.

All of the permanent HDR-H facilities would be designed and constructed in accordance with the Unified Facilities Criteria (UFC) and all other applicable codes and standards, including local wind load, lightning protection, and seismic standards. Construction of the HDR-H would require incorporation of the following sustainable and green engineering design criteria:

- UFC 1-200-02, High Performance and Sustainable Building Requirements
- Engineering and Construction Bulletin/ECB 2011-1, High Performance Energy and Sustainable Policy, January 19, 2011
- Executive Order 13693, Planning for Federal Sustainability in the Next Decade
- U.S. Green Council Leadership in Energy and Environmental Design requirements for facilities, including unoccupied facilities.

Site grading and drainage would be in accordance with UFC 3-201-01, Change 1 (Civil Engineering), Chapter 3, Storm Drainage Systems. The project design would also incorporate a low-impact development strategy in accordance with UFC 3-210-10, Change 1, (Low Impact Development), for compliance with stormwater management requirements under Section 438 of the Energy Independence and Security Act. In addition to re-vegetating construction areas, infrastructure and techniques to manage stormwater may include vegetated drainage ditches/swales and use of porous pavements.

#### **4.4.3 Operations and Maintenance**

Initial operational capability for the HDR-H is expected to occur in 2023. All radar system and support facilities would be capable of operating 24 hours per day and 7 days per week on a continuous basis. When the HDR-H site is fully operational, the total site-related employment would add approximately 60 military and contractor support, maintenance, and security personnel. Operations at the HDR-H site would consist of maintenance of facilities, equipment, and radar to ensure system operational readiness.

For security purposes, vegetation inside the restricted area, and within the clear zones between and outside of the fences, would be mowed and maintained in a grass or other low vegetation cover. Similarly, vegetation around the Mission Support Facilities outside of the restricted area also would be maintained on a regular basis.

Wastes expected to be generated per quarter because of HDR-H operations would include used petroleum, oil, and lubricants (POLs), combined solid waste (oily rags/oil filters/fuel filters), and contaminated (used) glycol coolant. The POLs and combined solid waste drums would be destined for recycling or disposal as nonhazardous wastes. The contaminated coolant, however, would be managed as a hazardous waste. All hazardous and non-hazardous wastes would be collected by a contractor and disposed of in accordance with established installation, state, and federal regulations and procedures.

Because the radar would emit electromagnetic radiation (EMR), various safety precautions would be required during radar operations. After the radar system is installed, it would be tested and a radiation survey conducted to quantify and verify the EMR environment. Depending on the survey results, the hazard zone distances would be adjusted and additional safety controls would be implemented, as needed. To help ensure personnel safety around the radar facility, warning lights could be installed to alert personnel when the radar is operating in an active mode. “Keep Out” notices also would be posted around the designated radiation hazard area.

Also, because operation of the HDR-H may require establishment, designation or modification of Special Use Airspace for aircraft in the radar’s view, MDA will work closely with the Federal Aviation Administration (FAA) on all Airspace related matters. It is anticipated that the EIS will satisfy the FAA's NEPA requirements.

#### **4.4.4 HDR-H Deployment Site Alternatives**

This section identifies and describes the alternative locations for HDR-H deployment. The process that was used for site selection, including the determination of sites considered but not carried forward. Following completion of the site selection process, three alternative sites on Oahu remained for detailed analysis, and they are listed below:

- Alternative 1: Kuaokala Ridge
- Alternative 2: KTA Site 1
- Alternative 3: KTA Site 2.

Based on the specific conditions of the three alternative sites, the following sections detail the requirements associated with HDR-H deployment at each location. In addition to the build alternatives, the No Action Alternative would be analyzed in the EIS.

##### **4.4.4.1 ALTERNATIVE 1: KUAOKALA RIDGE**

Within the Waianae Mountain Range of Oahu, Kuaokala Ridge lies near the western tip of the island (**Figure 1**). Located near the western end of Kuaokala Ridge, KPSTS is an Air Force Space Command installation operated by the 50th Space Wing and it is part of the Air Force Satellite Control Network (AFSCN). The mission of KPSTS is to provide uninterrupted support, including command, tracking, and data retrieval, to all satellites supported by the AFSCN. KPSTS is one of eight tracking stations that make up the common user segment of the AFSCN, providing launch and on-orbit operational support to more than 175 satellites.

KPSTS is situated on approximately 153 acres of land leased from the State of Hawaii and other private land owners. At elevations ranging from 800 to 1,400 feet, the Station is composed

of rugged terrain on a narrow mountain ridgeline with moderate to steep slopes leading down to the ocean beaches.

Alternative 1 is adjacent to KPSTS, and would be accessed by the existing 1-mile long, two-lane paved installation road that connects to Hawaii Route 93 along the coast (**Figure 2**). The site overlaps KPSTS and would include the long-term use of approximately 160 acres of State land within the Kuaokala Game Management Area (Agricultural District), as well as long-term right of access to the site. The acreage would be used for facility construction and laydown area.

Topographic information indicates the ground surface at Alternative 1 consists of slight to moderate slopes. For the deployment of the HDR-H at this site, it is anticipated that cuts and fills would be needed to form terraces for the facility. Following clearing and grubbing of the construction site, eroded debris and slope wash material, if present, would need to be removed down to firm natural deposits. Additional fill may need to be imported from off-site sources.

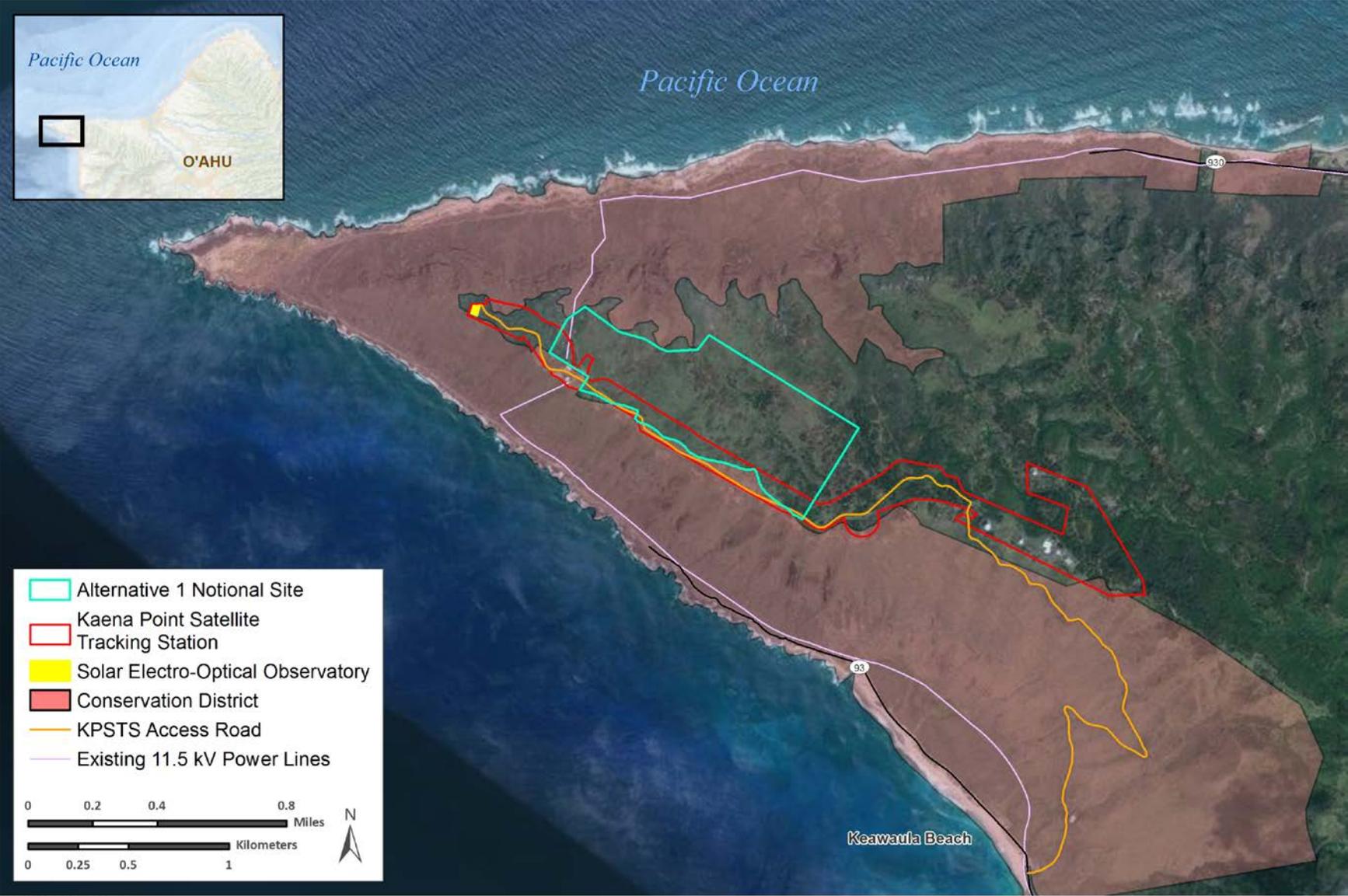
At KPSTS, the source for potable and fire protection water is an existing well pump located south of Dillingham Airfield to the northeast. In order to support the HDR-H facility at Kuaokala Ridge, system upgrades would be needed at three existing pump stations along the existing water line alignment that is already planned for replacement. A water tank for fire control would be needed at the radar facility. Waste water and sewage from the new facility would be treated and disposed through new septic systems.

KPSTS currently can receive commercial power from either of two existing 11.5 kilovolt (kV) transmission lines, one from the north and one from the south (**Figure 2**). For the proposed HDR-H facility, one or both of the existing lines would need to be upgraded to 46 kV. In order to do this along the northern route, 11.5 miles of the existing transmission line would be upgraded with new 46 kV and 11.5 kV lines on taller monopoles (at least 15 feet taller than existing poles). Along the southern route, approximately 9 miles of the existing line would require similar upgrades. For both routes, the proposed upgrade is expected to follow existing utility easements.

For communications, existing fiber optic connectivity is available at KPSTS. To run new fiber optic lines to the Alternative 1 site, an approximate 10,000-foot long in-ground duct bank would need to be installed from the new HDR-H facility to Building 10 near the east end of the installation. The new duct bank would be installed within installation boundaries and parallel the existing roadway as much as possible.

Regarding Non-Mission Support Facilities associated with the HDR-H, emergency response infrastructure would be augmented to the extent necessary. With the proposed construction of a new HPP at Kuaokala Ridge for backup power (sufficient to power the HDR-H and other KPSTS operations), the existing KPSTS power plant might no longer be needed.

Because of the proposed location for the HDR-H on Kuaokala Ridge, there are some facilities at KPSTS (e.g., Solar Electro-Optical Observatory) that would be located in the radar's view and be subjected to unacceptable levels of radio frequency interference from radar operations. Thus, these facilities would require relocation elsewhere on KPSTS or to another area altogether.



Data Source: Bing Maps Aerial; World Ocean Base; ESRI Streetmap 2010

Figure 2. Location of Alternative 1 at Kuaokala Ridge

#### 4.4.4.2 ALTERNATIVE 2: KAHUKU TRAINING AREA (SITE 1)

Located near the northern end of Oahu (**Figure 1**), KTA is a U.S. Army training area under the management of the U.S. Army Hawaii. The primary purpose of KTA is for air assault and infantry training, and related exercises. The training area is made up of unimproved dirt roads, hiking trails, and several designated helicopter landing zones.

KTA lies on the northern slopes of the Koolau Mountain Range and contains approximately 9,480 acres of land, including 1,150 acres leased from the State of Hawaii. Topography at KTA is highly variable, from gently sloping plains to almost vertical bluffs and stream drainage basins, with elevations ranging from near sea level to 1,860 feet.

Alternative 2 for the HDR-H is near the northwestern corner of KTA and is entirely on U.S. Army-owned property (**Figure 3**). The approximate 160-acre site is at an approximate 400-foot elevation on generally flat land that is mostly forested. Development of the site would require clearing of forest and other vegetation, grubbing, and grading.

Because the nearest municipal water is approximately 0.6 mile from the Alternative 2 site, a new permitted water well likely would be installed at the facility. Also, waste water and sewage would have to be treated and disposed through new onsite septic system.

Access to the site would be via paved and unimproved dirt roads that lead west from Kamehameha Highway, State Route 83. In addition to widening and paving improvements to the existing roads, new roads may be needed, but would avoid crossing State leased lands.

Commercial electrical power is immediately available at the site from an existing 46 kV overhead line that crosses KTA (**Figure 3**); however, the line would need to be routed around the proposed site. For communications, there is no existing fiber optic connectivity at KTA. To compensate, Alternative 2 would include satellite communications as part of the HDR-H facility.

Regarding Non-Mission Support Facilities associated with the HDR-H, emergency response infrastructure would be augmented to the extent necessary.

#### 4.4.4.3 ALTERNATIVE 3: KAHUKU TRAINING AREA (SITE 2)

Also located on KTA, Alternative 3 is approximately 1 mile east of Alternative 2 (**Figure 3**). The approximate 160-acre site is mostly forested and Army-owned. Preparations for the site would be similar to those of Alternative 2, requiring clearing of forest and other vegetation, grubbing, and grading. Development of this site for HDR-H would also require deconstruction of the existing Naval Research Laboratory facility in the proposed radar's view, and relocating it elsewhere on KTA or to another area altogether.

Existing municipal water and sewer are in proximity of the site; however, available capacities are currently unknown. If the existing utilities prove inaccessible or inadequate for the proposed HDR-H facility, then a new permitted water well would be installed onsite, along with onsite septic systems.

Access to the site would utilize the existing paved road that runs south from Kamehameha Highway, State Route 83, to the NRL facility (**Figure 3**). Commercial electrical power is available from an existing 46 kV overhead line approximately 0.25 mile north of the site. Either a

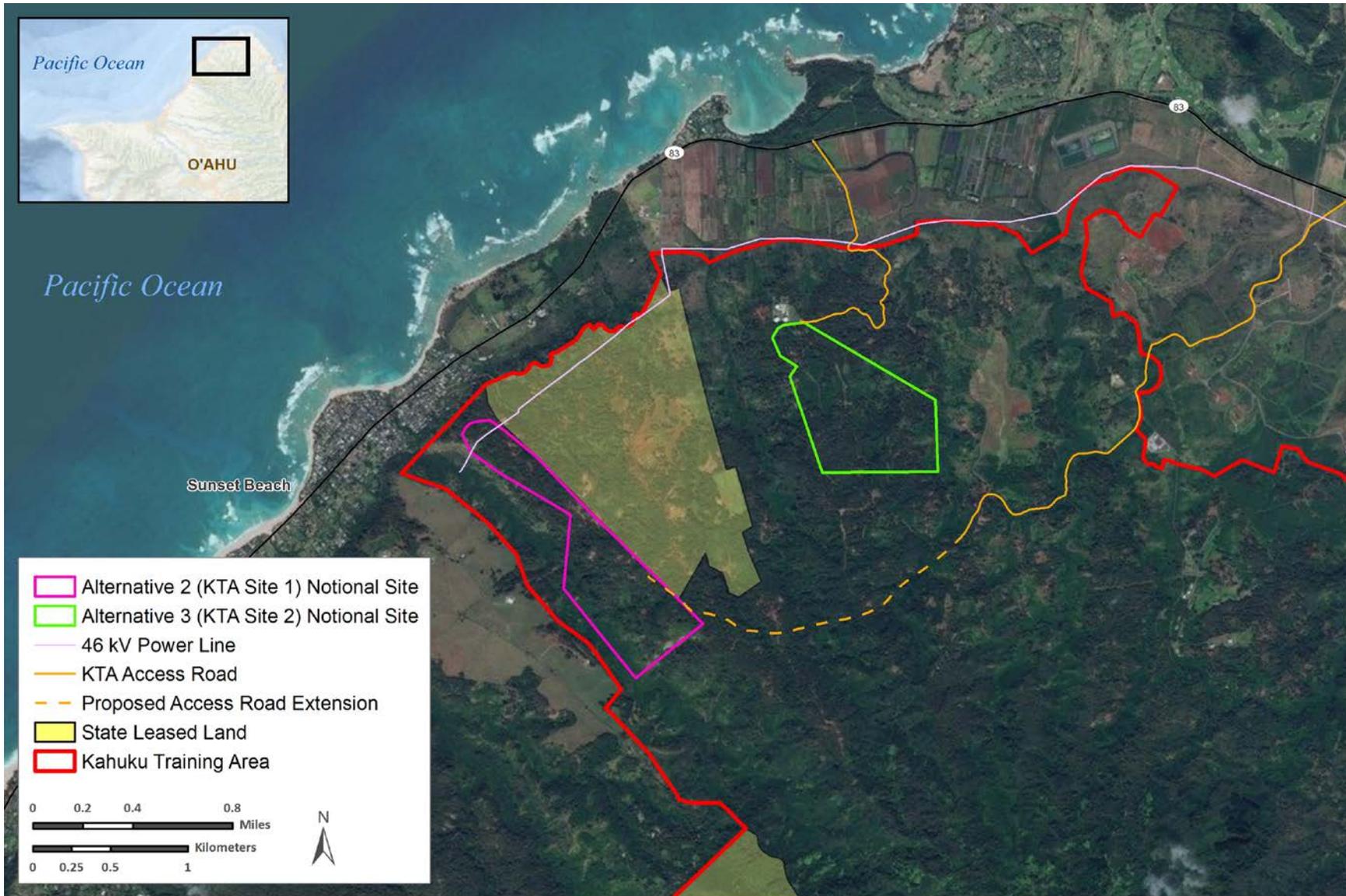


Figure 3. Location of Alternatives 2 and 3 at Kahuku Training Area

new power line would be extended to the site through an easement or the existing 12.47 kV distribution line feeding the NRL facility would be converted and tapped into the 46 kV line via an easement. For communications, there is no existing fiber optic connectivity at KTA. To compensate, Alternative 3 would include satellite communications as part of the HDR-H facility.

Regarding Non-Mission Support Facilities associated with the HDR-H, emergency response infrastructure would be augmented to the extent necessary.

## 5. Determination

Section 343-5(e), Hawaii Revised Statutes (HRS) (enacted by Act 172 (2012)) allows an applicant to prepare an EIS rather than an environmental assessment (EA) if the accepting authority determines, through its judgment and experience, that an EIS is likely to be required. The preparation of such an EIS begins with the preparation of an EIS Preparation Notice (EISPN), sometimes referred to as an “Act 172 EISPN.” Under the provisions of §343-5 (b), MDA has determined, through its judgment and experience, that an EIS is likely to be required for the HDR-H project.

Preparation of an EIS is being undertaken to address requirements of Chapter 343, HRS and Title 11, Department of Health, Chapter 200, Environmental Impact Rules, Hawaii Administrative Rules (HAR). Section 343-5, HRS established nine “triggers” that require either an EA or an EIS. The use of State or County lands and establishing power-generating facilities are two factors that “trigger” the preparation of an EA or EIS.

### 5.1 Reasons Supporting the Determination

MDA has determined that an EIS (rather than a less extensive EA) is likely necessary based on a review of the significance criteria set forth under Section 11-200-12, HAR. As a result of this review, it is anticipated that deployment of the HDR-H may have a significant effect on the environment due to one or more of the 13 significance criteria listed below, particularly for criteria numbers 1 and 2.

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;
2. Curtails the range of beneficial uses of the environment;
3. Conflicts with the state’s long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments there to, court decisions, or executive orders;
4. Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;
5. Substantially affects public health;
6. Involves secondary impacts, such as population changes or effects on public facilities;
7. Involves a substantial degradation of environmental quality;
8. Is individually limited but cumulatively has a considerable effect upon the environment or involves a commitment for larger actions;
9. Substantially affects a rare, threatened, or endangered species, or its habitat;

10. Detrimently affects air or water quality or ambient noise levels;
11. Affects, or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters;
12. Substantially affects scenic vistas and view planes identified in county or state plans or studies; and
13. Requires substantial energy consumption.

## 6. Studies Anticipated to be Included in the EIS

The forthcoming EIS will include several studies prepared by experts in specific fields. The reports and studies will include:

- Air and Noise Impacts Analysis
- Airspace Impact Analysis
- Archaeological Inventory Survey
- Cultural Impact Assessment
- Economic and Fiscal Impacts
- Flora and Fauna Survey
- Transportation Impact Analysis

## 7. Affected Parties

In addition to MDA being the lead agency for the EIS, the following federal agencies—having either jurisdiction or special expertise for certain components of the Proposed Action or for potentially affected operations and resources—have accepted MDA’s invitation to participate as cooperating agencies (40 Code of Federal Regulations § 1501.6) in the preparation of the EIS:

- U.S. Air Force
- U.S. Army
- U.S. Navy

Other cooperating agencies may be identified during the scoping process.

### 7.1 Public Outreach

MDA is in the process of undertaking several rounds of public outreach for the proposed HDR-H. As of the date of this EISPN, MDA is planning to hold three scoping meetings on Oahu. In addition, MDA will reach out to community groups and leaders for input, and to encourage them to participate throughout the planning process.

Public open house meetings on the project will be held where exhibits will be available for viewing and attendees will have opportunities to talk with various managers and specialists. The meetings will occur as follows:

- Haleiwa: Tuesday, June 19 -- 6:00 to 9:00 p.m. -- Sunset Beach Elementary School, 59-360 Kamehameha Highway
- Honolulu: Wednesday, June 20 -- 6:00 to 9:00 p.m. -- Ke'ehi Lagoon Memorial Park, 2685 N. Nimitz Highway
- Waianae: Thursday, June 21 -- 6:00 to 9:00 p.m. – Wai'anāe High School, 85-251 Farrington Highway

## 7.2 EIS Consultations

The following agencies, officials, and organizations are among those to be consulted during preparation of the Draft EIS. Others may be identified during the scoping process.

### Federal Agencies

- Department of the Army, Army Corps of Engineers
- Department of the Interior, Office of the Secretary
- Environmental Protection Agency
- Federal Aviation Administration
- National Marine Fisheries Service
- US Fish and Wildlife Service

### State Agencies

- Department of Health, Clean Air Branch
- Department of Land and Natural Resources
  - Division of Forestry and Wildlife
  - Land Division
  - State Historical Preservation Division
- Department of Transportation
- Office of Planning, Coastal Zone Management Program

### Elected Officials

- U.S. Senators
- U.S. Representatives
- State Senators
- State Representatives
- The Honorable David Ige, Governor of the State of Hawaii
- Mayor of Honolulu
- City of Honolulu Council Members

### Community/Special Interest Groups and Organizations

- Civic Clubs
- Native Hawaiian Organizations
- Neighborhood Boards