



**US Army Corps
of Engineers®**
Honolulu District

Real Estate Plan

**Waiakea-Palai Flood Risk Management
Final Integrated Feasibility Report and Environmental Assessment
Section 205 of the Flood Control Act of 1948, as amended**

June 2021

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U.S. Army Corps of Engineers, Honolulu District**

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TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1
2. AUTHORITY AND PURPOSE	2
3. PROJECT DESCRIPTION AND LOCATION	3
4. SPONSOR'S REAL ESTATE INTERESTS	7
5. ESTATES TO BE ACQUIRED	8
6. FEDERAL PROJECTS/OWNERSHIP	10
7. NAVIGATION SERVITUDE	11
8. MAPS	11
9. INDUCED FLOODING	11
10. BASELINE COST ESTIMATE FOR REAL ESTATE	11
11. PUBLIC LAW 91-646 RELOCATION BENEFITS	12
12. MINERALS/TIMBER/CROP ACTIVITY	13
13. ASSESSMENT OF SPONSOR'S ACQUISITION CAPABILITY	13
14. ZONING	13
15. ACQUISITION MILESTONES	13
16. PUBLIC FACILITY OR UTILITY RELOCATIONS	14
17. ENVIRONMENTAL IMPACTS	14
18. LANDOWNWER CONCERNS	15
19. NOTIFICATION TO SPONSOR	15
20. OTHER RELEVANT REAL ESTATE ISSUES	15

FIGURES

Figure 1: Study Area Map	i
Figure 2: Recommended Plan Map	ii
Figure 3: Kupulau Ditch Levee/Floodwall with Detention Project Feature Map	iii
Figure 4: Hilo Golf Course Detention Project Feature Map	iv

ATTACHMENTS

Attachment 1: Assessment of NFS's Real Estate Acquisition Capability	v
Attachment 2: Sample Letter Advising Against Early Acquisition	vi
Attachment 3: Sample Notice to Acquire Letter	viii

1. EXECUTIVE SUMMARY

The Waiakea-Palai Streams Flood Risk Management Integrated Feasibility Report and Environmental Assessment (Study) is authorized under Section 205 of the Flood Control Act of 1948, as amended. The purpose of the Study is to analyze alternatives to reduce flood risk within the Waiakea-Palai Watersheds including the Waiakea and Palai Streams as well as a portion of Four Mile Creek near Hilo, Hawaii. The Waiakea and Palai Stream channels have limited capacity to transport flood waters, which has led to water overtopping the channel and flooding downstream areas.

The Non-Federal Sponsor (NFS) for the Study is the County of Hawaii Department of Public Works (DPW). A Feasibility Cost Sharing Agreement was signed in October 2018, and the NFS is responsible for fifty percent (50%) of shared study costs.

A recommended plan was selected based on cost, ecological output, economic benefits, completeness, effectiveness, efficiency, and acceptability. The recommended plan for the Waiakea-Palai Streams Flood Risk Management proposed project includes the Kupulau Ditch levees (three), floodwall, and detention basin as well as the Hilo Golf Course detention basin. Two roadways are planned for continued maintenance and operations. Additionally, two temporary staging areas are planned for project construction.

Pursuant to the National Environmental Policy Act (NEPA) and the Hawaii Environmental Policy Act (HEPA), the final Environmental Assessment (EA) resulted in a Finding of No Significant Impact (FONSI). Additionally, in accordance with USACE Hazardous, Toxic, and Radioactive Waste (HTRW) policy, no HTRW contamination was identified within or proximal to the proposed project site.

The Real Estate Plan (REP) is generally prepared as an appendix to the Study to support the acquisition requirements of the recommended plan. The REP presents the real estate requirements, proposes the acquisition strategy, develops a cost estimate for real estate acquisition, and incorporates an internal technical review.

The minimum estates required for the construction of Kupulau Ditch levees, floodwall, and detention basin are flood protection levee easements (3.00 acres), flowage easements for occasional flooding (10.43 acres), a roadway easement (0.63 acres), and a temporary work area easement (0.32 acres). The minimum estates required for the Hilo Golf Course construction of a detention basin are a flowage easement for occasional flooding (2.13 acres), flowage easement for permanent flooding (4.50 acres), roadway easement (0.60 acres), and temporary work area easement (0.32 acres). Temporary work area easements are estimated to be required for two (2) years during project construction. The County of Hawaii does not have any ownership interests in the project area, but it maintains control over existing roadways.

The estimated real estate cost associated with the recommended plan is approximately \$976,900, including all recommended lands, easements, rights-of-way, relocations, and

disposals (LERRDs), and administrative costs to be carried out by the Government and NFS. The NFS is considered moderately capable at present to acquire and provide the LERRDs necessary for the proposed project.

2. AUTHORITY AND PURPOSE

The Waiakea-Palai Streams Flood Risk Management Integrated Feasibility Report and Environmental Assessment (Study) is authorized under Section 205 of the Flood Control Act of 1948, as amended. The U.S. Army Corps of Engineers (USACE) Continuing Authorities Program (CAP) is a group of nine legislative authorities under which the Corps of Engineers can plan, design, and implement certain types of water resources projects without additional project-specific congressional authorization. The purpose of the CAP is to plan and implement projects of limited size, cost, scope, and complexity. The maximum federal expenditure per project is \$10 million, including feasibility study, design, and construction costs.

The purpose of the Study is to analyze alternatives to reduce flood risk within the Waiakea-Palai Watersheds including the Waiakea and Palai Streams as well as a portion of Four Mile Creek near Hilo, Hawaii. The Study evaluates and compares the benefits, costs, and impacts of alternatives. The Waiakea Stream and Palai Stream each had individual studies initiated under the CAP 205 authority. However, when it was determined that the two streams were interdependent in the study area, the two individual draft studies were combined into a single study authorized as a general investigation study.

Previously, USACE completed a Waiakea Stream Flood Control Reconnaissance Study in December 2001. The Reconnaissance Study analysis indicated that continued federal participation in the Waiakea Stream study was warranted to determine viability and proper design of alternatives presented.

Pursuant to the National Environmental Policy Act (NEPA) and the Hawaii Environmental Policy Act (HEPA), a draft Environmental Assessment (EA) for Waiakea-Palai Stream was completed in September 2011. Public review of the draft EA and FONSI was completed in July 2019. The Final EA determined that the proposed action of construction of two detention basins, three levees, floodwall, and a channel barrier at Waiakea-Palai Stream would not result in significant adverse impacts on the environment. A Finding of No Significant Impact (FONSI) is included with the final Study and EA.

The Non-Federal Sponsor (NFS) for the Study is the County of Hawaii Department of Public Works (DPW). Previously, USACE and the NFS executed a Feasibility Cost Share Agreement for the Waiakea Stream Flood Control Project in February 2004. However, based on the combined scope of the Waiakea and Palai Streams, an updated Feasibility Cost Sharing Agreement for the current CAP 205 Integrated Feasibility Study

was signed in October 2018. The NFS is responsible for fifty percent (50%) of shared study costs in accordance with the Feasibility Cost Sharing Agreement.

Generally, the Real Estate Plan (REP) is prepared by the USACE Honolulu District (District) as an appendix to the Feasibility Report. The REP presents the real estate requirements, proposes the acquisition strategy, develops a cost estimate for real estate acquisition, and incorporates an internal technical review. USACE Mapping determines private tract ownerships and acreages to prepare exhibits to the REP. USACE Appraisal prepares (or contracts for) and approves a cost estimate or gross appraisal, as needed for acquisitions. USACE Environmental provides applicable compliance memoranda and/or documentation in accordance with NEPA, HEPA, National Historic Preservation Act (NHPA), and USACE Hazardous, Toxic, and Radioactive Waste (HTRW) policy.

Project real estate requirements include a review of NFS-owned parcels as well as recommended lands, easements, rights-of-way, relocations, and disposals (LERRDs) to be carried out by the NFS. LERRDs recommendations are requirements that the Government has determined the NFS must meet for the construction, operation, and maintenance of the Project. If LERRDs are required, USACE District Real Estate coordinates with the NFS and provides the NFS with a partner packet outlining the sponsor's responsibilities and notice informing the NFS of the risks of early acquisition.

The information contained herein is tentative for planning purposes only. Final real estate acquisition acreages, limitations, and cost estimates are subject to change even after approval of a final Feasibility Report.

3. PROJECT DESCRIPTION AND LOCATION

The Study area encompasses the Palai Stream watershed and the Waiakea Stream watershed near the town of Hilo, Hawaii, located on the northeastern coast of the island of Hawaii (See Figure 1: Study Area Map). Waiakea Stream, Palai Stream, and Four Mile Creek are three of the five tributaries within the principal Wailoa River system, which drains a total of about 100 square miles and empties into Hilo Bay.

Waiakea Stream has a drainage area of about 35.6 square miles and is classified as an intermittent stream and is dry most of the year. Its basin is linear in shape, approximately 25 miles in length and about 2 miles in width at its widest point. The Waiakea Stream basin originates along the slopes of Mauna Loa volcano and flows northeast through the residential community of upper Waiakea-Uka Homesteads before entering the city of Hilo and ultimately emptying into Wailoa Pond and Hilo Bay. Portions of Waiakea Stream within the proposed study area have previously been altered to reduce flood risk in the Hilo area.

Palai Stream has a drainage area of about 7.7 square miles and is classified as intermittent and is dry most of the year. Its basin is linear in shape, approximately 11 miles in length and about two miles in width at its widest point. Palai Stream originates

down slope of the broad saddle formed between the Mauna Loa and Mauna Kea volcanoes and flows for about seven miles through the Waiakea Forest Reserve with elevations ranging from 2,100 feet to 1,500 feet. The basin is largely developed below the 1,500-foot elevation. It flows an additional four miles through the City of Hilo before emptying into Wailoa Pond and Hilo Bay.

Four Mile Creek is an intermittent stream that drains into undeveloped lowlands near the Hilo Drag Strip south of Hilo International Airport. The creek flows away from Hilo through an unlined flood control channel that was constructed by the County of Hawaii. This 10,000-foot-long channel begins at the Kanoelehua Street Bridge and empties into an old quarry on the east side of Hilo. Upstream of this point, the stream flows mainly through open land with some scattered pockets of mixed residential structures and farmland.

The Waiakea and the Palai Streams are susceptible to flash flooding events where peak discharges typically occur within two hours of heavy rainfall. Local storm events can produce flood conditions in a matter of hours. Significant rainfall events result in overland flow of water throughout the watershed, flowing towards the streams. The existing stream channels have limited capacity to transport flood waters, which has led to water overtopping the channel and flooding downstream areas.

Waiakea Stream above Kupulau Ditch is characterized by poorly defined channels. It has a channel capacity of fewer than 1,020 cfs, which is comparable to a 50% AEP storm event. Excess water leaves the Waiakea Stream by overtopping the right bank at the 50% AEP event and flows overland eastward toward Kupulau Ditch. Between Kupulau Ditch and the Kupulau Rd Bridge, Waiakea Stream has an average channel capacity of about 1,630 cfs, which is comparable to a 20% AEP storm event. Flows greater than the 20% AEP event flood the right and left overbanks.

In addition, the City of Hilo has experienced significant growth over recent decades. In addition to some of Hilo's busiest intersections, thoroughfares and shopping areas, the project area floodplain also contains about 100 businesses, several schools, a university, and other critical infrastructure. With this surge in urbanization, flooding problems have intensified for homes and businesses built close to the city's streams. Property losses, road and bridge closures, and life-threatening situations caused by flooding have increased. Major flood damage in the Hilo area occurred in February 2008, November 2000, August 1994, March 1980, February 1979, July 1966, and March 1939.

As described in the Study, an initial array of alternative plans was formulated through combinations of management measures. The alternatives were evaluated for completeness, effectiveness, efficiency, and acceptability as specified in the Council for Environmental Quality Principles and Guidelines (Paragraph 1.6.2(c)). Based on the results of the screening process, the following alternatives were carried forward as the final array:

1. No Action Alternative
2. Kupulau Ditch Levee/Floodwall with Detention
3. Hilo Municipal Golf Course Detention
4. Ainalako Diversion
5. Combination Plan (#2, #3, #4)

Recommended Plan: Combination of Kupulau Ditch Levee/Floodwall with Detention and Hilo Municipal Golf Course Detention

Evaluation and comparison of the final array of alternatives included an assessment of costs and benefits for each of the alternatives included in the final array as well as an evaluation of various combinations of these alternatives to identify the optimized plan that reasonably maximizes net benefits. After incorporating revisions following agency, technical, and public review, the combination plan alternative is the Kupulau Ditch Levee/Floodwall with Detention and Hilo Golf Course Detention was presented as the recommended plan. The recommended plan incorporates the following features:

1. Kupulau Ditch Levees (3)
2. Kupulau Ditch Floodwall
3. Kupulau Ditch Detention Basin
4. Kupulau Ditch Roadway
5. Kupulau Ditch Staging Area
6. Hilo Golf Detention Basin
7. Hilo Golf Roadway
8. Hilo Golf Staging Area

See also Figure 2: Recommended Plan Map.

Structures in the Area

Portions of Waiakea Stream within the Study area have previously been altered to reduce flood risk in the Hilo area. In 1965, the USACE built a flood control project that extends from the lower reaches of Waiakea Stream to Wailoa Pond (Figure 1: Study Area Map). This project, called Wailoa Stream Flood Control Project, consisted of channel improvements and levees to provide flood protection for the area of Hilo downstream of the University of Hawaii at Hilo. The project included channels and levees to divert the Kawili Stream flows into the Waiakea Stream, plus additional channels and levees to divert the combined flows of the Waiakea and Kawila Streams into Waiakea Pond. The project was designed for a discharge of 6,500 cubic feet per second (cfs) which at that time had a recurrence interval of 125 years.

Upstream, the County of Hawaii constructed the Waiakea-Uka channel in 1984. This channel consists of 3,460 feet of concrete-lined and unlined trapezoidal channel improvements extending from Kawaihine Street to the intersection of Komohana and Puainako Streets. These improvements were designed for a discharge of 4,460 cfs. Further upstream, the County of Hawaii replaced the Kawaihine Street Bridge with a new bridge having a larger opening and improved the channel upstream and downstream of

the bridge. These bridge and channel improvements were completed after severe storm damage occurred in November 2000.

There are no federal flood risk management projects located on Palai Stream within the Study area. In 1971, the County of Hawaii constructed Kupulau Ditch. This ditch diverted storm water runoff from the Palai Stream basin to Waiakea Stream upstream of Kupulau Road. The ditch consists of a trapezoidal channel about 3,500 feet long with a 12-foot bottom width and 2:1 side slopes.

Staging Areas

Staging areas and site access must be established for the use and distribution of construction materials and equipment. The staging areas would contain contractor trailers, parking, fencing, and storage of equipment and materials.

The staging area for the Kupulau Ditch Levee/Floodwall with Detention Basin is located adjacent to the east containment levee, and the staging area for the Hilo Golf Course Detention Basin is located adjacent to the detention basin. Restoration of staging areas will be to pre-construction conditions. See also Figure 3: Kupulau Ditch Levee/Floodwall with Detention Project Feature Map and Figure 4: Hilo Golf Course Detention Project Feature Map.

Site Access

For Kupulau Ditch project feature construction, it is anticipated that personnel, equipment, and imported materials would access the proposed project area via Kupulau Road. For Hilo Golf Course project feature construction, it is anticipated that personnel, equipment, and imported materials would access the proposed project area via the maintenance yard and along the east side of the course.

Additionally, for continued operations and maintenance of the recommended plan, new roadway easements are required for both the Kupulau Ditch Levee/Floodwall with Detention Basin and Hilo Golf Course Detention Basin. For the Kupulau Ditch access road, the road is estimated to begin at Kupulau Road and terminate at the right bank of Kupulau Ditch. For the Hilo Golf Course access road, the road is estimated to run from the maintenance yard and along the east side of the course to the stream bank and then westward to the levee surrounding the detention basin. The widths of the access roads are estimated at 20 feet. See also Figure 3: Kupulau Ditch Levee/Floodwall with Detention Project Feature Map and Figure 4: Hilo Golf Course Detention Project Feature Map.

Ownership by Project Feature

The following table summarizes the area and interest required by project feature and ownership.

Feature	Tax Map Key (TMK)	Approximate Area (Acres)	Owner	Zoning/ Property Class	Interest Required
1. Kupulau Ditch Levees	3-2-4-065:036	1.00	Private	Agricultural/ Residential	Flood Protection Levee Easement
	3-2-4-076:044	0.18	Private	Agricultural/ Residential	Flood Protection Levee Easement
	3-2-4-065:035	0.44	Private	Residential	Flood Protection Levee Easement
	3-2-4-036:001	0.60	Private	Agricultural/ Church	Flood Protection Levee Easement
2. Kupulau Ditch Floodwall	3-2-4-036:001	0.40	Private	Agricultural/ Church	Flood Protection Levee Easement
	3-2-4-035:003	0.22	Private	Agricultural/ Residential	Flood Protection Levee Easement
	3-2-4-035:032	0.16		Agricultural/ Residential	
3. Kupulau Ditch Detention Basin	3-2-4-036:001	6.60	Private	Agricultural/ Church	Flowage Easement (occasional)
	3-2-4-065:036	3.83	Private	Agricultural/ Residential	Flowage Easement (occasional)
4. Kupulau Ditch Roadway	3-2-4-036:999	0.63	Public	Agricultural/ Residential	Road Easement
5. Kupulau Ditch Staging Area	3-2-4-036:001	0.70	Private	Agricultural/ Church	Temporary Work Area Easement
6. Hilo Golf Detention Basin	3-2-4-002:001	4.50	Public	Conservation	Flowage Easement (permanent)
	3-2-4-002:001	2.13	Public	Conservation	Flowage Easement (occasional)
7. Hilo Golf Roadway	3-2-4-002:001	0.60	Public	Conservation	Road Easement
8. Hilo Golf Staging Area	3-2-4-002:001	0.32	Public	Conservation	Temporary Work Area Easement

See also Figure 3: Kupulau Ditch Levee/Floodwall with Detention Project Feature Map and Figure 4: Hilo Golf Course Detention Project Feature Map.

4. SPONSOR'S REAL ESTATE INTERESTS

The Non-Federal Sponsor (NFS) for the Study is the County of Hawaii Department of Public Works (DPW). The District will coordinate with the County of Hawaii DPW. The County of Hawaii controls some lands identified for the Study area.

5. ESTATES TO BE ACQUIRED

The NFS will provide all LERRDs required for the construction, operation, and maintenance of the proposed project. The NFS is instructed to acquire the minimum real estate interest necessary for the proposed project. LERRDs to be acquired for the proposed project include:

Flood Protection Levee Easement

1. Kupulau Ditch Levees: 2.22 acres
2. Kupulau Ditch Floodwall: 0.78 acres

Flood Protection Levee Easement Standard Estate

A perpetual and assignable right and easement in (the land described in Schedule A) (Tracts Nos, _____, _____ and _____) to construct, maintain, repair, operate, patrol and replace a flood protection (levee) (floodwall)(gate closure) (sandbag closure), including all appurtenances thereto; reserving, however, to the owners, their heirs and assigns, all such rights and privileges in the land as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Flowage Easement (Occasional Flooding)

3. Kupulau Ditch Detention Basin: 10.43 acres
6. Hilo Golf Detention Basin: 2.13 acres

Flowage Easement Standard Estate (Occasional Flooding)

The perpetual right, power, privilege and easement occasionally to overflow, flood and submerge (the land described in Schedule A) (Tracts Nos. _____, _____ and _____). (and to maintain mosquito control) in connection with the operation and maintenance of the project as authorized by the Act of Congress approved _____, together with all right, title and interest in and to the structure; and improvements now situate on the land, except fencing (and also excepting _____ (here identify those structures not designed for human habitation which the District Engineer determines may remain on the land); provided that no structures for human habitation shall be constructed or maintained on the land, that no other structures shall be constructed or maintained on the land except as may be approved in writing by the representative of the United States in charge of the project, and that no excavation shall be conducted and no landfill placed on the land without such approval as to the location and method of excavation and/or placement of landfill; the above estate is taken subject to existing easements for public roads and highways, public utilities, railroads and pipelines; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used and enjoyed without interfering with the use of the project for the purposes authorized by Congress or abridging the rights and easement hereby acquired; provided further that any use of the land shall be subject to Federal and State laws with respect to pollution.

Flowage Easement (Permanent Flooding)

6. Hilo Golf Detention Basin: 4.50 acres

Flowage Easement Standard Estate (Permanent Flooding)

The perpetual right, power, privilege and easement permanently to overflow, flood and submerge (the land described in Schedule A) Tracts Nos. _____, _____ and _____), (and to maintain mosquito control) in connection with the operation maintenance of the project as authorized by the Act of Congress approved _____, and the continuing right to clear and remove brush, debris and natural obstructions which, in the opinion of the representative of the United States in charge of the project, may be detrimental to the project, together with all right, title and interest in and to the timber, structures and improvements situate on the land (excepting _____, (here identify those structures not designed for human habitation which the District Engineer determines may remain on the land)); provided that no structures for human habitation shall be constructed or maintained on the land, that no other structures shall be constructed or maintained on the land except as may be approved in writing by the representative of the United States in charge of the project, and that no excavation shall be conducted and no landfill placed on the land without such approval as to the location and method of excavation and/or placement of. landfill; the above estate is taken subject to existing easements for public roads and highways, public utilities, railroads and pipelines; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used and enjoyed without interfering with the use of the project for the purposes authorized by Congress or abridging the rights and easement hereby acquired; provided further that any use of the land shall be subject to Federal and State laws with respect to pollution.

Roadway Easement

4. Kupulau Ditch Roadway: 0.63 acres

7. Hilo Golf Roadway: 0.60 acres

Roadway Easement Standard Estate

A (perpetual [exclusive] [non-exclusive] and assignable) (temporary) easement and right of way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____) for the location, construction, operation, maintenance, alteration replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right of way; (reserving, however, to the owners, their heirs and assigns, the right to cross over or under the right of way as access to their adjoining land at the locations indicated in Schedule B); subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Temporary Work Area Easement

5. Kupulau Ditch Staging Area: 0.70 acres

8. Hilo Golf Staging Area: 0.32 acres

Temporary Work Area Easement Standard Estate

A temporary easement and right of way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), for a period not to exceed _____, beginning with date of possession the land is granted to the United States, for use by the United States, its representatives, agents, and contractors as a (borrow area) (work area), including the right to (borrow and/or deposit fill, spoil and waste material thereon) (move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the _____ Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right of way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Kupulau Ditch: The minimum estates required for the construction of levees, a floodwall, and detention basin are flood protection levee easements (3.00 acres), flowage easements for occasional flooding (10.43 acres), a roadway easement (0.63 acres), and a temporary work area easement (0.32 acres). According to the County of Hawaii Real Property Tax Office, the Kupulau Ditch project features are located within Tax Map Keys (TMKs) 3-2-4-035:003, 3-2-4-035:032, 3-2-4-065:035, 3-2-4-065:036, 3-2-4-076:044, 3-2-4-036:001, which are owned by private persons and entities, and TMK 3-2-4-036:999, which is under control of the County of Hawaii.

Hilo Golf Detention: The minimum estates required for the construction of a detention basin are a flowage easement for occasional flooding (2.13 acres), flowage easement for permanent flooding (4.50 acres), roadway easement (0.60 acres), and temporary work area easement (0.32 acres). According to the County of Hawaii Real Property Tax Office, the Hilo Golf Detention Basin project features are located within TMK 3-2-4-002:001, which is owned by the State of Hawaii.

The temporary work area easements for staging are estimated to be required for two (2) years during project construction. The road easements are estimated to be required in perpetuity for ongoing project feature operation and maintenance.

6. FEDERAL PROJECTS/OWNERSHIP

Within the general Study area, USACE previously completed the Wailoa Stream Flood Control Project that extends from the lower reaches of Waiakea Stream to Wailoa Pond.

The Wailoa Stream Flood Control Project included channel improvements and levees. However, the Wailoa Stream Flood Control Project does not overlap with the current Study project features. Additionally, there are no Federally owned lands within the LERRDs required for the Study.

7. NAVIGATION SERVITUDE

Lands required for the Study are not located within navigable waters and therefore, Navigation Servitude doctrine does not apply.

8. MAPS

Maps are intended as a preliminary tool to illustrate the Study area, LERRDs to be acquired, and lands within the navigation servitude. Detailed maps will be provided prior to the Notice to Acquire (NTA) Letter to the NFS. For the Study Area Map and Recommended Plan Map, refer to Figures 1-2. For the Kupulau Ditch Levee/Floodwall with Detention Project Feature Map and Hilo Golf Course Detention Project Feature Map, refer to Figures 3-4.

9. INDUCED FLOODING

The proposed project is not anticipated to induce flooding outside of the footprint of the proposed project features.

10. BASELINE COST ESTIMATE FOR REAL ESTATE

The baseline cost estimate for the NFS to acquire the Kupulau Ditch flood protection levee easements, flowage easements for occasional flooding, roadway easement, and temporary work area easement as well as the Hilo Golf Detention flowage easement for occasional flooding, flowage easement for permanent flooding, roadway easement, and temporary work area easement is estimated at \$976,900.

Item	Size (Acres)	Cost Estimate
Kupulau Ditch Flood Protection Levee Easement	3.00	\$66,700
Kupulau Ditch Flowage Easement (occasional)	10.43	\$267,100
Hilo Golf Flowage Easement (permanent)	4.50	\$150,200
Hilo Golf Flowage Easement (occasional)	2.13	\$71,100
Kupulau Ditch Road Easement	0.63	\$21,000
Hilo Golf Road Easement	0.60	\$20,000

Kupulau Ditch Staging Area Temporary Work Area Easement	0.70	\$23,400
Hilo Golf Staging Area Temporary Work Area Easement	0.32	\$10,700
Improvements	--	\$0
Hazard Removals	--	\$0
Mineral Rights	--	\$0
Kupulau Levee/Floodwall Damages		\$37,800
Hilo Golf Couse Damages	--	\$88,200
Facility/Utility Relocations	--	\$0
Uniform Relocation Assistance	--	\$0
Incremental Real Estate Costs	--	\$94,600
Incidental Acquisition Costs: NFS	--	\$106,100
Incidental Acquisition Costs: Government	--	\$20,000
TOTAL	--	\$976,900

CAP projects generally require a cost-estimate level of effort, determined by the complexity of the project. The real estate valuation effort should be commensurate with the level of detail performed by other elements for each of these CAP programs and projects. Simplified evaluation procedures are adopted for low-risk or low-cost projects. Real estate LERRD acquisition costs are estimated at 9% of total project costs.

In 2015, real estate cost estimates were prepared by USACE District Appraisal. The current real estate cost estimates were obtained from market research prepared by the District in June 2021. Incremental real estate costs are estimated at 15% of total real estate acquisition costs for risk-based contingencies. Incidental acquisition costs are estimated at 20% of total real estate acquisition costs and includes NFS costs incurred for title work, appraisals, review of appraisals, coordination meetings, review of documents, legal support, and other costs that are incidental to Project LERRDs as well as Government costs for staff monitoring and reviewing and approving LERRDs.

11. PUBLIC LAW 91-646 RELOCATION BENEFITS

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, PL 91-646, as amended, commonly called the Uniform Act, is the primary law for acquisition and relocation activities on Federal or federally assisted projects and programs. The NFS is required to follow the guidance of PL 91-646.

No displacement of towns or persons will occur, and there will be neither habitable nor commercial structures affected as a result of this Study. The Study is not eligible for the provisions of PL 91-646 related to relocation expenses.

12. MINERALS/TIMBER/CROP ACTIVITY

There are no known surface or subsurface minerals that would impact the proposed project features. Additionally, no known timber or crops will be permanently affected by the proposed project features.

13. ASSESSMENT OF SPONSOR'S ACQUISITION CAPABILITY

The NFS is considered moderately capable at present to acquire and provide the LERRDs necessary for the Study. The NFS has the financial capability and authority to hold title. However, the NFS will perform necessary LERRDs efforts, such as survey, appraisal, title work, negotiation, closing, and eminent domain, with contract support.

An Assessment of the NFS's Real Estate Acquisition Capability was conducted jointly with the NFS. A Sponsor's Acquisition Capability Assessment is included in Attachment 1. Additionally, the NFS was provided with a Local Sponsor Toolkit in June 2021.

14. ZONING

All LERRDs required for the proposed project features are zoned agricultural or residential and are being used in that manner. Therefore, no zoning change in lieu of acquisition is anticipated.

15. ACQUISITION MILESTONES

The following preliminary schedule estimates eighteen (18) months for NFS LERRDs planning and acquisition. The planned timeline below is mutually agreed upon by USACE District Real Estate, Project Management, and the NFS. The schedule starts from the Notice to Acquire Letter, which is estimated to occur when construction site plans are defined during the Pre-Construction, Engineering, and Design (PED) phase.

The NFS's preliminary acquisition planning is estimated at eight (8) months as follows:

Survey/Map/Title	90 Days
Legal Description	60 Days
Appraisal	90 Days

The NFS's LERRD acquisition is estimated at ten (10) months as follows:

Documentation	90 Days
Negotiation	90 Days
Payment	90 Days
LERRD Certification	30 Days

16. PUBLIC FACILITY OR UTILITY RELOCATIONS

No facility or utility relocations are planned as part of the Study. Hilo Golf Course Hole 10 is the only area with a temporary closure impact. Hole 10 is estimated to be closed for approximately two to three months during construction of the berm/levee. The berm will be designed during PED with a landscape architect to allow continued play of the hole. The bridge at Hole 10 is estimated to be replaced with a bridge on top of the planned culvert. The value of the temporary golf hole closure and redesign is estimated as severance damages, which are included in the baseline cost estimate (Section 10).

17. ENVIRONMENTAL IMPACTS

Potential environmental impacts resulting from the proposed project were considered, including investigation under NEPA/HEPA, HTRW Policy, National Historic Preservation Act, Clean Water Act, Endangered Species Act, Clean Air Act, Fish and Wildlife Coordination Act, Magnuson-Stevens Fishery Conservation and Management Act, Farmland Protection Policy Act, Migratory Bird Treaty Act, and Coastal Zone Management Act.

National Environmental Policy Act (NEPA) and Hawaii Environmental Policy Act (HEPA)

The NEPA (40 CFR 1500 et seq.) requires that environmental consequences and project alternatives be considered before a decision is made to implement a federal project. The NEPA established the requirements for an Environmental Impact Statement (EIS) for projects potentially having significant environmental impacts and an Environmental Assessment (EA) for projects with no significant environmental impacts.

In accordance with NEPA and USACE regulations and policies, the EA determined that the Proposed Action would not result in significant adverse impacts on either the man-made or natural environment. A FONSI is included with the final Study and EA.

Hazardous, Toxic, and Radioactive Waste Policy

In accordance with USACE HTRW policy, USACE Honolulu District conducted an HTRW Assessment in August 2005. The HTRW Assessment was based upon review of existing documentation, coordination with responsible agencies, and observations made during a visual site investigation. Based upon review of existing historical and current documentation, agency consultation and coordination, personal interviews, and on-site visual surveys, the HTRW Assessment found no HTRW sources or areas of HTRW contamination identified within or proximal to the proposed project site.

National Historic Preservation Act

Federal agencies are required under Section 106 of the National Historic Preservation Act of 1966 (NHPA, 54 USC Chapter 3001 et seq.), as amended, to “take into account the effects of their undertakings on historic properties” and consider alternatives “to avoid, minimize, or mitigate the undertaking’s adverse effects on historic properties.” In

accordance with Section 106 of the NHPA, the USACE has consulted with the Hawaii State Historic Preservation Division (SHPD) and other appropriate consulting parties.

Regarding cultural resources, according to the Hawaii SHPD, there are no Hawaii Register of Historic Places listed historic properties within the vicinity of the Study area. Additionally, according to archeological surveys, there is no evidence of archaeological or historic resources. The Hawaii SHPD, the Office of Hawaiian Affairs, and the Hawaiian Civic Club of Hilo were consulted on the findings of the Archaeological Survey and the potential for unknown historic and cultural resources in the Study area. This produced no further evidence of historic or cultural resources.

Other Environmental Compliance

Additionally, USACE has considered and investigated potential environmental impacts in accordance with the Clean Water Act, Endangered Species Act, Clean Air Act, Fish and Wildlife Coordination Act, Magnuson-Stevens Fishery Conservation and Management Act, Farmland Protection Policy Act, Migratory Bird Treaty Act, and Coastal Zone Management Act.

18. LANDOWNER CONCERNS

No landowner concerns are anticipated at this time.

19. NOTIFICATION TO SPONSOR

The NFS, County of Hawaii DPW, is involved in the planning process. The NFS was provided a Local Sponsor Toolkit and advised of the risks of acquiring LERRDs before the execution of the PPA. A Sample Letter Advising Against Early Acquisition is included in Attachment 2.

Additionally, once the LERRDs are finalized, a Notice to Acquire Letter will be transmitted to the NFS. The Notice to Acquire Letter serves as the formal instruction for the NFS to acquire the real estate interests needed for the Project. A Sample Notice to Acquire Letter is included in Attachment 3.

20. OTHER RELEVANT REAL ESTATE ISSUES

There are no other known relevant real estate issues in the Study area.

Figure 1: Study Area Map

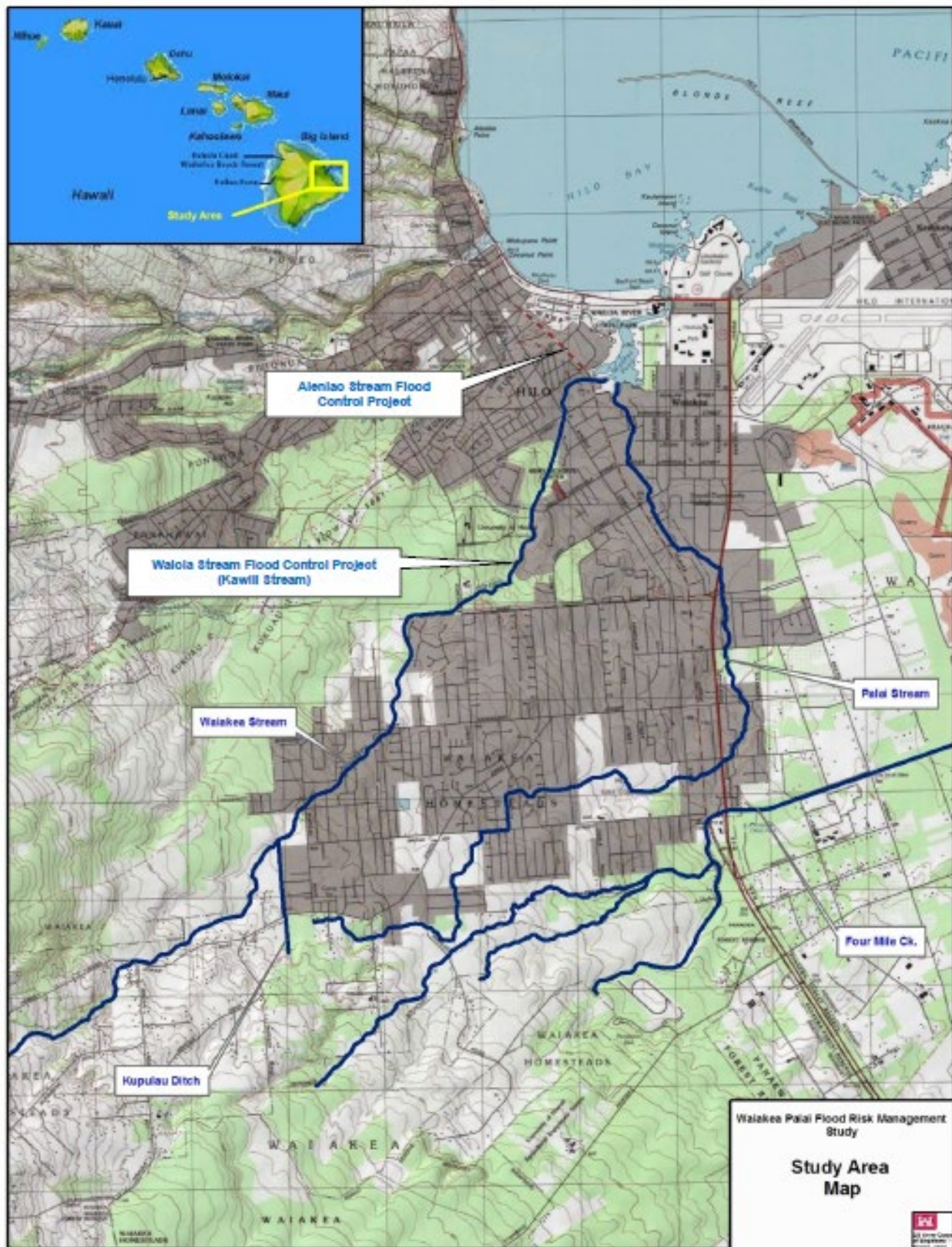


Figure 2: Recommended Plan Map

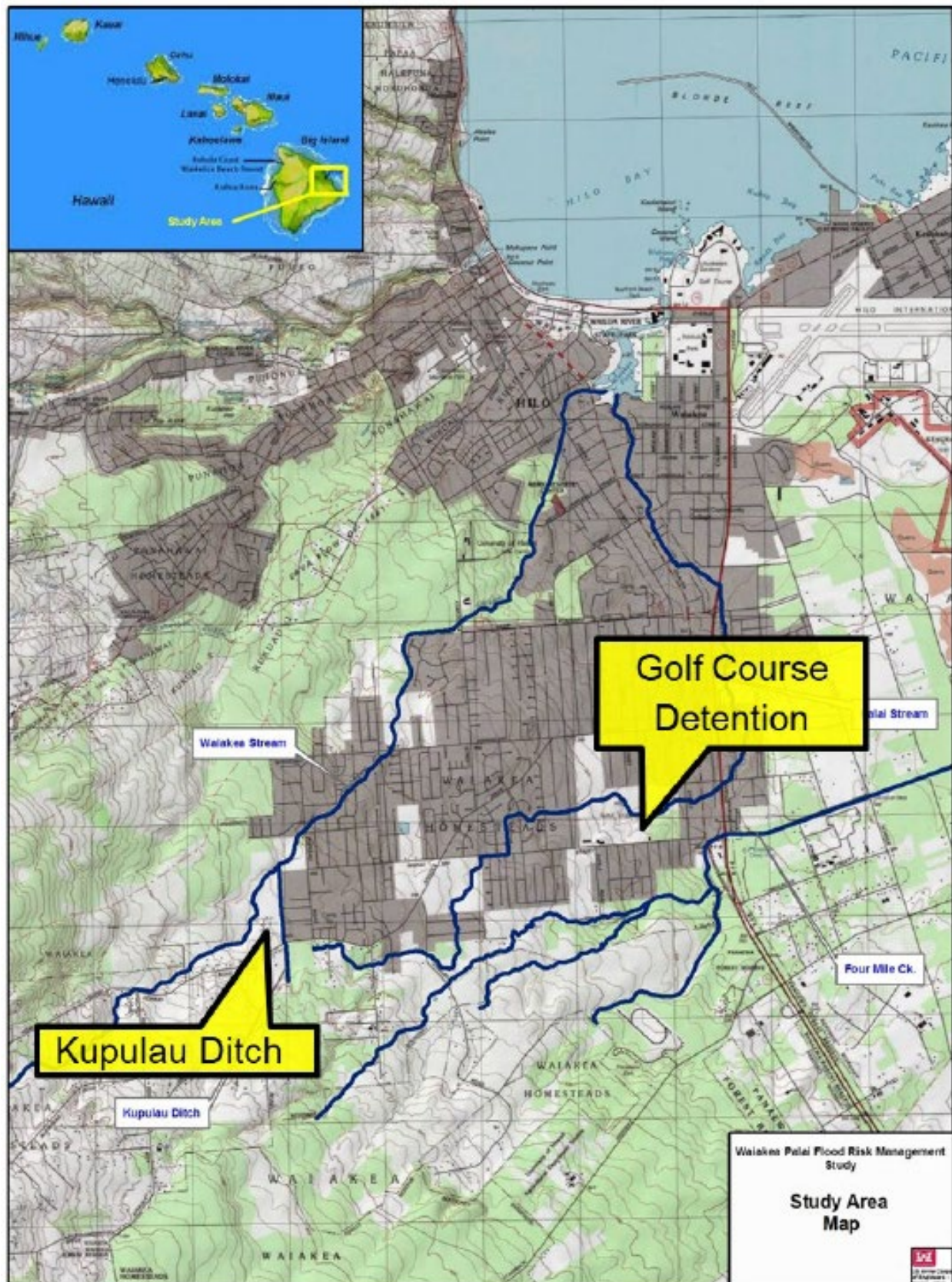



Figure 3: Kupulau Ditch Levee/Floodwall with Detention Project Feature Map

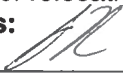



Figure 4: Hilo Golf Course Detention Project Feature Map



Attachment 1: Assessment of NFS's Real Estate Acquisition Capability

Assessment of Non-Federal Sponsor's Real Estate Acquisition Capability		
Project: Waiakea-Palai Flood Control Project, Hilo, HI Project Authority: Section 205 of the Flood Control Act of 1948 Non-Federal Sponsor: County of Hawaii, Department of Public Works Steven Ikaika Rodenhurst, Director Aupuni Center, 101 Pauahi Street, Suite 7, Hilo, Hawai'i 96720 808-961-8321, Ikaika.Rodenhurst@hawaiiicounty.gov		
Legal Authority	Yes	No
1. Does the NFS have legal authority to acquire and hold title to real property for project purposes? (Hawaii Revised Statutes, Chp. 46)	✓	
2. Does the NFS have the power of eminent domain for the project (Hawaii Revised Statutes, Chp. 101)	✓	
3. Does the NFS have "quick-take" authority for this project?		✓
4. Are there any lands/interests in land required for the project that are located outside the NFS's authority boundary?		✓
5. Are any of the lands/interests in land required for the project owned by an entity whose property the sponsor cannot condemn?		✓
6. Will the NFS's in-house staff require training to become familiar with the real estate requirements of Federal projects, such as PL 91-646, as amended?		✓
7. If #6 is yes, has a reasonable plan been developed to provide training?		NA
Willingness to Participate	Yes	No
8. Has the NFS stated its general willingness to participate in the project and its understanding of the general scope and role?	✓	
9. Is the NFS agreeable to signing a Project Partnership Agreement and supplying funding as stipulated in the agreement?	✓	
10. Was the NFS provided the Local Sponsor Toolkit? 06/02/2021	✓	
Acquisition Experience and Capability	Yes	No
11. Taking into consideration the project schedule and complexity, does the NFS have the capability, with in-house staffing or contract support, to provide the necessary services, including surveying, appraisal, title, negotiation, condemnation, closing, and relocation assistance, as required for the project?	✓	
12. Is the NFS's projected in-house staffing level sufficient considering its workload?	✓	
13. Can the NFS obtain contractor support, if required, in a timely manner?	✓	
14. Is the NFS's staff located within reasonable proximity to the project site?	✓	
15. Will the NFS likely request USACE assistance in acquiring real estate?		✓
Schedule Capability	Yes	No
16. Has the NFS approved the tentative project real estate schedule and indicated its willingness and ability to utilize its financial, acquisition, and condemnation capabilities to provide the necessary project LERRDs in accordance with the proposed project schedule so the Government can advertise and award a construction contract as required by overall project schedules and funding limitations? The anticipated NFS real estate acquisition timeframe for the project is eighteen (18) months.	✓	
NFS Initials: 		

LERRD Crediting		Yes	No
17. Has the NFS indicating its understanding of LERRD credits and its capability and willingness to gather the necessary information to submit LERRD credits within six (6) months after possession of all real estate and completion of relocations so the project can be financially settled? NFS Initials: 		✓	
Past Action and Coordination		Yes	No
1. Has the NFS performed satisfactorily on other USACE projects?		✓	
2. Has the assessment been coordinated with NFS?		✓	
3. Does the NFS concur with the assessment? (provide explanation if no)		✓	
With regard to the project, the NFS is anticipated to be:		Select One	
Fully Capable: previous experience; financial capability; authority to hold title; in-house staff can perform necessary services (survey, appraisal, title, negotiation, closing, relocation assistance, condemnation) as required by the LERRDs.			
Moderately Capable: financial capability; authority to hold title; can perform, with contract support, necessary services (survey, appraisal, title, negotiation, closing, relocation assistance, condemnation) as required by the LERRDs.		✓	
Marginally Capable: financial capability; authority to hold title; will rely on approved contractors to provide necessary services (survey, appraisal, title, negotiation, closing, relocation assistance, condemnation) as required by the LERRDs.			
Insufficiently Capable (provide explanation): financial capability; will rely on another entity to hold title; will rely on approved contractors to provide necessary services (survey, appraisal, title, negotiation, closing, relocation assistance, condemnation) as required by the LERRDs.			
USACE Prepared by:		NFS Reviewed by:	
MURRAY.TIFFANY.M ARIE.1384979013 <small>Digitally signed by MURRAY.TIFFANY.MARIE.1384979013 Date: 2021.06.14 17:13:03 -10'00'</small>			
Tiffany Murray Realty Specialist USACE Honolulu District Date: June 14, 2021		Steven Ikaika Rodenhurst Director County of Hawaii, Department of Public Works Date: JUN 14 2021	
USACE Approved by:			
Considering the capability of the NFS and the ancillary support to be provided by contract services, it is my opinion that the risks associated with LERRDs acquisition and closeout of the project have been properly identified and mitigated.			
HIRIAMS.VERONICA.A.1117935783 <small>Digitally signed by HIRIAMS.VERONICA.A.1117935783 Date: 2021.06.15 10:29:29 -05'00'</small>			
Veronica A. Hiriams Acting Chief, Real Estate Branch U.S. Army Corps of Engineers Honolulu District		Date: June 15, 2021	

Attachment 2: Sample Letter Advising Against Early Acquisition



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

June 14, 2021

Real Estate Division

SUBJECT: Waiakea-Palai Flood Risk Management Final Integrated Feasibility Report and Environmental Assessment, Risks of Early Acquisition

Name
Title
Office
Street
City, State Zip

Dear xx:

Reference is made to the Waiakea-Palai Flood Risk Management Final Integrated Feasibility Report and Environmental Assessment proposed project, as authorized by Section 205 of the Flood Control Act of 1948, as amended. The State of Hawaii Department of Public Works, as the non-Federal Sponsor, is responsible for ensuring that it possesses the authority to acquire and holds title for all real property required for the proposed project. The non-Federal sponsor shall provide one hundred percent (100%) of the lands, easements, rights-of-way, utility or public facility relocations, and dredged or excavated material disposal areas (LERRDs) as well as operation, maintenance, and repair required by the project.

The United States Army Corps of Engineers, Honolulu District, advises your office that there are risks associated with the acquisition of LERRDs prior to the execution of a Project Partnership Agreement (PPA) or Local Cooperation Agreement (LCA). The State of Hawaii will assume full and sole responsibility for any and all costs and liabilities arising out of premature acquisition. Project risks generally include, but are not limited to:

- a. Congress may not appropriate funds to construct the proposed project;
- b. The proposed project may otherwise not be funded or approved for construction;
- c. A PPA/LCA mutually agreed to by the non-Federal sponsor and the Government may not be executed;
- d. The non-Federal Sponsor may incur liability and expense by virtue of its ownership of contaminated lands, or interests therein, whether such liability should arise out of local, state, or Federal laws or regulations, including liability arising out of the

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended;

e. The non-Federal Sponsor may acquire interest or estates that are later determined by the Government to be inappropriate, inefficient, or otherwise not required for the project;

f. The non-Federal Sponsor may initially acquire insufficient or excessive real property acreage, which could result in additional negotiations and/or benefit payments under Public Law 91-646 or additional payment of fair market value to affected landowners;

g. The non-Federal Sponsor may incur costs or expenses in connection with its decision to acquire LERRDs in advance of the executed PPA/LCA and the Government's Notice to Acquire (NTA).

If you have further questions, please contact the USACE Honolulu District, Real Estate Branch, at (808) 835-4055.

Sincerely,

Veronica A. Hiriams
Chief, Real Estate Branch
U.S. Army Corps of Engineers
Honolulu District

Attachment 3: Sample Notice to Acquire Letter



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

June 14, 2021

Real Estate Division

SUBJECT: Waiakea-Palai Flood Risk Management Final Integrated Feasibility Report and Environmental Assessment, Notice to Acquire

Name
Title
Office
Street
City, State Zip

Dear xx:

This letter serves as your Notice to Acquire the real estate interests needed from the State of Hawaii Department of Public Works for the Waiakea-Palai Flood Risk Management Project, as authorized by Section 205 of the Flood Control Act of 1948, as amended. Enclosed are the final Authorization for Entry for Construction, Attorney's Certificate of Authority, and project real estate drawings. Also enclosed is the standard language to be used for the flood protection levee easement, flowage easement for occasional flooding, flowage easement for permanent flooding, roadway easement, and temporary work area easement conveyance documents between the State of Hawaii Department of Public Works, as the non-Federal Sponsor, and landowners.

In accordance with the Project Partnership Agreement (PPA) dated xx, the State of Hawaii Department of Public Works shall provide the real property interests and relocations required for the construction, operation, and maintenance of the project. As required by the PPA, the Government has determined the flood protection levee easements, flowage easements for occasional flooding, flowage easements for permanent flooding, roadway easements, and temporary work area easements as shown on the real estate drawings are required for project implementation. The PPA also requires the State of Hawaii Department of Public Works to comply with the Uniform Relocations and Assistance and Real Property Acquisition Policies Act. 42 U.S.C. § 4601, et. seq., and the Uniformed Regulations, 49 C.F.R. part 24. More information can be found at <http://www.fhwa.dot.gov/realestate/realprop>.

After acquisition of the required real estate interests, the State of Hawaii Department of Public Works shall complete and sign the Authorization for Entry for Construction and Attorney's Certificate of Authority. Please return the original signed authorization

documents to the Corps of Engineers, Honolulu District Real Estate Branch, by mail to the address contained in the letterhead. In addition, the State of Hawaii, Department of Agriculture, shall provide copies of all conveyance documents for required real estate acquisitions to the Corps of Engineers. The Corps of Engineers requires the conveyance documents prior to advertising a construction contract. Copies of conveyance documents may be scanned and submitted electronically to the contact person below.

If you have any questions, please contact Tiffany Murray, Realty Specialist, at (808) 835-4065 or tiffany.murray@usace.army.mil.

Sincerely,

Veronica A. Hiriams
Chief, Real Estate Branch
U.S. Army Corps of Engineers
Honolulu District

Enclosures

References

U.S. Army Corps of Engineers, Honolulu District, *Waiakea Stream Flood Control Reconnaissance Study*, December 2001.

U.S. Army Corps of Engineers, Honolulu District, *Draft Hazardous, Toxic, and Radioactive Waste (HTRW) Assessment*, August 2005.

U.S. Army Corps of Engineers, Honolulu District, *Draft Environmental Assessment for the Proposed Waiakea Stream Flood Control Project*, September 2011.

U.S. Army Corps of Engineers, Honolulu District, *Waiakea-Palai CAP Section 204 Flood Risk Management Final Integrated Feasibility Report and Environmental Assessment*, March 2021.