# APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

### **SECTION I: BACKGROUND INFORMATION**

## A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 04 NOV 2021

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Honolulu District, Department of Land & Natural Resources, 2.9-acre tract, Kona, Island of Hawai'i, Hawai'i

	.,,
C.	PROJECT LOCATION AND BACKGROUND INFORMATION:  State: Hawai'i City: Kona Center coordinates of site (lat/long in degree decimal format): Lat. 19.648971° N, Long155.950538° W. Universal Transverse Mercator:  Name of nearest waterbody: Pacific Ocean  Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: N/A  Name of watershed or Hydrologic Unit Code (HUC): 200100  Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
	Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a different JD form.
D.	REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):  Office (Desk) Determination. Date: 25 OCT 2021  Field Determination. Date(s):
SEC A.	CTION II: SUMMARY OF FINDINGS RHA SECTION 10 DETERMINATION OF JURISDICTION.
	Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the ew area. [Required]  Waters subject to the ebb and flow of the tide.  Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:
В. (	CWA SECTION 404 DETERMINATION OF JURISDICTION.
The	re Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]
	1. Waters of the U.S.  a. Indicate presence of waters of U.S. in review area (check all that apply):  TNWs, including territorial seas  Wetlands adjacent to TNWs Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs Non-RPWs that flow directly or indirectly into TNWs Wetlands directly abutting RPWs that flow directly or indirectly into TNWs Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs Impoundments of jurisdictional waters Isolated (interstate or intrastate) waters, including isolated wetlands
	b. Identify (estimate) size of waters of the U.S. in the review area:  Non-wetland waters: linear feet: width (ft) and/or acres.  Wetlands: acres.
	c. Limits (boundaries) of jurisdiction based on: Pick List Elevation of established OHWM (if known):
n	2. Non-regulated waters/wetlands (check if applicable): <sup>3</sup> Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.  Explain:  The AOP is a 2.0 core percel located clara "Stream 1". The AOP commences approximately 0.07 miles porthy porthy set of the
J	Fhe AOR is a 2.9-acre parcel located along "Stream 1". The AOR commences approximately 0.07 miles north-northwest of the

intersection of Kamalani Street and Mamalohoa Highway in Kona on the Island of Hawai'i, Hawai'i. The AOR is

<sup>&</sup>lt;sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>&</sup>lt;sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>&</sup>lt;sup>3</sup> Supporting documentation is presented in Section III.F.

outlined in red in Enclosure 1. The AOR has one potential water onsite which is the subject of this analysis. The one potential water was identified as an approximately 0.53 miles feet of "Stream 1" (19.648971°, -155.950538°)

A variety of sources were reviewed for "Stream 1" on the AOR and are described as follows:

The hydrologic unit code for the AOR is 200100.

The NRCS Soil Survey indicated that the AOR contained the following soil series: Honuaulu-Kealakekua Complex (10 to 20% well-drained, non-hydric) and Honuaulu Hydrous Silt Loam (10 to 20% slopes, well-drained, non-hydric).

"Stream 1" within the AOR is oriented immediately in the center of the AOR. Aerial imagery was reviewed during a rain event period (see below) and no observation of flow was present. "Stream 1" is present on the 2017 USGS Kailua topographic quadrangle layer for Google Earth Pro within the AOR. The terrain data layer for Google Earth Pro indicates that "Stream 1" has a general topographic gradient to the west-southwest, towards the Pacific Ocean (a TNW).

"Stream 1" is shown on 2017 USGS Kailua Quadrangle topographic map data layer for Google Earth Pro as an intermittent stream.

The following aerial images from Google Earth were observed for the AOR: OCT 2003, JAN 2013, MAY 2018, and JUN 2019. No dark signatures indicative of surface waters were observed in aerial imagery on the AOR. Inundation observed on aerial imagery is a primary indicator of hydrology. Hydrology was absent on the imagery.

As shown in USFWS National Wetlands Inventory data layer for Google Earth Pro, "Stream 1" flows west-southwest to the Pacific Ocean through the AOR. The westernmost boundary of the AOR is approximately 2.6 miles upgradient of the Pacific Ocean. The NWI describes the stream as riverine, intermittent, streambed that is seasonally flooded. Aerial imagery was reviewed during a two-inch rain event period (see below) and no observation of hydrological flow was present.

The terrain data layer for Google Earth Pro indicates that "Stream 1" has a general topographic gradient to the southwest, towards the Pacific Ocean.

The USGS National Water Information System (online access) did not exhibit a stream gauge on "Stream 1" on the AOR. The nearest stream gauge is in the Waiaha Stream (0.55 miles south of the intersection of Water Pipe Road and Mamalahoa Highway), approximately 1.05 miles south of the AOR.

According to the Weather Underground's weather history for the Lanihau 1 & 2 Ahupua'a Stations (both located approximately 0.08 miles south of the AOR), the AOR received approximately two inches of rain on 14 MAR 2021. Digital Globe aerial imagery, dated 12 and 19 MAR 2021, was used to observe the pre-rainfall conditions and the potential water runoff conditions from that rain event on the AOR. There was no water observed in "Stream 1" before or after that rain event on the selected Digital Globe aerial imagery. This information is significant because a two-inch rainfall is generally 5% of the amount of annual rainfall that the AOR receives. The Rainfall Atlas of Hawaii (maintained by the University of Hawaii) depicts a discontinued station named "Keopu Mcwayne" (located at 19.645°N, -155.967°W) located approximately 0.89 mile west-southwest of the western end of the AOR. Data for this station was collected from 1958 to 1978. The average annual rainfall for this station was listed as 41.67 inches. The closest (approximately 1.4 miles south) current station to the AOR is named "Waiaha Stream" (located at 19.630°N, -155.940°W) in an adjacent watershed to the AOR. Data for this station has been collected from 1991 to present. The elevation of the gauge is 1,511 feet, which is approximately within the elevation of the AOR, which is between approximately 1,450 feet (on the western end of the AOR). The average rainfall for this station was listed as 48.24 inches.

In accordance with 33 CFR 328, based on the information above, the Corps has determined that "Stream 1" is not: 1) currently used, nor was used in the past for interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide, 2) an interstate water or wetland, 3) an intrastate lake, river, stream (including intermittent streams), mudflat, sandflat, wetland, slough, prairie pothole, wet meadow, playa lake, or natural pond, 4) an impoundment of Waters of the U.S., 5) a tributary of Waters of the U.S., 6) a territorial sea, 7) a wetland adjacent to Waters of the U.S., or 8) prior converted cropland. "Stream 1" does not have a significant nexus to a RPW or TNW. The Corps has determined that "Stream 1" is an ephemeral feature.

"Stream 1" is not a Water of the U.S..

#### **SECTION III: CWA ANALYSIS**

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1.	TNW Identify TNW:	
	Summarize rationale supporting determination: .	
2.	Wetland adjacent to TNW Summarize rationale supporting conclusion that wetland is "adjacent":	

## B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

## Watershed size: **Pick List** Drainage area: Pick List Average annual rainfall: inches Average annual snowfall: inches (ii) Physical Characteristics: (a) Relationship with TNW: ☐ Tributary flows directly into TNW. Tributary flows through **Pick List** tributaries before entering TNW. Project waters are **Pick List** river miles from TNW. Project waters are Pick List river miles from RPW. Project waters are **Pick List** aerial (straight) miles from TNW. Project waters are **Pick List** aerial (straight) miles from RPW. Project waters cross or serve as state boundaries. Explain: Identify flow route to TNW5: Tributary stream order, if known:

<sup>&</sup>lt;sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>&</sup>lt;sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b)	General Tributary Characteristics (check all that apply):  Tributary is:  Natural  Artificial (man-made). Explain:  Manipulated (man-altered). Explain:					
	Tributary properties with respect to top of bank (estimate):  Average width: feet  Average depth: feet  Average side slopes: Pick List.					
	Primary tributary substrate composition (check all that apply):  Silts Sands Concrete  Cobbles Gravel Muck  Bedrock Vegetation. Type/% cover:  Other. Explain:					
	Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Presence of run/riffle/pool complexes. Explain: Tributary geometry: Pick List Tributary gradient (approximate average slope):  %					
(c)	Flow: Tributary provides for: Pick List Estimate average number of flow events in review area/year: Pick List Describe flow regime: Other information on duration and volume:					
	Surface flow is: Pick List. Characteristics: .					
	Subsurface flow: Pick List. Explain findings:					
	Tributary has (check all that apply):  Bed and banks  OHWM <sup>6</sup> (check all indicators that apply):  clear, natural line impressed on the bank changes in the character of soil destruction of terrestrial vegetation the presence of wrack line sediment sorting leaf litter disturbed or washed away sediment deposition water staining other (list):  Discontinuous OHWM. <sup>7</sup> Explain:					
	If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):    High Tide Line indicated by:					
Cha	mical Characteristics: racterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.) Explain: tify specific pollutants, if known:					

(iii)

<sup>&</sup>lt;sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

	(iv)	Biol	logical Characteristics. Channel supports (check all that apply):  Riparian corridor. Characteristics (type, average width):  Wetland fringe. Characteristics:  Habitat for:  Federally Listed species. Explain findings:  Fish/spawn areas. Explain findings:  Other environmentally-sensitive species. Explain findings:
			Aquatic/wildlife diversity. Explain findings: .
2.	Cha	ract	eristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
	(i)		Sical Characteristics:  General Wetland Characteristics: Properties: Wetland size: acres Wetland type. Explain: Wetland quality. Explain: Project wetlands cross or serve as state boundaries. Explain:
		(b)	General Flow Relationship with Non-TNW: Flow is: Pick List. Explain:
			Surface flow is: Pick List Characteristics:
			Subsurface flow: <b>Pick List</b> . Explain findings:  Dye (or other) test performed:
		(c)	Wetland Adjacency Determination with Non-TNW:  ☐ Directly abutting ☐ Not directly abutting ☐ Discrete wetland hydrologic connection. Explain: ☐ Ecological connection. Explain: ☐ Separated by berm/barrier. Explain:
		(d)	Proximity (Relationship) to TNW  Project wetlands are Pick List river miles from TNW.  Project waters are Pick List aerial (straight) miles from TNW.  Flow is from: Pick List.  Estimate approximate location of wetland as within the Pick List floodplain.
<ul> <li>(ii) Chemical Characteristics:         Characterize wetland system (e.g., water color is clear, brown, oil film on surface; characteristics; etc.). Explain:         Identify specific pollutants, if known:     </li> </ul>		Cha	racterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
	(iii)	Bio	logical Characteristics. Wetland supports (check all that apply): Riparian buffer. Characteristics (type, average width): Vegetation type/percent cover. Explain: Habitat for: Federally Listed species. Explain findings: Fish/spawn areas. Explain findings: Other environmentally-sensitive species. Explain findings: Aquatic/wildlife diversity. Explain findings:
3.	Cha	All	wetland(s) being considered in the cumulative analysis: Pick List broximately ( ) acres in total are being considered in the cumulative analysis.

Directly abuts? (Y/N) Size (in acres) Directly abuts? (Y/N) Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

#### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: See Section II B.
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: See Section II B.
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: See Section II B.

# D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1.	TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:  TNWs: linear feet width (ft), Or, acres.				
	Wetlands adjacent to TNWs: acres.				
2.	RPWs that flow directly or indirectly into TNWs.				
	Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:				
	Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are				
	jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows				
	seasonally: .				

	Provide estimates for jurisdictional waters in the review area (check all that apply):  Tributary waters: linear feet width (ft).  Other non-wetland waters: acres.  Identify type(s) of waters: .
3.	Non-RPWs <sup>8</sup> that flow directly or indirectly into TNWs.  Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.
	Provide estimates for jurisdictional waters within the review area (check all that apply):  Tributary waters: linear feet width (ft).  Other non-wetland waters: acres.  Identify type(s) of waters: .
4.	Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.  Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
	Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
	Provide acreage estimates for jurisdictional wetlands in the review area: acres.
5.	Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.  Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.
	Provide acreage estimates for jurisdictional wetlands in the review area: acres.
6.	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.  Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.
	Provide estimates for jurisdictional wetlands in the review area: acres.
7.	Impoundments of jurisdictional waters.  As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.  Demonstrate that impoundment was created from "waters of the U.S.," or  Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  Demonstrate that water is isolated with a nexus to commerce (see E below).
SUC	DLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, GRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY CH WATERS (CHECK ALL THAT APPLY): 10 which are or could be used by interstate or foreign travelers for recreational or other purposes. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce. which are or could be used for industrial purposes by industries in interstate commerce. Interstate isolated waters. Explain:  Other factors. Explain:
Ide	ntify water body and summarize rationale supporting determination:

E.

 <sup>8</sup>See Footnote # 3.
 To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
 Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

	Provide estimates for jurisdictional waters in the review area (check all that apply):  Tributary waters: linear feet width (ft).  Other non-wetland waters: acres.  Identify type(s) of waters:  Wetlands: acres.						
F.	<ul> <li>NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):         <ul> <li>If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineer Wetland Delineation Manual and/or appropriate Regional Supplements.</li> <li>Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.</li></ul></li></ul>						
	Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):  Non-wetland waters (i.e., rivers, streams): linear feet width (ft).  Lakes/ponds: acres.  Other non-wetland waters: acres. List type of aquatic resource: .  Wetlands: acres.						
	Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):  Non-wetland waters (i.e., rivers, streams): 2,798linear feet, width (ft).  Lakes/ponds: acres.  Other non-wetland waters: acres. List type of aquatic resource:  Wetlands: acres.						
SEC	CTION IV: DATA SOURCES.						
A.	SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):  Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TMK Map, written text dscription of project boundaries.						
	<ul> <li>□ Data sheets prepared/submitted by or on behalf of the applicant/consultant.</li> <li>□ Office concurs with data sheets/delineation report.</li> <li>□ Office does not concur with data sheets/delineation report.</li> <li>□ Data sheets prepared by the Corps:</li> <li>□ Corps navigable waters' study:</li> <li>□ U.S. Geological Survey Hydrologic Atlas:</li> </ul>						
USGS NHD data.  □ USGS 8 and 12 digit HUC maps.  U.S. Geological Survey map(s). Cite scale & quad name: 1:24000 & Kailua Quad (2017).  USDA Natural Resources Conservation Service Soil Survey. Citation: Accessed Google Earth Pro layer, 2021.  National wetlands inventory map(s). Cite name: Accessed Google Earth Pro layer, 2021.  State/Local wetland inventory map(s):  FEMA/FIRM maps:  100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)  Photographs: ☐ Aerial (Name & Date): Google Earth Pro (OCT 2003, JAN 2013, MAY 2018, and JUN 2019).							
	or ☑ Other (Name & Date): Digital Globe online (12 and 19 MAR 2021 images).  □ Previous determination(s). File no. and date of response letter: □ Applicable/supporting case law: □ Applicable/supporting scientific literature: □ Other information (please specify): USGS National Water Information System (online access), Weather Underground's weather data from Lanihau 1 & 2 Ahupua'a Stations, 11 MAR 2021 data (online access) Rainfall Atlas of Hawai'i data (accessed online), EPA Waters Layer (accessed online).						