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JUL 23 2019

DAVID Y. IGE
Governor

DANIEL E. ORODENKER
Executive Officer

MIKE McCARTNEY
Director

LAND USE COMMISSION
Department of Business, Economic Development & Tourism
State of Hawai'i

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July 11, 2019

**OFFICE OF ENVIRONMENTAL
QUALITY CONTROL**

Mr. Scott Glenn, Director
Office of Environmental Quality Control
235 South Beretania, Suite 702
Honolulu, Hawai'i 96813

Dear Mr. Glenn:

Subject: Docket No. A19-807/Trustees of the Estate of Bernice Pauahi Bishop dba
Kamehameha Schools
Sanford's Service Center Leilani Quarry
Environmental Impact Statement Preparation Notice
Kaua'ea, Puna, Hawai'i
Tax Map Key: (3) 1-3-009: por. 005

Please be advised that on July 10, 2019, the State Land Use Commission ("Commission") (1) agreed to be the accepting authority for the proposed action; (2) determined that an Environmental Impact Statement is likely to be required for the project; and (3) authorized Petitioner Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools to proceed directly with the preparation of an Environmental Impact Statement Preparation Notice ("EISPN").

We respectfully request the publication of this determination in the next available issue of *The Environmental Notice*.

Enclosed please find a CD with a digital copy of the Publication Form/Project Summary (in Word format) and four digital copies of the EISPN (in PDF format). A hard copy and digital file of the Commission's Order will be transmitted under separate cover.

Should you have any questions on this matter, please feel free to call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

Daniel E. Orodenerker
Executive Officer

Enclosure

20-010

c: Calvert G. Chipchase, Esq. (w/o enclosure)

APPLICANT PUBLICATION FORM

Project Name:	Sanford's Service Center Leilani Quarry State Land Use District Boundary Amendment
Project Short Name:	Sanford's Service Center Leilani Quarry
HRS §343-5 Trigger(s):	HRS §343-5(a)7, Proposal to reclassify Conservation District lands
Island(s):	Hawai'i
Judicial District(s):	Puna
TMK(s):	(3 rd) 1-3-009:005, portion
Permit(s)/Approval(s):	State Land Use District Boundary Amendment (Conservation to Agricultural); Special Permit
Approving Agency:	State of Hawai'i Land Use Commission (LUC)
<i>Contact Name, Email, Telephone, Address</i>	Daniel Orodener, Executive Officer State of Hawai'i Land Use Commission Department of Business, Economic Development & Tourism P.O. Box 2359 Honolulu, HI 96804-2359 Daniel.E.Orodener@hawaii.gov , (808) 587-3822
Applicant:	Sanford's Service Center, Inc.
<i>Contact Name, Email, Telephone, Address</i>	Sanford Iwata P.O. Box 1321 Pahoa, HI 96778 Sanscinc.Kim@hawaiiantel.net (808) 965-8144
Fee Owner:	Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools
Consultant:	GK Environmental LLC
<i>Contact Name, Email, Telephone, Address</i>	Graham Knopp, GK Environmental LLC gpknopp@gkenvllc.com (808) 938-8583 P.O. Box 1310 Honokaa, HI 96727

Status (select one)

DEA-AFNSI

FEA-FONSI

FEA-EISPN

Act 172-12
EISPN ("Direct to
EIS")

DEIS

Submittal Requirements

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.

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.

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.

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.

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.

- ___ 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.
- ___ FEIS Acceptance The approving agency simultaneously transmits to both the OEQC and the applicant a Determination 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.
- ___ FEIS Statutory The approving agency simultaneously transmits to both the OEQC and the applicant a Acceptance 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.
- ___ Supplemental EIS The approving agency simultaneously transmits its notice to both the applicant and the Determination 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.
- ___ Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.
- ___ Other Contact the OEQC if your action is not one of the above items.

Project Summary

Sanford's Service Center, Inc. ("Applicant"), in coordination with the property owner, the Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools ("KS") is seeking to amend the Land Use District boundaries of certain lands consisting of approximately 94.107 acres of Tax Map Key No. (3) 1-3-009:005 situated at Kauaea, Puna, Island and County of Hawai'i, State of Hawai'i ("Petition Area") from the State Land Use Conservation District (Limited Subzone) to the State Land Use Agricultural District.

The Applicant is presently conducting mining and quarrying operations on a 30-acre portion of the Petition Area pursuant to non-conforming Conservation District Use Permits issued by the Board of Land and Natural Resources on April 7, 2008. In 2011, Conservation District Rules were amended such that mining and quarry operations are no longer identified land uses in the Conservation District Limited Subzone. The existing quarry produces a low-density type of black-colored cinder that is highly valued by the nursery industry. If the Land Use District Boundary Amendment is granted, the Applicant's intent is to apply for a Special Permit with the Land Use Commission to expand their quarry operations over a 73.075-acre portion of the Petition Area. The remaining 21.033-acre portion of the Petition Area will be buffer areas.

**ENVIRONMENTAL IMPACT STATEMENT
PREPARATION NOTICE**

**SANFORD'S SERVICE CENTER LEILANI QUARRY
STATE LAND USE DISTRICT BOUNDARY AMENDMENT
CONSERVATION TO AGRICULTURAL**

**PUNA DISTRICT, HAWAI'I ISLAND
TMK (3RD) 1-3-009:005, PORTION
94.107 ACRES**

Applicant:

Sanford's Service Center, Inc.
P.O. Box 1321
Pahoa, Hawaii 96778

Accepting Authority:

State Land Use Commission
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, Hawaii 96804-2359

Prepared By:

Graham Paul Knopp, Ph.D.
GK Environmental LLC
P.O. Box 1310
Honokaa, Hawaii 96727
(808) 938-8583

July 2019

Class of Action:

Reclassification of Conservation District Land

ABBREVIATIONS

ALISH	Agricultural Lands of Importance to the State of Hawai‘i
CAA	Clean Air Act
CDP	Community Development Plan
CDUP	Conservation District Use Permit
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
FONSI	Finding of No Significant Impact
GPS	Global Positioning System
HAR	Hawai‘i Administrative Rules
HDOH	Hawai‘i Department of Health
HRS	Hawai‘i Revised Statutes
LLC	Limited Liability Corporation
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
OEQC	Office of Environmental Quality Control
ppm	parts per million
SHPD	State Historic Preservation Division
SPP	Site Preservation Plan
TMK	Tax Map Key
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey

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PART 1.0: INTRODUCTION

This Environmental Impact Statement Preparation Notice (EISPN) was prepared in accordance with the requirements of Hawai‘i Revised Statutes (HRS) § 343 and Chapter 200 of Title 11, Hawai‘i Administrative Rules (HAR) in support of a State Land Use District boundary amendment to reclassify lands at Kauea, Puna District, Island of Hawai‘i, from the State Conservation District to the State Agricultural District. This HRS 343 environmental review is required due to the project’s proposed reclassification of Conservation District lands.

1.1 Project Summary

Project Name:	Sanford’s Service Center Leilani Quarry State Land Use District Boundary Amendment
Applicant:	Sanford’s Service Center P.O. Box 1321 Pahoa, Hawai‘i 96778
Location:	Ahupua‘a of Kauea, Puna District, Hawai‘i Island
Tax Map Key/ Coordinates: Project Area	Portion, (3rd) 1-3-009:005 19° 27’ 02.20” N, 154° 55’ 08.72” W 94.107 acres
Land Ownership: Class of Action:	Kamehameha Schools Reclassification of Conservation District Lands
Determination:	Environmental Impact Statement presumed to be required
Proposed Action:	Reclassification of 94.107-acres from Conservation District to the Agricultural District to allow Special Permit Application for expanded use of the site for mining and quarrying of cinders on a 73.075-acre portion of the Petition Area (the remaining 21.033-acre portion of the Petition Area will be buffer areas).
State Land Use District:	Conservation:
Existing Use:	Quarry
Zoning:	Agricultural (Ag. 20-a)
Permits Required:	<i>County of Hawaii Windward Planning Commission/Land Use Commission: Special Permit</i>
Accepting Authority	State Land Use Commission

1.2 Project Description and Location

Sanford's Service Center, Inc. ("Sanford's Service Center") in coordination with the property owner, Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools ("KS") intends to petition the State of Hawai'i Land Use Commission to amend the land use district designation for the 94.107-acre Petition Area from Conservation to Agricultural. The 694.5-acre "parent" property, bearing Tax Map Key No. (3rd) 1-3-009:005, of which the quarry and Petition Area only occupy relatively small portions, is located within the State Land Use Conservation District Limited (L) subzone, but has a Hawai'i County Zoning Designation of Agricultural (Ag-20a). Mining or quarrying is only allowed in the Resource (R) subzone of the Conservation District by Title 13-15-1, Hawaii Administrative Rules (HAR). Mining or quarrying is a permitted activity in the Agricultural District by Hawaii County Code 25-5-72 with a Special Permit.

At the Sanford's Leilani Quarry, Sanford's Service Center produces a low-density type of black-colored cinder that is highly valued by the nursery industry. Sanford's Service Center has conducted mining and quarrying operations on a 30-acre portion of the Petition Area pursuant to non-conforming Conservation District Use Permits issued by the Board of Land and Natural Resources on April 7, 2008. However, Sanford's Service Center is unable to expand its operations due to the 2011 amendment to the Conservation District Rules such that mining and quarry operations are no longer identified land uses in the Conservation District Limited Subzone. Currently Sanford's Service Center has a license from KS to perform mining activities in a 73.075-acre portion of the property, termed the "Licensed Area,". Buffer areas totaling 21.032-acres are designated and would minimize impacts to forested areas. Together the 73.075-acre Licensed Area and 21.032-acre buffer areas comprise the 94.107-acre Petition Area.

For the purposes of this environmental impact assessment the proposed project includes both the procedural change of the State Land Use District boundaries and the long-term use of the Petition Area for quarry and mining purposes. Figure 1 presents a Petition Area location map, Figure 2 presents a TMK and Vicinity Map and Figure 3 presents a map of the Petition Area also showing the buffer area boundaries.

1.3 Purpose and Need

The purpose of the proposed project is to make the Petitioner's existing and proposed use of the Petition Area consistent with the State Land Use District designation and the County of Hawai'i Zoning designation, thereby allowing the expansion of the Sanford's Leilani Quarry with the approval of a Special Permit over a 73.075-acre portion of the Petition Area (the remaining 21.033-acre portion of the Petition Area will be buffer areas). Due to a Title 13-15, HAR change to Conservation District Rules in 2011, mining is only a permitted activity in the Resource Subzone (R) of the Conservation District. Thus, in 2011, the Sanford's Service Center 30-acre cinder quarry operation, which had previously been permitted in the Limited (L) Subzone, became grandfathered in as a legal nonconforming use. Without the Land Use District Boundary Amendment (DBA) and subsequent Special Permit, Sanford's Service Center would be restricted to the 30-acre area. Further, Sanford's Service Center estimates that the remaining life of the existing quarry is only six (6) months

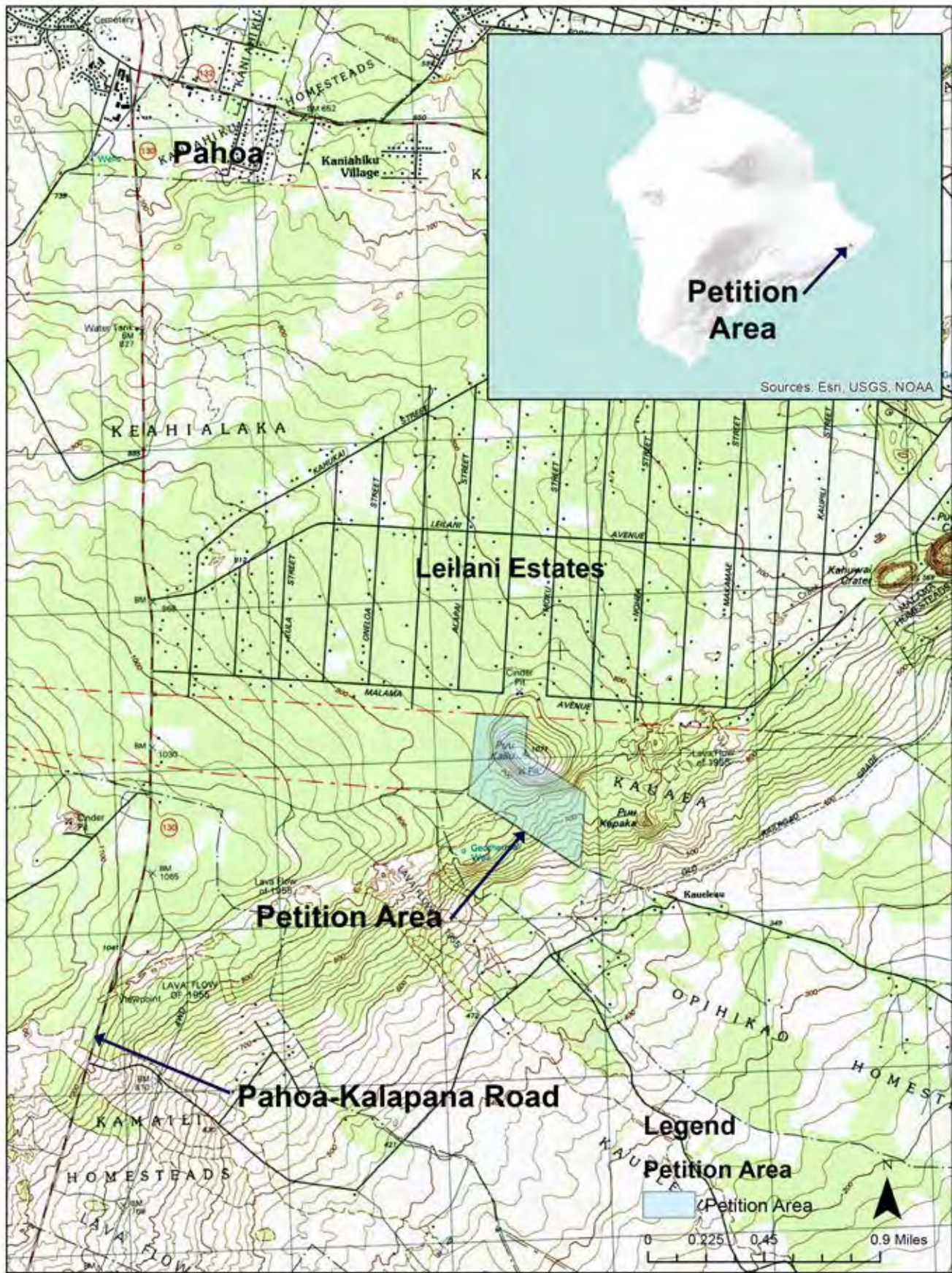


Figure 1. Petition Area Location Map



Figure 2. Petition Area Vicinity and TMK Map



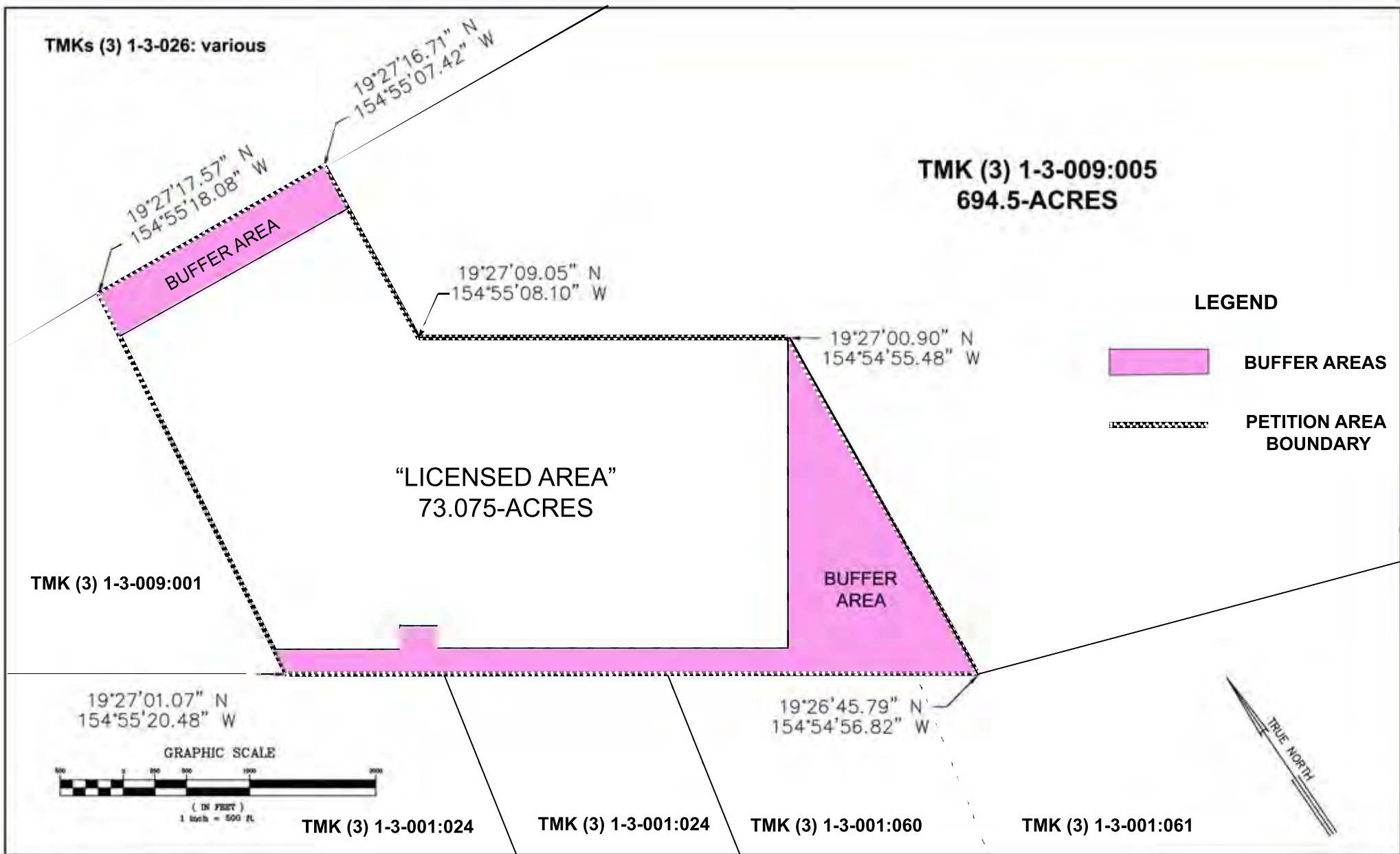


Figure 3. Petition Area Map



1.3 Environmental Assessment Process

The Hawai'i Environmental Policy Act was enacted by the State of Hawai'i to require State and County agencies to consider the environmental impacts of various actions as part of the decision-making process. This Environmental Impact Statement (EIS) process is being conducted in accordance with Chapter 343 of the Hawai'i Revised Statutes (HRS). This law, along with its implementing regulations, Title 11, Chapter 200, of the Hawai'i Administrative Rules (HAR), is the basis for the environmental impact assessment process in the State of Hawai'i. This EISPN has been prepared pursuant to HRS Chapter 343-5, as the project would involve reclassification of conservation district lands under HRS Chapter 205, Land Use Commission.

According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for adverse impacts, and to determine whether any of the impacts are significant according to thirteen specific criteria. If a study concludes that no significant impacts would occur from implementation of the proposed action, a Finding of No Significant Impact (FONSI) is prepared and an action will be permitted to occur. If a study finds that significant impacts are expected to occur because of a proposed action, then an Environmental Impact Statement (EIS) is prepared in order to allow deeper investigation of impacts and allow more extensive public involvement. Pursuant to HRS 343-5(e) if an agency determines, through its judgment and experience, that an EIS is likely to be required, the agency may authorize an EIS without the preparation of an EA.

In this case, the applicant desires to advance to the EIS process without EA preparation. In order to not overlook any potentially significant impacts to the natural and/or human environment, the applicant has chosen to undertake an EIS-level analysis for the project.

The preparation of the Environmental Impact Statement (EIS) begins with publication of the availability of this EIS Preparation Notice (EISPN) in the *Environmental Notice* of the Hawai'i State Office of Environmental Quality Control (OEQC). The subsequent steps are summarized as follows:

Scoping: Scoping efforts for the EIS will include widespread distribution of the EISPN and small/group meetings with agencies, organizations and individuals.

Draft EIS: The Draft EIS will document the scoping outreach effort as well as summarize the comments received at meetings. The Draft EIS will include copies of all written comments, and HDOT responses, to the EISPN. The Draft EIS will analyze the environmental impacts of the proposed alternatives and the No Action Alternative. The public will have a 45-day period to review the Draft EIS and provide comments. A public hearing will be conducted during the comment period to encourage public participation and comments.

Final EIS: The Draft EIS is revised to respond to the comments received on the Draft EIS. The Final EIS will incorporate the comments, and include copies of the comments and responses.

The following entities have received copies of the EISPN or notifications of the availability of the EISPN and are formally invited to participate in the EIS process:

Federal Agencies

Department of the Interior, Fish and Wildlife Service

Department of the Interior, Geological Survey, Hawaii Volcano Observatory

Department of the Interior, Geological Survey, Biological Resources Division

Department of Agriculture, Natural Resources Conservation Service
Environmental Protection Agency, Region IX

State Agencies

Department of Agriculture
Department of Accounting and General Services
Department of Business, Economic Development & Tourism, Office of Planning
Department of Hawaiian Home Lands
Department of Land and Natural Resources
Department of Public Safety
Department of Transportation
Department of Health
Environmental Planning Office
Office of Environmental Quality Control
Office of Hawaiian Affairs
University of Hawai‘i, Environmental Center
State Historic Preservation Division
State Land Use Commission
Office of the Governor, Hawai‘i Island Liaison

County of Agencies

Civil Defense Agency
Department of Public Works
Department of Environmental Management
Department of Finance
Department of Water Supply
Fire Department
Police Department
Planning Department

Elected Officials, Community Organizations, and Other Organizations

Mayor Harry Kim
County Councilmember Matt Kanealii-Kleinfelder, County Council District 5
Representative Joy San Buenaventura, State House District 4
Senator Russell Ruderman, State Senate District 2

Utility Companies

Hawai‘i Electric Light Company, Inc.
Hawaiian Telcom, Inc.

Libraries

Hawai‘i State Library
Hilo Public Library
Keaau Library
Pahoa Public Library

Newspapers

Hawai'i Tribune Herald
West Hawai'i Today

Other

Sierra Club
Puna Community Development Plan Committee
Hawai'i Island Chamber of Commerce
Association of Hawaiian Civic Clubs
Cave Conservancy of Hawai'i
Historic Hawai'i Foundation
Hui Malama I Na Kupuna O Hawai'i Nei
Sierra Club, Moku Loa Group
Hawai'i Floriculture and Nursery Association
Hawai'i Export Nursery Association
Big Island Association of Nurserymen
Puna Aha Council
Kaawaloa Ohana

The above list is a preliminary identification of parties with interests at stake or who may have pertinent information about the area and the proposed project. The applicant welcomes and appreciates any assistance in identifying others who have special information or might be adversely affected by the proposed project, and who should therefore be consulted in the process of preparing the EIS.

The EISPN has been made available at the Pahoehoe, Keaau, and Hilo Public Libraries and was sent to the *Hawai'i Tribune Herald* and *West Hawai'i Today*. A copy has also been deposited with the Hawai'i Documents Center.

1.4 Alternatives

The Environmental Impact Statement (EIS) will identify and assess alternatives, including the "No Action" alternative. The No Action Alternative provides a reference base to measure impacts to the social and physical environment, both beneficial and adverse. Under the No Action Alternative, the Land Use District would not be amended and changed from Conservation to Agricultural. The quarrying activities would remain a non-conforming use in contrast with allowed activities in the Conservation District Limited (L) subzone, and mining activities would be limited to the area covered by the existing CDUA permits, but would not be allowed to expand.

Sanford's Service Center has considered other means to achieve conformance with land use laws. Principally, this includes change of the Conservation district subzone from Limited (L) to Resource (R). Mining and extraction of any material or natural resource under a management plan approved simultaneously with the permit is allowed in the Resource (R) subzone with a Land Board permit. However, as the activity is more consistent with the allowed uses of the Agricultural District and the Land Use District change would result in conformance with the County Zoning designation, the applicant views the proposed action as preferable.

Sanford's Service Center conducts quarry operations at other sites on Hawai'i Island, however, the Leilani Quarry is the only known site having this type of cinders highly valued by the nursery industry. Therefore, because Sanford's Service Center does not have access to other desirable locations, no other locations were considered as alternatives.

The Petition Area boundary has been determined through a process of consultation between the Applicant and Petitioner, constrained by a set of conditions including property boundaries, lease conditions including prohibition of modifying the Pu'u Kaliu summit, and historic and natural resources. As the area near Pu'u Kaliu contains the desired cinder material, this process followed the common-sense approach of simply expanding the quarry area while observing the given constraints and property boundaries. Additionally, it is not known beforehand where the desired cinders are located. Therefore, petitioning for a smaller area would be unfeasible and not economical.

PART 2: ENVIRONMENTAL SETTING AND POTENTIAL ISSUES

The Petition Area is located within the ahupua‘a of Kauaea on the flank of Kilauea volcano at an elevation of 574 to 1,079 feet above mean sea level (MSL). The climate in this part of Puna is warm and wet, averaging about 115 to 120 inches of rain annually, with a mean annual temperature of approximately 76 degrees Fahrenheit (Giambelluca et al. 2013). The community of Pahoa is located about three (3) miles to the northeast. The Petition Area occupies the far eastern portion of the 694.5-acre “parent” parcel TMK (3rd) 1-3-009:005. The Petition Area is accessed by a private road that extends from Pahoa-Kalapana Road (State Route 130), crossing two privately-owned parcels.

Areas surrounding the petition area are primarily absent of active uses and are forested. The remainder of the “parent” parcel is unused. The northern boundary of the petition area adjoins the southern boundary of the Leilani Estates subdivision lots along Malama Street. Some structures and agricultural uses are present to the south of the petition area, with several homesteads and farms along Malama Road and Kamaili Road, within approximately 0.25-mile of the southern boundary of the petition area. The 206.17-acre property located to the west of the Petition Area is apparently unused and is owned by Kamehameha Schools. The 94.107-acre Petition Area includes buffers of 21.033-acres intended to protect forested areas (Figure 3).

2.1 Physical Environment

2.1.1 Geology and Geohazards

A portion of the Petition Area straddles the East Rift Zone of Kilauea Volcano and therefore the proposed project site is subject to geohazards commensurate with this context. The majority of the proposed project site is underlain by pahoehoe and ‘a‘a lava flows 400 to 750 years of age with cinders of Pu‘u Kaliu of 400 to 750 years of age. Most areas away from Pu‘u Kaliu are dated older than 10,000 years (Wolfe and Morris 1996). One small area of 1955 lava flow is located on the southwestern flank of Pu‘u Kaliu and two areas mapped of spatter or tuff cones of 750 to 1,500 years of age are found within the Petition Area. The Petition Area is located almost entirely within lava flow hazard zone 1 (Wright et al. 1992), which includes summits and rift zones of Kilauea and Mauna Loa, where vents have been repeatedly active in historical time.

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. The U.S. Geological Survey classifies the Petition Area, which is virtually all located within the East Rift Zone of Kilauea Volcano as within Lava Flow Hazard Zone 1, on a scale of ascending risk 9 to 1 (Wright et al. 1992). In terms of seismic risk, the entire Island of Hawai‘i is rated Zone 4 Seismic Hazard (Uniform Building Code, Appendix Chapter 25, Section 2518). Zone 4 areas are at risk from earthquake damage, especially to structures that are poorly designed or poorly constructed. The vicinity of the Petition Area has seen recently seen large earthquakes, including the magnitude 7.7 Kapalana earthquake in 1975 (USGS 2017) and the May 4, 2018 6.9 magnitude earthquake with an epicenter about 10.5 miles southwest of the Petition Area (USGS 2018). The proximity of the Petition Area to the lower East Rift Zone implies that the vicinity is subject a relatively larger intensity and probability of shaking from earthquakes with a peak ground acceleration 2% probability in 50 years of 1.25 g (1.25 times normal gravitation acceleration).

On April 30, 2018, after a period of enhanced summit inflation indicated by tiltmeter and GPS data, magma beneath Pu‘u O‘o drained and triggered the collapse of the crater floor (USGS 2018). Within hours, earthquakes began migrating towards the east. On May 2 ground cracks began

appearing in and adjacent to Leilani Estates with the first lava appearing on May 4. Kilauea Volcano then entered a dramatic eruption phase, with lava, as well as gases, being effusive from a number of fissures in the lower East Rift Zone, particularly Fissure 8 located in Leilani Estates, approximately 0.7-mile northeast of Pu‘u Kaliu. Activity from Fissure 8 ceased on August 5, 2018. The Petition Area, to date, has not been inundated by lava with the exception of a small area in the far northwest corner, although the Petition Area was impacted by volcanic gases (Figure 2).

Potential Issues: Geologic conditions impose no substantial constraints on the proposed project. While the Petition Area is affected by earthquakes and lava flows, being located within the East Rift Zone of Kilauea volcano, the mining activity utilizes equipment that would not be vulnerable to major earthquakes, and would be easily removed if threatened by lava flow inundation. The quarrying equipment is mobile, and can quickly be relocated to a safe area in the event of threat from lava flow inundation. Generally, all equipment on site can be mobilized in a short period of time. Lava flow inundation would obstruct mining only temporarily, as equipment could be returned to the site after hazards diminish.

The question of whether the proposed project is feasible and safe given the close proximity to the 2018 eruption should be seriously considered. Fissure 8 is only about 0.7 mile away from the Petition Area, however, the Petition Area was never impacted by lava inundation, apart from a small area located in the northwest corner. During the eruption, activities at the Sanford’s Leilani Quarry were halted temporarily because of poor air quality. Because the proposed activity is industrial, makes use of almost no permanent structures, requires very little infrastructure, and rapid evacuation of personnel and equipment is feasible, quarrying in this area is an appropriate activity and could be viewed as relatively more fitting of the location than other uses that require fixed structures, utilities, and infrastructure. Due to the site’s proximity to the lower East Rift Zone, Sanford’s Service Center is developing an evacuation plan that will be detailed in the DEIS.

2.1.2 Hydrology and Water Quality

Because of the youthful and porous nature of the geology in the project vicinity, surface water features are not found in the area, and are likely to only result from transient ponding after heavy rainfall. Additionally, areas that are not being actively mined become vegetated very quickly, enhancing the infiltration of rainfall. The ocean is located approximately three (3) miles southeast of the Petition Area. Although quarrying activities are, by nature, soil disturbing, it is highly unlikely that polluted stormwater runoff from the quarry areas could adversely impact water quality. No impacts to stream banks, stream waters, wetlands, or any other waters of the U.S. would occur, as none are located near the Petition Area. Floodplain status for the Petition Area is zone X unmapped

Potential Issues: As mining is a soil-disturbing activity the potential for water quality impacts due to sediment-laden storm water runoff exists, as well as from other sources including contaminants associated with heavy equipment and other sources, solids from tire and pavement wear, brake show and drum wear, rust, exhaust, etc. The Draft EIS will discuss erosion control measures and mitigation of impacts that may affect water quality.

2.1.3 Biological Resources

The Puna District contains some of Hawai‘i’s last remaining native lowland wet forests (Dupuis 2012). Gagne and Cuddihy (1990) classified the vegetation in areas with a similar geology, elevation and rainfall as the proposed project site as Lowland Wet ‘Ōhi‘a/Lama Forest dominated

by ‘Ōhi‘a (*Metrosideros polymorpha*) and lama (*Diospyros sanwicensis*), generally occurring on young volcanic terrains in windward Hawai‘i Island.

Over the last 100 years, the conversion of land to agriculture and residential development has fragmented the landscape in Puna’s lowland wet forests. This has led to invasion by alien plant species and degradation of native plant communities (Cuddihy and Stone 1990; Dupuis 2012). In Dupuis’ survey of lowland wet forest reserves the following proportions of absolute canopy cover were estimated: ‘ōhi‘a (44%), strawberry guava (*Psidium cattleianum*) (30%), hala (*Pandanus tectorius*) (30% strictly in the lowest 100 meters elevation zone), lama (8%), kōpiko (*Psychotria hawaiiensis*) (8%), albizia (*Falcataria moluccana*) (8%), cecropia (*Cecropia obtusifolia*) (7%), *Melastoma septemnerium* (5%), and ironwood (*Casuarina equisetifolia*) (3%) (Dupuis 2012).

In 2013 Ron Terry, Ph.D. and Patrick J. Hart, Ph.D. of Geometrician Associates, LLC (Terry & Hart 2013) performed a high-level biological survey of a 309-acre area of the property encompassing, but not particularly distinguishing, the Petition Area. This work described the canopy as 10 to 15 meters high with a well-developed shrub and fern layer of native and alien species, with scattered emergent ‘ohe (*Tetraplasandra hawaiiensis*). Anthropogenic, or human-caused, disturbance has been a critical factor influencing the vegetation. They described the study area as a mosaic of patches with undisturbed surface along with areas affected by sugar cane cultivation, roads and railroad beds, papaya farming and cinder mining. Of the 130 plant species observed within the 309-acre study area, 20 are indigenous (found in Hawai‘i and elsewhere) and 20 are endemic (found only in Hawai‘i). Of particular note is the large number of individuals of rare species in forests dominated by ‘ōhi‘a, including *tetraplasandra hawaiiensis* and the listed endangered species of *Cyrtandra nanawalensis*.

Additional biological survey work is planned and will be focused on portions of the Petition Area with identified populations of *Cyrtandra nanawalensis* and other rare native plants. This supplemental work is required in part to evaluate the effects of the 2018 Kilauea eruption, but also to further explore plant populations in extremely rugged portions of the Petition Area. The results of this supplemental biological survey work will be presented in the Draft EIS, further identifying what species are within the Petition Area.

The faunal survey focused on native vertebrates, including birds and the Hawaiian hoary bats, because of their conservation value. It is recognized that non-native birds, mammals and reptiles have values for various purposes and may also merit attention for the negative interaction with native plants and animals.

Twelve species of birds were detected either opportunistically during plant surveys or as part of the systematic birds counts. Three native birds, Hawai‘i ‘Amakihi (*Hemignathus virens*), the ‘Apapane (*Himatione sanguinea*) and the Hawaiian Hawk (*Buteo solitarius*), were detected. All other birds seen or heard were non-native introductions. A total of 90 individuals from eight species were detected with the two native Honeycreeper species comprising almost half (44/90) of the total detections, with Hawai‘i ‘Amakihi accounting for 31 individuals present at 6 stations, and the ‘Apapane for 13 individuals at 5 stations. The most common non-native species was the Japanese White-eye, with 26 individuals at 6 stations. Other native forest birds could possibly be present, although the lowland elevation (maximum 1,071 above sea level atop Pu‘u Kaliu) precludes heavy use by those native forest bird species mostly restricted to elevations above 4,000 feet where the vegetation is more intact and mosquitos and the diseases they cause less prevalent.

Based on its prominent elevation and potentially suitable habitat (over an acre of ‘uluhe fern near the summit), it is possible that it might be suitable nesting habitat for three species of rare seabirds: the federally endangered Hawaiian Petrel (‘Ua‘u; *Pterodroma phaeopygia sandwichensis*), the federally threatened Newell’s Shearwater (‘A‘o; *Puffinus auricularis newelli*), and the Band-rumped Storm-Petrel (*Oceanodroma castro*), which is listed as endangered by the State of Hawai‘i. Nocturnal surveys over several nights during the breeding season for Newell’s Shearwater in 1993 by the U.S. Geological Survey, Biological Resources Division detected the calls of two individuals (Reynolds and Ritchotte 1997).

The endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) is often found in alien as well as native vegetation in a variety of locations throughout the island of Hawai‘i. These solitary bats are widely scattered and roost almost undetected in tall shrubs and trees. Although no bat surveys were performed, and no bats were observed during survey work, they have been observed in many areas of Puna and should be presumed to be present at least occasionally and to roost somewhere in the area around Pu‘u Kaliu. All other mammal species found on the island are alien species (introduced to Hawai‘i by man). In the project area these may include feral goats, donkeys, dogs, cats, rats, mice and mongooses.

Potential Issues. The Draft EIS will include the results of ongoing botanical and faunal surveys that will focus especially on the presence of species listed as endangered, threatened, or proposed by the USFWS and/or DLNR that are likely to occur in the petition area. The Draft EIS will discuss direct impacts to specific biotic components as well as secondary and cumulative impacts, such as wildfire hazard, and will propose minimization and mitigation measures as necessary. The applicant will establish fenced buffer zones around areas with known *Cyrtandra nanawaleenis*, an endangered species.

2.1.4 Air Quality and Noise

Air pollution in the Puna District is mainly derived from volcanic emissions containing sulfur dioxide, which convert into particulate sulfate and produce a volcanic haze, or “vog”. Typically, the northeast-tending trade winds blow the volcanic emissions away from the Petition Area in towards the Ka‘u District, however, during periods of so-called *kona*, or westerly, winds, or southerly winds, the vog may blanket the Puna District.

The Clean Air Act of 1972 and its 1990 Amendments (CAA) and subsequent legislation regulate air emissions from area, stationary, and mobile sources. Both the U.S. Environmental Protection Agency (USEPA) and the State of Hawai‘i have instituted Ambient Air Quality Standards (AAQS) to maintain air quality in the interest of public health and secondary public welfare. At the present time, seven parameters are regulated including: particulate matter, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, carbon monoxide, ozone and lead. The Hawai‘i AAQS are in some cases considerably more stringent than the comparable National Ambient Air Quality Standards (NAAQS). In particular, the Hawai‘i 1-hour AAQS for carbon monoxide is four times more stringent than the comparable national limit.

It should be noted that, while the 2018 Kilauea eruption caused severe air quality impacts that temporarily halted quarry activities, the overall volcanic emissions from Kilauea volcano in November 2018 are now lower than at any time since late 2007, as noted in the Hawaiian Volcano Observatory Daily Update (USGS 2018). HDOH maintains a network of air quality monitoring stations with the two following stations in the project vicinity: Leilani Estates, Paho

High School, and Kalapana. These stations usually report no SO₂ (sulfur dioxide) detected, with occasional detections of concentrations below 1 ppm.

Quarrying and mining activities may produce minor impacts to air quality that are not apparent beyond the property boundary. These include fugitive dust emissions from excavation and vehicle movement, as well as emissions of vehicle exhaust that include particulates, carbon monoxide (CO) and carbon dioxide (CO₂). Factors particular to the Puu Kaliu quarry mean that air quality impacts are normally very minor. These include nearly daily rainfall, the small number of trucks accessing the site, and the particular method of mining. The Puu Kaliu quarry does not use a rock crusher, and only screens are used to process excavated material. Also, no blasting is performed because of the soft and easily extractable nature of the cinders.

The Sanford's Leilani Quarry produces virtually no dust, as the material mined has only a small fines content. As the material mined contains very few small particles, only very small quantities of dust are produced from physical disturbance of cinders or by vehicle wheels. Additionally, areas not being actively mined are revegetated quickly. While the generally wet climate reduces dust emissions, all truck loads removed from the Petition Area are covered. Because levels of criteria pollutants in Hawai'i are consistently below Federal and State AAQS, and because the prevailing trade winds rapidly carry pollutants offshore limiting the effect on receptors, increases in levels of criteria pollutants in the Petition Area and at the locations of sensitive receptors nearby would not be observed.

Potential Issues: The Draft EIS will evaluate the potential for fugitive dust emissions from the project site and necessary mitigation.

2.1.5 Hazardous Substances, Toxic Waste and Hazardous Conditions

A review of land use history and site reconnaissance revealed no evidence of hazardous materials. The proposed project is not likely to encounter any hazardous substances, toxic waste, or hazardous conditions. Construction activities would use small quantities of fuels to power generators and construction equipment. These would be stored away from equipment and potential sources of ignition. Vehicles and equipment are fueled using portable fuel tanks. Vehicles and equipment are serviced off-site and are well-maintained. Drip pans are used to minimize the potential for fluid releases during fueling activities and storage.

Potential Issues: The Draft EIS will discuss development of "Good Housekeeping" and Spill Prevention plans for emergency spill treatment, storage, and disposal of all hazardous materials.

2.1.6 Scenic Resources

The County of Hawai'i General Plan identifies sites and vistas of natural beauty. In general, the scenic values here are derived from the wide vistas of volcanoes, grasslands, and coastal waters, and the high contrast between the moist uplands and arid lowlands, and between the stark lava flows and the windswept grasslands. In particular, the General Plan does not note specific viewplanes or sites in the project area but does state that the coast of Puna and the inland volcanic regions are significant. Viewed from the north the viewplane towards the Petition Area has been changed by the 2018 eruption with the addition of the taller Fissure 8 spatter cone located about 0.7-mile to the northeast of Pu'u Kaliu. Quarrying activities would not impact the profile of Pu'u Kaliu; one of the lease conditions prohibits the applicant from impacting the summit and overall profile of the cinder cone.

Potential Issues: The Draft EIS will include an evaluation of the scenic impacts of the project, including the opportunities to provide new scenic vistas and the impacts on *pu'u* (cinder cones) within the petition area.

2.1.7 Noise

Noise during industrial activities is normally mitigated through compliance with the Department of Health Community Noise Control Rules which define maximum permissible noise levels for construction equipment and prescribe mitigation measures to achieve these levels. Noise-sensitive receptors in the project area are not found nearer than ½ mile, located in either Leilani Estates or along Kamaili Rd. (Opihikao Rd), and noises from mining activities appear to adequately reduced by a combination of distance, vegetation and topography.

Potential Issues: The Draft EIS will evaluate whether noise due to ongoing mining activities have the potential to impact sensitive receptors nearby.

2.2 Social Environment

2.2.1 Socioeconomic Characteristics

Because of the gradual occupation of lots developed during widespread land subdivision about fifty years ago, the Puna District has been the Big Island's fastest-growing district over the last thirty years. Population as measured in the 2010 U.S. Census was 45,326, a 66 percent increase over the 2000 count of 27,232. Despite a lack of basic infrastructure such as paved roads and water in most subdivisions, the relatively inexpensive lots typically range in size from one to three acres and have attracted residents from the U.S. mainland and other parts of the State of Hawai'i who seek affordable property. The basis of the economy of Puna has evolved from cattle ranching and sugar to diversified agriculture, various services for the growing populations, commuting to Hilo, and tourism, which has been stimulated by being home to Kīlauea, one of the world's most active volcanoes. Some towns and subdivisions in Puna such as Mt. View, Hawaiian Acres, Fern Acres, and Eden Roc, are now partially bedroom communities for Hilo's workforce. This is evidenced by the heavy flow of Hilo-bound traffic during the AM rush hour, which is also derived from school traffic.

Potential Issues: The Draft EIS will investigate the socioeconomic and cultural characteristics of the project vicinity and evaluate the proposed project's impacts.

2.2.2 Economic

The Sanford's Leilani Quarry produces a low-density type of black-colored cinder that is highly-valued by the nursery industry, being almost exclusively used by Hawai'i Island nurseries. There are 92 State Plant Industry Division Certified nurseries on Hawaii Island, 25 on Oahu, 16 on Maui, 3 on Kauai, and one on Molokai. Nurseries are certified by the State in order to export products from the State.

Unfortunately, there is a paucity of information concerning the economic productivity of mines, in general, as government agencies consider mining and construction to be part of the same activity as engineered material is essential to the construction industry. Therefore, data sources including the State Department of Business, Economic Development and Tourism (DBEDT) have values for total employed for "Natural Resource, Mining & Construction," but not for mining alone.

The Hawaii County Data Book states that the total value of crops including greenhouse & nursery crops (i.e., crops excluding livestock and poultry) was \$156.4 million in 2012 (County of Hawai'i 2018). Therefore, apart from direct employment by Sanford's Service Center, which employs a total of 25-30 people, the proposed project would support an important industry in the County and State of Hawai'i.

Potential Issues: The Draft EIS will evaluate the economic impact of the proposed project, and the impact of the No Action Alternative.

2.2.3 Cultural and Historic Resources

The project area is situated in the *ahupua'a* of *Kauaea* in the Puna District. There is little mention of *Kauaea*, as well as the Puna District in general, found in Hawaiian traditional and legendary accounts, possibly because of intensive missionary work by Reverend Titus Coan in the 1800s (Crozier and Barrere 1971) or the dominating influence of ruling families in the neighboring districts of Hilo and Ka'u.

Shortly before the historic period, 'Umi-a-Liloa seized control of Puna from Hua'a, thereby unifying control of the Island. During Kalani'opu'u's rule, the Puna chief I-maka-koloa, attempted a rebellion, seizing valuable products from Puna including 'o'o and *mamo* bird features, hogs, lau hala mats, and tapa cloths. A conflict over ascendancy erupted after Kalani'opu'u's death in 1782 culminating in the battle of Moku'ohai (Kamakau 1961, Kuykendall 1938). Following this battle Keoua Ku'ahulu'ula held K'u and a portion of Puna, Keawema'uhili controlled the remainder of Puna, Hilo and southern Hamakua, and Kamehameha controlled northern Hamakua, Kohala, and Kona. The Island was finally re-unified in 1791 when Kamehameha killed Keoua at Kawaihae.

Early historic accounts describe Puna as well populated and intensively cultivated. In 1823 Ellis reported a sandy beach and settlement at Kaimu with an estimated 725 occupants, along with plantations and groves of coconuts and *kou*. Ellis also described a village at Kamaili where his group was given taro and potatoes, and noted the cultivation of bananas and sugar cane. Ellis estimated that the total population of Kaimu and vicinity was approximately 2,000.

Prior to the 1870s, most foreign influence in Puna was due to missionary presence. In the late 1870s Robert Rycroft moved to Pohoiki and built a home, wharf, sawmill, jail and courthouse, and cultivated coffee. In the mid-1880s the Government began selling land in Puna for homesteads, however, it appears that only one Land Commission Award (LCA) was awarded in *Kauaea*, to Victoria Kamamalu, Kuhina Nui of the Hawaiian Islands between 1855 and 1863.

An 1895 Hawaii Government Survey map of Puna depicts a network of roads and paths, three of which were labeled as roads, consisting of the Government Road paralleling the shoreline, the Puna Road located in Kaiahiku and Keahialaka *Ahupua'a*, and Rycroft's Road in Pohoiki. Several of the trails are listed as ancient in origin including the *Kauaea Trail* in *Kauaea ahupua'a* and the *Kipapaia Trail* in Kamaili. The *Kauaea Trail* originates at a coconut grove and community named *Kikiikii* located makai of the Petition Area. However, none of these trails enters the Petition Area.

A Cultural Impact Assessment for the Petition Area was completed in 2015, and updated in 2019, by Maria Orr, MA, of Kaimipono Consulting Services LLC. The Cultural Impact Assessment was performed in a manner consistent with Chapter 343, HRS, and OEQC's Guidelines for Assessing Cultural Impacts (November 1997), and included intensive surveys of the affected areas, investigation of records, and discussions with experts, residents and practitioners. The Cultural Impact Assessment identifies Pu'u Kali'u as a prominent feature in the vicinity of, but outside of,

the Petition Area, and describes Sanford's Service Center's current quarrying activity as being conducted in a direction away from the Pu'u. The Cultural Impact Assessment further explains that the License Agreement expressly prohibits Sanford's Service Center from mining Pu'u Kali'u, and concludes that "cultural impact will be a non-issue for this project since the [quarrying] expansion will not jeopardize the summit of Pu'u Kali'u - the Newell's Shearwater nesting grounds, the USGS triangulation station or access to cultural resource areas."

Potential Issues. The Draft EIS will present and discuss the Cultural Impact Assessment in further detail.

2.2.4 Archaeological Resources

In 2012 Haun & Associates performed an archaeological inventory survey (AIS), which identified four sites are located within the Petition Area. These features and sites are described as follows:

- Site 29727 is a historic triangulation station located at the summit of Puu Kaliu, which has been used for this purpose from as early as 1895 (Swanson et al. 1976). This triangulation station supported both surveys by the U.S. Coast and Geodetic Survey in 1958 and 1961, and ground movement measurements by the U.S. Geological Survey in 1970 and 1971 by personnel from the Hawaii Volcano Observatory. A sign marking this survey data point was located during the 2012 AIS;
- Site 29725, a historic survey marker located near the access road;
- Site 29724, a complex of four historic roads; and
- Site 29723 is a portion of a prehistoric trail located in the southwestern corner of the project area.

Subsequently, Haun and Associates prepared a Site Preservation Plan (SPP), primarily concerned the prehistoric trail (Site 29723), and proposed to preserve the trail segment with implementation of buffers and fencing. The State Historic Preservation Division expressed approval of the AIS on September 23, 2013 and approved the SPP on June 24, 2014. The Draft EIS will document consultation and concurrence with the State Historic Preservation Division and will discuss the SPP in detail.

2.2.5 Public Facilities, Infrastructure and Utilities

No utilities or wastewater treatment are provided to the site, but wastewater is contained within regularly-serviced on-site porta-potties. Solid waste is collected in trash bins, regularly removed from the site and disposed of appropriately. No other public facilities are present. No adverse impact to public facilities or utilities would occur.

2.2.6 Recreational Resources

Although there are no public parks within the project area, the lower Puna shoreline is located several miles makai.

Potential Issues. The Draft EIS will analyze impacts on recreational and hunting areas.

2.2.7 Educational Resources

The following schools operated by the State of Hawai'i Department of Education are located near the Petition Area: Pahoa Elementary School, Pahoa Intermediate and High School (both of which are approximately 5 miles from the Petition Area), and Keonepoko Elementary School

(approximately 8 miles from the Petition Area). In addition, there are three public charter schools within the Pahoia district complex: Hawaii Academy of Arts & Science Public Charter School (approximately 5 miles from the Petition Area), Ke Kula Nawahiokalaniopuu Iki Lab Public Charter School (approximately 15 miles from the Petition Area), and Kua O Ka La Public Charter School (approximately 25 miles from the Petition Area). The Kamehameha Schools Hawai'i campus is located approximately 18 miles from the Petition Area. The Project is not expected to impact the educational facilities in the region, nor increase any need for educational resources.

2.2.8 Agricultural Value of Land

Of the three categories of valuable agricultural land identified in Hawai'i through the *Agricultural Lands of Importance to the State of Hawai'i* (ALISH) map series (Baker 1976), Ke'āmuku contains some Other Important Agricultural Lands but no Prime or Unique Agricultural Lands. Other Important Agricultural Lands are those lands of statewide or local importance for agricultural use, other than those classified as Prime or Unique. They make up roughly 18 percent of the county's land area.

Potential Issues: The Draft EIS will evaluate the agricultural value of the land through map data, including soil types, ALISH, and Land Study Bureau, and also through consultation with federal, State, and local agricultural officials and organizations.

2.3 Secondary and Cumulative Impacts

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. The adverse effects of the project – minor and temporary disturbance to air quality and noise – are limited in severity, nature, and geographic scale. At the current time there are no known planned projects near the project site.

Potential Issues: The Draft EIS will evaluate planned and proposed projects in the vicinity of the petition area in order to determine the potential for secondary and cumulative impacts.

2.4 Required Permits and Approvals

State of Hawai'i

State Land Use Commission District Boundary Amendment-Conservation to Agricultural

State Land Use Commission Special Permit

SHPD Site Preservation Plan Approval (received)

County of Hawai'i

Special Permit (with preliminary approval by Windward Planning Commission)

2.5 Consistency with State Land Use Plans, Policies and Controls

Various State and County plans, policies, and land use controls determine guidelines for land use and development within the State, including the Hawai'i State Plan, State Functional plans, and the State Land Use Plan. The Draft EIS will contain a discussion of the consistency of the project

with a number of County and State plans and policies, including a discussion of past permitting and compliance activities. Those discussed are summarized as follows:

State of Hawai‘i Land Use Law

All land in the State of Hawai‘i is classified into one of four land use categories – Urban, Rural, Agricultural, or Conservation – by the State Land Use Commission, pursuant to Chapter 205, HRS. Highways are permissible uses in all State Land Use Districts. The Draft EIS will include a map depicting State Land Use Districts in the project area. The State Land Use Commission, pursuant to Chapter 205 and 205A, HRS, and Chapter 15-15, HAR, is empowered to classify all lands in the State into one of four land use districts: Urban, Rural, Agricultural, and Conservation. The project area is currently in the Conservation District.

Conservation Districts are further divided into the following five subzones: Protective, Limited, Resource, General and Special. The petition area is located entirely within the Limited Conservation District subzone. The objective of the Limited (L) subzone, described by HAR 13-5-12, is to “limit uses where natural conditions suggest constraints on human activities. The (L) subzone shall encompass: (1) Land susceptible to floods and soil erosion, lands undergoing major erosion damage and requiring corrective attention, as determined by the county, state, or federal government; and (2) Land necessary for the protection of the health, safety, and welfare of the public by reason of the land's susceptibility to inundation by tsunami, flooding, volcanic activity, or landslides, or which have a general slope of forty per cent or more. (c) Identified land uses in the limited (L) subzone are restricted to those listed in section 13-5- 23.

Section 13-5-23 HAR lists permitted activities in the Limited subzone, which are supplemental to those activities permitted in the Protective subzone. Mining or quarrying is not a permitted activity in either the Limited or Protective subzone. This current cinder mining operation became a legal non-conforming use after the Conservation District rule revision of 2011, as ongoing mining activities were permitted since 1957 by prior Conservation District Use Permit CDUP-1957.

HRS 205-4.5 enumerates permissible uses within the Agricultural districts. Approval of the Petition would result in the Petition Area being reclassified to the State Land Use Agricultural District. The proposed cinder mining and quarry use in the Agricultural District will require approval of a Special Permit from both the Hawai‘i County Planning Commission and the State Land Use Commission.

Potential Issues: The Draft EIS will also discuss past issues relating to conformance of mining at the Sanford’s Leilani Quarry with State Land Use Law, including a list of past permits.

The Hawai‘i State Plan

The Hawai‘i State Plan, embodied in Chapter 226, Hawaii Revised Statutes (HRS), serves as a guide for goals, objectives, policies, and priority guidelines for the State. The State Plan provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. The proposed project is consistent with the following applicable goals, objectives, policies, and priority guidelines of the Hawai‘i State Plan. A discussion of the proposed project’s relevancy with the applicable State Plan goals, objectives, policies, and priority guidelines will be included in the Draft EIS.

Hawai‘i State Functional Plans

The Hawai'i State Plan provides for the preparation of Functional Plans by the State agencies responsible for certain program areas. There are twelve Functional Plans dealing with specific areas of concern, and each contains objectives, policies, and implementing actions necessary to accomplish the goals of the plan. State Functional Plans cover the program areas of agriculture, transportation, conservation lands, housing, tourism, historic preservation, energy, recreation, education, health, human services and employment. Applicable Functional Plans will be discussed.

Coastal Zone Management. The purpose of Chapter 205A, HRS, is to preserve, protect, develop and where possible, enhance the resources of the coastal zone. The Draft EIS will address the conformity of the project with the relevant sections of Chapter 205A, HRS.

Hawai'i County General Plan. The General Plan for the County of Hawai'i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai'i. The plan was last adopted by ordinance in 2005. The General Plan itself is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine judicial districts comprising the County of Hawai'i. Section 4 of the General Plan includes a discussion of general goals. In Section 5, courses of action for individual districts are proposed, and the Land Use Pattern Allocation Guide (LUPAG) map component guides development of various areas. The Draft EIS will address the goals, objectives, standards, and courses of action in the General Plan. It will also discuss the Puna Community Development Plan, which was developed under the framework of the General Plan. Community Development Plans are intended to translate broad General Plan Goals, Policies, and Standards into implementation actions as they apply to specific geographical regions around the County. CDPs are also intended to serve as a forum for community input into land-use, delivery of government services and any other matters relating to the planning area.

PART 3: DETERMINATION

The EIS will assess impacts in relation to the following thirteen Significant Criteria enumerated in HAR 11-200.1-13 and revised by rule in 2019:

An action shall be determined to have a significant effect on the environment if it may:

(1) Irrevocably commit a natural, cultural, or historic resource;

Although the cinder from the Petition Area will be mined, the areas mined will be re-naturalized. The proposed project is not anticipated to irrevocably commit a natural, cultural, or historic resource.

(2) Curtail the range of beneficial uses of the environment;

The proposed project is not anticipated to curtail the range of beneficial uses of the environment.

(3) Conflict with the State's environmental policies or long-term environmental goals established by law;

The proposed project is not anticipated would not conflict with the State's environmental policies or long-term environmental goals established by law.

(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;

The proposed project is not anticipated to have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State.

(5) Have a substantial adverse effect on public health;

The proposed project would not adversely affect public health.

(6) Involve adverse secondary impacts, such as population changes or effects on public facilities;

The proposed project would not involve adverse secondary impacts.

(7) Involve a substantial degradation of environmental quality;

The proposed project is not anticipated to involve a substantial degradation of environmental quality.

(8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;

The expected impacts of the proposed project are not expected to act cumulatively with those of other projects to have substantial adverse effects. The proposed project does not involve a commitment for larger actions.

(9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;

*The proposed project may have substantial adverse impacts upon threatened and endangered plant species, and their habitat. The petition area is known to contain the endangered *Cyrtandra nanawalensis*. The Draft EIS will present further information concerning the distribution of this endangered species within the petition area in addition to proposed mitigation measures.*

(10) Have a substantial adverse effect on air or water quality or ambient noise levels;

The proposed project is not anticipated to have a substantial adverse effect on air or water quality or ambient noise levels.

(11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

The proposed project is not located in a shoreline area or erosion prone area.

(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or

The proposed project would not have a substantial adverse effect on scenic vistas or viewplanes identified in county or state plans or studies.

(13) Require substantial energy consumption or emit substantial greenhouse gases.

The proposed project would not require substantial energy consumption or emit substantial greenhouse gases.

Because the applicant believes that the anticipated environmental impacts of the proposed project may be significant, an Environmental Impact Statement compliant with HRS 343 will be prepared.

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