

**STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
Honolulu, Hawai'i**

November 8, 2019

180-Day Exp. Date: January 01, 2020

**Board of Land and
Natural Resources
State of Hawai'i
Honolulu, Hawai'i**

REGARDING: Conservation District Use Application (CDUA) HA-3847 for a Single-Family Residence; Subsistence Agriculture; Landscaping and Associated Improvements; and AgroForestry Management Plan

**APPLICANT/
LANDOWNER:** Mike Moore
AGENT: James Leonard

LOCATION: Pōpōkī, Puna, County of Hawai'i
Tax Map Key: (3) 1-5-010:031

AREA OF PARCEL: Approximately (≈) 8.75-acres

USE: ≈ < 7-acres

SUBZONE: Resource

DESCRIPTION OF AREA AND CURRENT USE (Exhibits A, B, C, D & E)

The subject area exists in the Puna District of the island of Hawai'i at the makai portion of Pōpōkī ahupua'a. The property abuts the ocean to the northeast; the Government Road to the southwest; and private undeveloped property to the northwest and to the south east. The subject property is approximately 8.75-acres and lies within the Resource subzone of the Conservation District.

Access to the property is via Government Beach Road. The property has been improved with landscaping and a driveway, both approved after the fact through Conservation District Use Permit (CDUP) HA-3104 by the Department on October 22, 2002. The property is vacant with no structures. Currently, there is no electrical or County water that services the property. There are no vistas or ocean views from the Government Beach Road.

The land is basically made up of two pahoehoe lava flows that took place sometime between 200 and 750 years ago and is overlain with soil made up mainly of decomposed plant material. This organic soil is well drained with slow runoff and slight potential for erosion hazard.

Regarding the coastline of this area, the USGS's Atlas of Natural Hazards in the Hawaiian Coastal Zone has rated the overall hazard assessment as moderately high. Storm hazard is high as the coast is exposed to tropical and Kona storms. There are no barrier reefs or sand bars and the land faces the open ocean. The volcanic/seismic hazard is high throughout the entire region due to its proximity to Kilauea. Regarding flooding, the makai portion of the property is within the boundary of the VE flood zone.

Flora and fauna

Vegetation on the property consist mainly of non-native trees: ironwood, strawberry guava, guava, octopus tree, cecropia, autograph tree, macaranga, albizzia, gunpowder tree, rose apple and false kamani, with pilau malie, five-leaf yam and lilikoi vines intertwined within the trees. Native vegetation is found mainly in the makai portion of the property where there is a concentration of Naupaka and other native strand plants. Clusters of Hala trees are found throughout the property along with some of the trees traditionally found in association with early Hawaiian farms such as Kukui, Niu, Ti, Noni and later Mango are found interspersed among the invasive flora that dominates the landscape. All native species are common to the region and island. There does not appear to be any rare, threatened or endangered plant species on the property.

Regarding avifaunal resources on site, common birds such as mejiros, mynas, cardinals, finches and doves were observed. No native birds were seen. Common shorebirds to the area would be the Kolea, 'Ūhili [Wandering Tattler], 'Akekeke [Ruddy Turnstone], and the Noio [Noddy Tern] that may nest in coastal lava cliffs.

Across all of East Hawai'i, several endangered native terrestrial vertebrates may be present in the general area and may overfly, roost, nest, or utilize resources of the property. These include the endangered 'Io, 'A'o (Shearwater), and 'U'au (Petrel), along with endangered mammal, the 'Ope'ape'a (Hoary Bat).

Other mammals found in the project area are all introduced species, including feral cats and pigs, mongooses, various species of rats. Several species of non- native reptiles and amphibians may also be present.

Traditional/Historic resources

Prior agricultural use of the property can be found in the form of the many partially collapsed but still functional planting mounds and low rockwalls that were used in the past to contain soil and protect the garden areas. The rugged shoreline area may be utilized for fishing, gathering, recreation and contemplation.

Coastal Erosion Study

The shoreline of the parcel is rocky and hard. According to the application, it appears wave energy impacting the cliff may loosen masses of rock by compressing air within

fractures, while the drag of moving water abrasively grinds smaller fragments at the shore. According to the report, this most likely is the main cause of shoreline retreat at this area.

According to the applicant, to estimate the erosion rate is not statistically feasible utilizing the Hawai'i Coastal Hazard Mitigation Guidebook and shoreline determinations must rely upon alternative indicators-primarily observation of active erosion such as freshly cut cliff faces or the presence of angular erosion debris. Available aerial photographs show no measurable change in position of the overall coastal sea-cliff.

As required, a coastal erosion analysis was completed by a qualified professional consultant geologist. According to the analysis, there is no sign of recent erosion of the cliff line as evidenced by the presence of well-established algae on cliff faces and absence of any indication of fresh rockfall scars. For this reason and because of the solid erosion-resistant nature of the pahoehoe interior rock that forms the cliff face, it is believed that any erosion that could have occurred must be much less than the 2-inches or 0.167ft/year.

Based upon that analysis and utilizing the average lot depth pursuant to the Hawai'i Administrative Rules (HAR) Chapter 13-5, to determine the shoreline setback line, the minimum setback would 51.69-ft [40-ft + (70 x 0.167 ft/yr)]. The certified shoreline is located about 120-140 feet from the coastal cliff within the band of coastal vegetation. Staff notes, while it does not appear, this coastline has a continuous/steady rate of erosion (or accretion), it may be impacted by unpredictable and episodic events due to seismic activity associated with Kilauea.

PROPOSED LAND USES

Construction of the residence, farm shed, and related improvements will encompass less than an acre and will be set back 160-feet from the certified shoreline. The grading work would be limited to the home site and related spaces for associated improvements; the farm shed; and construction staging area. Cut and fill of graded areas will be balanced to avoid the need to import or export soils from the site. While the applicant believes the residence most likely will be completed within a year, the agroforestry related activities will be phased in over a period of several years.

Single Family Residence and Associated Improvements (Exhibits F, G & H)

The application states the proposed on-grade single-storied family residence consists of 2 bedrooms, 2 baths, 2 covered lanais', a kitchen, living and dining area, storage and loft area of approximately 4301-ft² under roof to be built at the end of an existing driveway. A Photovoltaic power system, a water well and pump house, a 10⁵ G water storage tank, and an individual wastewater system are also proposed to support the residence.

The 10⁵ G water storage tank would be outfitted to serve both as a domestic and agricultural water source. According to the applicant, sufficient reserve capacity with the appropriate fire apparatus fittings is available to provide fire-flow protection to both the residence and farm shed structures.

The existing gravel driveway would be widened to 15-ft to meet County Fire Code requirements for emergency vehicle access and improved with gravel and left unpaved. The driveway would be extended and expanded to and around the residence to include an unpaved parking and turn around area.

Subsistence Agriculture and Landscaping

Agro-Forestry

According to the application, the term agroforestry can apply to food-forests wherein compatible trees are used for shade-grown cropping, windbreaks, shading livestock, coastal protection and other practices. These integrated systems can increase productivity, tend to have less pest and disease problems, provide natural weed control and require less fertilizer and outside inputs compared with conventional agriculture. The practice also provides long-term benefits of soil and watershed protection, while maintaining a forest canopy that is important in sequestering carbon and reducing the build-up of greenhouse gases.

While the term agroforestry is relatively new, the practice is ancient and there were a wide range of traditional agricultural practices in the Pacific. In the traditional Hawaiian homestead, food, ornamental, medicinal and utilitarian trees and plants such as hala kukui niu ti noni and lei flowers were grown around the residence.

Farm shed (Exhibits I & J)

To support the proposed agricultural use, a 765-ft² shed is being proposed to store farm tools, equipment, animal feed, chemicals, fertilizers and soil supplements. It will provide an "in-field" work area for equipment and tool repair, as well as for mixing soils and soil supplements. A portion of the structure will also include an open shed area to house, feed, and tend animals, when necessary. A 15-foot wide eave on the back side of the shed is proposed to shelter goats and/or sheep that are proposed to be used for vegetation maintenance.

Agricultural Management Plan (Exhibit K)

The applicant proposes to establish a 6-acre agroforestry area on the mauka portion of his property through hand-clearing of invasive trees and plants followed by fencing of the selected area to contain grazing animals and fencing of new plantings. The plan proposes to incorporate the majority of the existing historical agricultural features (rock wall enclosures and mounds) as part of the Plan in an effort to preserve, while re-utilizing these features for its original intention for growing garden crops. The enclosures retain the soil and protect crops from feral pigs that forage in the area.

Implementation will take place in a phased approach to transition the jungle like setting dominated by invasive trees and vines to a more agro-forest environment dominated by native and traditional fruit trees. In sections of approximately 1-1.5 acres, land will be manually cleared of invasive trees and plants. The applicant states no grubbing and grading will take place in this management area. After clearance, temporary electrical

fencing will be used to contain grazing animals that will maintain the cleared area from the reestablishment of invasive or weedy plants.

Removed trees will be cut and chipped and used as mulch on site in the garden areas and around new tree plantings for soil development, water retention and weed control. Tree stumps of persistent trees may be chemically treated to control re-sprouting. All vegetative cuttings will be composted on site and combined with the wood-chip also to be used as mulch on site.

Existing native plants, Polynesian and typical homestead plants such as Noni, Niu, Mango, Hala, and Ti will be complemented with the addition of Avocado, Papaya, Breadfruit, Banana, Coffee, and Citrus. Introduced plantings will be placed in individual holes to minimize ground disturbance. Newly planted trees and established natives will be fenced to protect and promote the flora.

No work is proposed in the coastal portion of the property with the exception of the removal of ironwood to improve the view and breeze corridor. Appropriate coastal vegetation such as hala, niu, and beach heliotrope will replace the ironwood. The retained naupaka is expected to spread with the removal of ironwood and will also buffer the development from the coastal environment.

Mitigation and Best Management Practices

Mitigation for the island wide-ranging endangered Hawaiian hoary bat and Hawaiian Hawk will be done through avoidance. To avoid impacts to the endangered but regionally wide spread Hawaiian hawk and bat, construction activities that would remove vegetation will not take place between June 1 and September 15 to protect the Hawaiian Hoary Bat. Should land clearing activities occur between the months of March and September, a pre-construction hawk nest search by a qualified ornithologist will be conducted. Should Hawaiian Hawks be present, no land clearing will be allowed until October. Exterior lights will be shielded to protect avifauna.

No visual impact during construction is expected as the site will be shielded by the dense vegetation. The project is not expected to affect air quality or noise levels long term. Brief and minor adverse effects would occur during construction. Construction activities will take place in compliance with Federal, State and Hawaii County laws. Standard Best Management Practices will be observed.

The applicant has identified a number of mitigative measures, conditions and practices within the Environmental Assessment related to handling of hazardous material, resource protection and potential coastal hazards to ensure that the proposal will have minimal effects on the natural and cultural resources of the land. Further the applicant has stated the owner would agree to a CDUP and/or deed condition that would prevent any future request for shoreline hardening to protect the residence, regardless of hardship and a condition requiring moving or dismantling the home if sea level rise eventually threatens the integrity of the structure. As such these proposed measures, conditions and practices are incorporated into the permit.

Alternatives

The applicant has not proposed any alternatives to the proposed action other than no action- the residence would not be built, and the lot would remain unused with the exception of temporary camping, and picnicking by the owner.

SUMMARY OF COMMENTS

The application was referred to the following agencies for their review and comment: the **State**: Office of Hawaiian Affairs; Office of Environmental Quality Control; Department of Land and Natural Resources Divisions of: Aquatic Resources, Conservation and Resource Enforcement, Forestry and Wildlife, Na Ala Hele, Hawai'i District Land Office, Historic Preservation; and the **County of Hawai'i**: Department of Planning, the Fire Department, and Malama O Puna. In addition, this application was also sent to the nearest public library, the Pahoia Public Library, to make this information readily available to those who may wish to review it.

Responses were received and have been summarized from the following agencies:

STATE OF HAWAII

DEPARTMENT OF HEALTH

Clean Air Branch

Contact the Permitting Section of the Clean Air Branch to find out if your project requires an Air Pollution Control Permit. Should construction or demolition activities involve asbestos, you must contact the Asbestos Abatement Office in the Indoor Radiological Health Branch.

If the proposed project has the potential to generate fugitive dust, you must control the generation of all airborne, visible fugitive dust. Construction activities must comply with the provisions of HAR, §11-60.1-33 on Fugitive Dust. Reasonable measures should be provided to control airborne, visible fugitive dust from the road areas and during the various phases of construction: Planning the different phases of construction, focusing on minimizing the amount of airborne, visible fugitive dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact; providing an adequate water source at the site prior to start-up of construction activities; Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase; Minimizing airborne, visible fugitive dust from shoulders and access roads; Providing reasonable dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and controlling airborne, visible fugitive dust from debris being hauled away from the project site.

Applicant's response

The standard comments were consulted with in the preparation of the EA. The project does not require any air quality permits and because of its location and minimal disturbance would not involve any appreciable dust. The agroforestry methods are

specifically designed to involve minimal to no ground disturbance other than the tree planting hole.

DEPARTMENT OF LAND AND NATURAL RESOURCES

Aquatic Resource

The Division of Aquatic Resources requests that all proposed construction, agriculture and agroforestry activities adhere to Best Management Practices, such that appropriate measures are taken to prevent any impact or disturbance to aquatic or coastal marine habitat. Steps should be taken to prevent erosion, or sedimentation, organic debris, pollutants and any form of contaminants from entering and measurably impacting or altering aquatic habitat and resources within the area. This includes the coastal marine habitat and anchialine habitats (land-locked tidally influenced brackish pools) that may be in the area. More specifically, proposed use of ungulates for grazing and fencing should take these factors into consideration. An outline of how these concerns will be addressed should be provided.

Applicant's response

We understand the request that construction, agriculture and agroforestry activities adhere to BMPs that would prevent impact to aquatic or coastal marine habitat, especially from erosion/sedimentation, organic debris, and pollutants. The value of the coastal marine habitat and anchialine habitats is also noted, along with the concerns about the use of ungulates for grazing and fencing. In response, we would note that the configuration of project site and all proposed activities have been specifically designed to avoid direct or indirect impacts to the aquatic environment.

As stated in the Environmental Assessment, no natural water features such as streams, springs, or anchialine ponds are found on or near the property. The house would be set back a minimum of about 300-feet from the sea cliff and 160-feet from the certified shoreline, and no grading activities would occur makai of this area. A set of water quality BMPs and the permit process related to house and driveway construction are detailed in the EA. All improvements have been sited in such a way as to minimize grading, which will cover only the very small necessary footprint for these features. The agroforestry area is set back behind the house, an additional 150-feet from the sea cliff. **It is important to emphasize the point made in the EA that the agroforestry involves no grading.** The EA describes in detail the planned phases transition of the forest canopy through the systematic hand-clearing of invasive trees and plants, in approximately 1-1,5-acre segments. Those trees being removed will be cut, chipped and used as mulch on site, especially in the garden areas and around new tree plantings, to contribute to the soil development, and also for water retention and weed control. Tree stumps of the more persistent invasives, such as strawberry guava, gunpowder trees, and melochia, may require spot treatment with a chemical herbicide to effectively control these from re-sprouting or spreading. A spot treatment of the trees at the stump is recommended over a broadcast spray in order to enhance its effectiveness and to limit the potential for environmental drift that could impact other desired trees and plants. This would be followed by a fencing of the selected area with a temporary electrical fencing used to contain grazing animals (principally goats) that will help maintain the cleared

area from the re-establishment of the invasive or weedy plants. In response to the interest expressed in your comment, we are providing the following additional information on goat management, which is also included in the Final EA.

According to the applicant, the specific fencing to be used is Timeless© electric fencing, which will be established around the perimeter of the property mauka of the house area. The Timeless Step n Post will be used to move the goats from area to area. It is generally recommended to use 3 to 4 full sized goats per acre to clear brush. The plan is to have 6 to 8 goats for the entire 9-acres that will allow an initial period of steady, gradual clearing followed by long-term sustainable weed control and goat support. The entire process will be supervised by the owner and his family onsite. It is important to understand that the property, and all adjacent coastal property, is currently unfenced, and thus is subject to pig rooting and wallowing, along with most undeveloped parts of the rainforest in Puna.

Forestry & Wildlife

No comments

Na Ala Hele

No comments

Office of Conservation and Coastal Lands (OCCL)

- The OCCL notes the maximum developable area or total floor area in square feet that includes the first story and loft area appears to be approximately 4,050-ft² under roof;
- The Shed plans do not reflect 15-ft wide eaves for animal shelter;
- More information is required in the Management Plan that should discuss the animal's sustenance, care and welfare (How will the animals be managed?) while residing on the property;
- What is the maximum number of grazing animals proposed; and
- Fences, enclosures other than temporary grazing fences need to be sited on the overall site plan. Discuss how the ungulates shall be enclosed and controlled on the property.

Applicant's response

- The developed area has now been recalculated by adding in the sidewalk area under the eaves; the total area is now calculated at 4301-ft²;
- The site plan has been updated to show the shed eaves;
- 6-8 goats will be rotated around the entire property to remove alien vegetation. Fewer goats may be required as the vegetation achieves stability and the agroforestry plantings begin to grow in. Goats are relatively low-maintenance farm animals, and the owner is familiar and capable of their care. The goats will

- be cared for in accordance with normal husbandry practices and will be given supplemental feed if required and provided veterinary care as appropriate.
- No permanent fencing is proposed. Ungulate control is described in the response above to Aquatic Resources.

COUNTY OF HAWAII

Department of Planning

The proposed single-family dwelling and related improvements, including the proposed agroforestry area, is considered exempt from the definition of “development.” The proposed project will not have a cumulative impact, or significant adverse environmental or ecological effects on the Special Management Area.

While further review of the construction of a new single-family dwelling and related improvements against the Special Management area rules and regulations will not be required, all other applicable Zoning and Building code requirements must be satisfied. This determination of exemption from the SMA definition of development is subject to compliance with the conditions of Special Management Area (SMA) Use Permit Assessment Application (SAA-19-001712) **Exhibit L**

ANALYSIS

Following review and acceptance of the application on July 5, 2019, the Department has found that:

1. The proposed uses are identified land uses in the Resource subzone of the Conservation District, pursuant to the Hawai‘i Administrative Rules (HAR), §13-5-23 L-1 **AGRICULTURE** (D-1) Agriculture, within an area of more than one acre, defined as the planting, cultivating, and harvesting of horticultural crops, floricultural crops, or forest products, or animal husbandry. A management plan approved simultaneously with the permit, is also required; L-2 **LANDSCAPING** (D-1) Landscaping (including clearing, grubbing, grading and tree removal), including chemical and mechanical control methods, in accordance with state and federal laws and regulations, in an area of or more than 10,000 square feet. Any replanting shall be appropriate to the site location and shall give preference to plant material that are endemic or indigenous to Hawaii. The introduction of invasive plant species is prohibited; and HAR, §13-5-24, R-7, **SINGLE FAMILY RESIDENCE**, (D-1) A single family residence that conforms to design standards as outlined in Chapter 13-5, HAR. Please be advised, however, that this finding does not constitute approval of the proposal;
2. Pursuant to §13-5-40 of the HAR, a Public Hearing will not be required;
3. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and Chapter 11-200, HAR, a finding of no significant impact to the environment (FONSI) is anticipated for the proposed project; and

4. The subject area is within the Special Management Area (SMA). The applicant's responsibility includes complying with the provisions of Hawai'i's Coastal Zone Management law (Chapter 205A, HRS) that pertain to the Special Management Area (SMA) requirements administered by the various counties. Negative action on this application can be expected should you fail to obtain and provide us, one of the following:
 - An official determination that the proposal is exempt from the provisions of the county rules relating to the SMA;
 - An official determination that the proposed development is outside the SMA; or
 - An SMA Use Permit for the proposed development.

The FONSI to the environment was published in the October 8, 2019 Environmental Notice.

Satisfaction of the Special Management Area has been met with documentation dated October 4, 2019 from the County of Hawai'i which states the proposed single-family dwelling and related improvements, including the proposed agroforestry area, is considered exempt from the definition of "development."

CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR, §13-5-30.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare.

The proposed use is an identified land use in the Resource subzone of the Conservation District; as such, it is subject to the regulatory process established in HRS, Chapter 183C and detailed further in HAR, Chapter 13-5. This process provides for the application of appropriate management tools to protect the relevant resources, including objective analysis and thoughtful decision-making by the Department and Board of Land and Natural Resources.

No rare, threatened or endangered plant or animal species or significant habitats are known to exist on the subject property. The applicant has completed an archaeological survey of the property and a Cultural Impact Assessment. The CIA did not reveal any cultural resources or practices occurring on or near the proposed residential site that may be affected by the construction.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

The objective of the Resource subzone is to ensure, with proper management, the sustainable use of the natural resources of those areas. A Single-Family Residence, Agriculture and Landscaping are identified land uses that would require a Board permit and management plan pursuant to HAR, §13-5-24.

The proposed residence will put a presence on the property that would allow for the management of the property, to transition the existing invasive jungle to a sustainable homestead utilizing eco-friendly methods. 6-8 goats will be rotated around the entire property to aid in the removal of alien vegetation. Fewer goats may be required as the vegetation achieves stability and the agroforestry plantings begin to grow in. Goats are relatively low-maintenance farm animals, and the application states the owner is familiar and capable of their care.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled "Coastal Zone Management," where applicable.*

Staff believes the proposed project complies with provisions and guidelines contained in Chapter 205, HRS regarding Coastal Zone Management. Lateral access along the shoreline will not be impacted; no significant public views will be impacted, there will be minimal grading; and Best Management Practices (BMPs) will be implemented to minimize potential impacts to coastal ecosystems during construction.

An approved wastewater treatment system will be utilized to dispose of wastewater and the residence lighting will be designed so as to not allow artificial light to directly illuminate shoreline and ocean waters.

Regarding the Special Management Area, the proposal has been exempted from the definition of development by the County of Hawai'i. However development is subject to compliance with the conditions of Special Management Area (SMA) Use Permit Assessment Application (SAA-19-001712).

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

Staff believes the proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community or region provided that mitigative measures are implemented and the applicant shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard that the project may cause.

There may be short-term adverse effects on the surrounding area associated with construction activities such as potential noise and air quality.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The construction activities will be confined to the property and should not have any measurable adverse impacts on the natural resources on the area, community or region. The planned use of the property as a family farm is consistent with the existing and planned uses of adjacent properties and should not negatively affect surrounding properties. As improvements are proposed in the interior of the property, views to the development will be obscured. The proposed agro-forestry activities will remove invasive flora and provide for a sustainable homestead.

The home design is modest and shall adhere to compatibility provision requirements of Exhibit 4 Single Family Residential Standards of Chapter 13-5, HAR.

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

The proposed residence and management of the site will conserve, protect and preserve the natural features of the property. The proposed actions would transition an invasive landscape to a traditional agricultural homestead with a mix of fruits and utilitarian plants. The management plan proposes to reintroduce native, Polynesian introduced and subsistence plantings to replace invasive species in a six-acre area.

The residence would be obscured from view by the existing vegetation along the Government Beach Road and existing views to and along the coast. Staff believes the open space characteristics of the area will be preserved.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

No subdivision of land is proposed for this project.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

With the incorporation of an appropriately designed and operated individual wastewater system, combined with other BMPs identified, the proposed residential land use will not result in materially detrimental impacts to public health, safety and welfare as mitigated.

CULTURAL IMPACT ANALYSIS

The applicant has completed an Archaeological Inventory Survey of the property and a Cultural Impact Assessment. A single archaeological site [Site 30712] was found

consisting of a broad collection of agricultural related features throughout the mauka portion of the property. The State Historic Preservation Division (SHPD) review noted that it is the landowner's intention to avoid disturbing the archaeological features during future construction activities, and to incorporate these features without modification into any proposed landscaping.

SHPD accepted the AIS and concurred that Site 30712 has been sufficiently documented and made a determination of no historic properties affected. The CIA did not reveal any cultural resources or practices occurring on or near the proposed residential site.

There are no springs, land features, or caves that may be culturally significant. The applicant has noted and is aware of the cultural resources such as coastal access, fishing and gathering. The proposed residence will be set back 160-feet from the shoreline and should not impose or inhibit any existing or future traditional use of the shoreline area fronting the property.

It is believed that the project will not impair, diminish, or preclude customary or traditional native Hawaiian rights and no action is necessary to protect these rights.

DISCUSSION

The proposed house site is located in the interior of the lot and the end of an existing driveway and setback approximately 160-feet from the shoreline outside of the flood zone. The proposed on-grade single-storied family residence consists of 2 bedrooms, 2 baths, 2 covered lanais', a kitchen, living and dining area, storage and loft area. A Photovoltaic power system, a water well, a 10⁵ G water storage tank, and an individual wastewater system are also proposed to support the residence.

The applicant is also proposing to establish a 6-acre agroforestry area on his property and has completed a management plan to implement this. Hand-clearing of invasive trees and plants are to be completed in 1 to 1.5-acre segments followed by fencing of the selected area to contain grazing animals and fencing of new plantings.

The specific fencing to be used is Timeless© electric fencing, which will be established around the perimeter of the property mauka of the house area. The Timeless Step n Post will be used to move the goats from area to area. It is generally recommended to use 3 to 4 full sized goats per acre to clear brush. 6-8 goats will be rotated around the entire property to remove alien vegetation. Fewer goats may be required as the vegetation achieves stability and the agroforestry plantings begin to grow in. Goats are relatively low-maintenance farm animals, and the owner is familiar and capable of their care. The goats will be cared for in accordance with normal husbandry practices and will be given supplemental feed if required and provided veterinary care as appropriate.

In addition, to support the proposed agricultural use, a 765-ft² shed is also being proposed to store equipment, tools and supplies for agroforestry. An open shed area will be utilized to house, feed and tend animals when necessary. A 15-foot wide eave on the back side of the shed is proposed to shelter goats and/or sheep that is proposed to be used for vegetation maintenance.

The proposed land uses are consistent with Chapter 13-5, Hawaii Administrative Rules, Exhibits 3 & 4, Management Plan Requirements and Single-Family Residential Standards. The proposed residence will be built as a single structure that will support the efficient use of energy and materials and will be designed in a manner that will allow for use of natural ventilation and lighting.

Land uses shall be in compliance with Federal, State and Hawaii County laws. Standard Best Management Practices will be observed. Within the Environmental Assessment, the applicant has identified a number of mitigative measures, conditions and practices to ensure that the proposal will have minimal effects on the natural and cultural resources of the land. Further the applicant has stated the owner would agree to a CDUP and/or deed condition that would prevent any future request for shoreline hardening to protect the residence, regardless of hardship and a condition requiring moving or dismantling the home if sea level rise eventually threatens the integrity of the structure. As such these proposed measures, conditions and practices are incorporated into the permit.

Staff believes that the project will have negligible adverse environmental or ecological effects provided that best management practices and mitigation measures as described in the application and environmental assessment, and as required by rule or laws, are fully implemented.

RECOMMENDATION

Based on the preceding analysis, staff recommends that the Board of Land and Natural Resources APPROVE Conservation District Use Application HA-3847 for Single-Family Residence; Subsistence Agriculture; Landscaping and Associated Improvements; and the AgroForestry Management Plan located at Pōpōkī, Puna, Hawai‘i, Tax Map Key: (3) 1-5-010:031 subject to the following conditions:

1. The permittee shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments, and applicable parts of this chapter;
2. The permittee, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
3. The permittee shall comply with all applicable department of health administrative rules;
4. The permittee shall consult with the Commission of Water Resource Management to obtain authorization for the proposed well;

5. The single family residence shall not be used for rental or any other commercial purposes unless approved by the board. Transient rentals are prohibited, with the exception of wilderness camps approved by the board;
6. The permittee shall provide documentation (e.g., book and page or document number) that the permit approval has been placed in recordable form as a part of the deed instrument, prior to submission for approval of subsequent construction plans;
7. Before proceeding with any work authorized by the department or the board, the permittee shall submit four copies of the construction plans and specifications to the chairperson or an authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three of the copies will be returned to the permittee. Plan approval by the chairperson does not constitute approval required from other agencies;
8. Unless otherwise authorized, any work or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been signed by the chairperson and shall be completed within three years of the approval of such use. The permittee shall notify the department in writing when construction activity is initiated and when it is completed;
9. All representations relative to mitigation set forth in the accepted application and environmental assessment or impact statement for the proposed use are incorporated as conditions of the permit;
10. The permittee shall adhere to the approved Agricultural Management Plan;
11. Any landscaping will shall be appropriate to the site location and shall give preference to plant materials that are endemic or indigenous to Hawai'i. The introduction of invasive plant species is prohibited;
12. Site clearing should be timed to avoid disturbance during the bat birthing and pup rearing season (June 1 through September 15);
13. A pre-construction 'Io nest search by a qualified ornithologist using standard methods shall be conducted prior to land clearing between the months of March and September, inclusive;
14. Should sea level rise endanger the approved land use, the land use shall be removed or relocated. No shoreline hardening shall be allowed to protect the integrity of any approved land use;
15. The applicant shall plan to minimize the amount of dust generating materials and activities. Material transfer points and on-site vehicular traffic routes shall be centralized. Dusty equipment shall be located in areas of least impact. Dust

control measures shall be provided during weekends, after hours and prior to daily start-up of project activities. Dust from debris being hauled away from the project site shall be controlled. Landscaping and dust control of cleared areas will be initiated promptly;

16. The permittee shall notify the Office of Conservation and Coastal Lands (OCCL) in writing prior to the initiation and upon completion of the project;
17. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact SHPD (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;
18. The permittee shall utilize Best Management Practices for the proposed project;
19. During construction, appropriate mitigation measures shall be implemented to minimize impacts to the aquatic environment, off-site roadways, utilities, and public facilities;
20. The single-family residence shall conform to the single-family residential standards included as Exhibit 4 of the Hawaii Administrative Rules, Chapter 13-5;
21. The permittee understands and agrees that the permit does not convey any vested right(s) or exclusive privilege;
22. In issuing the permit, the department and board have relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of the permit such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the department may, in addition, institute appropriate legal proceedings;
23. When provided or required, potable water supply and sanitation facilities shall have the approval of the department of health and the county department of water supply;
24. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the permittee shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;
25. Obstruction of public roads, trails, lateral shoreline access, and pathways shall be avoided or minimized. If obstruction is unavoidable, the permittee shall provide alternative roads, trails, lateral beach access, or pathways acceptable to the department;

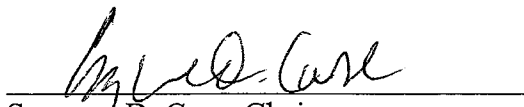
26. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;
27. The permittee shall obtain a county building or grading permit or both for the use prior to final construction plan approval by the department;
28. Artificial light from exterior lighting fixtures, including but not limited to floodlights, uplights, or spotlights used for decorative or aesthetic purposes, shall be prohibited if the light directly illuminates or is directed to project across property boundaries toward the shoreline and ocean waters, except as may be permitted pursuant to section 205A-71, HRS. All exterior lighting shall be shielded to protect the night sky;
29. The permittee acknowledges that the approved work shall not hamper, impede, or otherwise limit the exercise of traditional, customary, or religious practices of native Hawaiians in the immediate area, to the extent the practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law; and
30. Failure to comply with any of these conditions shall render this Conservation District Use Permit void under HAR, Chapter 13-5, as determined by the chairperson or board.

Respectfully submitted,

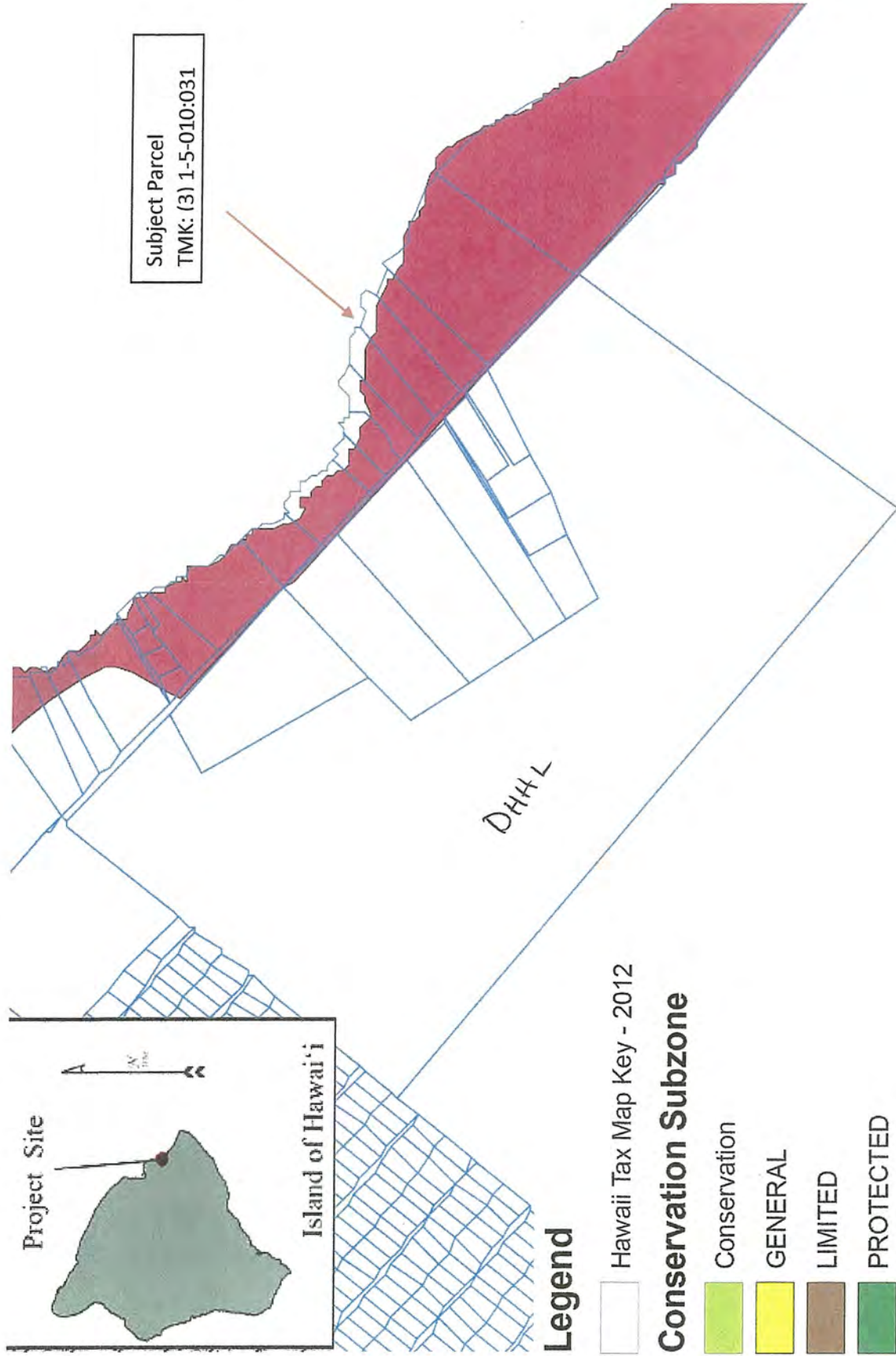


K. Tiger Mills, Staff Planner
Office of Conservation and Coastal Lands

Approved for submittal:



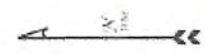
Suzanne D. Case, Chairperson
Board of Land and Natural Resources



Subject Parcel
 TMK: (3) 1-5-010:031

DHH L

Project Site



Island of Hawai'i

Legend

□ Hawaii Tax Map Key - 2012

Conservation Subzone

- Conservation
- GENERAL
- LIMITED
- PROTECTED
- RESOURCE
- SPECIAL

.00 in <

EXHIBIT A

Figure 2. Site Photos



2b, Above: *Makai* end of driveway. 2c, Below: Pahoehoe shelf



Figure 2. Site Photos



2d, Above: Typical closed canopy non-native forest. 2e, Below: Hala cluster in interior



Moore Single-Family Residence and Agroforestry at Pōpōkī Environmental Assessment

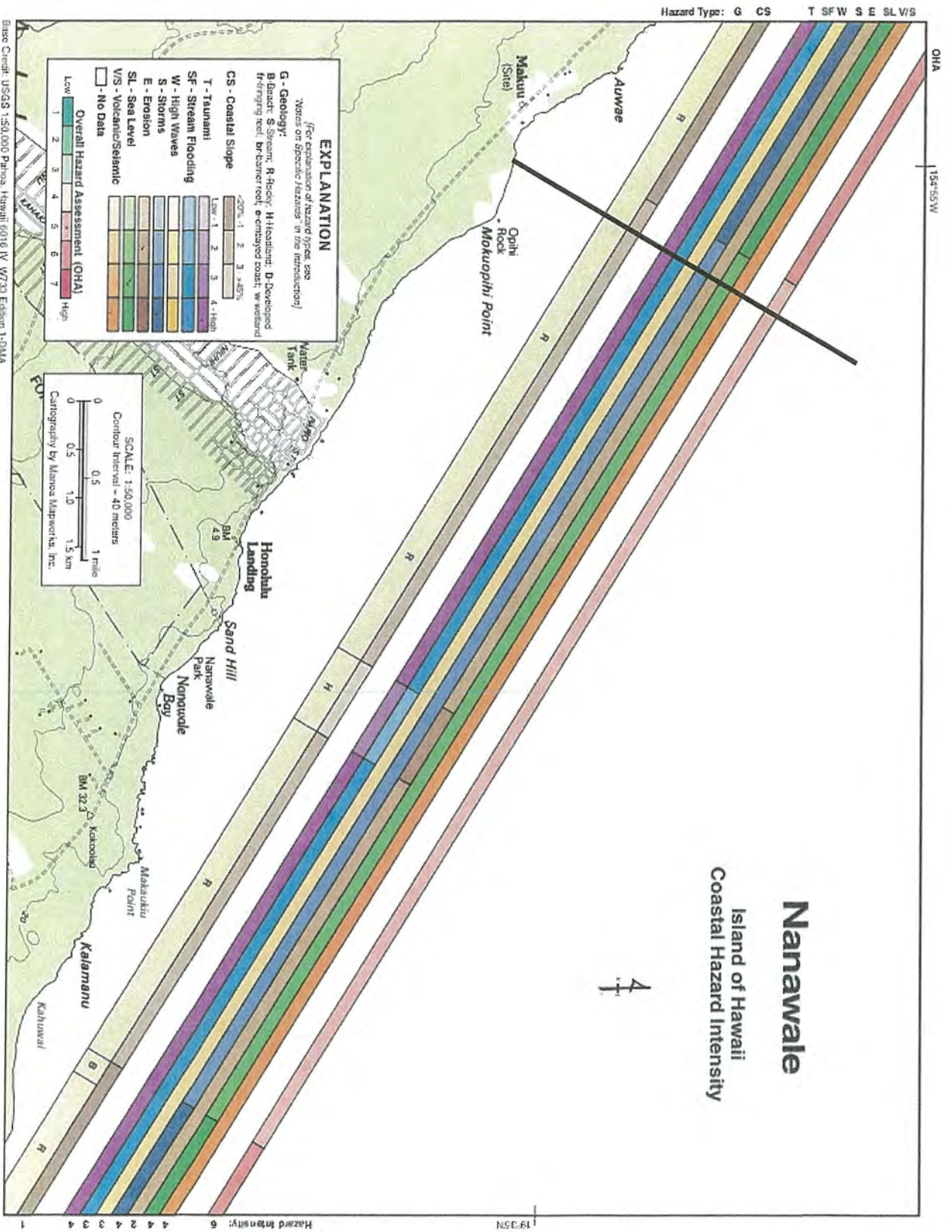
Figure 2. Site Photos



2f, Above: View *mauka* from proposed house site . 2f, Below: View *makai* from proposed house site.



EXHIBIT E



Fletcher III, Charles H., Grossman, Eric E., Richmond, Bruce M. Gibbs, Ann E. (2002) Atlas of Natural Hazards in the Hawaiian Coastal Zone
https://pubs.usgs.gov/imap/i2761/sections/6_Hawaii.pdf

PLANTING KEY
TREE 1 PAPAIA
TREE 2 MANGO
TREE 3 AVOCADO

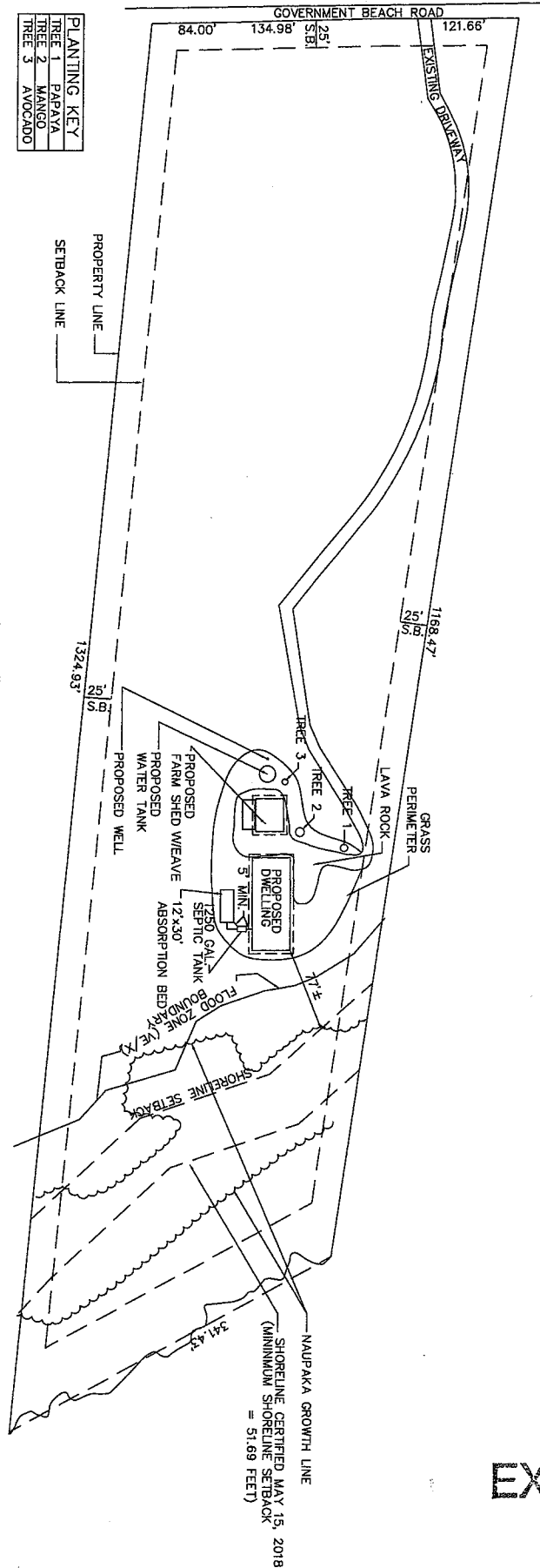


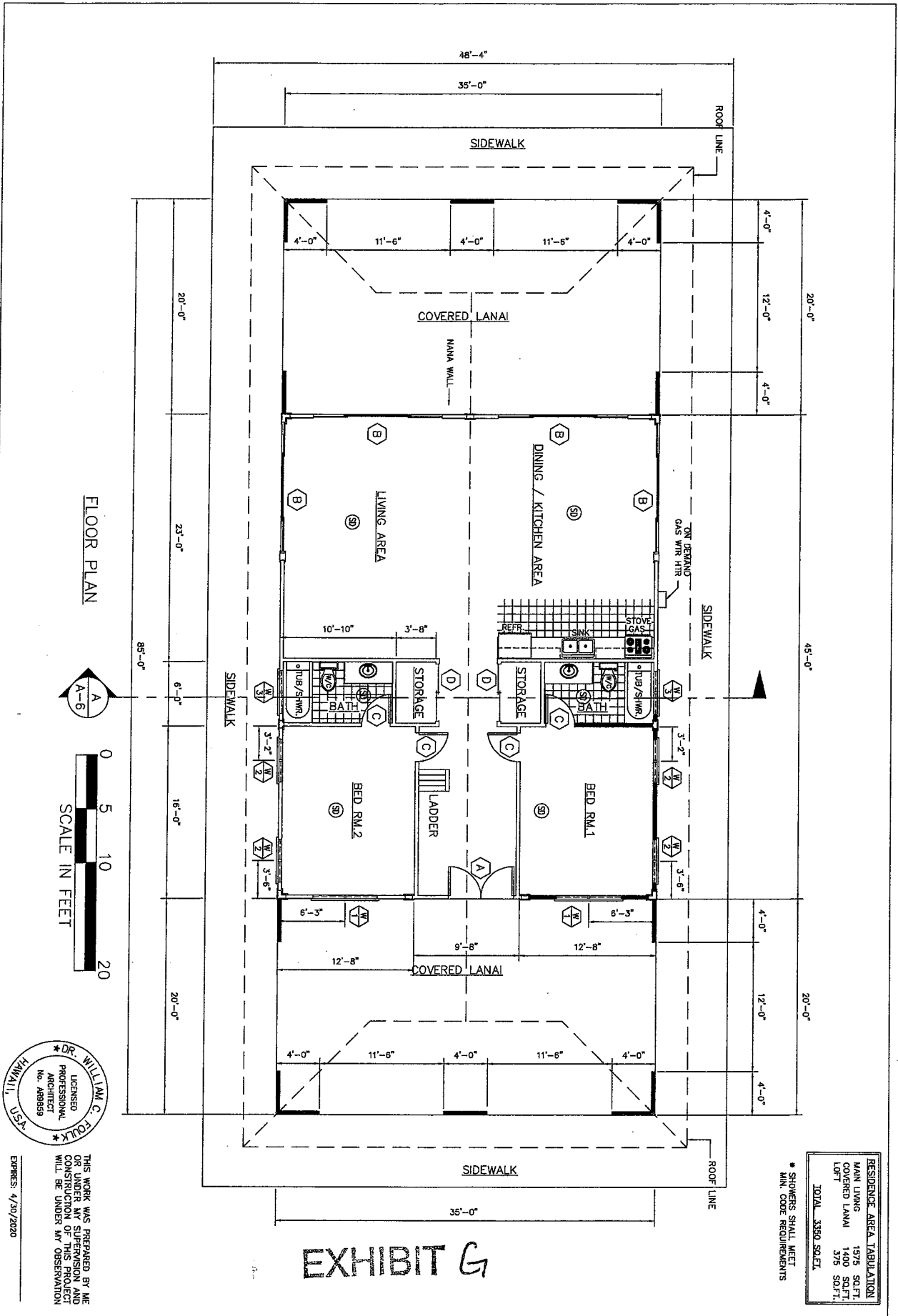
EXHIBIT F



DATE: 4/30/2020

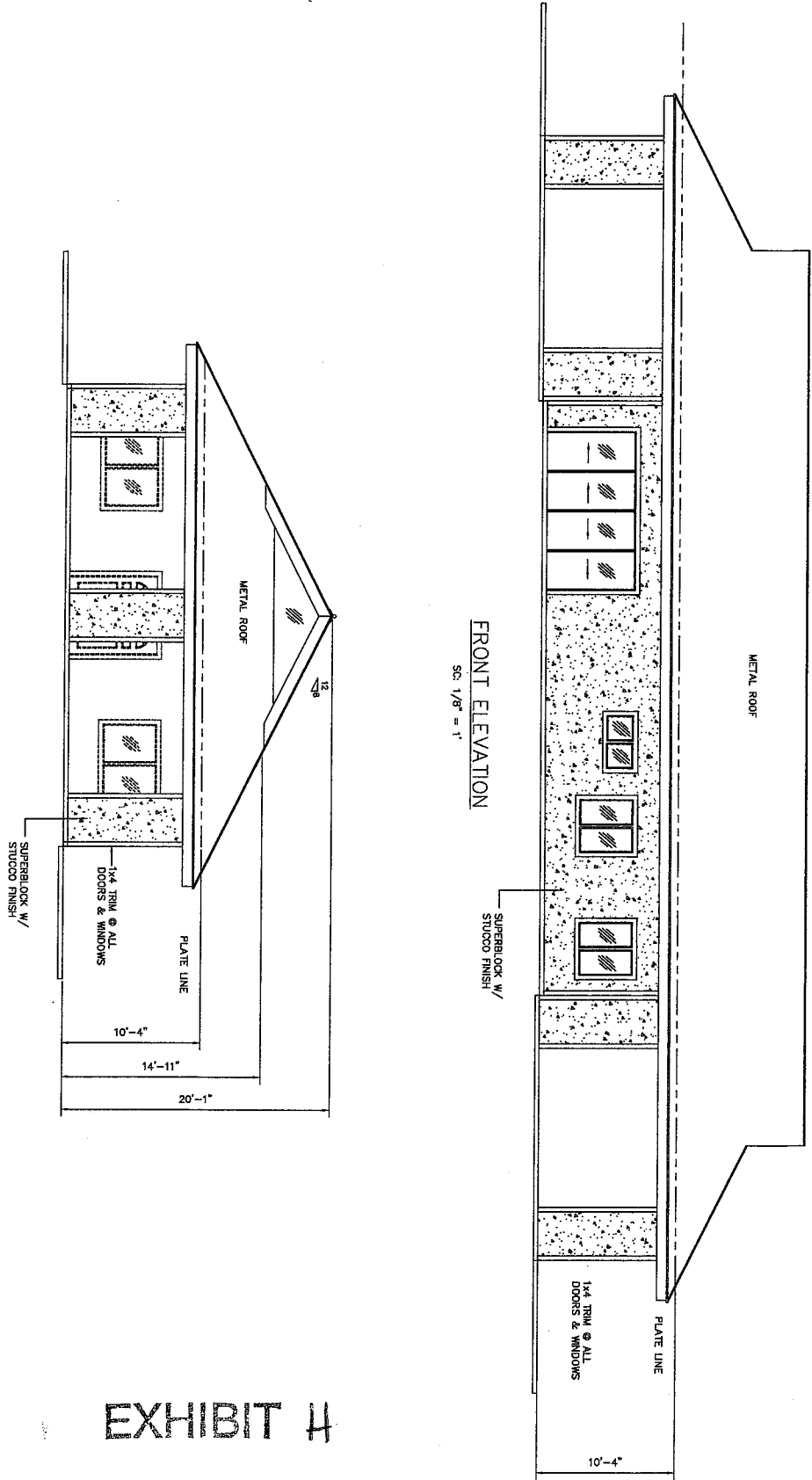
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

SHEET NO.	DRAWN BY:	DATE:	CONTENTS:	A NEW RESIDENCE FOR:	REVISIONS
	Cole Custom Drafting	DECEMBER 2017		EQUITY TRUST CO FBO M. S. MOORE, IRA TMK. (3) 1-5-010 : 031	DESCRIPTION DATE



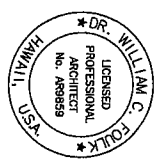
SHEET NO. A-1	DRAWN BY: LATAI LOA 808/935-6307	DATE: DECEMBER 2017	CONTENTS: FLOOR PLAN	A NEW RESIDENCE FOR: EQUITY TRUST CO FBO M. S. MOORE, IRA TMK. (3) 1-5-010 : 031	REVISIONS							
	THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION EXPIRES: 4/30/2020				<table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	DESCRIPTION	DATE					
DESCRIPTION	DATE											

DR. WILLIAM C. FOULK
 LICENSED PROFESSIONAL ARCHITECT
 No. AR8559
 HAWAII



RIGHT ELEVATION
SC: 1/8" = 1'

FRONT ELEVATION
SC: 1/8" = 1'



EXPIRES: 4/30/2020

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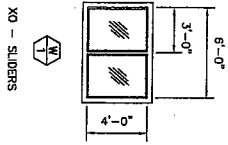
EXHIBIT H

A-8 SHEET NO.	DRAWN BY: LATAI LOA	DATE: DECEMBER 2017	CONTENTS: FRONT ELEVATION RIGHT ELEVATION	A NEW RESIDENCE FOR: EQUITY TRUST CO FBO M. S. MOORE, IRA TMK. (3) 1-5-010 : 031	REVISIONS
	Cole Custom Drafting 888/935-6307				DESCRIPTION DATE

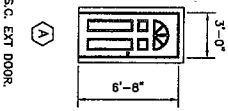
- NOTE: -
- 1- WINDOW SIZES INDICATED ARE APPROXIMATE ONLY, AND MUST BE CONFIRMED ON SITE TO SUIT THE SELECTED MANUFACTURER'S STANDARD UNITS SIZES.
 - 2- CO-ORDINATE EXACT WINDOW AND EXTERIOR DOOR LOCATIONS, MAINTAIN SPACING BETWEEN WINDOW, DOORS AND CORNERS TO ALLOW FOR EXTERIOR AND INTERIOR TRIMS.
 - 3- ALL ANGLED WALLS TO BE 45 DEGREES UNLESS NOTED OTHERWISE.
 - 4- BUILDER SHALL SATISFY HIMSELF THAT ALL DIMENSIONS, DATA, AND INFORMATION SHOWN ARE CORRECT. VERIFY ALL DIMENSIONS ON SITE.
 - 5- CO-ORDINATE FLOOR FRAMING TO SUIT PLUMBING AND HEATING SYSTEMS.
 - 6- SEAL ALL PATIO / FOUNDATION WALL JOINTS WITH APPROVED SEALANT TO PREVENT MOISTURE AND INSECT PENETRATION.

CODE SEARCH - 2006 IBC HAWAII REVISED

- FLOOR LIVE LOAD: 40 psf
- ROOF LIVE LOAD: 16 psf
- BASIC WIND SPEED: 105 mph
- EFFECTIVE WIND SPEED: 85 mph
- WIND EXPOSURE CATEGORY (ref. R301.2.1.4): B
- HIGH WIND DESIGN CRITERIA (if applicable ref. 301.2.1.1): Yes
- SEISMIC DESIGN CATEGORY (ref. Figure R301.2(2)): E
- SEISMIC DESIGN CATEGORY PROVISIONS (where applicable ref. R301.2.2): Yes
- NOTE EXTERIOR WALL LOCATION PER R302 (Table R302.1)
- GUARDS, WHERE REQUIRED FOR PORCHES, BALCONIES, RAMPS, OPEN SIDES OF STAIRS, OR RAISED FLOOR SURFACES GREATER THAN 30" ABOVE FLOOR OR GRADE, 34"-36" MIN. HEIGHT (ref. R312.1)



WINDOW SCHEDULE
SC: 1/8" = 1'



DOOR SCHEDULE
SC: 1/8" = 1'

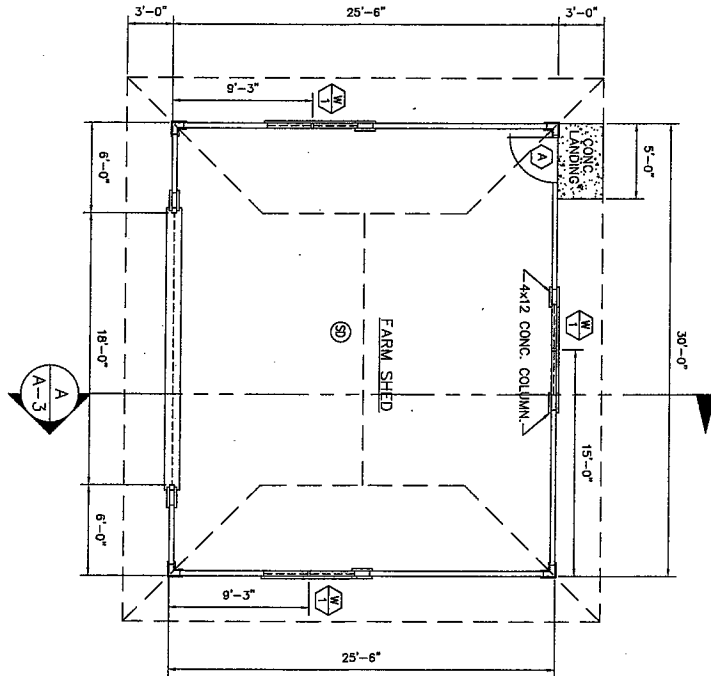


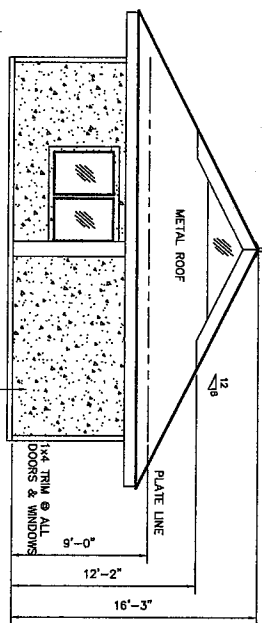
EXHIBIT I

AREA TABULATION
BARN: 765 SQ.FT.
LANDING: 15 SQ.FT.
TOTAL: 780 SQ.FT.



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EXPIRES: 4/30/2020

SHEET NO. A-1	DRAWN BY: LATAI LOA	DATE: DECEMBER 2018	CONTENTS: FLOOR PLAN DOOR SCHEDULE WINDOW SCHEDULE RESIDENTIAL DATA CODES	A NEW FARM SHED FOR: EQUITY TRUST CO FBO M. S. MOORE, IRA TMK. (3) 1-5-010 : 031	REVISIONS
	Cole Custom Drafting 808/935-6307				DESCRIPTION DATE



RIGHT ELEVATION
SC: 1/8" = 1'



FRONT ELEVATION
SC: 1/8" = 1'

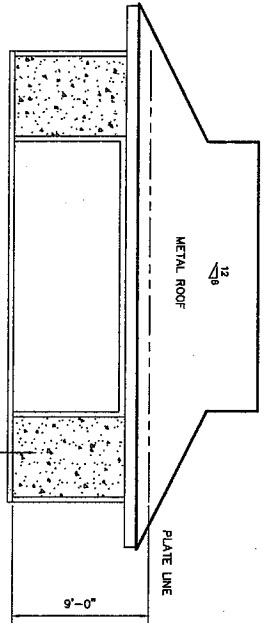


EXHIBIT J



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EXPIRES: 4/30/2020

A-5 SHEET NO.	DRAWN BY: LATAI LOA	DATE: DECEMBER 2018	CONTENTS: FRONT ELEVATION RIGHT ELEVATION	A NEW FARM SHED FOR: EQUITY TRUST CO FBO M. S. MOORE, IRA TMK. (3) 1-5-010 : 031	REVISIONS	
	Cole Custom Drafting 888/935-6387				DESCRIPTION	DATE

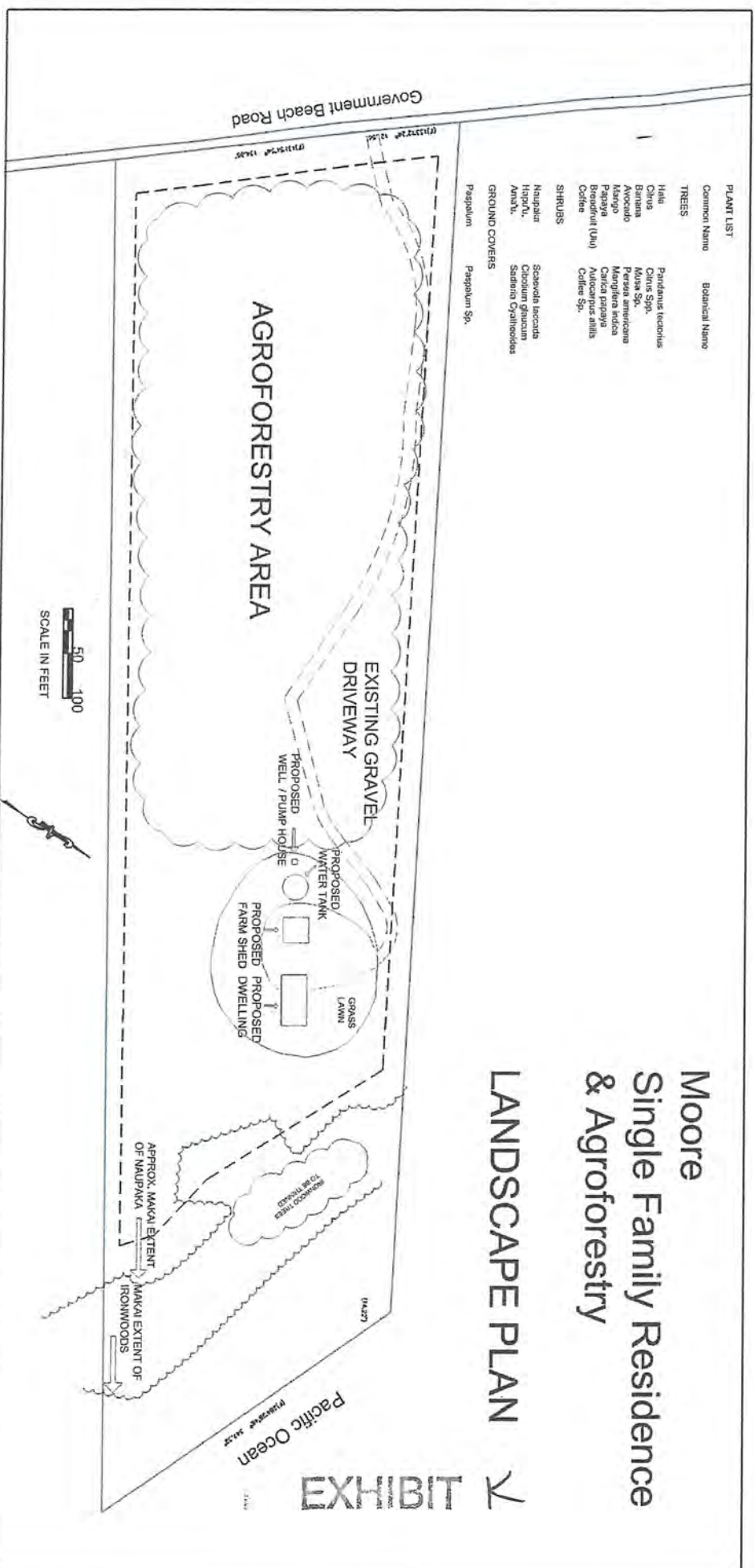
Moore Single Family Residence & Agroforestry

LANDSCAPE PLAN

EXHIBIT

PLANT LIST

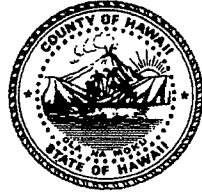
Common Name	Botanical Name
TREES	
Hulu	Parinari litoralis
China	China Sp.
Burana	Mangifera indica
Avocado	Persea americana
Mango	Mangifera indica
Papaya	Carica papaya
Breadfruit (Ulu)	Artocarpus altilis
Coffee	Coffea Sp.
SHRUBS	
Nauai	Scaevola leucata
Hiponiu	Clitorea glaucum
Anu'u	Scaevola leucata
GROUND COVERS	
Paspalum	Paspalum Sp.



Harry Kim
Mayor

Wil Okabe
Managing Director

West Hawai'i Office
74-5044 Ane Keohokalole Hwy
Kailua-Kona, Hawai'i 96740
Phone (808) 323-4770
Fax (808) 327-3563



County of Hawai'i
PLANNING DEPARTMENT

Michael Yee
Director

Duane Kanuha
Deputy Director

East Hawai'i Office
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720
Phone (808) 961-8288
Fax (808) 961-8742

October 4, 2019

James M. Leonard
56 Laukona Street
Hilo, HI 96720

Dear Mr. Leonard:

SUBJECT: Special Management Area (SMA) Use Permit Assessment Application (SAA-19-001712)
Applicant(s): Michael Moore
Land Owner(s): Michael Moore
Project: Single-Family Dwelling and Agricultural Related Improvements for Agroforestry
Tax Map Key: (3) 1-5-010:031, Puna District, Island of Hawai'i

We have reviewed your Special Management Area Use Permit Assessment Application (SAA-19-001712), originally completed on August 29, 2019, with additional information submitted to this office on September 16, 2019.

The applicant is proposing to:

1. Construct one (1) 1,950 square foot, single-story, single-family dwelling as well as a 1,400 sq. ft. covered lanai, a water well with water tank and pump house, and an individual wastewater system;
2. Construct one (1) 765 square foot farm/storage shed for the proposed 6-acre agroforestry area and animal husbandry land uses; and
3. Expansion of the existing gravel driveway to 15-feet of width (unpaved).

The subject 8.75-acre parcel is zoned Agricultural 1-acre (A-1a) by the County and designated Conservation District by the State Land Use Commission. The parcel is designated as Open (ope) by the Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG) Map. The parcel

is located entirely within the Special Management Area (SMA) and has approximately 350 linear feet of frontage along the coastline.

Additional Regulatory:

The applicant submitted a Draft Environmental Assessment (DEA) for publication in the July 23, 2019 edition of the Office of Environmental Quality Control (OEQC) *Environmental Notice* (EN). The DEA was submitted in conjunction with a Conservation District Use Application (CDUA: HA-3847) which is currently in process with the DLNR – Office of Conservation and Coastal Lands. The Final Environmental Assessment (FEA) has been accepted for publication in the October 8, 2019 edition of the OEQC EN.

Shoreline Area:

Pursuant to Hawai‘i Revised Statutes (HRS) 205A-45 and County of Hawai‘i Planning Department (PD) Rules of Practice and Procedure, Section 11-5(a) Establishment of Shoreline Setback Lines, “*Except as otherwise provided in this section, all lots which abut the shoreline shall have a minimum shoreline setback line of forty feet*”. The applicant has sited the proposed improvements approximately 160-feet mauka (*landward*) from the certified shoreline location; staff notes that only minor invasive vegetation clearing will occur adjacent to the shoreline setback area, however, native vegetation and coastal access will be preserved. There are no deeded shoreline or coastline access paths or easements present on the parcel.

Special Management Area Determination:

According to Chapter 205A-22, Hawai‘i Revised Statutes (HRS), and Planning Commission (PC) Rule No. 9-4 relating to Special Management Area (SMA), “development” does not include: “*Construction or reconstruction of a single-family residence that is less than seven thousand five hundred square feet (7,500 sq. ft.) of floor area and is not part of a larger development*”. Therefore, the proposed single family dwelling and related improvements, including the proposed agroforestry area, is considered exempt from the definition of “development”. Further, we find that the proposed project, as represented in SAA-19-001712, will not have a cumulative impact, or significant adverse environmental or ecological effects on the Special Management Area.

Please note that any increase in the proposed floor area will require another SMA Use Permit Assessment Application be submitted to this office. In addition, any construction, enlargement or reconstruction of the single family residence that increases the gross floor area to greater than 7,500 square feet will require an SMA (Major) Use permit.

While further review of the construction of a new single-family dwelling and related improvements against the Special Management Area rules and regulations will not be required, all other applicable Zoning and Building Code requirements must be satisfied. Additionally, this determination of exemption from the SMA definition of development is subject to compliance with the following conditions:

1. The applicant, its successors or assigns shall be responsible for complying with all stated conditions of approval.
 2. The applicant shall secure all necessary approvals and permits from other affected federal, state, and county agencies as necessary to comply with all applicable laws and regulations.
 3. The proposed work shall comply with the requirements of Hawaii County Code (HCC), Chapter 27 Flood Control, and HCC Chapter 10 Erosion and Sedimentation Control.
 4. Neither the landowner nor any agent of the landowner or its successors shall, at any time, impede or otherwise restrict lateral public access along the shoreline.
 5. The Building Permit for the proposed single-family dwelling and related improvements shall be issued within two (2) years from the date of this letter.
 6. The applicant shall implement standard Best Management Practices (BMPs) during construction.
 7. No land alteration, grubbing, landscaping or construction activities, including but not limited to, the stockpiling of debris, construction materials or equipment, shall occur within the shoreline setback area.
 8. Any further development, including but not limited to, the construction of additional structures or improvements to the main dwelling not included in this approval shall require further review and approval as provided under Chapter 205A, HRS, and Rule 9, Planning Commission Rules of Practice and Procedure.
 9. Discovery of any unidentified sites or remains, such as artifacts, shell, bone or charcoal deposits, human burials, rock or coral alignments, pavings or walls will require that all work in the immediate area shall cease. The Planning Director shall be immediately notified. Work may proceed with an archaeological clearance from the Planning Director. The archaeological clearance requires a finding that sufficient mitigative measures are taken for the discovery; with written guidance from the State Historic Preservation Division of the Department of Land and Natural Resources.
 10. Artificial light from exterior lighting fixtures, including, but not necessarily limited to floodlights, uplights or spotlights used for decorative or aesthetic purposes shall be prohibited if the light directly illuminates, or is directed to project across property boundaries toward the shoreline and ocean waters, except as may otherwise be permitted pursuant to Section 205A-71(b), Hawai'i Revised Statutes.
-