

# FINAL ENVIRONMENTAL ASSESSMENT

## Proposed Jackson/Banke Single-Family Residence

*TMK (4) 5-9-05: 028  
Ha`ena, Kauai, Hawaii*

Submitted by:

**Jess Jackson & Barbara Banke**

October, 2008

*In Accordance with the Requirements for Chapter 343, HRS and  
Chapter 200 of Title II, Administrative Rules  
Department of Health, State of Hawai`i*



**LANDMARK**  
CONSULTING

# ATTENTION:

## REGARDING REVISIONS FINAL ENVIRONMENTAL ASSESSMENT

This Final Environmental Assessment (FEA) for the proposed Jackson/Banke Single Family Residence (SFR) has been amended to reflect the comments that were received from various agencies and members of the public during the statutory 30-day public comment period for the Draft Environmental Assessment (DEA). Notice of the DEA was published in the Office of Environmental Quality Control Environmental Notice on August 8, 2008 and the public comment period for this action ended on September 7, 2008. The revised FEA addresses each recommendation and/or concern that was raised by those who commented on the proposed actions. Documentation of the comments received and responses thereto are included in Appendix 7 and are referenced throughout the FEA where applicable. All changes and/or additions to the content of the FEA are highlighted throughout the document for ease of recognition by the use of an *emboldened and italicized script*.

The following Exhibits and Appendices have been added and/or amended in the Final EA:

- Exhibit 8 – REVISED Site Plan
- Exhibit 9 – REVISED Upper Level Floor Plan
- Exhibit 10 – REVISED Ground Level Plan
- Exhibit 11 – REVISED Exterior Elevations
- Exhibit 12 – REVISED Roof Plan
- Exhibit 13 - DELETED
- Appendix 7 – ADDED Draft EA Comments & Applicant Responses
- Appendix 8 – ADDED Archaeological Data Recovery Plan for Site 50-60-02-4018 at TMK (4) 5-9-05: 028, Ha`ena, Halele`a, Kaua`i
- Appendix 9 – ADDED Supplementary Shoreline Setback Analysis

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<b>Appendix 1</b>	<b>Archaeological Inventory Survey</b> Prepared By: Scientific Consultant Services
<b>Appendix 2</b>	<b>Cultural Impact Assessment</b> Prepared By: Scientific Consultant Services
<b>Appendix 3</b>	<b>Historical Shoreline Erosion Study</b> Prepared By: EKNA Services, Inc.
<b>Appendix 4</b>	<b>Survey of Flora &amp; Fauna of TMK (4) 5-9-5-28</b> Prepared By: David W. Bender, Ecologist
<b>Appendix 5</b>	<b>Draft EA Pre-assessment Agency Comments</b>
<b>Appendix 6</b>	<b>Copies of Existing Perimeter Fence Permits</b>
<b>Appendix 7</b>	<b>Draft EA Comments &amp; Applicant Responses</b>
<b>Appendix 8</b>	<b>Archaeological Data Recovery Plan &amp; SHPD Approval</b> Prepared By: T.S. Dye & Colleagues, Archaeologists Inc.
<b>Appendix 9</b>	<b>Supplementary Shoreline Setback Analysis</b> Prepared By: EKNA Services, Inc.

**SECTION I**  
**PROJECT DESCRIPTION**

**A. OWNER / APPLICANT**

Jess Jackson & Barbara R. Banke  
1045 Alexander Mountain Road  
Geyserville, CA 95441

**Consultant for Applicant:**

Landmark Consulting Services  
Contact: Ben Welborn  
P.O. Box 915  
Hanalei, HI 96714  
Phone: (808) 828-6332  
Fax: (866) 511-7250  
Email: welborn@aloha.net

**B. APPROVING AGENCY**

State of Hawaii  
Board of Land and Natural Resources (BLNR)  
P.O. Box 621  
Honolulu, HI 96813

**C. PROPOSED ACTION**

*The Applicants, Jess Jackson & Barbara R. Banke have revised the floor plans from those which were originally submitted with the CDUA and Draft EA. The revised floor plans, like the originals, propose development of a 4-bedroom, 4 ½-bath residence. The original floor plans had an aggregate “Development Area” of 4,958 square feet whereas the revised floor plans have an aggregate Development Area of 4,974 square feet. The Applicant is asking that the Board of Land and Natural Resources (BLNR) consider and approve the revised plans and site plan. Copies of the revised plans are included with this Final Environmental Assessment (FEA).*

The Applicants propose to construct a four (4) bedroom, four and one half (4 ½) bath Single-Family Residence (SFR) of approximately **4,974** square feet, on the subject 2.46 acre parcel. The structure will be constructed on piers and elevated above existing grade. The lowest horizontal structural member of the residence will have a minimum elevation of thirty (30) feet above Mean Sea Level (MSL) to comply with applicable County and Federal flood standards. *The 4,974 square foot structure will be comprised of approximately 3,897 square feet of interior living space, 584 square feet of screened*

*lanais, and approximately 493 square feet comprised of exterior lanais, access stairwells (exceeding 4'0" in width) and a dumbwaiter.* The Applicant also proposes to construct a vehicular gate together with gate columns and rock walls flanking the entry to the property (Exhibits 8 & 16). Existing permitted fencing along the lateral (side) property boundaries and front (roadway) boundary will be replaced with new chain link fencing to a maximum height of 6 feet. ***All fencing will be setback a minimum of 40 feet from the Certified Shoreline.*** Refer to attached exhibits for a Site Plan, Floor Plans, and Exterior Elevation perspectives of the proposed residence.

The architecture of the building is of a simple plantation style, which takes advantage of the beautiful mountain and ocean views that the parcel has to offer. The exterior colors will be in earth tones. The Applicant's intent in designing the home was to develop a residence that would be compatible with the surrounding environment and existing development on nearby parcels. Minimal site grading will occur, primarily for the driveway, within the footprint of the home site itself, and for the installation of an Individual Wastewater System (IWS). The maximum height of the proposed structure, as measured from adjacent natural grade to the highest peak of the roof, is approximately 30'0".

Existing landscaping will soften the visual impact of the proposed structure from adjoining property owners and the adjacent roadway. Landscaping consists of groundcovers, ornamental shrubs, and various trees, which are known to be compatible with the soils and climate of the area. A complete list of existing plant species is incorporated into the Flora & Fauna Survey (Appendix 4). ***The Applicant will give consideration to the use of native plants for additional landscaping.*** The Applicant is also requesting permit approval to carry out ongoing periodic pruning and maintenance of the existing ironwood trees (*Casuarina equisetifolia*) that dominate the shoreline interface of the subject parcel. Tree pruning of the ironwoods, as proposed by the Applicant, will be carried out by a licensed and insured professional arborist to selectively thin the ironwoods in an effort to manage their height, improve their overall appearance and minimize breakage or up-rooting of the trees during heavy wind storms. The ironwoods help to stabilize the shoreline and thereby mitigate the erosive effects of seasonal high surf.

**D. ANTICIPATED DETERMINATION**

EIS REQUIRED \_\_\_\_\_

NOT REQUIRED   X

**E. PROJECT SITE LOCATION**

The subject parcel is located in Haena, approximately 7.1 miles west of the town of Hanalei on the northern coastal plain of Kauai. Refer to exhibits and photo(s) for a graphic representation of the site location and characteristics.

TMK:	(4) 5-9-05: 028
Island:	Kauai
District:	Hanalei
Zoning:	Conservation
State Land Use:	Conservation (Limited Subzone)
County General Plan:	Conservation; Open / Special Management Area (SMA)
Current Land Use:	Vacant Undeveloped Land
Proposed Land Use:	Single-Family Residence
Adjacent Land Use:	Residential Development & Vacant Parcels

**F. NECESSARY PERMITS AND ENVIRONMENTAL REQUIREMENTS**

**1. State Conservation District Use Permit (CDUP)**

Department of Land and Natural Resources, Planning Branch

**2. Environmental Assessment**

State Office of Environmental Quality Control  
Department of Health

**3. County of Kauai Building Permit**

Department of Public Works (with approval from other County agencies)

**4. Special Management Area (SMA)**

Determination of Exempt Status for Single-Family Residence  
County of Kauai Planning Department

**5. Individual Wastewater System (IWS) Permit**

State Department of Health, Wastewater Division

## **G. AGENCIES CONSULTED IN PREPARING ENVIRONMENTAL ASSESSMENT**

The following agencies and affected parties were consulted and provided with an opportunity to comment upon the proposed project during the preparation of the *Draft and Final Environmental Assessments*:

- Department of Land & Natural Resources
- DLNR, Office of Conservation and Coastal Lands
- DLNR, Land Division
- DLNR, Division of Aquatic Resources
- DLNR, State Historic Preservation Division
- DLNR, State Historic Preservation Division, Kauai Representative
- DLNR, Division of Forestry and Wildlife
- DLNR, Division of State Parks
- ***DLNR, Engineering Division***
- DBEDT, Coastal Zone Management Program
- Office of Hawaiian Affairs
- State Department of Health, Environmental Health Division
- Office of Environmental Quality Control
- U.S. Fish and Wildlife Service
- US Army Corps of Engineers
- Planning Department, County of Kauai
- Department of Water, County of Kauai
- Department of Public Works, County of Kauai
- Building Division, County of Kauai
- Hanalei-Haena Community Association
- Sierra Club, Kauai Group of the Hawai`i Chapters
- The Nature Conservancy, Hawaii Field Office
- 1,000 Friends of Kauai
- University of Hawaii, Sea Grant Program
- Kauai Community College, Library Department
- Garden Island News Paper
- Karen Sherwood & Michael Olanolan - TMK (4) 5-9-5-1
- Tamera Painter - TMK (4) 5-9-5-2
- Troy Eckert - TMK (4) 5-9-5-3
- Matthew LaCock - TMK (4) 5-9-5-4
- Dexter Chung - TMK (4) 5-9-5-6
- Kent & Kathy Browning - TMK (4) 5-9-5-29
- Catherine Bartmess - TMK (4) 5-9-5-27



All pre-assessment comments that were received and responses thereto are included in Appendix 5. *Comments on the Draft EA and responses thereto are included in Appendix 7.* Where applicable, agency requirements and recommendations have been addressed and incorporated into the documentation of the Draft *and Final EA*. *Substantive comments were received from:*

- 1) DLNR, Office of Conservation and Coastal Lands
- 2) DLNR, Division of Forestry and Wildlife
- 3) County of Kauai, Department of Water
- 4) U.S. Department of the Army, Regulatory Branch
- 5) State, Office of Hawaiian Affairs
- 6) Hanalei-Ha`ena Community Association
- 7) DLNR, State Historic Preservation Division
- 8) County of Kauai, Department of Public Works
- 9) *County of Kauai, Planning Department*
- 10) *State Department of Health, Environmental Planning Office*
- 11) *EKNA Services, Inc. – Coastal Geologist*

## **H. PUBLIC POLICIES**

### **1. STATE LAND USE LAW**

The project site is situated within a Limited Subzone of the State Conservation District. The proposed action is therefore subject to the land use regulations and permit application review process of Chapter 13-5, Hawaii Administrative Rules, as administered by the Department of Land and Natural Resources.

The Applicant is proposing an identified use within the Limited Subzone. A Board Permit is being requested.

### **2. COUNTY GENERAL PLAN**

The Kauai County's General Plan designates the project area as Conservation /Open Space. This represents the County's desire to manage large development within the vicinity and to promote open space, recreational use, and natural landscapes wherever possible.

The Applicant is proposing a 'development area' as defined by HAR 13-5 of approximately *4,974 square feet*, which is equivalent to approximately 4.6% of the total titled area of the parcel. The remaining 95.4% of the parcel will be kept in open space, in a natural setting consistent with the intent of the County's General Plan.

### **3. COUNTY ZONING**

Conservation / Open

#### **4. SPECIAL MANAGEMENT AREA**

The project site is located within the Coastal Zone Special Management Area (SMA); as administered by the SMA Rules and Regulations of the County of Kauai. However, the proposed action is exempt from obtaining an SMA Use Permit because it satisfies “non-development” criteria per Section 1.4, Paragraph H (2)(a) of the Special Management Area Rules and Regulations of the County of Kauai. *See letter, dated August 20, 2008 from the County of Kauai Planning Department confirming SMA Exempt status (Appendix 7).*

The proposed action shall not have a long-term or detrimental impact upon the coastal ecosystems, marine resources, beaches, the shoreline, or flora and fauna of the area. Nor shall it impact scenic or open space resources in a significant manner. The proposed construction of a new residence will not create any additional coastal hazards such as heightened erosion, subsidence, and/or pollution. The proposed residence is not part of a larger development planned for the area. No shoreline hardening is proposed.

### **I. PROJECT CHARACTERISTICS**

#### **1. GENERAL CHARACTERISTICS**

Refer to Section III – “Proposed Action” for a general description of the proposal.

#### **2. TECHNICAL CHARACTERISTICS**

Technically this action will authorize the Applicant to:

- Construct a Single-Family Residence and appurtenant infrastructure on the subject parcel.
- Construct a vehicular gate, gate columns and fencing.
- Perform the necessary grading and grubbing work in preparing the parcel for construction, pursuant to the issuance of all additionally required permits.

#### **3. ECONOMIC CHARACTERISTICS**

Significant long-term economic impacts are not anticipated as a result of the proposed action. Should the proposal meet the approval of the Board, there would be a short-term benefit upon the local construction industry, and an increase in real-property tax values. Money paid into the construction industry would most likely generate income in other sectors of the local economy.

#### **4. SOCIAL CHARACTERISTICS**

There are no significant social benefits or negative impacts that are anticipated as a result of the proposed action. The Applicant will apply Best Management

Practices (BMP) during the development of the parcel. Landscaping will screen the proposed structure from the adjoining property owners and the adjacent roadway. The proposed use will not displace any exiting residences. The project site is currently vacant. A single new household in the area will not overburden existing public services or facilities.

## **5. ENVIRONMENTAL CHARACTERISTICS**

The proposed action is not anticipated to have any significant long-term negative or beneficial impacts upon the environment. The proposed residence will not displace any existing agricultural or recreational land uses. No prime or unique lands of the State of Hawaii or its residents will be adversely affected by the proposed action. Section II of this *Final EA*, reviews in greater detail the potential environmental impacts of the proposed action, and where applicable suggests measures for the mitigation of negative outcomes.

## **6. TIME FRAME OF PROJECT**

The completion of project design and permitting is anticipated for the fourth quarter of 2008. Construction of the residence is expected to commence shortly thereafter, most likely during the first quarter of 2009. Construction activities are expected to have a duration of approximately 12 to 18 months, with the completion of the residence projected toward the middle of 2010.

## **7. FUNDING AND SOURCE**

Development of the residence and appurtenant infrastructure is estimated to cost approximately \$1,750,000, which is roughly calculated as \$350.00 per square foot multiplied by the proposed **4,974** square feet of development area. The Applicant will privately fund the development of the project.

## **SECTION II**

### **Summary Description of the Affected Environment & Identification of Potential Impacts and Proposed Mitigation**

#### **A. PHYSICAL SITE DESCRIPTION**

The subject parcel is located in Haena, in the district of Hanalei, on the northern coastal plain of the Island of Kauai, Hawaii. The parcel is designated by Kauai Tax Map Key No. (4) 5-9-05: 028. The deeded title area of the parcel is approximately 2.46 acres (107,290 square feet). The location of the parcel is graphically depicted in the exhibits attached hereto.

Access to the parcel is provided directly off of Kuhio Highway, which shares a common boundary with the property along its southerly border. To the north, the property is bounded by the shoreline. The subject property is bounded on either side by private properties, to the east is TMK(s) (4) 5-9-05: 029 and to the west is TMK(s) (4) 5-9-05: 027. Numerous parcels within close proximity to the subject property have been developed with single-family residences of a comparable size and architectural style to that which is proposed by the Applicant.

#### **B. EXISTING LAND USE**

The project parcel is currently vacant and undeveloped.

#### **C. TOPOGRAPHY**

The topography of the subject parcel rises fairly abruptly along its seaward edge to the top of an old sand dune formation. The certified shoreline is situated near the crest of this dune formation, a conservative distance back from the leading edge of vegetation (Exhibit 6). The crest of the dune ranges between approximately 20 to 27 feet above Mean Sea Level (MSL). From the high dune crest, moving further inland, the property slopes gradually downward to its lowest elevation of approximately 15' 6" above MSL near the mauka property boundary which is adjacent to Kuhio Highway. The existing grade within the footprint of the proposed residence (which is located 100 feet back from the proposed shoreline) ranges from approximately 15'0" to 20'0" above MSL, with the higher elevations being closer to the ocean. Topography is depicted in Exhibit 14.

#### **D. FLORA AND FAUNA**

As described within the Flora and Fauna Survey Report (Appendix 4), there are no State or Federally listed Threatened or Endangered species on the subject parcel, which would suffer substantial negative impacts as a result of the proposed development. Nor are there any species that are candidates for Federal Listing. A complete list and classification of plant and animal species can be found in the survey report.

#### **E. SOILS**

According to the Soil Survey of the Island of Kauai, State of Hawaii, prepared by the U.S. Soil Conservation Service, Department of Agriculture, the project parcel is located on land characterized by *Mr – Mokuleia fine sandy loam* type soils. *Mr* soils have a moderately rapid permeability in the surface layer and rapid permeability in the subsoil. Runoff is very slow, and the erosion hazard is slight.

#### **F. CLIMATE**

Rainfall is estimated to be between approximately 70 and 100 inches per year. The proposed action should not affect the local or macro climates in any manner.

#### **G. AIR QUALITY**

The air quality in the project area is excellent. The rural character of the site, the prevailing tradewinds, and a close proximity to the ocean all combine to buffer the area against significant airborne pollutants.

During construction, minimal short-term impacts on air quality will result from dust-generated grading activities. The impacts will be temporary and relatively insignificant. Best Management Practices (BMP), including the sprinkling of exposed soils, will be employed to further minimize the impact of airborne dust. The inconvenience of dust associated with the proposed action is therefore anticipated to be negligible.

#### **H. NOISE IMPACT**

The project parcel and adjoining properties are currently impacted by vehicular traffic noise along the frontage of Kuhio Highway. Other predominant sources of noise within the vicinity of the project include that associated with overhead tour helicopters, and the more pleasant sounds generated by the wind and sea. By and large, the project area has a very low and pleasant noise level, as one would expect of such a rural site.

Noise levels are anticipated to temporarily increase with the onset of construction. Increased noise will be associated with the use of heavy machinery during grading, as

well as with the use of power tools and hammers during construction of the residence. Once the house is completed, the construction-related noise will cease. Mitigative measures will be implemented to lessen the impact of the short-term noise generated by construction. This shall include the use of muffling devices on all gasoline or diesel-powered equipment. Furthermore, construction activities shall be restricted to the working hours between 7:30 AM and 5:30 PM.

Long-term noise resulting from the proposed action will be similar to that which is generated by other Single-Family Residences within the surrounding area. The proposed activities will not violate any State regulations regarding noise levels.

## **I. ARCHAEOLOGICAL AND HISTORICAL SITES**

As required by the State Historic Preservation Division (SHPD), an Archaeological Inventory Survey of the subject parcel was conducted by *Scientific Consultant Services (SCS)* in February of 2007 to determine the presence or absence of archaeological features on the subject property and to assess their significance. Investigative trenching was carried out by the archaeologists and *“a single historic site was newly identified. State Inventory of Historic Properties (SIHP) 50-30-02-4018 consists of a cultural layer identified on the subject property...”*<sup>i</sup> Two fire pits and an imu (earthen oven) were identified. No burial sites were encountered.

The SCS survey report concluded that *“due to the presence of Site 50-30-02-4018, a subsurface cultural deposit, and the sandy nature of the deposit across the subject property, it is possible that additional features, including burials, may be present in the subsurface deposits of the property - - therefore, a Program of Archaeological Monitoring is recommended during all construction activities involving ground altering activities (e.g. excavations for foundations, utility lines, and septic tanks, landscaping activities, etc.)”* In addition, SCS recommended further Data Recovery on the site.

The Inventory Survey Report was reviewed and approved by the SHPD in a letter dated September 7, 2007 subject to the following conditions:

- 1) Additional Data Recovery is required including radiocarbon sampling and dating for the identified *imu* feature.
- 2) Preparation and approval of a Data Recovery and Archaeological Monitoring Plans.
- 3) Monitoring during all ground disturbing activities by a qualified archaeologist.

The Applicant understands, that should human remains be discovered during construction activities, all work in the vicinity of the remains must immediately stop and the island archaeologist for the SHPD shall be contacted to determine appropriate treatment protocol. Construction work in the vicinity of the find may resume when the human remains have been properly treated and SHPD gives its approval. In such event, the State Office of Hawaiian Affairs shall also be notified.

There are no historic or archaeological sites listed on the State or Federal Registers for the subject parcel. A copy of the Inventory Survey Report and SHPD approval letter are included in Appendix 1.

***An Archaeological Data Recovery Plan for Site 50-60-02-4018 at TMK (4) 5-9-05: 028, Ha`ena, Halele`a, Kaua`i was prepared by T.S. Dye & Colleagues,***

***Archaeologists, Inc. The Data Recovery Plan was submitted to and approved by the State Historic Preservation Division. A copy of the Data Recovery Plan and SHPD approval letter are included in Appendix 8.***

## **J. CULTURAL IMPACTS**

See attached Cultural Impact Assessment – Appendix 2 prepared by *Scientific Consultant Services, Inc. (SCS)*. ***The Final EA finds that adequate access to and along the beach and coastal resources is maintained. The proposed actions will not hinder native Hawaiian cultural and gathering practices.***

## **K. VISUAL IMPACTS**

The proposed residence will be situated in a partially developed residential neighborhood. Homes in the area are a mix of both old and new. The construction of the new residence will blend in with the existing residential development and the surrounding environment. Earth tone colors will be used on all exterior surfaces. Existing mature landscaping will soften the visual impact of the new residence as it is viewed from the adjoining roadway and nearby parcels. The proposed residence will be setback approximately 100 feet from the certified shoreline, therefore it will not be readily visible from the beach. The residence will not obstruct any views toward significant landmarks or vistas, either from the beach or other public vantage points.

## **L. NATURAL HAZARDS**

The area of proposed impact is situated within Flood Zone VE 30 as designated on the Federal Flood Insurance Rate Map (FIRM) - - per FIRM Map #1500020030 E Dated Sept. 16<sup>th</sup>, 2005 (Exhibit 7). Zone VE is defined as a coastal flood area with a velocity hazard due to its potential susceptibility to 100-year inundation by tsunami. County regulations regarding structures located within this coastal high-hazard area require a “base flood elevation” for the lowest horizontal structural member of the proposed residence to be 30 ft. above mean sea level. The design of the proposed residence is in compliance with the County flood regulations.

As with all coastal development, the impact of cumulative shoreline erosion can pose a significant long-term threat to structures which are constructed too near to the shoreline. The solution to avoid this threat is quite simple - - site structures far enough back from the shoreline so that they are buffered from the erosion zone. Therefore, In order to determine an appropriate shoreline setback distance for the proposed residence, the Applicant hired EKNA Services, Inc., a Honolulu based coastal engineering firm to carry out a Historical Shoreline Erosion Study for the parcel and adjacent shoreline reaches which relied upon aerial photographic data dating back to 1950. Based upon this analysis, EKNA calculated an average annual erosion rate for the subject property using the vegetation line (a.k.a. ‘shoreline’) as the Shoreline Reference Feature while

discrediting the beach toe as statistically unreliable in this locale due to extreme episodic and seasonal variability associated with high winter surf. The annual erosion rate thus derived by EKNA is 0.20 feet/year. Following the guidelines of the State of Hawaii, Coastal Hazard Mitigation Guidebook (*Guidebook*)<sup>ii</sup>, EKNA further adjusted the average annual erosion rate to account for error (20%) and for accelerated sea level rise (10%). The resulting adjusted erosion rate for the subject parcel is 0.26 feet/year.

The *Guidebook* recommends a 70-year useful life for new structures. Applying this 70-year life to the proposed structure, the active erosion zone for the parcel is determined to be 18.2 feet (70years X 0.26 ft/yr. = 18.2 feet). The *Guidebook* further recommends that a 20-foot storm event buffer and a 20-foot “safety/design” buffer be added to determine a minimum setback distance. Therefore, based upon an interpretation of the *Guidebook* methodology and applying the EKNA data, the minimum setback for the parcel is determined to be 58.2 feet. The EKNA study is included in Appendix 3.

The County of Kauai recently adopted a new zoning ordinance governing *Shoreline Setbacks and Coastal Protection* (Ord No. 863)<sup>iii</sup>. The new ordinance determines shoreline setback requirements based upon a calculation of “*average lot depth*”. Using the County’s calculation methodology, the average depth of the Jackson/Banke parcel is 217 feet (see Exhibit 15). The County of Kauai setback ordinance prescribes “preset” shoreline setbacks based upon lot depth. For lots greater than 200 feet deep, the corresponding setback is the greater of: 1) 100 feet from the certified shoreline or 2) the setback as determined by conducting a historical shoreline erosion study and applying the *Guidebook* methodology. In the case of the Jackson/Banke parcel, the 100 foot “preset” setback is greater than the 58.2-foot setback determined by the EKNA study. Therefore, the Applicant proposes to set the home back 100-feet from the certified shoreline.

Notwithstanding shoreline erosion, other erosion concerns for the subject property are negligible due to the high permeability of its sandy soils and the absence of any nearby natural drainage ways. Kauai is the oldest of the major Hawaiian Islands; therefore, there are no active or dormant volcanoes which pose a threat to the parcel.

***Determination of Shoreline Setback- the 100-foot shoreline setback proposed by the Applicant is being questioned by the County of Kauai Planning Department, the DLNR Office of Conservation and Coastal Lands, and the Hanalei-Haena Community Association. Collectively, they contend that a determination of the adjusted annual erosion rate should be based upon an analysis of the beach toe rather than the vegetation line.***

***As a result of the comments received, the Applicant, through its coastal geologist Elaine Tamaye, president of EKNA Services, Inc. has provided additional analysis, which challenges the statistical validity of the University of Hawaii study upon which the County, the State and the Community Association found their recommendations. EKNA also sites specific language from the Guidebook, which states “One disadvantage of using the beach toe or water line is that it may be subject to large seasonal changes for beaches that have large seasonal change in wave energy”. The Guidebook goes on to recommend “the analysis of historical shoreline erosion rates be based on both the vegetation line and the water line or beach toe.” Given the seasonal variability of the beach toe in the vicinity of the Jackson/Banke***



*parcel, EKNA proposes to follow the Guidebook policy and recommends a shoreline setback for the Jackson/Banke residence be based upon an equally weighted average of the adjusted historical annual erosion rates for both the beach toe and the vegetation line. Further, ENKA opines that the data set used in the EKNA Historical Erosion Analysis is more statistically defensible than the UH data set.*

*Based upon the foregoing, EKNA calculates a shoreline setback for the proposed Jackson/Banke residence as follows:*

- *Beach Toe/Waterline – Adjusted Annual Erosion Rate = 1.00 ft/year*
- *Vegetation Line – Adjusted Annual Erosion Rate = 0.26 ft/year*
- *Average Annual Erosion Rate (Beach Toe & Vegetation Line) =  $(1.00 + 0.26)/2 = 0.63$  ft/year.*
- *Applying the Guidebook Formula -  $0.63$  ft/year X 70 years = 44.1 feet + 40 foot buffer = 84.1 feet.*

*The Applicant's original proposed 100-foot setback (based upon the calculated lot depth) still conservatively exceeds the 84 feet derived by the weighted average methodology recommended by EKNA. ENKA's supplementary shoreline setback analysis and recommendations are included in Appendix 9.*

#### **M. LAND USE CLASSIFICATIONS & COMPATIBILITY WITH SURROUNDING ENVIRONMENT**

The State Land Use Commission designates the subject property as Conservation. The County General Plan classifies the property and surrounding areas as Conservation/Open.

No land use or zoning changes are required as a result of the proposed action. The construction of a single family residence is consistent with, and supportive of both the State's and the County's intended land uses and the intent of the Haena Hui Petition.

#### **N. PUBLIC SERVICES AND FACILITIES**

The construction of the proposed Single-Family Residence on the parcel shall not place an unreasonable additional burden upon public agencies or public utility providers servicing the area.

##### **1. ACCESS**

The parcel is provided with vehicular access via Kuhio Highway.

##### **2. WATER**

County water is available to the parcel and is served by an existing water meter (see Site Plan, Exhibit 8). No additional source or storage facilities are required for the proposed action.

### **3. WASTEWATER**

Residential and public wastewater within the project vicinity are treated through the use of individual septic systems. There are no municipal treatment plant facilities or public sewer pipelines associated with the project area, nor are any planned for the future. Prior to the construction of the proposed SFR, the Applicant will be required to apply for a building permit from the County of Kauai. A component of the building permit application is a State Department of Health approved Individual Wastewater System (IWS) plan in accordance with the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems".

As per the letter dated May 13, 2008 from the County of Kauai, Department of Water (included herewith in Appendix 5), due to the subject property's proximity to a public, domestic water well, the Applicant understands that depending upon the placement of their septic system on the parcel, they may be required to satisfy the State, Department of Health's requirements for Individual Wastewater Systems located within 1,000 feet of public, domestic water wells. *The Applicant will make an effort to site the IWS more than 1,000 feet from the public well.*

### **4. SOLID WASTE**

Residential solid waste is collected at curbside along Kuhio Highway on a weekly basis. Collected waste is compacted and transported to the Kekaha landfill for disposal. A recycling area will be designated on the subject property for the collection of aluminum, glass, cardboard and junk mail, as well as any other recyclable materials that are processed on Kauai. Green waste will be composted on site.

### **5. FIRE PROTECTION**

Fire protection is provided by the County of Kauai. The nearest fire station is in Princeville with an estimated response time of approximately 15 minutes to the subject parcel. Under extreme emergency conditions, both the Kapaa and Lihue fire stations respond to calls within the project area.

### **6. EMERGENCY MEDICAL SERVICE**

Emergency medical service is provided by the Princeville fire station in conjunction with American Medical Response (AMR) a private medic firm, which is contracted with the State Department of Health. Response time is approximately 15 minutes to the subject property.

### **7. POLICE PROTECTION**

Police protection is provided by the Kauai Police Department. The closest substation is located in Princeville, approximately 15 minutes from the project parcel.

## **8. PUBLIC SCHOOLS**

Public schools servicing the Haena area are Hanalei School (Grades K-6), Kapaa Middle School (Grades 7 & 8), and Kapaa High School (Grades 9 – 12).

## **9. UTILITIES**

Electrical power is provided by the Kauai Island Utility Cooperative (KIUC) and telephone service is provided by GTE Hawaiian Telephone. Utilities are supplied via overhead distribution lines along Kuhio Highway. All utility easements are in place.

## **O. AQUATIC RESOURCES**

The subject parcel is contiguous with the shoreline. The proposed residence will be set back 100 feet from the State certified shoreline.

The proposed development of a Single Family Residence on the subject parcel will not result in the discharge (placement) of dredged and/or fill material into waters of the U.S pursuant to Section 404 of the Clean Water Act (CWA). Nor will the project result in the placement or construction of structures within navigable waters of the U.S. as defined under Section 10 of the Rivers and Harbor Act (RHA) of 1899. There are no perennial, intermittent or ephemeral streams or wetlands on, in, or adjacent to the subject property. Therefore, it is assumed that the proposed actions are exempt from Department of the Army permitting requirements.

1. **Waterbody Type and Class** - - As defined by Hawaii Administrative Rules, Chapter 11-54-2, the waters adjacent to the subject parcel are classified as Class AA Open Coastal Marine Waters with bottom subtypes being a mixture of Sand Beaches and Reef Flats.
2. **National Pollutant Discharge Elimination System (NPDES) General Permit** - - the proposed actions do not trigger the criteria for a NPDES general permit. Specifically:
  - i. Construction activities, including clearing, grading, and excavation will not result in the disturbance of equal to or greater than one (1) acre of total land area. The proposed action is for the construction of a residence of approximately 4,958 square feet. Ground disturbance outside of the immediate footprint of the proposed residence will be minimal and shall be limited primarily to the excavation needed for an Individual Wastewater System and the access roadway. No grading, grubbing, or excavation shall occur within close proximity to the shoreline.
  - ii. As a component of the proposed action, the Applicant does not intend nor do they anticipate the need to undertake any hydro testing or any discharge associated therewith.
  - iii. No discharge of construction dewatering effluent into the adjacent oceanic waters shall occur.

3. **NPDES Individual Permit** - once again, based upon the proposed project characteristics an Individual NPDES permit will not be necessary. It is anticipated that there will be no wastewater discharged into the State waters as a result of the proposed actions.
4. **Impaired Waters in the State of Hawaii** – The proposed actions will not affect any bodies of water that appear on the current *List of Impaired Waters in Hawaii*.
5. **Best Management Practices (BMPs)** – BMPs shall be implemented to contain fugitive dust and runoff on the project site. Construction activities shall be restricted to areas of least impact. Job site clean-up shall occur regularly to contain and properly dispose of dust and debris generated by construction activities. Furthermore, measures will be taken during development to ensure that no construction materials, debris, petroleum products, chemicals or other potential contaminants enter the aquatic environment.

**SECTION III**  
**SUMMARY OF MAJOR IMPACTS &**  
**ALTERNATIVES CONSIDERED TO THE PROPOSED ACTION**

**A. SUMMARY OF MAJOR IMPACTS**

The subject parcel is currently characterized by undeveloped land. The proposed action will result in the construction of a Single-Family Residence, which will occupy a footprint of approximately 4.6% of the total title area of the parcel. The remainder of the lot (approximately 95.4%) will be kept in open space natural setting. Site grading will be minimal in the vicinity of the footprint and access driveway for the proposed structure. The residential design and construction materials shall be compatible with the natural environment and the existing development of the area.

Long-term impacts of the proposed action shall include a marginal increase in traffic along Kuhio Highway and the perpetual increase in demand for associated public utilities. Short-term impacts associated with the development of the proposed residence will include construction noise, minor dust, and construction related traffic along Kuhio Highway. Cumulative shoreline erosion poses the most significant long-term potential impact, however the proposed residence is set conservatively back from the shoreline to adequately mitigate this concern. Other erosion impacts are negligible due to the permeability of the sandy soil characteristic of the area and the absence of any major natural drainage ways in the vicinity of the subject property.

**B. ALTERNATIVES CONSIDERED**

**1. NO ACTION**

A “No Action” alternative would result in no construction of a residence on the subject parcel. There would be no construction activity and related employment prospects. There would be no increase in the land value or associated government revenues from higher property taxes. Moreover, the owners will not be able to use the property for their personal and preferred use. For these reasons, a no-action alternative is not favorable.

**2. ALTERNATIVE LOCATION**

The location of the proposed structure on the subject parcel, as graphically depicted on the Site Plan (Exhibit 8), is deemed the most appropriate. The Applicant’s preference would be to locate the home further seaward, however doing so would be in contradiction with the new County of Kauai Shoreline Setback ordinance. Situating the proposed residence further inland from the shoreline is undesirable from the Applicant’s standpoint and unwarranted by the findings of the Historical Shoreline Erosion Analysis conducted by EKNA services. The proposed 100-foot shoreline setback is very

conservative and relies upon an accurate scientific interpretation of the historic data available.

**3. ALTERNATIVE USE**

The Applicant has not identified any alternative uses for the subject parcel which would satisfy their needs. The construction of a residence has always been the intended land use for the property.

**C. SUMMARY OF MITIGATIVE MEASURES**

The major impacts of the proposed action will occur during the construction of the proposed residence. As described herein, the primary impacts will be construction related noise and dust, as well as a temporary increase in construction related traffic along Kuhio Highway.

The Applicant will implement all of the mitigative measures described herein to prevent or reduce anticipated construction related impacts. Best Management Practices will be employed during construction to minimize airborne pollutants and dust. The heavy equipment that will be used for site grading will be properly maintained and equipped with exhaust systems and muffling devices to minimize their emissions and noise levels. Construction activities will be limited to the working hours between 7:30 AM and 5:30 PM. Noise levels shall comply with the State of Hawaii, Department of Health noise regulations. Furthermore, the Applicant agrees to adhere to any additional measures that the Board may recommend to insure against environmental degradation.

## SECTION IV

### EXPECTED DETERMINATION & SIGNIFICANCE CRITERIA

**A. DETERMINATION:**

This Final Environmental Assessment concludes that **no significant negative impacts** upon the environment, be they primary, secondary or cumulative, will result due to the implementation of the proposed action to construct a Single Family Residence on the subject parcel. Furthermore, the action does not have any associated hidden long-term environmental or social costs. The proposed construction of a Single-Family Residence is an identified land use within the Limited Subzone of the Conservation District. As such, in compliance with HRS 343 11-200-11, a **Finding of No Significant Impact (FONSI)** is anticipated. Therefore it is the Applicant's opinion that the manageable impacts of the project do not warrant the preparation of an Environmental Impact Statement.

**B. SIGNIFICANCE CRITERIA:**

Chapter 200 of Title 11, Administrative Rules of the department of Health which is entitled "Environmental Impact Statement Rules" establishes significance criteria for evaluating the impacts of a proposed action upon the environment. The relationship of the proposed **Jackson/Banke Single-Family Residence** to each of these criteria is reviewed below:

**1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resources.**

The proposed action will not involve a loss or destruction of any natural or cultural resources.

**2. Curtails the range of beneficial uses of the environment.**

The proposed action will not curtail the range of beneficial uses of the environment. Long-term negative environmental impacts are not anticipated as a result of the proposed action. All development is proposed to occur on private property.

3. **Conflicts with the State’s long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.**

The project does not conflict with the State’s long-term environmental policies, goals and guidelines.

4. **Substantially affects the economic or social welfare of the community or State.**

The project will not have a significant impact upon either the economic or social welfare of the community or State.

5. **Substantially affects public health.**

The proposed action is not anticipated to substantially or negatively impact public health. The air quality and noise impacts that will result during the construction of the proposed residence will be of a short-term and insubstantial nature.

6. **Involves substantial secondary impacts, such as population changes or effects on public facilities.**

The proposed action will not involve substantial secondary impacts. The development of a Single-Family Residence in an area which is already characterized by similar residential development, will not create any additional pressures of a substantial nature.

7. **Involves a substantial degradation of the environmental quality.**

The proposed action is not anticipated to have a negative impact upon the environment.

8. **Is individually limited, but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.**

The proposed project will not create a commitment for any larger action, nor will it contribute to a cumulative negative effect upon the environment. The proposed action is a stand-alone development project for the construction of a Single-Family Residence.

9. **Substantially affects a rare, threatened, or endangered species or habitat.**

The project *parcel* is devoid of any rare, threatened or endangered species. *The adjacent coastline and beach area fronting the project provides critical habitat for the endangered Hawaiian monk seal. However, the proposed residence, conservatively set back 100-feet from the Certified Shoreline will not place the Hawaiian monk seal habitat or any other nearby habitat at risk.*



**10. Detrimentially affects air or water quality or ambient noise levels.**

As identified in the text of this Environmental Assessment, air quality and noise levels will be negatively affected throughout the various phases of project construction. Nevertheless, measures are proposed herein which will help to mitigate the extent of such impacts. No long-term negative impacts will result upon the air or water quality or upon ambient noise levels as a result of the proposed action.

**11. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.**

The project is situated in Zone VE 30 as designated on the Federal Flood Insurance Rate Map (FIRM) prepared by the National Flood Insurance Program. Zone VE is defined as a coastal flood area with a velocity hazard (wave action) susceptible to a 100-year tsunami inundation. County regulations regarding structures located within this coastal high hazard area require a base flood elevation for the lowest horizontal structural member of the proposed residence to be 30 ft. above Mean Sea Level (MSL). The design of the proposed residence is entirely compliant with these FIRM guidelines.

**12. Substantially affects scenic vistas and viewplains identified in County or State plans or studies.**

The proposed action will not substantially affect scenic vistas and/or public view plains. The proposed residence will not be readily visible from the beach. Furthermore, the parcel is already landscaped with mature vegetation, which will soften the visual impact of the development from nearby property owners and the adjacent roadway.

**13. Requires substantial energy consumption.**

The proposed Single-Family Residence will not consume substantial or undue amounts of energy.

## SECTION V

### PERMITS, VARIANCES, AND APPROVALS

#### **A. SPECIAL MANAGEMENT AREA USE PERMIT**

Since the project site is located within the Special Management Area (SMA), it is subject to the SMA Rules and Regulations of the County of Kauai. However, the proposed action is exempt from obtaining an SMA Use Permit because it satisfies “non-development” criteria per Section 1.4, Paragraph H (2)(a) of the Special Management Area Rules and Regulations of the County of Kauai.

#### **B. SHORELINE CERTIFICATION**

The shoreline fronting the subject property was certified on February 20, 2008. A copy of the certified shoreline survey map is presented in Exhibit 6.

#### **C. OTHER DEPARTMENTAL PERMITS**

Additional construction related permits shall be obtained from both County and State agencies as is required of the Building Permit process which is administered by the Department of Public Works, County of Kauai. This shall include among other things a Department of Health approval for an Individual Wastewater System (IWS), and Public Works approval for grading, grubbing and structural design.

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<sup>i</sup> Bassford, Sara Q., B.A.; Dagher, Cathleen A., B.A.; and Dega, Michael, Ph.D. (2007, May) *An Archaeological Inventory Survey of a 2.0 Acre Beachfront Property in Haena Ahupuaa, Halelea District, Kauai Island, Hawaii [TMK (4) 5-9-005: 028]*. Prepared for Schot, Jackson & Banke, Scientific Consultant Services, Inc.

<sup>ii</sup> Hawaii Coastal Hazard Mitigation Guidebook, prepared for the Office of Conservation and Coastal Lands, Department of Land and Natural Resources, Coastal Zone Management Program, Office of Planning, State of Hawaii, University of Hawaii Sea Grant College Program and the Pacific Services Center – NOAA, prepared by Dennis J. Hwang, January 2005.

<sup>iii</sup> Kauai County Council, State of Hawaii *A Bill for an Ordinance Establishing a New Article 27, Chapter 8, Kauai County Code 1987 Relating to Shoreline Setback and Coastal Protection*, Ordinance No. 863, Bill No. 2226, Draft 4; Approved by Mayor Bryan Baptiste, January 25, 2008.