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

FILE COPY

APR 08 2019

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

March 22, 2019

Scott Glenn, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

Final Environmental Assessment (FEA)
Applicant: The Kona Historical Society
Request: Kona Museum Gallery
TMK: (3) 8-1-004:043, Kalukalu, South Kona, Hawai'i

Dear Mr. Glenn:

The County of Hawai'i Planning Department has reviewed the comments received during the 30-day comment period on the draft environmental assessment that ended 30 days after February 8, 2019 (date the project was posted in the OEQC Environmental Notice). We have determined that the project will not have significant environmental effects and have issued a Finding of No Significant Impact (FONSI).

Please publish notice of availability for this project in the next available OEQC Environmental Notice. One hard copy each of the completed OEQC Publication Form with the project summary and the FEA will be hand delivered to your office today along with a disk containing that information.

If you have any questions regarding the above, please contact April Surprenant of this department at (808) 961-8131.

Sincerely,

MICHAEL YEE
Planning Director

AJS:rl
P:\wpwin60\CH343\2019\KHS Gallery\KHS Gallery FONSI 2019-03.doc

cc: Geometrician Associates

RECEIVED
'19 MAR 25 A10:49
OFC. OF ENVIRONMENTAL QUALITY CONTROL

19-301

APPLICANT
PUBLICATION FORM

Project Name:	Kona Historical Society Kona Museum Gallery
Project Short Name:	Kona Historical Society Gallery
HRS §343-5 Trigger(s):	Use of Land Within a Historic Site, Use of State Funds
Island(s):	Hawai'i
Judicial District(s):	South Kona
TMK(s):	8-1-004:043
Permit(s)/Approval(s):	• Hawai'i County Building Division Approval and Building Permit • Hawai'i County Planning Department Plan Approval • Hawai'i County Public Works Department Grading Permit • Hawai'i State Department of Health Individual Wastewater System Permit
Approving Agency:	Hawai'i County Planning Department
Contact Name, Email, Telephone, Address	Michael Yee, Director Michael.Yee@HawaiiCounty.gov 808-961-8288 Hawai'i County Planning Dept. 101 Pauahi Street, Suite 3 Hilo HI 96720
Applicant:	Kona Historical Society
Contact Name, Email, Telephone, Address	Dance Aoki, Acting Executive Director Dance@konahistorical.org 808-323-3222 P.O. Box 398 Captain Cook, HI 96704
Consultant:	Geometrician Associates LLC
Contact Name, Email, Telephone, Address	Ron Terry, rterry@hawaii.rr.com 808-969-7090 P.O. Box 396 Hilo, Hawai'i 96721

Status (select one)	**Submittal Requirements**
__ DEA-AFNSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.
_x_ FEA-FONSI	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.
____ FEA-EISPN	Submit 1) the approving agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.
____ Act 172-12 EISPN ("Direct to EIS")	Submit 1) the approving agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.
____ DEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.
____ FEIS	Submit 1) a transmittal letter to the OEQC and to the approving agency, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.
____ FEIS Acceptance Determination	The approving agency simultaneously transmits to both the OEQC and the applicant a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.

____ FEIS Statutory Acceptance	The approving agency simultaneously transmits to both the OEQC and the applicant a notice that it did not make a timely determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and therefore the applicant's FEIS is deemed accepted as a matter of law.
____ Supplemental EIS Determination	The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is or is not required; no EA is required and no comment period ensues upon publication in the Notice.
____ Withdrawal	Identify the specific document(s) to withdraw and explain in the project summary section.
____ Other	Contact the OEQC if your action is not one of the above items.

Project Summary

Provide a description of the proposed action and purpose and need in 200 words or less.

The Kona Historical Society (KHS) comprises the National Register-listed H.N. Greenwell Historic Store Museum, the Portuguese Stone Bread Oven and the Kona Coffee Living History Farm. KHS serves 60,000 patrons annually onsite and through outreach. The proposed two-story, 1,360 square-foot Gallery will blend into the historic landscape, resembling a 19th century Kona ranch structure but with a modern "white cube" interior for exhibits, cultural activities, and community space. It will be climate-controlled and capable of hosting traveling exhibits as well as exhibits from KHS's rich collections. Utilities are available onsite. A new IWS and minor drainage facilities will be built. The site is currently lawn with shrubs and low trees. Land disturbance will be limited to the project site through contractor orientation and orange fencing. KHS's functions of interpreting significant historic resources and providing education in Hawaiian cultural traditions will be enhanced. Impacts to the islandwide-ranging endangered Hawaiian hoary bats will be avoided through vegetation removal timing. Given the current negligible level of traffic generation, and the concentration of current and future traffic in non-peak hours, no adverse effect to traffic flow is expected. Short-term noise, air, and water quality impacts associated with grading and landscaping would be mitigated.

Final Environmental Assessment and Finding of No Significant Impact Kona Historical Society Kona Museum Gallery

TMK: (3rd) 8-1-004:043
Kalukalu, South Kona District, Hawai‘i Island, State of Hawai‘i

April 2019

Prepared for:
County of Hawai‘i, Planning Department
101 Pauahi Street, Suite 3, Hilo, HI 96720

FINAL ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT

Kona Historical Society
Kona Museum Gallery

TMK: (3rd) 8-1-004:043
Kalukalu, South Kona District, Hawai‘i Island, State of Hawai‘i

APPLICANT:

The Kona Historical Society
P.O. Box 398
Captain Cook, HI 96704

APPROVING AGENCY:

County of Hawai‘i, Planning Department
101 Pauahi Street, Suite 3
Hilo, HI 96720

CONSULTANT:

Geometrician Associates LLC
P.O. Box 396
Hilo, Hawai‘i 96721

CLASS OF ACTION:

Use of State Funds
Use Within a Historic Site

This document is prepared pursuant to:

The Hawai‘i Environmental Protection Act,
Chapter 343, Hawai‘i Revised Statutes (HRS), and
Title 11, Chapter 200, Hawai‘i Department of Health Administrative Rules (HAR)

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TABLE OF CONTENTS

SUMMARY ii
PART 1: PROJECT DESCRIPTION, PURPOSE AND NEED AND E.A. PROCESS 1
1.1 Project Location, Purpose and Need and Description 1
1.2 Environmental Assessment Process 13
1.3 Public Involvement and Agency Coordination 14
PART 2: ALTERNATIVES 15
2.1 Alternative Concepts and Strategies 15
2.2 No Action 15
PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION 16
3.1 Physical Environment 16
3.1.1 Climate, Geology, Soils and Geologic Hazard 16
3.1.2 Drainage, Water Features and Water Quality 17
3.1.3 Flora, Fauna, and Ecosystems 19
3.1.4 Air Quality, Noise and Scenic Resources 21
3.1.5 Hazardous Substances, Toxic Waste and Hazardous Conditions 22
3.2 Socioeconomic and Cultural 22
3.2.1 Socioeconomic Characteristics 22
3.2.2 Cultural Setting 22
3.2.3 Archaeology and Historic Sites 33
3.3 Infrastructure 32
3.3.1 Utilities 34
3.3.2 Roadways 35
3.4 Secondary and Cumulative Impacts 37
3.5 Required Permits and Approvals 37
3.6 Consistency with Government Plans and Policies 37
3.6.1 Hawai‘i State Plan 37
3.6.2 Hawai‘i County General Plan, Kona CDP, Zoning and CRC 37
3.6.3 Hawai‘i State Land Use Law 41
PART 4: DETERMINATION 41
PART 5: FINDINGS AND REASONS 41
REFERENCES 43

LIST OF FIGURES

FIGURE 1 Location Map 2
FIGURE 2 TMK Map 3
FIGURE 3 Project Site Photos 3
FIGURE 4 Site Plans 5
FIGURE 5 Flood Hazard Map 18

LIST OF TABLES

TABLE 1 Plant Species Observed on Project Site 20
TABLE 2 Selected Socioeconomic Characteristics 23

LIST OF APPENDICES

APPENDIX 1a Comments in Response to Early Consultation/Previous Correspondence
APPENDIX 1b Comments to Draft EA and Responses
APPENDIX 2 Archaeological Inventory Survey and DLNR-SHPD Correspondence

SUMMARY OF THE PROPOSED ACTION, ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The Kona Historical Society (KHS) is a unique educational and cultural center located along Mamalahoa Highway in Kealakekua in *mauka* Kona. It includes in its main campus the H.N. Greenwell Historic Store Museum, the Portuguese Stone Bread Oven, and office facilities. A few miles south in Captain Cook is the Kona Coffee Living History Farm. KHS also conducts outreach programming, festival performances, and other activities, serving in all over 60,000 patrons per year. KHS currently lacks the community program and gallery space it requires to fulfill its mission, a situation the proposed project would address. The Kona Museum Gallery will resemble a 19th century Kona ranch structure from the outside but will feature a modern "white cube" interior for exhibits, cultural activities, and community space. The two-story, 1,360 square-foot building has been designed to blend seamlessly into the historic buildings and landscape surrounding it, and will include an exhibit area, retail area, storage and restrooms. It will be climate-controlled and thus capable of hosting traveling exhibits as well as featured exhibits from KHS's rich collections. Water, telephone and electricity services are already available on the site and the lines will be extended underground to the Gallery. A new individual wastewater system will be built, as well as minor drainage sump facilities to handle drainage.

A botanical survey determined that no threatened or endangered plant species are present. Clearing timing restrictions will help prevent impacts to the endangered but widely distributed Hawaiian hoary bat. Given the current negligible level of traffic generation, and the concentration of current and future traffic within non-peak hours, no adverse effects to traffic flow on Mamalahoa Highway is expected. Short-term noise, air, and water quality impacts associated with grading and landscaping would be mitigated. The contractor shall perform all earthwork and grading in conformance with Chapter 10, Erosion and Sediment Control, Hawai‘i County Code. The contractor will be required to consult with the Department of Health, and, if appropriate, obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction, which may include various mitigation measures. The H.N. Greenwell Store is on the National and Hawai‘i Registers of Historic Places. Archaeological and architectural surveys have led to preservation and interpretation activities that are at the core of the Kona Historical Society's mission. Surveys of the project site itself have determined that it no longer contains significant historic features. No significant historic sites will be adversely affected by the project, which will further the mission of the Kona Historical Society. Work involving potential land disturbance will be strictly limited to the project site through contractor orientation and orange fencing to mark sensitive areas. If archaeological resources, Hawaiian cultural items or human remains are encountered during land-altering activities associated with construction, work in the immediate area of the discovery will be halted and the State Historic Preservation Division will be contacted. The Kona Historical Society functions as an essential cultural resource by providing education in Hawaiian cultural traditions; the project will enhance the center's ability to provide these educational resources. The Planning Department has determined that the project will not have significant impacts in the context of Chapter 343, HRS and has declared a Finding of No Significant Impact.

PART 1: PROJECT DESCRIPTION, PURPOSE AND NEED AND ENVIRONMENTAL ASSESSMENT PROCESS

1.1 Project Location, Purpose and Need and Description

Project Location

The project site is an approximately 8,000-square foot (sf) portion of TMK) 8-1-004:043 owned by the Kona Historical Society (KHS), located along Mamalahoa Highway in *mauka* Kona, in the community of Kealakekua, on the Island of Hawai‘i (Figures 1-3). Currently landscaped with lawn, trees and shrubbery in addition to an unpaved parking area, the project site is nestled among various features of the KHS campus, including a museum, the remains of the historic Greenwell House, and the KHS Office. On the lower, western part of the property is an old pasture that supports various activities including events with the Portuguese Stone Bread Oven.

Purpose and Need

The Kona Historical Society is a unique educational and cultural resource for residents and visitors alike. Many visit the H.N. Greenwell Historic Store Museum (a site that is was placed on the National and Hawai‘i Registers of Historic Places in 1978), the Portuguese Stone Bread Oven, and the Kona Coffee Living History Farm, which is located a few miles south in Captain Cook. The Jean Greenwell Archive and Library is a repository for regionally significant archival and museum collections. KHS also conducts outreach programming, festival performances, and other activities. KHS-subsidized visiting school groups see the photos, collections, art work, and artifacts that anchor them to their cultures and communities. Other school activities include mochi making, lauhala weaving demonstrations, and native forest plant identification. Altogether, KHS serves over 60,000 patrons per year. This non-profit organization is a critical component of historic preservation, education and cultural activities in Kona.

KHS currently lacks community program and gallery space. Indeed, although Kona has many small societies, archives, and museums with specialties such as natural history or astronomy, the region lacks a true general museum or art gallery. Students as well as members of the public are accustomed to going to art shows in hair salons and seeing historic photographic exhibits in church halls. There is a need for a professionally designed and adequately sized permanent space for these activities. The demand for this venue for West Hawai‘i has been clearly articulated and tracked by stakeholders and the community. The purpose of the project is to create a sustainable community center that can provide cultural, artistic, and public historical experiences to local and visiting students, residents, and guests. The value of such services will be immeasurably enhanced by its location within a site of recognized statewide and national historic significance, where KHS hosts weekly public programs, including some free-to-the-public programs, and provides green space in a park-like setting for community enjoyment. This capital project is intended to provide a vital service in the arts and humanities to enrich not only Kona but the entire Hawai‘i Island community.

Figure 1. Project Location

Figure 2. TMK Map

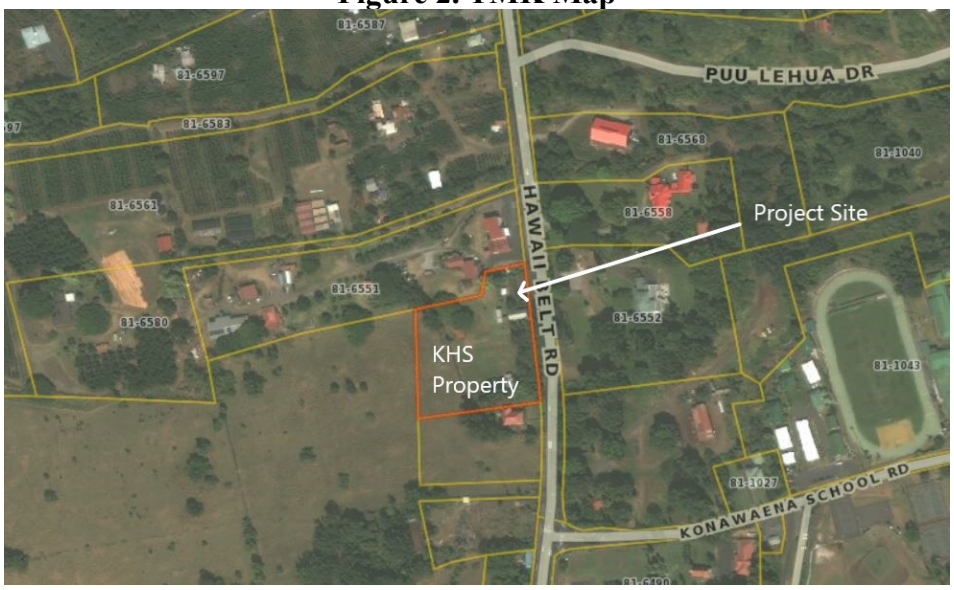
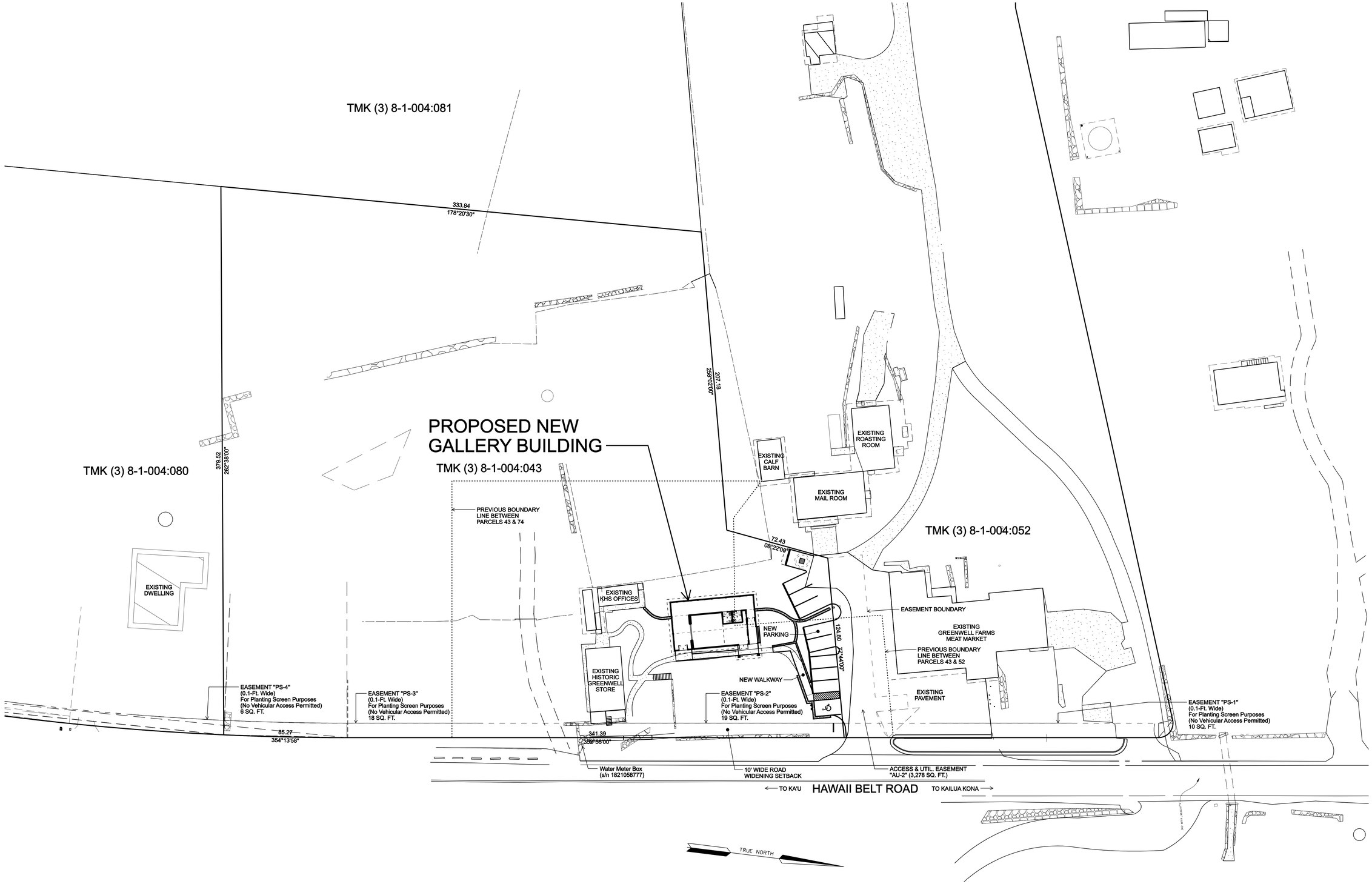


Figure 3. Project Site Photos

3a. Site for Proposed Gallery ▲ ▼ 3b. H.N. Greenwell Store Museum © Google Earth

Figure 3. Project Site Photos, continued

3c. Driveway▲ ▼ 3d. Lower Property



PLOT PLAN

SCALE: 1"=30.00'

REVISIONS	BY

PIPER DESIGNS

Pete Piper
75-5944 Kuakini Hwy, Ste 2
331-2244
Kailua Kona, HI 96740

JEFFREY L. GROSS
LICENSED PROFESSIONAL ARCHITECT
HAWAII, U.S.A.
EXPIRES 04/30/2020

This work was prepared by me or under my supervision and conform to the project will be under my observation.

Signature

A PROPOSED NEW GALLERY BUILDING FOR:
KONA HISTORICAL SOCIETY
SOUTH KONA, HAWAII
T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE : 6/27/2018	
SCALE : 1"=30'	
DRAWING: PLOT PLAN	
SHEET A1	

7 OF 30 SHEETS

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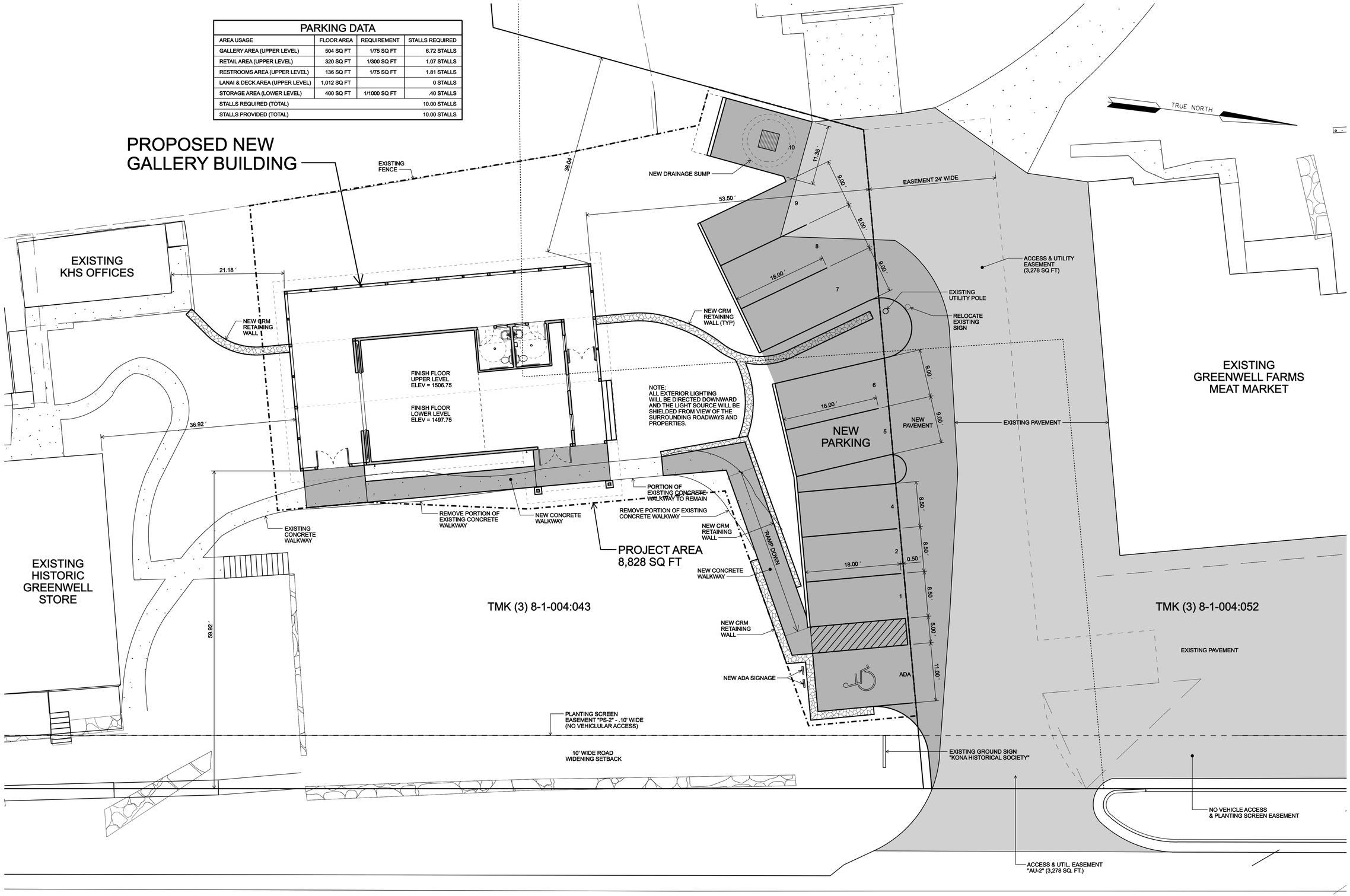
PARKING DATA			
AREA USAGE	FLOOR AREA	REQUIREMENT	STALLS REQUIRED
GALLERY AREA (UPPER LEVEL)	504 SQ FT	1/75 SQ FT	6.72 STALLS
RETAIL AREA (UPPER LEVEL)	320 SQ FT	1/300 SQ FT	1.07 STALLS
RESTROOMS AREA (UPPER LEVEL)	136 SQ FT	1/75 SQ FT	1.81 STALLS
LANAI & DECK AREA (UPPER LEVEL)	1,012 SQ FT		0 STALLS
STORAGE AREA (LOWER LEVEL)	400 SQ FT	1/1000 SQ FT	.40 STALLS
STALLS REQUIRED (TOTAL)			10.00 STALLS
STALLS PROVIDED (TOTAL)			10.00 STALLS



SITE PLAN

SCALE: 1"=8.00'

M:\Jobs\Jobs 2015\P15-025\Sheets\Sheet-08-A2.dgn 07/03/2018

REVISIONS	BY

PIPER DESIGNS
Pete Piper
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Kailua Kona, HI 96740
331-2244

JEFFREY L. GROSS ☆ LICENSED PROFESSIONAL ARCHITECT HAWAII U.S.A. ☆ EXPIRES 04/30/2020

FOR: This work was prepared by me or under my supervision and to the best of my knowledge, this project will be under my observation.

Signature

A PROPOSED NEW GALLERY BUILDING FOR:
KONA HISTORICAL SOCIETY
SOUTH KONA, HAWAII
T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE : 6/27/2018	
SCALE : 1"=8'	
DRAWING: SITE PLAN	
SHEET **A2**	

8 OF 30 SHEETS

A NEW GALLERY BUILDING FOR:
KONA HISTORICAL SOCIETY

HAWAII COUNTY CODE - CHAPTER 5 - BUILDING

2006 IECC & ORDINANACES 09-48 & 10-68

BUILDING ENERGY EFFICIENCY STANDARDS

I CERTIFY THAT THE DESIGN IS IN CONFORMANCE WITH THE BUILDING ENERGY EFFICIENCY STANDARDS PERTAINING TO:

SECTION 502 BUILDING ENVELOPE
SECTION 503 BUILDING MECHANICAL SYSTEMS
SECTION 504 SERVICE WATER HEATING (MANDATORY)
SECTION 505 ELECTRICAL POWER & LIGHTING SYSTEMS

Signature _____ Date _____

Title _____

License No. _____

PROJECT DATA

LOT AREA	3.111 ACRES
ZONING	RS-15
SETBACKS	PER SITE PLAN
COVERED ENTRY AREA (UPPER LEVEL)	112 SQ FT
GALLERY AREA (UPPER LEVEL)	504 SQ FT
RETAIL AREA (UPPER LEVEL)	320 SQ FT
RESTROOMS AREA (UPPER LEVEL)	136 SQ FT
LANAI & DECK AREA (UPPER LEVEL)	1,012 SQ FT
STORAGE AREA (LOWER LEVEL)	400 SQ FT
ALL FLOOR & DECK AREAS (TOTAL)	2,484 SQ FT
JURISDICTION	HAWAII COUNTY, HAWAII
CODES	2006 IBC, 2006 UPC, 2008 NEC
OCCUPANT LOAD - PER TABLE 1004.1.1	824 SQ FT @ 1/15 = 54
OCCUPANCY	B
CONSTRUCTION TYPE - PER TABLE 602	V-B
ALLOWABLE AREA - PER TABLE 503	12,000 SQ FT
FLOOR LIVE LOAD - PER TABLE 1607.1	100 PSF
ROOF LIVE LOAD	20 PSF
EFFECTIVE WIND SPEED - PER MAP W101.7	110 MPH
WIND EXPOSURE CATEGORY (REF. R301.2.1.4)	C
SEISMIC DESIGN CATEGORY (REF. FIGURE 301.2(2))	E
FIRE SPRINKLERS	N/A

SHEET INDEX

NBR.	SHEET	DESCRIPTION
1	T1	TITLE SHEET - PERRSPECTIVE VIEW
2	G1	GENERAL NOTES
3	C1	CIVIL TITLE SHEET
4	C2	GRADING PLAN
5	C3	GRADING NOTES & DETAILS
6	C4	GRADING DETAILS
7	A1	PLOT PLAN
8	A2	SITE PLAN
9	A3	FLOOR PLAN (LOWER LEVEL)
10	A4	FLOOR PLAN (MAIN UPPER LEVEL)
11	A5	CLERESTORY PLAN
12	A6	EXTERIOR ELEVATIONS
13	A7	SECTION A
14	A8	SECTION B
15	A9	SECTION C
16	A10	REFLECTED CEILING PLAN
17	S1	FOUNDATION PLAN
18	S2	FLOOR FRAMING PLAN
19	S3	ROOF FRAMING PLAN
20	P1	PLUMBING PLAN
21	P2	PLUMBING DIAGRAMS & NOTES
22	M1	MECHANICAL PLANS
23	M2	MECHANICAL NOTES
24	E1	ELECTRICAL SITE PLAN
25	E2	ELECTRICAL POWER PLAN (1ST FLOOR)
26	E3	ELECTRICAL LIGHTING PLAN (1ST FLOOR)
27	E4	ELECTRICAL POWER PLAN (2ND FLOOR)
28	E5	ELECTRICAL LIGHTING PLAN (2ND FLOOR)
29	E6	ELECTRICAL DIAGRAMS & CALCULATIONS
30	L1	LANDSCAPE PLAN

REVISIONS	BY

PIPER DESIGNS

Pete Piper

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331-2244

Kailua Kona, HI 96740

JEFFREY L. GROSS ☆ LICENSED PROFESSIONAL ARCHITECT HI 11532 ☆ HAWAII U.S.A.

EXPIRES 04/30/2020

This work was prepared by me or under my supervision and meets minimum standards of this jurisdiction. Any other work by others in this project will be under my observation.

Signature _____

A PROPOSED NEW GALLERY BUILDING FOR:

KONA HISTORICAL SOCIETY

SOUTH KONA, HAWAII

T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE : 6/27/2018	
SCALE : N/A	

DRAWING:

PERSPECTIVE VIEW

SHEET

T1

1 OF 30 SHEETS

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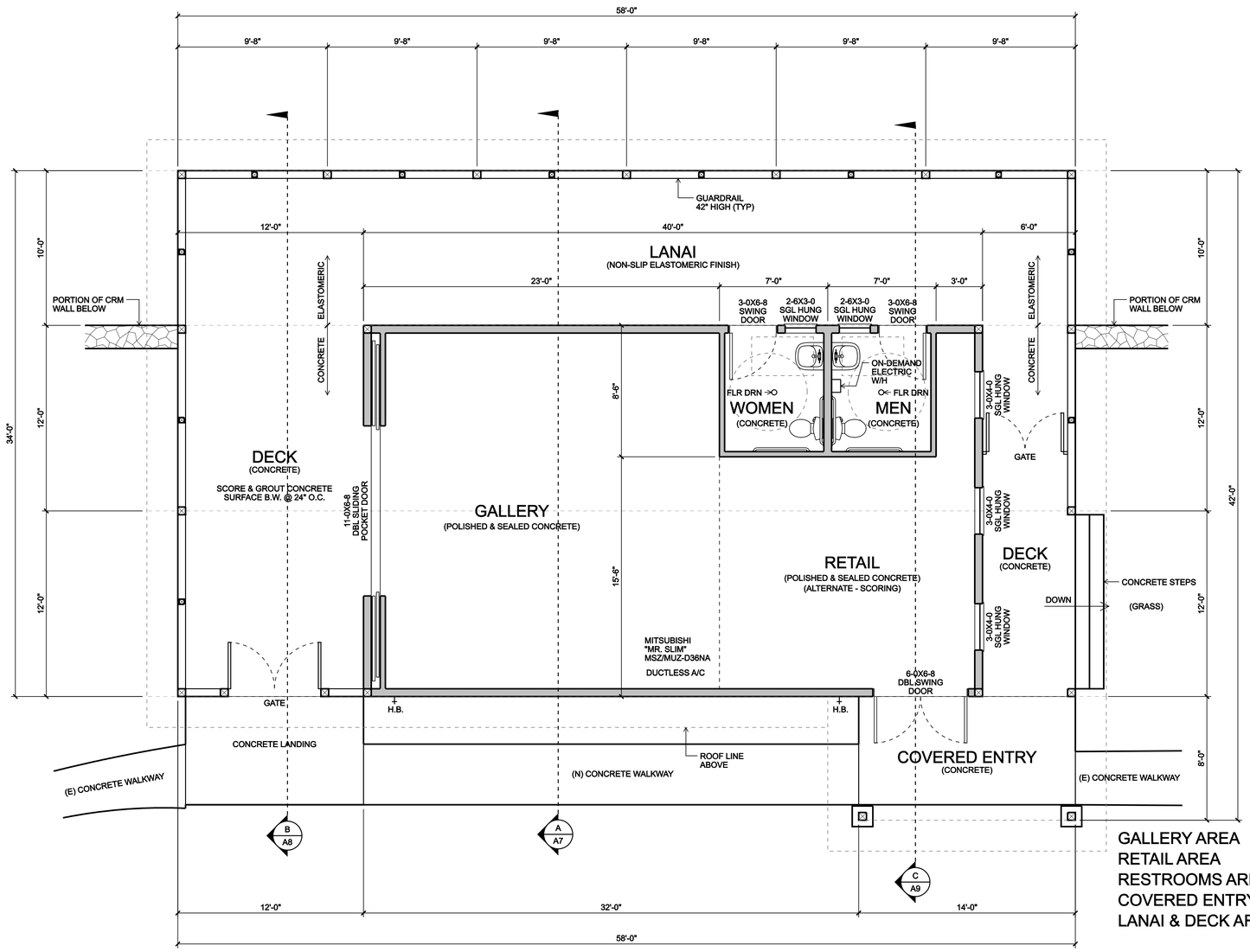

GALLERY AREA	504 SQ FT
RETAIL AREA	320 SQ FT
RESTROOMS AREA	136 SQ FT
COVERED ENTRY AREA	112 SQ FT
LANAI & DECK AREA	1,012 SQ FT

FLOOR PLAN (UPPER LEVEL)

SCALE: 1/4"=1'-0"

REVISIONS	BY

PIPER DESIGNS
Pete Piper
75-5944 Kuakini Hwy, Ste 2
331-2244
Kailua Kona, HI 96740

JEFFREY L. GROSS
LICENSED PROFESSIONAL ARCHITECT
HAWAII U.S.A.
EXPIRES 04/30/2020

This work was prepared by me or under my supervision and conforms to codes and laws applicable to this project will be under my observation.

Signature

A PROPOSED NEW GALLERY BUILDING FOR:
KONA HISTORICAL SOCIETY
SOUTH KONA, HAWAII
T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE :	6/27/2018
SCALE :	1/4"=1'-0"

DRAWING:
FLOOR PLAN
(UPPER LEVEL)

SHEET

A4

10 OF 30 SHEETS

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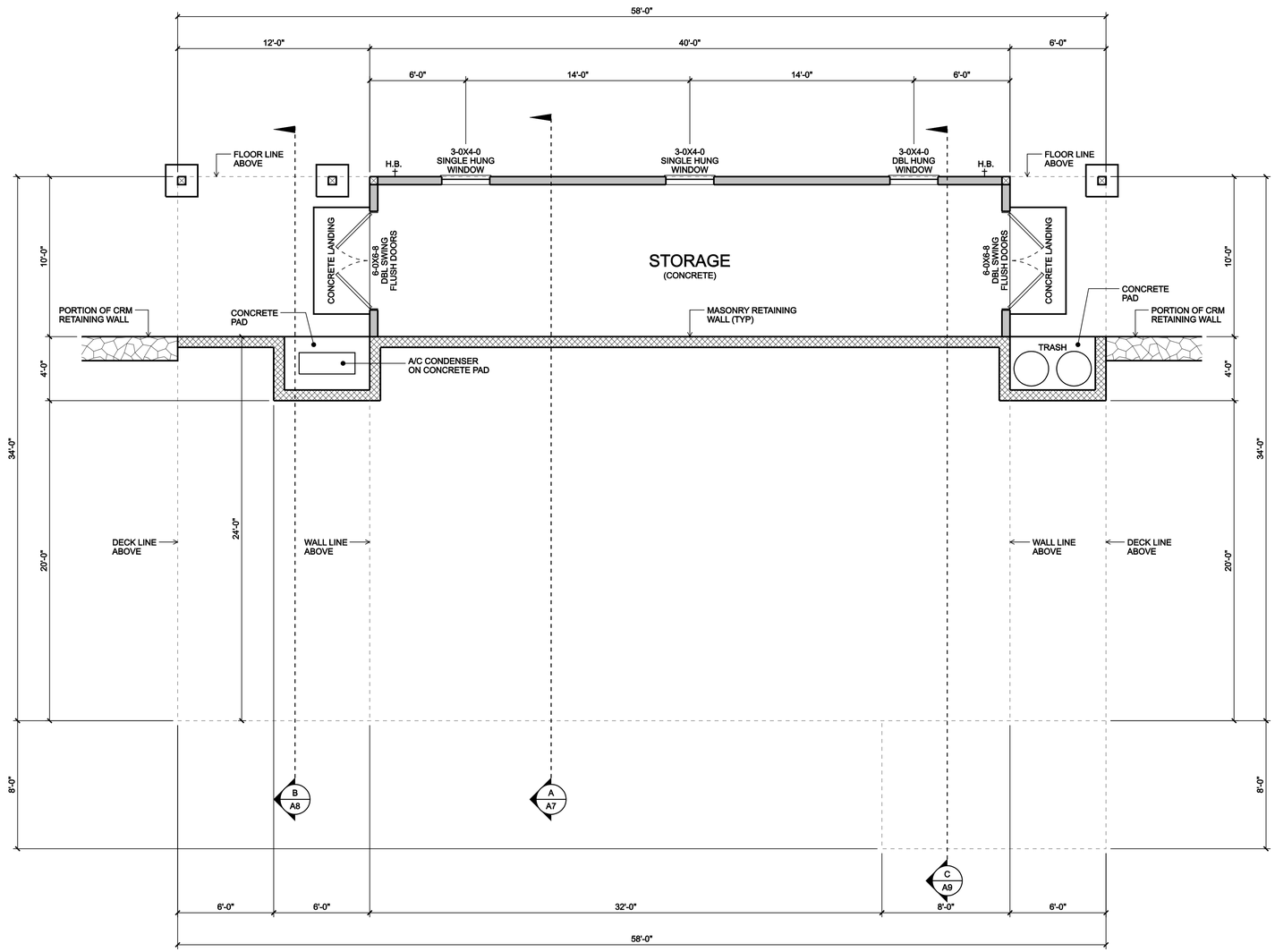

FLOOR PLAN (LOWER LEVEL)

STORAGE AREA 400 SQ FT

SCALE: 1/4"=1'-0"

REVISIONS	BY

PIPER DESIGNS

Pete Piper

75-5944 Kuakini Hwy, Ste 2

331-2244

Kailua Kona, HI 96740

JEFFREY L. GROSS LICENSED PROFESSIONAL ARCHITECT HAWAII U.S.A. EXPIRES 04/30/2020

This work was prepared by me or under my supervision and contains details that project will be under my observation.

Signature

A PROPOSED NEW GALLERY BUILDING FOR:

KONA HISTORICAL SOCIETY

SOUTH KONA, HAWAII

T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE : 6/27/2018	
SCALE : 1/4"=1'-0"	
DRAWING: FLOOR PLAN (LOWER LEVEL)	
SHEET A3	
9 OF 30 SHEETS	

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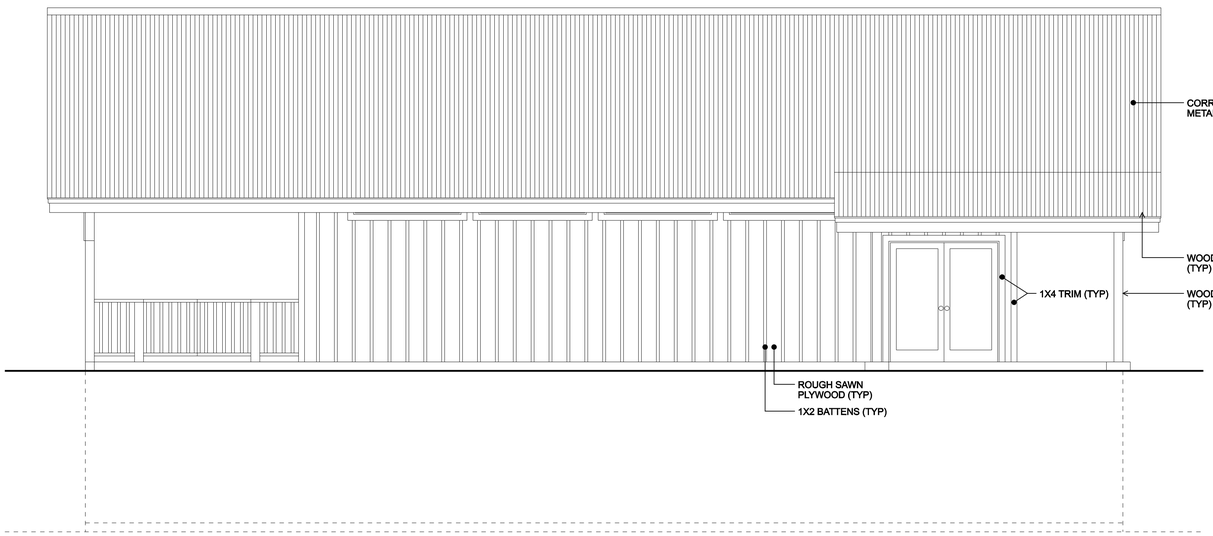
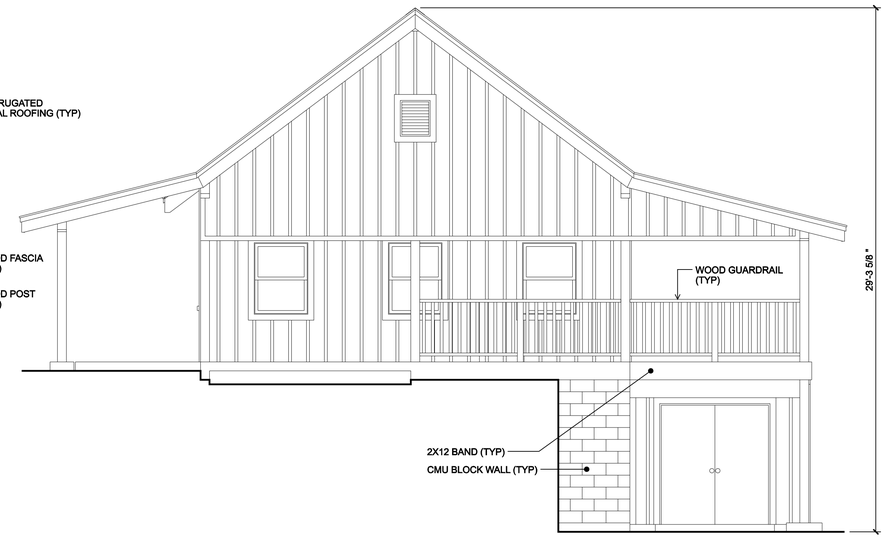


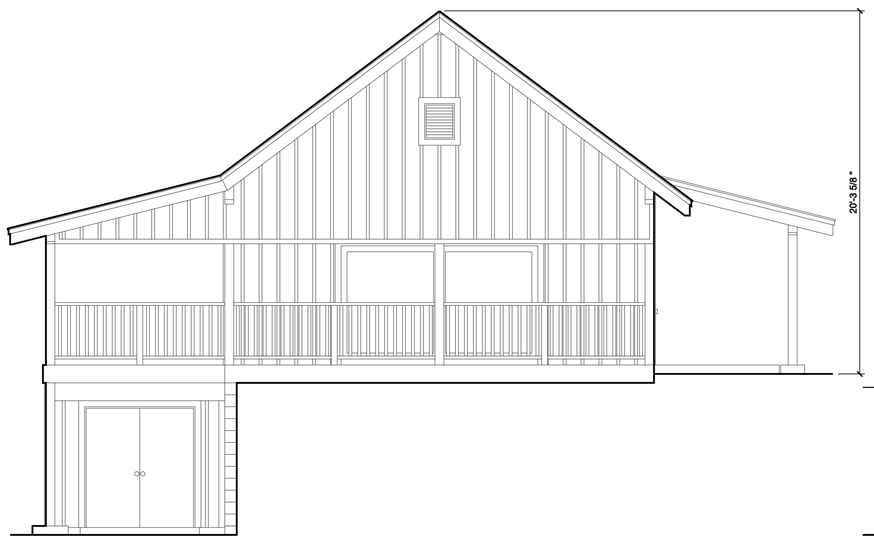
FRONT ELEVATION

SCALE: 1/4"=1'-0"



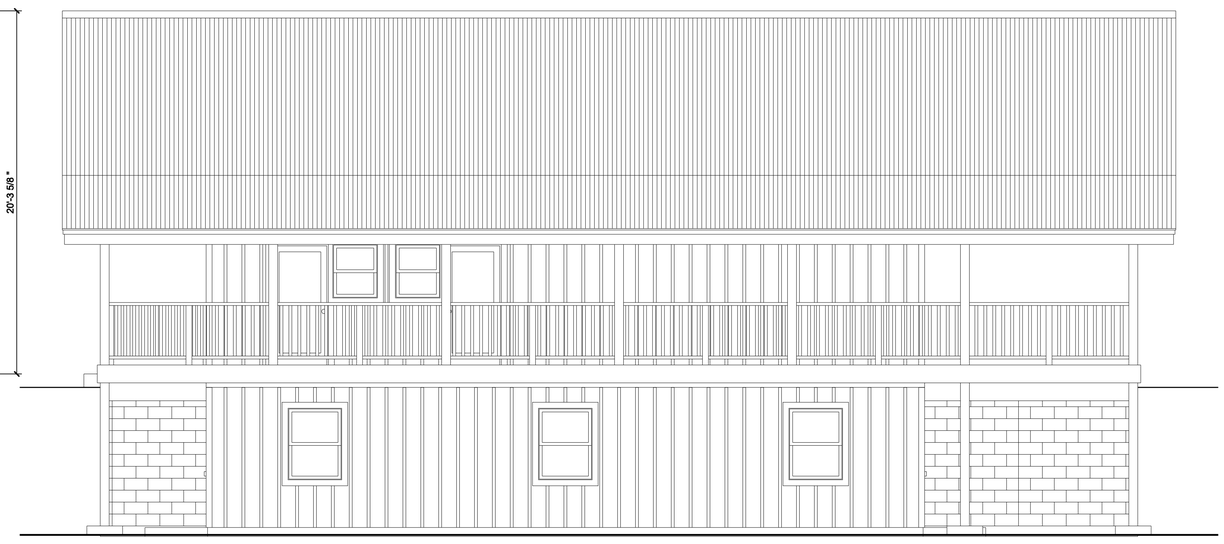
RIGHT ELEVATION

SCALE: 1/4"=1'-0"



LEFT ELEVATION

SCALE: 1/4"=1'-0"



REAR ELEVATION

SCALE: 1/4"=1'-0"

REVISIONS	BY

PIPER DESIGNS
Pete Piper
75-5944 Kuakini Hwy, Ste 2
331-2244
Kailua Kona, HI 96740

JEFFREY L. GROSS
LICENSED PROFESSIONAL ARCHITECT
AR 19537
HAWAII U.S.A.
EXPIRES 04/30/2020

FOR: This work was prepared by me or under my supervision and meets minimum standards of this project will be under my observation.

Signature

A PROPOSED NEW GALLERY BUILDING FOR:
KONA HISTORICAL SOCIETY
SOUTH KONA, HAWAII
T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE :	6/27/2018
SCALE :	1/4"=1'-0"

DRAWING:
EXTERIOR ELEVATIONS

SHEET
A6

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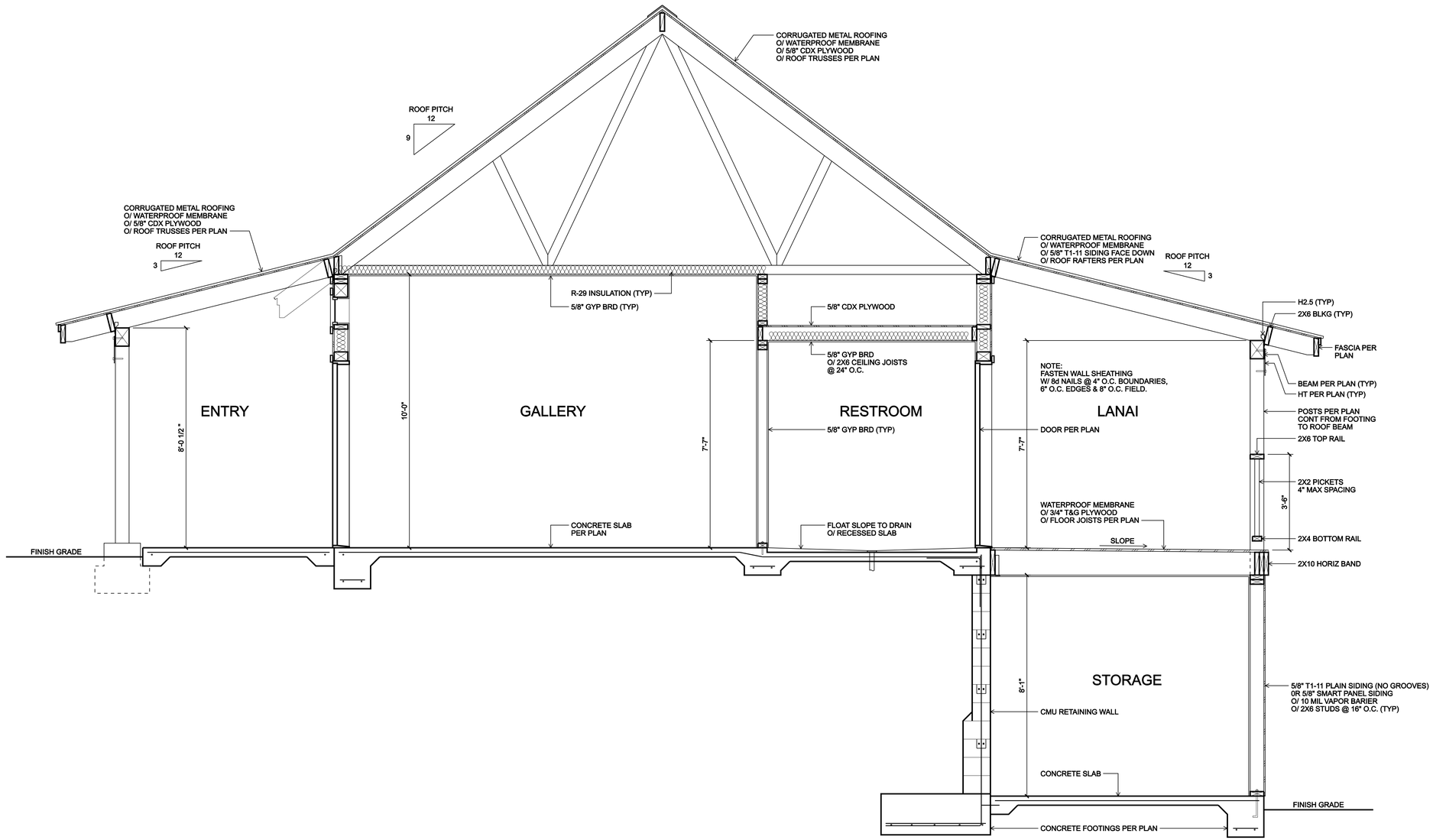

C
A9

SECTION

SCALE: 1/2"=1'-0"

REVISIONS	BY

PIPER DESIGNS

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331-2244
Kailua Kona, HI 96740

JEFFREY L. GROSS
LICENSED PROFESSIONAL ARCHITECT
HAWAII U.S.A.
EXPIRES 04/30/2020

FOR: This work was prepared by me or under my supervision and conforms to the codes of this project will be under my observation.

Signature

A PROPOSED NEW GALLERY BUILDING FOR:
KONA HISTORICAL SOCIETY
SOUTH KONA, HAWAII
T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE : 6/27/2018	
SCALE : 1/2"=1'-0"	
DRAWING: SECTION B	
SHEET A9	

15 OF 30 SHEETS

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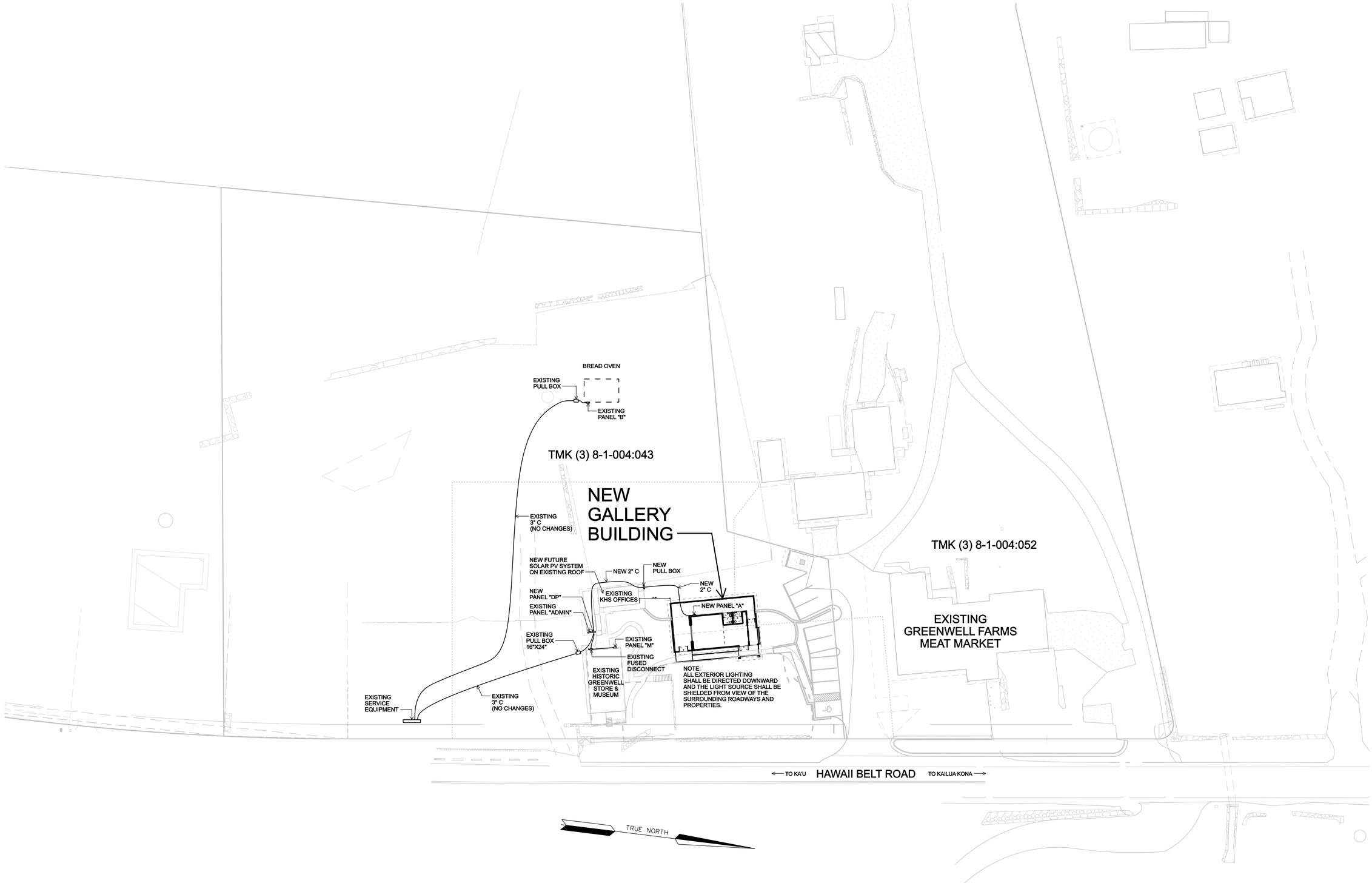

ELECTRICAL SITE PLAN

SCALE: 1"=30.00'

REVISIONS	BY

NOLA ENGINEERING, LLC
John K. Maute, P.E.
Phone: 808-962-0022
P.O. Box 342 Laupahoehoe, HI 96764

JOHN K. MAUTE LICENSED PROFESSIONAL ENGINEER NO. 8307-E HAWAII U.S.A. EXPIRES 04/30/2020

This work was prepared by me or under my supervision and conforms to the project will be under my observation.

Signature

A PROPOSED NEW GALLERY BUILDING FOR:
KONA HISTORICAL SOCIETY
SOUTH KONA, HAWAII
T.M.K. (3) 8-1-004:043

DRAWN : PJP	JOB # : P15-025
DATE : 12/30/2018	
SCALE : 1"=30'	
DRAWING: ELECTRICAL SITE PLAN	
SHEET E1	

24 OF 30 SHEETS

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Project Description

As shown in Figures 4c and 4f, the Kona Museum Gallery will resemble a 19th century Kona ranch structure from the outside but will feature a modern "white cube" interior for exhibits, cultural activities, and community space. With rough-sawn plywood with 1" by 3" battens for siding and a corrugated metal gabled roof, the new building will blend seamlessly into the historic buildings and landscape surrounding it. The two-story structure will be built into the slope, with 1,360 square feet of interior space for the exhibit area, retail area, storage and restrooms, illustrated in Figures 4d-e. It will be climate-controlled and thus capable of hosting exhibits on loan from national and State museums, as well as featured exhibits from KHS's rich collections. The upper floor will have a wrap-around lanai and wooden railings on three sides. The lanai will function as external circulation and is not for museum display purposes. Guests of the gallery will gather on the lanai as they are shepherded through the Museum part of the site visit tour. This community building has been designed for environmental sustainability and is expected to be a welcome location for education and cultural practice.

As shown in Figures 4a-b, the project also includes paving the existing parking area to include 10 parking stalls, at least one of which will be ADA compliant. A combination of new and existing concrete walkways and ramps will ensure that pedestrian access to the building is ADA-accessible. A drainage sump will dispose of runoff from the parking lot. Some ornamental vegetation will be removed, with several new ti plants and kukui trees. No irrigation will be required. Exterior lighting will be directed downward to minimize illumination effects. A wastewater system that will comply with Hawai‘i Administrative Rules Chapter 11-62, "Wastewater Systems" will be constructed just *makai* of the Gallery. Water, telephone and electricity services are already available on the site and the lines will be extended underground to the Gallery. It is intended that a photovoltaic system to be placed on the south-facing roof of the Administration Building, which will offset the electric demand.

1.2 Environmental Assessment Process

This Environmental Assessment (EA) process is being conducted in accordance with Chapter 343 of the Hawai‘i Revised Statutes (HRS). This law, along with its implementing regulations, Title 11, Chapter 200, of the Hawai‘i Administrative Rules (HAR), is the basis for the environmental impact process in the State of Hawai‘i. Compliance is required for this project because the Kona Historical Society, the applicant for this EA, will receive State funds from a Grant-in-Aid from the State Legislature: AGS 221 to the Kona Historical Society: Kona Historical Society's Gallery & Kona Museum. Governor David Ige confirmed the award of $600,000 in a letter of July 10, 2018, advising that the expenditure involved processing with the Department of Accounting and General Services (DAGS). Furthermore, the project involves "use within a historic site", the H.N. Greenwell Store and Museum, which was identified as a "trigger" for the Planning Department during the Plan Approval review process. As the Planning Department was the agency that identified the requirement for an EA during the Plan Approval process, it is acting as the approving agency for the EA. According to Chapter 343, an EA is prepared to determine impacts associated with an action, to develop mitigation measures for

adverse impacts, and to determine whether any of the impacts are significant according to thirteen specific criteria. Part 4 of this document states the anticipated finding that no significant impacts are expected to occur; Part 5 lists each criterion and presents the anticipated preliminary findings for each made by the applicant in consultation with the approving agency. If, after considering comments to the Draft EA, the approving agency concludes that, as anticipated, no significant impacts would be expected to occur, then the agency will issue a Finding of No Significant Impact (FONSI), and the action will be permitted to occur. If the agency concludes that significant impacts are expected to occur as a result of the proposed action, then an Environmental Impact Statement (EIS) will be prepared.

1.3 Public Involvement and Agency Coordination

Agencies and organizations with jurisdiction and expertise were consulted in development of the environmental assessment. As a courtesy, all adjacent property owners were also consulted.

State:
- Department of Land and Natural Resources, Historic Preservation Division
- Department of Land and Natural Resources, Director
- Office of Hawaiian Affairs

County:
- Planning Department
- Department of Public Works
- Police Department
- County Council
- Civil Defense Agency
- Department of Water Supply
- Fire Department

Private:
- Sierra Club
- Neighboring property owners: Konawaena Marketplace, Kinue Family Ltd. Partnership, Ahualanai, Joan E. Coupe Trust, Kalukalu Properties

Copies of comments received in response to early consultation are contained in Appendix 1a. Notice of the availability of the Draft EA was published in the February 8, 2019 *OEQC Environmental Notice*. Appendix1b contains written comments on the Draft EA and the responses to these comments. Various places in the EA have been modified to reflect input received in the comment letters; additional or modified non-procedural text is denoted by double underlines, as in this paragraph.

PART 2: ALTERNATIVES

2.1 Alternative Concepts or Locations

Because the KHS is a historical society and a Smithsonian Affiliated Museum, the actual work to preserve its historic sites, secure and purchase land, cultivate land donations, and develop its interpretive programs was predicated on the KHS using the land to preserve and tell the stories of the area. The historic site would not have been registered or protected without a long-range plan to use the site for public history and education, including by building a small period-looking building dedicated to this purpose where a previous ranch home of similar size and appearance had one stood. The original plan for the proposed gallery included this particular site. A "Ranch Committee" comprised of cultural historians, seasoned paniolo, and other experts familiar with the history of the current site assembled and conducted research and planning work about two decades ago. The goal was to develop the land to reflect typical ranch parcels of the 19th century and maintain "green space" on the property, but also accommodating a "history center" or what was later planned as a general museum "gallery". The alternatives for development of the property were thus constrained to fulfill a very specific mission, which only the proposed project provides.

The KHS owns another property, the Kona Coffee Living History Farm in Captain Cook. This site would not have been thematically suitable for the proposed gallery because of its land use context and interpretive emphasis. Moreover, road visibility issues and substantial topographical challenges in developing the site for the gallery made it completely unsuitable as an alternative. Financial and staffing sustainability required that this project be executed on land currently owned and staffed by KHS. A viable third site was not fiscally or operationally feasible. Furthermore, without the gallery in its present planned location, core mission elements of researching, preserving, and disseminating information about Kona and the Kalukalu site would be much more difficult. It is a planned climate controlled, proximate space to the present climate-controlled collection space. The proposed gallery location will allow the historic store to be better protected, as visitation and exhibits can be controlled through first visiting the gallery, thereby controlling entrance into the historic building in sustainable increments.
As there do not appear to be any environmental or other disadvantages with the proposed site, and the property is well suited to the proposed use, and there are no reasonable alternatives, no alternative sites or strategies have been advanced in the Environmental Assessment.

2.2 No Action

Under the No Action Alternative, the Kona Museum Gallery would not be built. The Kona Historical Society and the community it serves would continue to lack vitally needed community program and gallery space. No small community gatherings that require an indoor setting could be conducted, and exhibitions that require climate-controlled space in order to protect the exhibits would not be possible to stage. The No Action Alternative would be counter to the original preservation of the site and would not provide the proper venue for the historic collections and resources stewarded by Kona Historical Society at Kalukalu.

PART 3: ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Basic Geographic Setting

The 8,000-sf area of the property on which the Kona Museum Gallery and accessory facilities would be built is referred to throughout this EA as the *project site*. The term *project area* is used to describe the general environs of the project site, and, in some cases, the entire South Kona District.

The project site is located at approximately 1,500 feet in elevation in the community of Kealakekua, adjacent to Mamalahoa Highway, the central artery of *mauka* Kona (Figures 1-3). The project site is covered by grass and an informal garden of ornamental plants. The property is bordered on the north by the asphalt parking lot for the modern Greenwell Meat Market and on the northwest by Greenwell Farms mailing room and roasting room. Other nearby land uses are diverse, including agricultural (pastures and orchards of coffee and other crops); educational (Konawaena Elementary School, Konawaena Middle School and Konawaena High School); residential; and neighborhood commercial.

3.1 Physical Environment

3.1.1 Climate, Geology, Soils and Geologic Hazards

Environmental Setting

The average maximum daily temperature is approximately 78 degrees F, with an average minimum of 65 degrees, and annual rainfall averages approximately 50 inches. Winds are generally light upslope sea breezes in the daytime and light downslope land breezes at night (U.H. Hilo-Geography 1998:57; Giambelluca et al. 2013).

The project area is located on the lower flank of Mauna Loa in a terraced area sloping to the west at over 10 percent. The surface consists of weathered basalt soils derived from Holocene epoch (between 5,000 and 10,000 years old) lava flows from Mauna Loa (Wolfe and Morris 1996). The project site soil is classified by the U.S. Natural Resources Conservation Service (formerly Soil Conservation Service) as Honuaulu extremely stony silty clay loam, a silty organic soil that forms in ash and has 25 to 50 percent of its surface occupied by rock outcroppings. Permeability for this soil is rapid, runoff is slow, and erosion hazard slight. The Capability Subclass is VIIs, and it is mainly used for pasturing, woodland, and wildlife areas (U.S. Soil Conservation Service 1973).

The entire Big Island is subject to geologic hazards, especially lava flows and earthquakes. Volcanic hazard as assessed by the U.S. Geological Survey in this area of South Kona is 3 on a scale of ascending risk 9 to 1 (Heliker 1990:23). The high hazard risk is based on the fact that Mauna Loa is presently an active volcano. Volcanic hazard zone 3 areas have had 1-5% of their

land area covered by lava or ash flows since the year 1800, but are at lower risk than zone 2 areas because of their greater distances from recently active vents and/or because the local topography makes it less likely that flows will cover these areas.

The Island of Hawai‘i experiences high seismic activity and is at risk from major earthquake damage (USGS 2000), especially to structures that are poorly designed or built. On Sunday, October 15, 2006, two damaging earthquakes of magnitude 6.7 and 6.0 struck the west side of Hawai‘i Island, causing extensive damage in West Hawai‘i. An even stronger magnitude 6.9 occurred under Kilauea Volcano on May 3, 2018. None of these earthquakes caused more than minimal damage to the project site.

Impacts and Mitigation Measures

In terms of climate change, the site is located 1,500 feet above sea level and future sea level rise is not a consideration. As detailed in the next section, it is not vulnerable to flooding and possible future increases in storm frequency, rainfall and runoff should not be a concern. In general, although there is always a possibility of volcanic eruptions and seismic events, geologic conditions impose no overriding constraints on the proposed action, and the proposed project is not imprudent to construct under current conditions.

3.1.2 Drainage, Water Features and Water Quality

Existing Environment

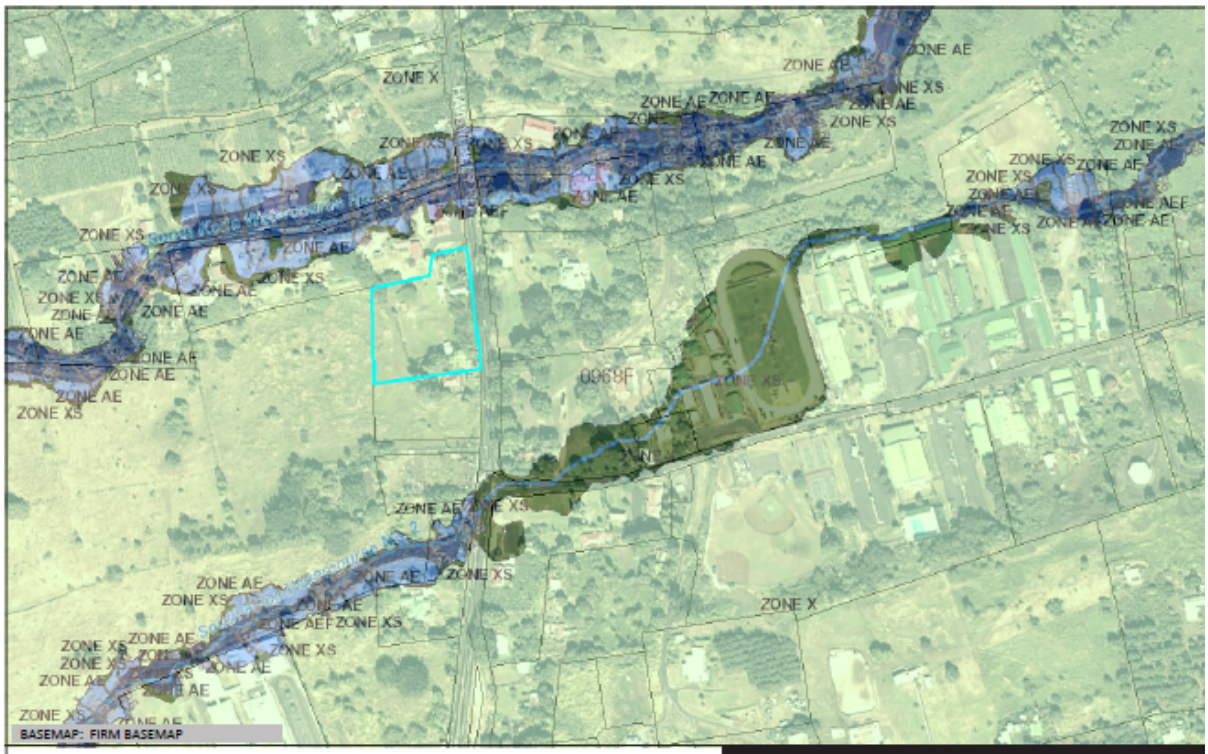
The project area has no perennial surface water bodies. The Flood Insurance Rate Maps (FIRM) 155166-0968 (9/29/2017) show that the project site itself is in Flood Zone X, outside of the 500-year floodplain (Figure 5). South Kona Watercourse No. 1 runs *mauka* to *makai* just north of the property, and South Kona Watercourse No. 2 is just south. No flooding from these intermittent streams has been reported on the property, nor are there any other sources of flooding.

The waters of the Kona Coast are celebrated for their excellent marine biota, including healthy coral-based ecosystems. The project is located about two miles from the coast, at about 1,500 feet in elevation. Normal runoff from the project site soaks into the ground and then percolates through thousands of feet of aerated rock.

Impacts and Mitigation Measures

The Hawai‘i County Code Chapter 27, Flood Control, requires increases in storm water runoff for events up to and including the 10-year flood to be contained on site. Flows greater than the 10-year flood – which are generally assumed to be equivalent to predevelopment runoff because even with no development the ground becomes saturated quickly during such large events – are allowed to flow off site. Typical measures for larger sites include drywells and detention ponds. For this minor project, parking lot runoff will be disposed of in a drainage sump, and roof runoff will be conducted in gutters to downspouts that lead to small rock sumps.

Figure 5. Flood Hazard Map



Flood Hazard Assessment Report

www.hawaiiinfip.org

Property Information

COUNTY:	HAWAII
TMK NO:	(3) 8-1-004:043
WATERSHED:	WAIAHA
PARCEL ADDRESS:	81-6551 MAMALAHOA HIGHWAY KEALAKEKUA, HI 96750

Notes:

Flood Hazard Information

FIRM INDEX DATE:	SEPTEMBER 29, 2017
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL:	1531660968F
PANEL EFFECTIVE DATE:	SEPTEMBER 29, 2017

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: NO
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: NO
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 400 800 ft

Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is being provided for informational purposes and is not to be used for flood insurance rating. Contact your county floodplain manager for flood zone determinations to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND
(Note: legend does not correspond with NFHL)

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- **Zone A:** No BFE determined.
- **Zone AE:** BFE determined.
- **Zone AH:** Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- **Zone AO:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- **Zone V:** Coastal flood zone with velocity hazard (wave action); no BFE determined.
- **Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- **Zone XS (X shaded):** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- **Zone X:** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- **Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

In order to minimize the potential for construction phase sedimentation and erosion, the contractor shall perform all earthwork and grading in conformance with Chapter 10, Erosion and Sediment Control, Hawai‘i County Code. No impacts to stream banks or stream waters will occur as none are present. A number of best management practices (BMPs) will be implemented for the project by the contractor, which may include, but may not be limited to, the following:

- Minimization of soil loss and erosion by revegetation and stabilization of slopes and disturbed areas of soil, possibly using hydromulch, geotextiles, or binding substances, as soon as possible after working;
- Minimization of sediment loss by emplacement of structural controls possibly including silt fences, gravel bags, sediment ponds, check dams, and other barriers in order to retard and prevent the loss of sediment from the site;
- Minimizing disturbance of soil during periods of heavy rain;
- Phasing of the project in order to disturb a minimum necessary area of soil at a particular time;
- Application of protective covers to soil and material stockpiles;
- Construction and use of a stabilized construction vehicle entrance, with designated vehicle wash area that discharges to a sediment pond;
- Use of drip pans beneath vehicles not in use in order to trap vehicle fluids;
- Routine maintenance of BMPs by adequately trained personnel;
- Coordination of storm water BMPs and wind erosion BMPs whenever possible; and
- Proper cleanup and disposal at an approved site of any significant leaks or spills, if they occur.

3.1.3 Flora, Fauna and Ecosystems

Existing Environment

The natural vegetation of this part of South Kona was most likely mesic rain forest dominated by ‘ohi‘a (*Metrosideros polymorpha*) and koa (*Acacia koa)* (Gagne and Cuddihy 1990). These original communities, however, have been altered by traditional Hawaiian cultivation and later cattle grazing, agriculture and urban uses. The vegetation of the project area is now mainly managed vegetation in the form of commercial and residential landscaping, farms, and small commercial operations, interspersed with patches of weeds.

A botanical reconnaissance of the project site was performed in June 2018 by Ron Terry of Geometrician Associates. The species list (Table 1) includes may cultivated and ornamental species.

Table 1 Plant Species Observed on Project Site

Scientific Name	Family	Common Name	Life Form	Status
Aleurites moluccana	Euphorbiaceae	Kukui	Tree	P
Blechnum appendiculatum	Blechnaceae	Blechnum	Fern	A
Cenchrus clandestinus	Poaceae	Kikuyu grass	Grass	A
Clusia rosea	Clusiaceae	Autograph tree	Tree	A
Cordyline fruticosa	Agavaceae	Ki	Shrub	P
Desmodium triflorum	Fabaceae	Tick clover	Herb	A
Hibiscus sp.	Malvaceae	Ornamental hibiscus	Shrub	A
Lygodium japonicum	Schizaeaceae	Japanese climbing fern	Fern	A
Mangifera indica	Anacardiaceae	Mango	Tree	A
Mimosa pudica	Fabaceae	Sensitive plant	Herb	A
Nephrolepis multiflora	Nephrolepidaceae	Sword fern	Fern	A
Paspalum conjugatum	Poaceae	Hilo grass	Herb	A
Phlebodium aureum	Polypodiaceae	Hare's foot fern	Fern	A
Phymatosorus grossus	Polypodiaceae	Maile-scented fern	Fern	A
Pimenta dioica	Myrtaceae	Allspice tree	Tree	A
Plumeria sp.	Apocynaceae	Plumeria	Shrub	A
Pteris cretica	Pteridaceae	'Oali, Cretan brake	Fern	I
Psidium cattleianum	Myrtaceae	Strawberry guava	Tree	A
Stenotaphrum secundatum	Poaceae	St. Augustine grass	Grass	A

Notes: Alien (A), Polynesian Intro. (P), Endemic (E), Indigenous (I)

Fauna in the area consist primarily of non-native birds, mammals, and invertebrates. Notable native animals that are important for conservation are the wide-ranging Hawaiian hawks (*Buteo solitarius*) and Hawaiian hoary bats (*Lasiurus cinereus semotus*), both listed endangered species. These are often seen in this area as well as many other locations on the Big Island.

Impacts and Mitigation Measures

Because of the lack of native ecosystems or threatened or endangered plant species on the project site, no adverse impacts to botanical resources would occur as a result of clearing and improvements. No trees suitable for nesting hawks are present on the semi-urban site and no impact to Hawaiian hawks is expected. Impacts to Hawaiian hoary bats will be prevented by refraining from trimming or removing woody vegetation taller than 15 feet during the bat pupping season, from June 1 to September 15.

3.1.4 Air Quality, Noise, and Scenic Resources

Environmental Setting

Manmade air pollution in West Hawai‘i is minimal, but a volcanic haze (vog) derived from emissions of sulfur dioxide that convert into particulate sulfate, frequently blankets the district. This condition was exacerbated by the 2018 eruptive activities at Kilauea’s summit and East Rift Zone, which have since ceased for the time being.

Noise on the project site is moderate and is derived mainly from motor vehicles on the adjacent Mamalahoa Highway, combined with sounds from residential, agricultural and road maintenance activities.

The project area does not contain any sites or viewplanes that are considered significant for their scenic character in the Hawai‘i County General Plan.

Impacts and Mitigation Measures

The proposed action would not measurably affect air quality except minimally during construction. Although air quality is an ongoing concern for both residents and visitors in Kona, the project would not exacerbate it, and visits to the facility would not be a public health issue. If the eruption and occasional severe air quality problems continue indefinitely, the management may curtail some visitation and reschedule certain events.

The project will remove some vegetation and install additional plantings. The new structure will add interest to the visual character of the site by offering a period-appropriate and attractive structure.

Development would entail limited excavation, grading, compressors, vehicle and equipment engine operation, and construction of new infrastructure. These activities may generate noise exceeding 95 decibels at times, impacting nearby sensitive noise receptors. In cases where construction noise is expected to exceed the Department of Health’s (DOH) “maximum permissible” property-line noise levels, contractors would obtain a permit per Title 11, Chapter 46, HAR (Community Noise Control) prior to construction. DOH would review the proposed activity, location, equipment, project purpose, and timetable in order to decide upon conditions and mitigation measures, such as restriction of equipment type, maintenance requirements, restricted hours, and portable noise barriers.

The No Action Alternative would present no potential noise, air quality or scenic impacts to nearby receptors or viewers.

3.1.5 Hazardous Substances, Toxic Waste and Hazardous Conditions

Environmental Setting, Impacts and Mitigation Measures

The history of use of the site for an early 20th century household backyard does not suggest the potential for presence of hazardous materials. Reconnaissance of the site in June 2018 did not reveal any equipment, structures or conditions that might be indicative of hazardous material use. Therefore, based upon prior and present use of the project site, no hazardous substances, toxic wastes, or hazardous conditions are expected to be present on the site.

3.2 Socioeconomic and Cultural

3.2.1 Socioeconomic Characteristics

Table 2 provides information on the socioeconomic characteristics of Kealakekua along with those of Hawai‘i County and the State of Hawai‘i as a whole for comparison, from the 2010 U.S. Census of Population. In general, Kealakekua is in many ways a microcosm of the State and County, especially in its high ethnic diversity. Slightly greater proportions of Native Hawaiians and Japanese reflect the cultural history of the area. The population is on average considerably older than the County or State, with fewer children and smaller household sizes. Income is higher than the County as a whole, but lower than the State. Poverty rates are also in between the State and County.

Impacts

The proposed project would benefit public welfare in the Kealakekua area, the Kona area, and indeed the entire County of Hawai‘i through enhancing the resources and thus community utility of an important educational and cultural center.

While the No Action Alternative would not require the expenditure of public funds, it would obviate public benefit from the project.

3.2.2 Cultural Setting

The cultural and archaeological setting of Kalukalu and the surrounding area has been described in various archaeological and ethnographic works (Kaschko 1984, Hammatt et al. 1997, Robins et al. 2001, Maly and Maly 2001). This section, which discusses the cultural history of the area, is based primarily upon information in these works contained as part of background information for an archaeological inventory of the project site and nearby areas, which is contained as Appendix 2.

For many years, researchers have proposed that early Polynesian settlement voyages between Kahiki (the ancestral homelands of the Hawaiian gods and people) and Hawai‘i were underway

Table 2. Selected Socioeconomic Characteristics

SUBJECT	State of Hawai‘i	County of Hawai‘i	Kealakekua
Total population 2010	1,360,301	185,079	2,019
Median age (years)	38.6	40.9	44.0
16 years and over	80.2%	79.9%	80.6%
65 years and over	14.3%	14.5%	16.5%
Percent female	49.9%	49.8%	51.2%
White	24.7%	34.4%	26.7%
Black or African American	1.6%	0.8%	0.2%
American Indian and Alaska Native	0.3%	0.6%	1.0%
Asian	38.6%	22.1%	30.8%
Chinese	4.0%	0.9%	0.6%
Filipino	14.5%	8.6%	10.0%
Japanese	13.6%	9.8%	17.3%
Korean	1.8%	0.5%	0.2%
Native Hawaiian	5.9%	8.5%	12.2%
Two or More Races	23.6%	29.5%	26.4%
Total households	455,338	67,096	749
Family households (families)	70.2%	66.2%	62.5%
With own children under 18 years	20.1%	25.8%	17.6%
Female householder, no husband present	12.6%	12.3%	11.2%
With own children under 18 years	5.2%	6.0%	4.4%
Nonfamily households	31.1%	33.8%	37.5%
Householder living alone	23.3%	25.1%	29.0%
Average household size	2.89	2.70	2.66
Average family size	3.42	3.22	3.25
Total housing units	519,508	82,324	808
Occupied housing units	87.6%	66.0%	92.7%
Rental housing percent of occupied units	42.3%	34.0%	51.1%
Rental vacancy rate (percent)	7.8%	11.6%	22.0%
Median Household Income 2012-2016	$71,977	$53,936	$61,033
Poverty rate 2012-2016	10.8%	18.7%	16.0%

Source: U.S. Census Bureau, 2010 Census. 2010 Census Data.
Community Survey https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Census Quick Facts: https://www.census.gov/quickfacts/table/PST045215/00

by A. D. 300, although recent work suggests that Polynesians may not have arrived in Hawai‘i until at least A. D. 1000 (Kirch 2012). The initial inhabitants of Hawai‘i are believed to have come from the southern Marquesas Islands and settled initially on the windward side, eventually expanding to leeward areas. Early Hawaiian farmers developed new strategies and tools for their new environment (Ibid.). Societal order was maintained by their traditional philosophies and by the conical clan principle of genealogical seniority (Ibid). Universal Polynesian customs brought

from their homeland included the observance of major gods Kane, Ku, and Lono; the *kapu* system of law and order; cities of refuge, various beliefs, and the concepts of *mana* and the *'aumakua* (Fornander 1969).

Nearby Kealakekua Bay is popularly recognized as an important point of western contact, with James Cook's visit and subsequent death at Ka'awaloa, at the north end of Kealakekua Bay. Accounts from this and later visits by explorers, whalers, and missionaries recall thriving communities with a highly developed system of agriculture. A member of Cook's crew estimated the population around Kealakekua Bay at 15,000 (Ledyard 1963). Cook's midshipman Gilbert recorded, "The Country here is one entire plantation; as far as we could see from the ship which is divided into squares by stones thrown together or hedges of sugar cane" (Holmes 1982).

Settlement patterns and the social evolution of this portion of Kona are mirrored by the network of archaeological sites known as the Kona Field System, a major agricultural complex that extended from the coast to wetter reaches on the higher slopes of Hualalai and Mauna Loa. Inland cultivation was well underway by the 14th century A.D. (Schilt 1984). Growth of the Kona Field System in this period is tied to the region's ascent in political and religious importance.

The project site is in the *ahupua'a* of Kalukalu. Kalukalu refers to a type of grass that grows only in this area (Pukui et al. 1976:79), although the identity of the species (if it was such) of this grass appears to have been lost. The *ahupua'a* extends from the high cliffs along the shoreline inland more than 3.7 miles to approximately 2,500 feet in elevation.

Traditional life in Hawai'i' took a sharp turn on January 18, 1778 with the arrival of British Capt. James Cook in the islands. On a return trip to Hawai'i ten months later, Kamehameha visited Cook aboard his ship the *Resolution* off the east coast of Maui and helped Cook navigate his way to Hawai'i Island. Cook exchanged gifts with Kalaniopu'u at Kealakekua Bay the following January and Cook left Hawai'i in February. However, Cook's ship then sustained damage to a mast in a severe storm off Kohala and returned to Kealakekua, setting the stage for his death on the shores of the bay.

Fifteen years after Cook's visit, the botanist and surgeon on George Vancouver's expedition observed:

> "Seeing these upper regions so industriously cultivated and teeming with productive crops…we are certain that nothing but wars, destructive wars, and commotions can ever reduce them to scarcity, seeing that they thus avail themselves of Nature's bounty in the conformation of their country by extending their cultivation to different regions of the air, they secure a continued succession of crops and therefore can never be destitute of supply" (Menzies 1920).

This account describes adaptation of cultivars to particular microclimates, which varied primarily with altitude. Lowest and driest was the *Kula*, the coastal lowland, more sparsely cultivated than

upland region with ‘ilima (*Sida spp.*) and maiapilo (*Capparis sandwichiana*), used for medicinal and other uses. Located above the *Kula* was the *Kalu‘ulu*, or breadfruit (*Artocarpus altilis*) cultivated region, with useable space in between these trees planted with other food plants. A gradual boundary led to the next highest region, termed the *‘Apa‘a* zone, intensively cultivated with kalo (*Colocasia esculenta*), wauke (paper mulberry, *Broussonetia papyrifera*), and ko (sugar cane). Planting areas were divided by *kuaiwi*, or low stone walls running with the slope, which may have also served as trails between cultivated areas. Some of the stone walls noted here followed the slope, and are called *kuaiwi*, features which were undoubtedly present near or even on the project site prior to its extensive reworking as part of a 19th century store and home. Above, the *‘Apa‘a* gave way to the *‘Ama‘u* zone, or fern forest zone, so-named for a common tree fern (*Sadleria cyatheoides*), and where mai‘a, or bananas, were the dominant cultivar. Sweet potatoes, or ‘uala, were planted in a wide range of microclimates, from the *Kula* to the higher and wetter *‘Apa‘a* (Kelly 1983).

After contact, social change soon accelerated, driven by disease and drought, missionary activity, trade and urbanization. Trade with both the western world and Asia brought the beginnings of a money economy, and demand for sandalwood proved lucrative to the *ali‘i*, distracting their attention from food production. While at first whaling and other forms of trading centered around Kealakekua, this activity soon declined as Kamehameha directed ships to the urban centers of Kailua, Lahaina, and Honolulu.

Schilt (1984) summarized Kailua’s early historic period. In the late 1700s to early 1800s, Kamehameha monopolized foreign commerce including the provisioning of trading and whaling ships and beginning in 1811 the sandalwood trade. The first missionaries arrived in Kailua in 1820, but only stayed a few months. They returned in 1823 and were given land to establish missions and schools. The gradual shift from subsistence farming to a market economy began with the introduction of coffee, corn, pumpkins, cotton, pineapple, and Irish potatoes in the 1820s to 1840s, co-incident with the arrival of missionaries. The missionaries living in the region prior to 1850 traveled overland between Keauhou Bay and Kealakekua Bay by means of a cart road that largely followed an earlier coastal footpath.

While accounts of early 19th century South Kona are rare, it appears that significant changes in agriculture occurred due to trade and frequent importation of exotic species, with the addition of western technologies. Increasingly, commercial rather than subsistence cultivation of cotton, coffee, citrus, pineapple, and tobacco took place. By 1818 distillation was being used to make liquor out of *ki* root and sugar cane (Golovnin 1979).

Introduced diseases rapidly took their toll on the native population, and by 1833 the population of the entire Kona district was estimated at 10,000-12,000), compared to the estimated 11,000 at Kealakekua alone around the time of contact. The effects of disease were exacerbated by drought and fire during this period. Kealakekua Bay was closed to ships for several years in 1846 due to epidemics. And the Great Mahele of 1848 effectively severed almost all connection the *maka‘ainana*, or commoners, had maintained with their traditional croplands, leaving ownership of all of Kealakekua in the hands of a select few individuals. By the years after shortly after

1850, accounts suggest that The Kona Field System was largely unmaintained, depopulation of the area being extensive (Hill 1856, Anderson 1865).

In the 1840s, political acts of the Hawaiian Kingdom government changed the land tenure system in Hawai‘i. All lands were segregated into one of three categories: “Crown Lands” owned by the occupant of the throne, “Government Lands” controlled by the state, and “Konohiki Lands” controlled by the chiefs; and “were all subject to the rights of native tenants” (Chinen 1958:29). In 1846, King Kamehameha III appointed a Board of Commissioners commonly known as the Land Commissioners, to “confirm or reject all claims to land arising previously to the 10th day of December, AD 1845.” The legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16) and the act is known today as the Great Māhele. In 1850, the Kingdom government passed laws allowing foreigners to purchase fee simple lands, and the Kuleana Act of 1850 allowed for fee simple land ownership by commoners.

The Waihona ‘Aina (2000) Māhele Database, which is a compilation of data from the Indices of Awards, Native Register, Native Testimony, Foreign Register and Foreign Testimony; lists nine Land Commission Award (LCA) in Kalukalu, although only six of the claims were awarded. The remainder of Kalukalu was retained as government land. Of the six awarded claims, only four are depicted on the current tax maps of the area, all in inland Kalukalu, seaward of the Hawai‘i Belt Road (LCA 7197, 7212, 7553-B and 10750). These LCAs are depicted on Figure 2 of Appendix 2. The testimony for the *ahupua‘a* claims mentions a variety of cultivated crops including taro (*kalo* – 50 plots), sweet potato (uala - 13), paper mulberry (*poaaha* - (8), gourds (*ipu* - 5), pandanus (*lauhala* - (1), and ti (*ki* - 1). The claims mentioned pahale or enclosed house sites for four of the claims

Several of the LCAs are located within or in close proximity to the project site. LCA 7553-B extends through the southern portion of the project site. This parcel was awarded to Pa in 1840; however little information on land use is available. LCA 7212 :1 is located just south of LCA 7553-B. This parcel was awarded to Kaiaino in 1847. It contains an enclosed house lots and plots of taro plots. LCA 10750 is situated seaward of the project area and adjacent to LCA 7553-B to the northwest. This parcel was awarded to Puki in 1844. Testimony indicates the presence of a house lot and the cultivation of taro in LCA 10750. These findings indicate that the pre- and early post-contact habitation of the immediate project area vicinity was relatively limited, with the land used primarily for growing taro.

Maly and Maly (2001) reviewed a type-written manuscript (919.69 L 98) in the collection of the Hawaiian Mission Children’s Society Library from the account of an 1846 visit to the island of Hawai‘i by Chester S. Lyman, a self-described “sometime professor” at Yale University. His descriptions help illuminate subjects such as the native villages in Kona and population decline. Maly and Maly were particularly interested in his discussion of trails and roadways, which are of ongoing cultural importance today. Here is Maly and Maly’s description, including a passage from the manuscript, of a trip that included the project site’s *ahupua‘a* of Kalukalu:

> On December 10th, 1846, Lyman and Reverend Forbes departed from Kepulu, to return to Kailua. In doing so, they turned down a trail [based upon his description, probably the Kalukalu trail], and descended to the shore. In his narrative, Lyman describes a fine "road" along the shore, which passes behind Pu'uohau. Along the way, he also made mention of the villages of Nāwāwā, Hōkūkano and Kāināliu. Departing from Kuapehu:
>
> "We had proceeded 3 or 4 miles…it began to sprinkle; and then in order to escape the water lodged on the tall grass and shrubbery by the path, we immediately turned and took a path leading directly down towards the (shore), which on the whole I was not sorry for, as it gave me an opportunity to pass for a few miles through a new region of country, and especially by the old crater on the coast [Pu'uohau]. The road, which is most of the way a very fair one for horses, passed just in the rear of this hill, which is apparently 300 feet high, and 60 or 80 rods in diameter. It appears to be formed by sand, slag and small blocks of lava. I did not have time to stop for a particular examination.
>
> Just south of the hill is the village of Nawawa – on the N. side of it, that of Hokukano, and a little beyond Kainaliu, where we saw our vessel, the Keoua, putting in for passengers, this being the Capt's. [Jeremiah Martin's] residence. He is a Deacon of Mr. Thurston's church. About half way between the hill and Keauhou we passed the battle ground where the forces of Liholiho under Kalaimoku obtained the victory over the rebel forces under Kekuaokalani, and decided the fate of idolatry in 1819. Some intelligent lads pointed out the spot where Kekuaokalani was killed and where the bones of the slain were deposited. It is a rough region of lava, and would be a poor place for a battle for any but Hawaiians. Near this in the rough flows of lava I noticed a great number of round masses, varying in size from 1 to 3 or 4 or more feet, the outside having the appearance of peeling off…formed during the flow of the stream when in a viscid state, by rolling in the manner of a snowball, growing larger and larger as they advance… We reached Keauhou at 11:30…" (Lyman Ms. 1846:27-28 in Maly and Maly 2001: 64-68).

In the 1850s, large portions of Kalukalu Ahupua'a were sold to Henry Nicholas Greenwell as Land Grants 787 (312.8 acres), 1160 (18.75 acres) and 2964 (0.32 acres). Other grants in Kalukalu consist of Grant 2910 to John Yates (150 acres) located inland of the upper road, Grant 1576 (64.3 acres) to Lohi on the lower slopes of the *ahupua'a*, and Grant 1745 (118 acres) to J. Cavenagh in the coastal portion.

A brief summary of Mr. Greenwell, provided by the Kona Historical Society (in Hammatt et al. 1997), describes his journey to the Hawaiian Islands, his life in Kona and the nature of his subsequent land acquisitions:

> Henry N. Greenwell, founder of the Greenwell store was born in England in 1826 to a landed family in Lanchester, Durham at the Ford, the family home. He graduated from Sandhurst and spent time in Ireland doing Government work. Finding the military life insupportable, he sold his military commission in the army at the age of 23. He left for Australia to make a new start where he bought a sheep station. In 1849 he put all his

> money into a partnership which purchased a ship and goods, and sailed to San Francisco with this shipload of provisions to be sold there during the Gold Rush. The crew deserted in the harbor and because his partner was elderly, Henry had to unload the ship by himself, consequently hurting himself badly. His partner sent him off to Honolulu because the best doctors in the Pacific were held by royalty here. He returned to San Francisco after his R & R only to find his partner had taken off with all the profits.
>
> Henry then returned to Honolulu and worked on Fort Street with an English import/export company. He was sent to Kona to open a store there. In 1851 King Kamehameha III began selling land to foreigners. He purchased and planted them in oranges. After 15 years, the oranges caught a blight and Henry went on a trip around the world, stopping in the West Indies where he met a lime planters daughter and married her and brought her back in 1868, along with a new variety of oranges found in Brazil.
>
> Henry Greenwell is remembered for cultivating oranges, putting "Kona Coffee" on the European Market in the 1870s and for his temper. He raised sheep for wool at the higher elevations of his land after the civil war, dairies in the 1880s and later began extensive cattle ranching. He and his wife had 10 children. Henry N. Greenwell died in 1891 and his eldest son William H. Greenwell, born in 1869, inherited his estate which later became the W.H. Greenwell ranch (1997:44).

An additional narrative regarding the Greenwell's holdings was provided by Mrs. Jean Greenwell for the Kona Historical Society. This narrative, presented in Hammatt et al., also discusses the immediate project area vicinity:

> On the point, opposite of Nawawa, is the site of an old ware house built by Henry Nicholas Greenwell to store wool and goods for his store mauka. Mr. Greenwell arrived in Hawaii in 1850 shortly after the Māhele and the act which enabled foreigners to buy land had passed. He was able to purchase several pieces of property along this coast from the government. He later bought Dr. Trousseau's lease on the sheep ranch mauka. When Mr. Greenwell was raising sheep he used the same cart road Dr. Trousseau had made to Kainaliu, but continued the road further on to ship his wool from this point. There is a large cave under the point here on the south side. The small boat from the steamer would come in to the cave and the wool would be lowered into it. This of course was a very ticklish operation. The tide had to be high and the sea calm. This point of land acquired the name of Wool's Landing. It is located on the ahupuaa of Kalukalu. The old Greenwell Store, which today serves as the Kona Historical Society's headquarters, is also on the land of Kalukalu and was one of the first pieces of land purchased by Mr. Greenwell (1997:45).

The historic Greenwell Store is located adjacent and to the south of the project site. The Greenwell Store of Kona was built circa 1851 and originally served as a store and post office. Nicholas Greenwell, the store's builder, also served as the area's postmaster as well as a general merchandiser. After serving community interests, the building was later used by the Greenwell

Ranch, becoming a ranch warehouse. In about 1959 the interior was altered and the exterior portico and porch were added. The building's original slate roof was replaced with corrugated iron at that time. The building is the only commercial structure from this period left in Kona. It displays a unique commercial use of mortar and fieldstone, and is a cultural treasure from a formative period of Kona history. The store was placed on the National Register of Historic Places as Site 50-10-37-7243 in 1978. The nomination form for the store and a series of associated photographs are presented in Appendix A of this Appendix 2. The store was subsequently donated to the Kona Historical Society, for which it is major attraction.

The project site for the Kona Gallery was the terraced backyard of the H.N. Greenwell home, which was constructed in the 1850s by H.N. Greenwell. As indicated in the historic photographs contained in Appendix 2, the structure was a U-shaped two-story house built with a combination of mortared stone and wood framed walls. Covered lanais extended along the sides of the house. The Greenwell house and the family's life within it are discussed in H.N. Greenwell's diary, from a manuscript provided by the Kona Historical Society, entitled a Tour of Historic Kalukalu:

> A long lanai or verandah faced the main road, which was not blasted out of the lava as it is today (Road built in 1939 as part of W.P.A). This was the domain of Mrs. Greenwell (1841-1934) who as the years passed became a true matriarch. She loved her children, her church, and became a well known and well loved figure in Kona. Members of the Christ Church Women's Guild met here twice a month for 20 years (1908-1928) to sew and embroider linen for the church. Of course, social occasions such as weddings and baptisms called for monogrammed tea towels, lace baby gowns and elaborate dresses, all of which the ladies would sew by hand to raise funds for the church.
>
> In the days before electric fans and iced tea, a shady lanai was the best spot to be, especially one facing east, away from the afternoon glare. In the 20th Century, Christmas Eve dinner was celebrated on this lanai, festooned with ferns and bright flowers. It was the perfect spot to enjoy the Japanese lanterns glowing in the garden and to watch the fireworks which were a big part of Christmas Eve. In the 1870's and 1880's, this lanai was covered with children who could romp in Kona's warm climate without too much fear of catching cold. There are no trade winds in Kona, so verandahs are a remarkably protected spot.

The H.N. Greenwell home was demolished in the 1960s except for a few features such as foundations and walkways. Because it is now an archaeological site, it is discussed in the section below, but it bears emphasis that, just was with the still extant Greenwell Store building, the former home and its surroundings have cultural-historical associations that have been preserved and celebrated by the Kona Historical Society.

Interestingly, the current County tax map of the area (see Figure 2 of Appendix 3) still depicts the coastal warehouse used by Henry Greenwell to store wool and goods. This map also shows caves (or caverns) on the north and south sides of the point seaward of the old warehouse.

The Greenwell family operated several ranches on Hawai‘i Island. These include the Frank Greenwell Ranch in North Kona (also known as Honokohau Ranch and Hualalai Ranch), the Arthur Greenwell ranch in South Kona, and the Henry Greenwell Ranch that extended into both the North and South Kona Districts

Maly and Maly (2001) cited George Bowser's "Directory and Tourists Guide" of 1880 in which he provided descriptions of the communities and attractions in sections of Kona. According to Maly and Maly, "…he paid particular attention to the mauka locations of Kāināliu and Kalukalu villages, and noted that little population was left along the shore at present, as far as Ka‘awaloa (2001:68). The following describes the inland community of Kalukalu:

> My journey now brought me to the historical neighborhood of Kealakekua Bay, where Captain Cook lost his life. I arrived first at Kalukalu about four miles from the port. Here the official and business premises of the Kealakekua district are situated. Mr. Greenwell, who is the Postmaster, and holds several other official positions, has a large general store here, and Mrs. Mary Yates has an excellent boarding establishment for tourists. Next to Hilo, this district is a favorite one with visitors to Hawaii… [page 551] (2001:69).

Additional information concerning the mid-1800s land use in Kalukalu is inferred by references to the Kalukalu Road, which extended from the coast inland to the *mauka* forests. This road was located several hundred yards south of the project site. According to Jarves:

> …in the year 1834 a road was made by the government by the order of Gov. Adams from the beach at Kalukalu into the forest mauka…and prisoners were employed in the formation of it" (1877:21).

Commercial sugar cane cultivation was attempted in the early 1900s, but was abandoned by the mid-1920s (Kelly 1983). The West Hawai‘i Railroad tracks paralleled a mid-elevation road through Kalukalu Ahupua‘a, about two miles *makai* of the project site. The West Hawai‘i Railway Company began building the railroad in 1901. The railroad was built to transport sugar cane to the Kailua Sugar Company Mill situated in Waiaha. According to Hammatt et al. (1997:45), a 50-acre property inland of the project site in Kalukalu was once cultivated in sugarcane. This area also became part of the Greenwell's land holdings by the late 1800s.

Cattle ranching continued during the 20th Century. Oral historical accounts cited by Hammatt et al. (1997:74) describe mid-20th century chain dragging and bulldozing s above the 1,200-foot elevation in the project area, for pasture "improvement."

During the 20th century, the traditional subsistence and coastal settlement pattern was completely supplanted by the market economy and a concomitant shift to dispersed settlement; with houses and commercial establishments developed along the *mauka* Alanui Aupuni, predecessor to the Hawai‘i Belt Road. By the 1970s, the rapidly developing tourism industry began to transform the region's land use from mainly ranching and farming to subdivisions, resorts, and commercial establishments, although coffee production persisted and even grew.

While coffee cultivation started slowly, by the turn of the century it dominated agriculture in Kona, having displaced other crops including sugar cane, which was not as profitable in the dry climate. Coffee cultivation affected settlement patterns by creating many subdivided properties of five acres upon which both homes and farms were built.

Maly and Maly's 2001 study was conducted for the Department of Land and Natural Resources, Division of Forestry and Wildlife, Nā Ala Hele Program, which deals with trails and access. It involved a detailed review of archival and historical literature as well as oral history interviews. In addition to building and maintaining trails, Nā Ala Hele seeks to develop plans for cultural resource management, including site protection and interpretive programs. The Keauhou-Kealakekua area includes a portion of the federally sponsored Ala Kahakai Historic Trail System. To gain cultural insights and information, Maly and Maly conducted interviews with individuals were *kamaʻāina* (native to or long-resident on the land) who had lived upon, worked on, or were descended from or close friends or extended family with traditional residents of the lands in the Keauhou-Kealakekua region. These included Joseph Keanini Gaspar, Jean Greenwell, Sherwood Greenwell, Lily Namakaokaiʻa Haʻaniʻo-Kong, Mona Kapule-Kahele, Maile Keohohou-Mitchell, Fred Leslie, Wes and Yvonne Leslie, Billy Paris, Margaret Paris-Schattauer, David Kahelemauna Roy, Frank Silva, Curtis Tyler III, Allen Wall, Kapua Wall-Heuer, and Helen Kinaʻu Weeks. The interviewees shared recollections gained from personal experiences dating back to 1910. Maly and Maly said that all interviewees, whether of Hawaiian or other heritage, expressed a deep "cultural attachment" to the lands, sites, resources, and place names of the area. Protection of the *ala loa*, *ala hele*, Alanui Aupuni (old trails and roads, large and small) and associated cultural historical resources of the land was important. In the words of Maly and Maly (2001: iv):

> All of the interviewees have walked the varied trails of the region, and believe that future generations should also be able to walk the trails as well. The interviewees expressed the hope that their recollections would help others gain an appreciation for the history of the land, and foster greater respect for those things that remind us of the past.

The consultations provided a wealth of information and recommendations for management actions. Most pertinent for this project were the recommendations to work carefully in trail development with descendants of the native families of the Keauhou-Kealakekua vicinity in the development of formalized site treatment plans for archaeological features. It was also urged that Nā Ala Hele work to facilitate the development of a community based resource management partnerships in which native families, land owners, individuals knowledgeable about trails and cultural resources, and stakeholder agencies can coordinate long-term management programs for resources of the Keauhou-Kealakekua trail systems. Although provided in the context of trails, these recommendations are equally important for all cultural resources in Kona.

Impacts and Mitigation Measures

The project would occur on a partly developed lot that currently houses the H.N. Greenwell Store Museum, the administrative offices of the Kona Historical Society and the archaeological

remains of the former H.N. Greenwell home. No natural resources important for gathering are present, and there are no other natural features with cultural values, such as springs, *pu'u*, or caves. The former Kalukalu trail is located a few hundred yards south of the lot, and no other trails or cultural features are present. The project does not involve any impact to trails, or cultural resources adjacent to trails. However, recommendations contained in Maly and Maly's 2001 study for the Nā Ala Hele Program to work carefully in trail development with descendants of the native families of the Keauhou-Kealakekua and facilitate the development of community based resource management are honored in the community-based foundation and outreach of the Kona Historical Society.

The cultural value of the property derives primarily from its central place in interpreting the history of Kona. In developing all the features and structures of the Kona Historical Society, the *kama'aina* of Kona most familiar with its cultural resources were consulted, or in many cases, actively participated in design and development. Many still serve as advisers, mentors, teachers and resources. To name but a few, the late Allen Wall, who served on the Kona Historical Society Board of Directors as Board President for many years, and on the Kona Heritage Ranch Project Committee, was well known as a cultural consultant and resource for information about place names, ranching traditions, Hawaiian practices, and other relevant information. He provided oral history background, support, and the initial concept sketches for the current proposed structure and site of the Kona Museum Gallery. His high-pitched roof, board-and-batten design elements, as well as historical background on the site, area, and local cultural features to be incorporated in the project, provided a basis of sensitive development of the site consistent with the historic value of the existing H.N. Greenwell Store Museum and natural features of the land and area. Other cultural experts and respected researchers included Hannah Kihalani Springer, and multi-generation *kama'aina*, cultural historian, author, and non-profit Executive Director, Maile Melrose. Early stage project support included foundational research by renowned Hawaiian history and archaeology experts including Dorothy Barrère and Lloyd Soehren. Several individuals consulted in the development of this project concerning cultural and historic resources have direct lineal relationship to the property and the founder of the store after the land was acquired from the King, Henry N. Greenwell. These include the eldest great-grandson Brysson, and the great-granddaughter Maile (also a former member of the Cultural Resources Commission and the frequent historian for the KHS). The other members consulted had long ties to the land and the community and have served on the Board of KHS for decades.

Given the extensive history of consultation and assessment that has occurred throughout development of the project, it appears that development of the Kona Historical Society's Kona Gallery would not result in impacts to any traditionally valued cultural or historical resources, nor would it impact any traditional cultural practices or beliefs. The Draft EA was distributed to agencies and groups who might have knowledge in order to confirm this finding. No party reviewing the Draft EA supplied any specific cultural information, but the Hawai'i Historic Foundation commented to support the expansion of public outreach and education opportunities (many of which involve cultural education), which will be supported by the new gallery space (see Appendix 1a).

3.2.3 Archaeology and Historic Sites

Existing Environment

Haun & Associates conducted an archaeological inventory survey (AIS) of an approximately 0.47-acre portion of the 3.111-acre TMK: (3) 8-1-004:043. As shown in Figure 3 of Appendix 2, the project area for this study included all of the Kona Gallery project site that is not contained within parking areas and is thus already highly disturbed. This survey is included as Appendix 2 in this EA. The objective of the survey was to satisfy historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained in Hawai‘i Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 198 and 284, State Historic Preservation Rules, in association with development of the proposed project.

The project documented the remains of the historic Greenwell house (Site 30392, Feature A), two cisterns (Features B and C), a wall bordering the adjacent Hawai‘i Belt Road (Feature D) and miscellaneous landscaping features in the backyard of the house (Feature E). The Greenwell House (Site 30392), and the adjacent Greenwell Store (Site 7243) also located on the property, possess integrity of location, design, setting, materials, workmanship, feeling, and association. The sites were assessed for significance per Hawai‘i Administrative Rules (HAR) §13-284-6, Criteria a-e and evaluated for inclusion in the Hawai‘i Register of Historic Places per HAR §13-198-8 Criteria A-D. They were assessed significant for their association with significant contributions to Hawaiian history under Criterion “a”, for association with H.N. Greenwell and his family under Criterion “b”, for distinctive method of construction under Criterion “c” and for information content under Criterion “d”. The documentation of the Greenwell House (Site 30392) has yielded information important for understanding historic land use in the project area.

The proposed Gallery is located in the area currently occupied by the landscaping features (Feature E) in the backyard of the house. Other aspects of the project, such as parking, are located outside of Feature E in already disturbed land. Subsurface testing identified no prehistoric cultural deposits in this area. The planned development of the property will require the destruction of the Feature E terrace area, which has already been sufficiently documented for information. The remainder of the site is recommended for preservation.

Impacts and Mitigation Measures

The proposed development will have an effect on the historic properties within the project area; however, these impacts will be mitigated or already have been mitigated through the following measures:

1. The preservation of the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392);
2. Preparation of a Site Preservation Plan for Sites 7243 and 30392 prepared for DLNR-SHPD review and approval;

3. The National Register of Historic Places nomination will be updated to include both the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392). The update work including integration of prior research and consultation with SHPD will be initiated within the next five years;
4. The proposed gallery building will be designed in accordance with the Secretary of the Interior Standards for Treatment of Historic Properties; and
5. Archaeological monitoring of ground altering activity associated with the construction of the gallery will be conducted. This monitoring work would be guided by an Archaeological Monitoring Plan prepared for DLNR-SHPD review and approval.

In its letter of July 14, 2016, DLNR-SHPD indicated its approval of the AIS and its significance and treatment findings. In a letter of October 31, 2016, DLNR-SHPD approved the archaeological monitoring plan, and by letter of November 4, 2016, the Preservation Plan was accepted (letters attached at end of Appendix 2). In conformance with mitigation measure 4 above, KHS submitted the building plans to DLNR-SHPD on July 26, 2018, for review and concurrence of compliance with the Secretary of the Interior Standards for Treatment of Historic Properties. By letter of November 8, 2018, DLNR-SHPD indicated that it had reviewed and commented on the effect of the proposed project pursuant to HRS §6E-42 and HAR §13-284-3; that it was DLNR-SHPD's determination that KHS has completed Steps 1 through 5 pursuant to HAR §13-284-3(b)(1-5); and that SHPD concurred with the procedures and schedule to complete Step 6 (verification of completion) per HAR §13-284-3(b). The letter notified the County that DLNR-SHPD agreed that the County that the permit issuance process may now proceed.

3.3 Infrastructure

3.3.1 Utilities

Existing Facilities and Services

Electrical power to the KHS facility is supplied by Hawai‘i Electric Light Company (HELCO), a privately owned utility company regulated by the State Public Utilities Commission, via their island-wide distribution network. Water is provided by Hawai‘i County Department of Water Supply (DWS). Telephone service is available from Hawaiian Telcom for the project.

Impacts and Mitigation Measures

The proposed action will require extension of water pipes from other parts of the KHS campus to the Gallery building. Water service usage from the period between April 2016 and April 2018 as shown on DWS bills indicates an average monthly consumption is 236 gallons per day (gpd). The existing water commitment and meter size is based upon 400 GPD, and thus the additional water demand of two restrooms, at less than 100 gpd, should remain within the amount allocated to the facility as a whole. HELCO electrical service to the Gallery structure will come via underground ducts from the existing 400-amp service to the Old Store and offices. In addition, a 5 to 8 kW photovoltaic system will be placed on the south-facing roof of the Administration

Building. The proposed action would not have any substantial impact on existing electrical facilities. Appropriate coordination with HELCO and Hawaiian Telcom will be conducted during the design and construction of the improvements. No other utilities will be affected in any way.

Fire protection for the new structure and surrounding structures will be improved as part of the project. Design to date has involved consulting with the Hawai‘i Fire Department on requirements, conducting a flow test to establish actual flows, and providing in the design for including a fire hydrant in the island of the new parking lot.

A wastewater system that will comply with Hawai‘i Administrative Rules Chapter 11-62, "Wastewater Systems" will be constructed just *makai* of the Gallery to service the new restrooms in the Gallery. Given the setting in relation to local aquifers and wells, no adverse effect on water resources would occur. The restrooms will utilize low-flow fixtures and dual-flush toilets to conserve water. A commenter on the early consultation letter (see Appendix 1a) requested that the facility utilize composting toilets. These can reduce water usage, and when engineered and maintained appropriately, reduce the environmental effect of human waste disposal, even potentially producing a beneficial fertilizer by-product. They are often utilized in remote areas with poor or no water service. This feature was considered by the design team but not adopted for the following reasons. Even with adequate maintenance, some occasional residual odor is likely, which would be inappropriate in a community building and museum hosting exhibitions. Furthermore, the entire building would need to be expanded to accommodate the much larger footprint of composting versus conventional flush toilets, raising costs. The composting toilets could be built somewhat offsite to eliminate this problem, but then the additional expense of a standalone structure, as well as making ADA-accessible routes to it, would add considerable expense to the project, without any significant concomitant environmental benefit.

3.3.2 Roadways

Existing Facilities

Access to the Kona Historical Society is primarily via a driveway from Mamalahoa Highway, a two-lane County highway. This driveway also accesses Greenwell Farms through a shared use access and utility easement. Sight distance along Mamalahoa Highway at the driveway appears adequate in both directions. Mamalahoa Highway is one of two primary arteries from South Kona to North Kona, the other being the Mamalahoa Bypass that opened fully in 2016 and diverts traffic from Captain Cook *makai* to the end of Ali‘i Drive. Mamalahoa Highway has heavy traffic during AM and PM peak periods, from approximately 7:00 to 8:30 AM and 4:00 to 6:00 PM. Off-peak hours have light to moderate traffic. A second driveway located 215 feet to the south on Mamalahoa Highway provides secondary access to the lower pasture area of KHS, the site of many programs. The nearest County street is Konawaena School Road, 800 feet to the south.

Operational Characteristics Affecting Traffic

The current facilities are typically open three days a week, Monday, Tuesday, and Thursday, from 10:00 AM to 2:00 PM for visitors. Typical visitation is 170 visitors per week, or about 57 visitors each open day. Office and curatorial hours are 8:00 AM to 5:00 PM, and there are generally 7 to 8 staff members each day, in addition to variable but generally low numbers of volunteers. Board meetings with up to 15 individuals in attendance occur quarterly. In addition, the center hosts special events such as meetings and parties onsite. Special events usually occur on Saturdays during days or evenings, or on business days after programs end from 5:00 PM to 7:00 PM, or at other times by special arrangement. Special events take place approximately 12 times per year with each event bringing roughly 60 visitors to the site. Most visitation is by individual vehicles, although buses and vans are used very occasionally. Maintenance, deliveries and other routine functions also generate some trips. As the above description indicates, traffic utilizing the facility is highly variable, but typically involves roughly a hundred vehicle trips, whether in or out, per day. Trips during weekday peak traffic hours are generally a very small proportion of these trips, usually involving staff and a few volunteers. As expected with such a relatively minor traffic generator, the management reports that there have been no known traffic issues or incidents or complaints from neighbors or government agencies concerning traffic.

Impacts and Mitigation Measures

A new Gallery should enhance the visitor appeal of the Kona Historical Society's center, and it is expected that during the winter high season, visitation may increase by as much as double, to about 300 per week. Very little increase in traffic is expected from non-visitor related sources. Given the current negligible level of traffic generation, and the concentration of current and future traffic within non-peak hours, no adverse effects to traffic flow on Mamalahoa Highway is expected. A Traffic Impact Analysis Report (TIAR) does not appear to be warranted under these circumstances.

The project will use the existing permitted driveway connecting the access road and parking lot off the Mamalahoa Highway. No improvements to the driveway are anticipated to be required. The proposed action would require access to the site for construction vehicles during a period of several months for grading, construction of the Gallery and associated facilities.

Mitigation

Although traffic impacts are expected to be very minor, the following measures are proposed:

- The proposed gallery is an accessory use to the existing H.N. Greenwell Store Museum. Present parking on the grass will be replaced with 10 paved parking stalls, including one that is ADA-compliant.

3.4 Secondary and Cumulative Impacts

The proposed project will not involve any secondary, such as population changes or significant effects on public facilities. Although the project will provide some short-term construction jobs, these would almost certainly be filled by local residents and would not induce in-migration.

Cumulative impacts result when implementation of several projects that individually have limited impacts combine to produce more severe impacts or conflicts in mitigation measures. The adverse effects of the project– very minor and temporary disturbance to air quality, noise, visual quality during construction – are very limited in severity, nature and geographic scale.

One category of impacts, however, merits special consideration in light of the joint impacts of past, present and future actions. Although the Mamalahoa Bypass has greatly relieved peak-hour traffic by providing an alternative route for traffic bound between South Kona and North Kona, traffic along Mamalahoa Highway can be heavily congested at weekday peak AM and PM hours. Any project that adds vehicles or additional driveways requires consideration from the standpoint of cumulative impacts. The Kona Historical Society times its hours of operation and events to avoid weekday AM and PM peak hours, and thus is able to avoid adding to traffic congestion.

3.5 Required Permits and Approvals

The following permits and approvals would be required:

- Hawai‘i County Building Division Approval and Building Permit
- Hawai‘i County Planning Department Plan Approval
- Hawai‘i County Public Works Department Grading Permit
- Hawai‘i State Department of Health Individual Wastewater System Permit

3.6 Consistency with Government Plans and Policies

3.6.1 Hawai‘i State Plan

Adopted in 1978 and last revised in 1991 (Hawai‘i Revised Statutes, Chapter 226, as amended), the Plan establishes a set of themes, goals, objectives and policies that are meant to guide the State’s long-run growth and development activities. The three themes that express the basic purpose of the *Hawai‘i State Plan* are individual and family self-sufficiency, social and economic mobility and community or social well-being. The Kona Gallery project would promote these goals by enhancing cultural and educational opportunities for Kona, thereby improving quality-of-life and community and social well-being.

3.6.2 Hawai‘i County General Plan, CDP, Zoning and CRC

The *General Plan* for the County of Hawai‘i is a policy document expressing the broad goals and policies for the long-range development of the Island of Hawai‘i. The plan was adopted by

ordinance in 1989 and revised in 2004 (Hawai‘i County Department of Planning 2005). The *General Plan* itself is organized into thirteen elements, with policies, objectives, standards, and principles for each. There are also discussions of the specific applicability of each element to the nine judicial districts comprising the County of Hawai‘i. Most relevant to the proposed project are the following Goal and Policies, and Courses of Action:

Recreation 12.2 Goals

(a) Provide a wide variety of recreational opportunities for the residents and visitors of the County.
(b) Maintain the natural beauty of recreation areas.
(c) Provide a diversity of environments for active and passive pursuits.

Recreation 12.3 Policies

(a) Strive to equitably allocate facility-based parks among the districts relative to population, with public input to determine the locations and types of facilities.
(b) Improve existing public facilities for optimum usage.
(c) Recreational facilities shall reflect the natural, historic, and cultural character of the area.
(d) The use of land adjoining recreation areas shall be compatible with community values, physical resources, and recreation potential.
(g) Facilities for compatible multiple uses shall be provided.
(i) Coordinate recreational programs and facilities with governmental and private agencies and organizations. Innovative ideas for improving recreational facilities and opportunities shall be considered.

Recreation - South Kona 12.5.8.2 Courses of Action

(j) Develop and provide cultural facilities and programs.

Discussion: The proposed project satisfies relevant goals, policies, and courses of action related to recreational facilities in Hawai‘i County and South Kona.

Historic Sites 6.2 Goals

(a) Protect, restore, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawaii.
(b) Appropriate access to significant historic sites, buildings**,** and objects of public interest should be made available.

Historic Sites 6.3 Policies

(a) Agencies and organizations, either public or private, pursuing knowledge about historic sites should keep the public apprised of projects.
(c) Require both public and private developers of land to provide historical and archaeological surveys and cultural assessments, where appropriate, prior to the clearing

or development of land when there are indications that the land under consideration has historical significance.
(e) Public access to significant historic sites and objects shall be acquired, where appropriate.
(f) Encourage the restoration of significant sites on private lands.

Discussion: Archaeological resources have been properly assessed through an inventory survey approved by SHPD. Given mitigation including preservation and monitoring, plans for which have been developed, there will be no adverse effect on significant historic sites. All impacts of the project in terms of historic sites are beneficial, including preservation, research, interpretation and enhancement of public access. KHS has successfully completed inventory survey, monitoring plans and preservation plans, all of which have been accepted by SHPD, which has given authorization to the County to proceed with permit processing.

Kona Community Development Plan

The Kona Community Development Plan (CDP) encompasses the judicial district of North and South Kona and was developed under the framework of the February 2005 County of Hawai‘i General Plan. Community Development Plans are intended to translate broad General Plan Goals, Policies, and Standards into implementation actions as they apply to specific geographical regions around the County. CDPs are also intended to serve as a forum for community input into land-use, delivery of government services and any other matters relating to the planning area.

The General Plan now requires that a Community Development Plan shall be adopted by the County Council as an “ordinance,” giving the CDP the force of law. This contrasts with plans created over past years, adopted by “resolution” that served only as guidelines or reference documents to decision-makers. The Kona CDP was adopted in September 2008 by the County Council. The purposes of the Kona CDP are to:

- Articulate Kona’s residents’ vision for the planning area.
- Guide regional development in accordance with that vision, accommodating future growth while preserving valued assets.
- Provide a feasible infrastructure financing plan to improve existing deficiencies and proactively support the needs of future growth.
- Direct growth in appropriate areas.
- Create a plan of action where government and the people work in partnership to improve the quality of life in Kona to live, work, and visit.
- Provide a framework to monitor the progress and effectiveness of the plan and to make changes and update, if necessary.

Most relevant to the proposed project are the following:

Cultural Resources Goal: The multi-ethnic cultures of Kona are preserved, protected, and restored in a manner that perpetuates those cultures and all aspects of the Aloha Spirit.

Policy CR-3.2: Preserve and perpetuate our Hawaiian and island cultural values by celebrating our cultural diversity and island way of life. Our diversity likewise defines us. Ensuring that our cultural practices flourish through language, dance, song, and art is crucial to sustaining who we are as a people. We must protect and nurture all aspects of our diverse history, traditions and cultures.

The proposed Kona Historical Society's Kona Gallery is highly consistent with these goals and policies and is not inconsistent with other aspects of the Kona Community Development Plan.

Although the project would not accurately be characterized as "growth", it should be noted that per the CDP, the proposed Gallery is within the Urban area of Mauka Kona. The CDP directs future "growth" to be along the Mamalahoa Highway and within the existing urban area, so even if the project were considered growth, it would be consistent. Policy LU-3.1 fosters redevelopment and the proposed project is a method to help revitalize a portion of Mauka Kona.

Hawai'i County General Plan Land Use Pattern Allocation Guide (LUPAG). The LUPAG map component of the *General Plan* is a graphic representation of the Plan's goals, policies, and standards as well as of the physical relationship between land uses. It also establishes the basic urban and non-urban form for areas within the planned public and cultural facilities, public utilities and safety features, and transportation corridors. The project site is classified as Medium Density Urban in the LUPAG. The proposed project is consistent with this designation.

Hawai'i County Zoning. The project site is zoned RS-15 (Residential, 15,000-square foot minimum lot size). Community buildings are a permitted use in this zoning designation. Some nearby parcels are similarly zoned, while others are zoned for village commercial and agricultural uses. The property is not situated within the County's Special Management Area (SMA).

Hawai'i County Cultural Resources Commission (CRC).

The intent of the Hawai'i County Cultural Resources Commission (CRC), Article 44 of the Hawai'i County Code, adopted by Ordinance 08-42, is to provide for:

1. Protecting and preserving historic properties and artifacts in the County and encourage, where appropriate, their adoption for appropriate and feasible use;
2. Encouraging the restoration, rehabilitation and continued functional use of historic properties;
3. Encouraging the identification, preservation, promotion, and enhancement of those historic properties which represent or reflect distinctive elements of cultural, social, economic, political, and architectural history, and to encourage the designation of historic properties, thereby ensuring that our cultural and historic heritage will be imparted to present and future generations of residents and visitors; and
4. Formulating County-wide comprehensive, historic preservation policies, programs, and plans.

The nine members of the CRC are appointed by the Mayor and approved by the County Council. Representation may include professionals and persons with special interest in architecture, history, archaeology, architectural history, Hawaiian Culture, ethnic history, and culture of Hawai‘i County.

The CRC has visited the KHS and will be consulted as part of the nomination of the Greenwell house ruins to the National Register, per Section 2-230 of the Hawai‘i County Code. As part of that process, there will be a public hearing allowing public testimony, and the CRC will forward a report on the nomination and the hearing to the Mayor. The Mayor ,together with the CRC, may provide recommendations to the State Historic Preservation Officer, who makes the final decision concerning the nomination, which is then forwarded to the National Park Service for review and processing.

3.6.3 Hawai‘i State Land Use Law

All land in the State of Hawai‘i is classified into one of four land use categories – Urban, Rural, Agricultural, or Conservation – by the State Land Use Commission, pursuant to Chapter 205, HRS. The property is in the State Land Use Urban District. The proposed use is consistent with intended uses for this Land Use District.

PART 4: DETERMINATION

Based on the findings below, and upon consideration of comments to the Draft EA, the County of Hawai‘i, Planning Department, has determined that the proposed action will not significantly alter the environment, as impacts will be minimal, and has issued a Finding of No Significant Impact (FONSI).

PART 5: FINDINGS AND REASONS

Chapter 11-200-12, Hawai‘i Administrative Rules, outlines those factors agencies must consider when determining whether an Action has significant effects:

1. *The proposed project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.* No valuable natural or cultural resources would be committed or lost. The Kona Historical Society is a unique and valuable cultural resource that would be improved by the project.
2. *The proposed project will not curtail the range of beneficial uses of the environment.* The proposed project expands and in no way curtails beneficial uses of the environment.
3. *The proposed project will not conflict with the State's long-term environmental policies*. The State’s long-term environmental policies are set forth in Chapter 344, HRS. The broad goals of this policy are to conserve natural resources and enhance the quality of life. The project is minor, environmentally beneficial, and fulfills aspects of these policies calling for

an improved social environment. It is thus consistent with all elements of the State's long-term environmental policies.

4. *The proposed project will not substantially affect the economic or social welfare of the community or State.* The project will benefit the social welfare of the community with the improvement of a unique educational and cultural resource and enhancement of access to public recreational facilities.
5. *The proposed project does not substantially affect public health in any detrimental way.* The proposed project will benefit public health by increasing access to recreational and cultural opportunities.
6. *The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities*. No secondary effects are expected to result from the proposed action, which would simply improve existing facilities and would not induce in-migration or affect public facilities.
7. *The proposed project will not involve a substantial degradation of environmental quality*. The project is minor and environmentally benign and would thus not contribute to environmental degradation.
8. *The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.* No rare, threatened and endangered plant species are present or would be impacted by the proposed construction. Impacts to rare, threatened or endangered species of flora or fauna will not occur. Proper mitigation related to Hawaiian hoary bats during construction activities can minimize impacts to these species, which are relatively common in South Kona and may make occasional use of the project site.
9. *The proposed project is not one which is individually limited but cumulatively may have considerable effect upon the environment or involves a commitment for larger actions.* The project is not related to other activities in the region in such a way as to produce adverse cumulative effects or involve a commitment for larger actions.
10. *The proposed project will not detrimentally affect air or water quality or ambient noise levels.* No adverse effects would occur. Mitigation of construction-phase impacts will preserve water and air quality. Ambient noise impacts from construction will be temporary and restricted to reasonable daytime hours. Operationally basis, no impacts to water quality or air quality are expected. The site is adjacent to a highway, with no noise-sensitive uses nearby, and the operation of the Kona Gallery will not generate substantial noise.
11. *The project does not affect nor would it likely to be damaged as a result of being located in environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal area.* Although the project is located in an area with volcanic and seismic risk, the entire Island of Hawai'i shares this risk, and the project is not imprudent to construct under current conditions, and employs design and construction standards appropriate to the seismic zone.
12. *The project will not substantially affect scenic vistas and viewplanes identified in county or state plans or studies.* No scenic vistas and view planes identified in the Hawai'i County General Plan will be adversely affected by the project.
13. *The project will not require substantial energy consumption*. Construction and maintenance of the facility will require minimal consumption of energy. No adverse effects are expected. The project site is located 1,500 feet above sea level, in an area not subject to sea

level rise that may occur as a result of climate change. It is not located on or adjacent to a drainageway, and is not subject to flooding, and no adverse effects on the site or because of the site associated with increased rainfall that could occur with climate change are likely.

For the reasons above, the proposed Action will not have any significant effect in the context of Chapter 343, Hawai‘i Revised Statues and section 11-200-12 of the State Administrative Rules.

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Environmental Assessment

Kona Historical Society
Kona Museum Gallery

APPENDIX 1a
Comments in Response to Early Consultation/Previous Correspondence

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From: Baybayan, Clinton <Clinton.Baybayan@hawaiicounty.gov>
Sent: Friday, June 22, 2018 3:31 PM
To: rterry@hawaii.rr.com
Cc: Sugihara, Doriann <Doriann.Sugihara@hawaiicounty.gov>
Subject: EA Assessment for Kona Museum Gallery, South Kona, Island of Hawaii, TMK 8-1-004:043

Ron,

We have no records on file involving any fires, complaints, permits or violations regarding Hazardous materials at parcel TMK 8-1-004:043 in South Kona. Let me know if you have any additional questions.

Thanks,

Clinton Baybayan
Fire Prevention Captain
Hawaii Fire Department
808-323-4761

From: Gary Harrold <garysgab@gmail.com>
Sent: Saturday, June 30, 2018 5:22 AM
To: rterry@hawaii.rr.com
Subject: composting toilets

The project also includes a septic system and improvements to other utility systems and parking.
The areas of investigation in the Environmental Assessment will include but not be limited to the
As a Sierra Club activist, Ron, I so appreciate your environmental consciousness. Have you entertained the idea of composting toilets, thus keeping waste out of the expensive, energy-intensive - and oftentimes - inefficient sewage labyrinth? I look forward to visiting the semi-subterranean 'cube' in the future. Gary Harrold, Hilo

following: water quality assurance; wastewater treatment; flora, fauna, and ecosystems; traffic
impacts; geology, soils, and hazards; flooding and drainage impacts; social, cultural and
community impacts; cultural impacts; historic sites; and economic impacts.

Harry Kim
Mayor

Paul K. Ferreira
Police Chief

Kenneth Bugado, Jr.
Deputy Police Chief

County of Hawai'i

POLICE DEPARTMENT
349 Kapi'olani Street • Hilo, Hawai'i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

June 25, 2018

Mr. Ron Terry
Geometrician Associates LLC
P.O. Box 396
Hilo, HI 96721

Dear Mr. Terry:

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR KONA MUSEUM GALLERY, SOUTH KONA, ISLAND OF HAWAI'I, TMK 8-1-004:043

This is in response to your letter requesting comments on any special environmental conditions or impacts related to your project.

Thank you for allowing the Hawai'i Police Department the opportunity to participate. At this time, the Hawai'i Police Department has no comments.

Should you have any questions, please contact Captain Gilbert Gaspar Jr., Commander of the Kona District, at 326-4646, extension 299.

Sincerely,

PAUL K. FERREIRA
POLICE CHIEF

JAMES B. O'CONNOR
ASSISTANT POLICE CHIEF
AREA II OPERATIONS

GG/jaj
RS 1801618

From: Fujio, Mary <Mary.Fujio@hawaiicounty.gov>

Sent: Wednesday, July 11, 2018 3:56 PM

To: rterry@hawaii.rr.com

Subject: EA for Kona Museum Gallery (TMK 8-1-004-043)

Good afternoon –

Our department received your June 18, 2018, letter soliciting comments on the above project. Our Solid Waste Division and Wastewater Division have no comments.

Thank you.

Mary E. Fujio

Private Secretary to William Kucharski, Director

and Diane Noda, Deputy Director

Department of Environmental Management

County of Hawai'i

345 Kekūanāo'a Street, Suite 41

Hilo, Hawai'i 96720

Telephone: (808) 961-8099

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 19, 2018

Geometrician Associates, LLC
Attention: Mr. Ron Terry
P.O. Box 396
Hilo, Hawaii 96721

via email: rterry@hawaii.rr.com

Dear Mr. Terry:

SUBJECT: Environmental Assessment for **Kona Museum Gallery** located at South Kona, Island of Hawaii; TMK: (3) 8-1-004:043

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the Engineering Division on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 25, 2018

MEMORANDUM

TO: FROM

DLNR Agencies:
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
X Engineering Division
___Div. of Forestry & Wildlife
___Div. of State Parks
X Commission on Water Resource Management
___Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: To Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Assessment for **Kona Museum Gallery**
LOCATION: South Kona, Island of Hawaii; TMK: (3) 8-1-004:043
APPLICANT: Geometrician Associates, LLC on behalf of Kona Historical Society

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **July 18, 2018.**

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____

Print Name: Carty S. Chang, Chief Engineer

Date: 7/5/18

Attachments
cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
Ref: Environmental Assessment for Kona Museum Gallery, South Kona, Island of Hawaii; TMK: (3) 8-1-004:043

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (http://gis.hawaiinfip.org/FHAT).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 7/5/10

Harry Kim
Mayor

Wil Okabe
Managing Director

Allan G. Simeon, P.E.
Director

Merrick H. Nishimoto
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630
public_works@hawaiicounty.gov

Ron Terry
Geometrician Associates, LLC
PO Box 396
Hilo, Hawaii 96721
(via email to: rterry@hawaii.rr.com)

Subject: Early Consultation
Environmental Assessment for Kona Museum Gallery, South Kona, Island of Hawaii
Tax Map Key: 8-1-004:043

We have reviewed the subject dated June 18, 2018 and have the following comments:

1. The subject parcel is in an area designated as Zone X on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA).

2. All development-generated runoff shall be disposed of on site and shall not be directed toward any adjacent properties.

3. All earthwork and grading shall conform to Chapter 10 – Erosion and Sedimentation Control – of the Hawaii County Code.

4. All work within the County Right-of-Way shall conform to Chapter 22 – County Streets – of the Hawaii County Code. Access to Mamalahoa Highway, including the provision of adequate sight distances, shall meet with the approval of the Department of Public Works. No access to Mamalahoa Highway will be allowed through the "No Vehicular Access and Planting Screen Easement".

Please provide a copy of the EA when it is completed for our review and comment.

Should there be any questions concerning this matter, please contact Natalie Whitworth of our Kona Engineering Division office at 323-4853.

Natalie Whitworth

for Ben Ishii, Division Chief
Engineering Division

NW

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

August 10, 2018

Mr. Ron Terry
Geometrician Associates, LLC
P.O. Box 396
Hilo, HI 96721

Dear Mr. Terry:

Subject: Pre-Environmental Assessment for Kona Museum Gallery
Tax Map Key 8-1-004:043

This is in response to your Pre-Environmental Assessment letter dated June 20, 2018.

Please be informed that there is an existing 8-inch waterline along Hawai'i Belt Road fronting the subject parcel. There is an existing 5/8-inch meter serving the subject parcel, which is limited to an average usage of 400 gallons per day.

The Department will request estimated maximum daily water usage calculations, prepared by a professional engineer licensed in the State of Hawai'i, for review and approval. After review of the calculations, the Department will determine if the existing water system is adequate to support the additional water demand, facilities charge and necessary water system improvements.

The Department's Water System Standards require that a minimum flow of 2,000 gallons per minute be available at the site for fire protection, based on the proposed use. Please be informed that the existing 8-inch waterline is inadequate to provide the required fire flow. Also, the nearest fire hydrant is 600 feet to the south from the subject parcel. The applicant should contact the Fire Department to determine any other fire protection requirements or alternatives.

Should there be any questions, please contact Mr. Ryan Quitoriano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,

Keith K. Okamoto, P.E.
Manager-Chief Engineer

RQ:dfg

William P. Kenoi
Mayor

Duane Kanuha
Director

Bobby Command
Deputy 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

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

June 19, 2015

Ms. Joy Holland
Kona Historical Society
P.O. Box 398
Captain Cook, HI 96704

SUBJECT: Plan Approval Application for Community Use - Exhibits
TMK: 8-1-004:043, Ke'eke'e - Onouli 1st, South Kona, Hawai'i (COR-15-099178)

Dear Ms. Holland:

Your Application for Plan Approval, received by our office on March 6, 2015, is being returned to you with this letter due to your submittals being incomplete. The following additional or revised information is required for the application to be complete:

1. The proposed project is on the same site and within close proximity to the Greenwell Store that is listed on both the National and Hawaii Register of Historic site, and therefore, triggers an environmental review and preparation of an environmental assessment, subject to Chapter 343, Hawaii Revised Statutes. The environmental review must be completed prior to application for a Plan Approval.

2. The proposed site plan needs to show the locations of the three easements, PS- 2-4, planting screen easements, per Subdivision number 09-000871 approved on July 12, 2011.

3. Please provide documentation to support that the proposed retail area shown on the site plan is directly accessory to the permitted community building use, and is not primarily for financial gain, as required for the community building as proposed.

We welcome your re-submittal for Plan Approval when appropriate documentation can be provided therewith.

Should you have any questions on this matter, please contact Rosalind Newlon of our West Hawaii office at (808) 323-4770. The Zoning Code (Chapter 25) can be viewed online at http://www.cohplanningdept.com/resources-and-references/.

Sincerely,

DUANE KANUHA
Planning Director

RJN:rjn

C:\Users\rnewlon\Desktop\Newlon\Letters\COR-15-099178 8-1-004-043.doc

Enclosure: Application for Plan Approval
Cc: Mr. Pete Piper, 75-5944 Kuakini Hwy., Suite 2, Kailua Kona, HI 96740
West Hawaii Office

Harry Kim
Mayor

Michael Yee
Director

Daryn Arai
Deputy 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

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

November 27, 2018

Ken Melrose
Project Manager
P.O. Box 109
Kealakekua, HI 96750

Dear Mr. Melrose:

PRELIMIINARY PLAN APPROVAL FOR: Gallery Building, and related improvements for Kona Historical Society, a non-profit organization. (Permitted as a community building under Ch. 25, Section 25-4-11).
TMK: 8-1-004:043 (COR-18-119259)

We have reviewed and approved the plan for the subject proposed project for PRELIMINARY PLAN APPROVAL. Enclosed is a copy of the PRELIMINARY PLAN APPROVAL, dated 11/27/2018, for your file.

A Final Plan Approval will be issued once an approving agency for the Chapter 343 HRS environmental review process declares a Finding of No Significant Impact (FONSI) based on a final environmental assessment (FEA), that has been prepared pursuant to the OEQC rules and has met the deadlines for the comment period for the draft environmental assessment (DEA) as published in the OEQC Bulletin, and preparation of the FEA for the proposed project. The project, as submitted, is for the gallery building, and related improvements, and is located at the site of the N.H. Greenwell Historic Museum Store. The site was placed on the National Historic Register in 1978, and is also using State funds per the preliminary DEA, both of which are a trigger for environmental review, per Chapter 343 HRS.

In addition, before Final Plan Approval can be issued, submit a site plan for the proposed project delineating the zoning district boundaries of RS-15 (Single-Family Residential) and CV-7.5 (Village Commercial) for the subject parcel. This site plan will also required for submittal of the building permit application.

Also, in reference to the landscape plan submitted, irrigation will be required per Rule 17, unless you submit a phasing plan for establishing new plants. We are also recommending more substantial landscaping in the front yard to better moderate the visual impact of the new structure and associated parking. Please submit a revised landscaping plan, prior to issuance of a Final Plan Approval.

This Preliminary Plan Approval is based on the submitted representations as will the anticipated Final Plan Approval. If any uses change or there are modifications to the plans, a new application will need to be submitted for plan approval reflecting these changes.

For your information, all accessible parking spaces shall comply with current State and Federal Standards. Please find the most current requirements at the Disability and Communication Access Board website at http://health.hawaii.gov/dcab/parking or visit our website for helpful information: http://www.coh.planningdept.com/ resources-and-references.

After Final Plan Approval is issued, you may proceed with submittal of the building permit application.

Should you have any questions, please contact Rosalind Newlon of our West Hawai'i Office at 323-4770.

Sincerely,

B. Mark

MICHAEL YEE
Planning Director

RJN:rjn
Preliminary Plan Approval
C:\Users\rnewlon\Desktop\Newlon\Plan Approvals\PAL-8-1-004-043 Melrose.doc

cc: West Hawaii Office

COUNTY OF HAWAI'I PLANNING DEPARTMENT

PRELIMINARY PLAN APPROVAL

APPLICANT:
Ken Melrose

DATE ISSUED: 11/27/2018

DATE EXPIRES: 11/26/2020

LOCATION:
Ke'eke'e 1st – Onoili 1st, South Kona, Kona

TAX MAP KEY:
8-1-004:043

PARCEL AREA/PROJECT SITE AREA
3.111 acres

ZONE:
RS-15 (Single-Family Residential) and CV-7.5 (Village Commercial)

PROPOSED USE:
Gallery Building and related improvements, for Kona Historical Society, a non-profit organization. (Permitted as a community building under Ch. 25, Section 25-4-11).

As Shown on Plan	Comments
Front Yard: 58'-0"	OK, 20-0" Minimum required
Front Yard: 48'-0"	OK, 20'-0" Minimum required
Side Yard: 52'-0"	OK, 10'-0" Minimum required
Side Yard: >20'-0"	OK, 10'-0" Minimum required
Ht. of Structure (s): 24'-0"	OK, 35'-0" Maximum height
Access to parking: driveway off of Access and Utility Easement #2 (off Hawaii Belt Road)	OK, Existing, Must comply with the requirements of the Department of Public Works. Access via Access and Utility Easement #2 (off Hawaii Belt Road)
Off-Street Parking: 10 parking spaces provided, including 1 ADA Universal VAN accessible space.	OK, New Gallery Building: Upper Level: Gallery area (504 sq.ft. @ 1 per 75 sq.ft.) = 6.72 parking spaces Retail area (320 sq.ft. @ 1 per 300 sq.ft.) = 1.07 parking spaces Restrooms (136 sq.ft. @ 1 per 75 sq. ft.) = 1.81 parking spaces Lower Level: Storage area (400 sq.ft. @ 1 per 1,000 sq.ft.) = 0.4 parking spaces Total = 10 parking spaces Total parking stalls required = 10
Loading and Unloading Space: none provided	OK, none required

Density:	OK,
Fencing and Walls:	
Material:	
Height:	
Location:	
Landscaping: existing and proposed per plan. Irrigation Plan required or Phasing Plan for manual watering to establish plants required.	OK, Planting types and quantities complies with Rule No. 17 of the Planning Department's Rules of Practice and Procedure. Irrigation Plan or Phasing Plan for manual watering to establish plant required prior to final Plan Approval.
Others Tax Clearance: Drainage Report Apron (Back-up Area) for Parking - Warranty Deed for TMKs 8-1-004:038; 043;045;and 052 for use of the Access and Utility Easement "Easement AU-2" HRS Ch. 6E-10 and 6E-42 HRS Ch. 343 –Pending FONSI declaration by Approving Agency	OK, per letter of tax clearances from RPT dated November 27, 2018 OK, DPW-Eng. Approved 6/01/2015 OK, Easement for Apron (Back-up area) for Parking - Recorded September 12, 2013, Document no. A-50030447, referencing Sub. No. 09-000872, approved on July 12, 2011 for the subject parcels. OK, per DLNR-SHPD letter dated November 8, 2018 for Historical Preservation Review of proposed project OK, pending filing of FEA with OEQC and FONSI by Approving Agency – see condition no. 4
Does this project have a Fair Share Condition?	☐Yes ☒No Approved by: Name: Rosalind Newlon Date: 11/27/18

Conditions of Approval:

1. Applicant shall comply with all other applicable laws, rules, regulations and requirements of Hawai`i County.
2. This Preliminary Plan Approval is valid for two years from the date of approval, and shall expire on 11/26/2020.
3. Before Final Plan Approval can be issued, a site plan for the proposed project delineating the zoning district boundaries of RS-15 (Single-Family Residential) and CV-7.5 (Village Commercial) for the subject parcel must be submitted. This site plan will also be required for the building permit application submittal.

4. A Final Plan Approval will be issued once an approving agency for the Chapter 343 HRS environmental review process declares a Finding of No Significant Impact (FONSI) based on a final environmental assessment (FEA), that has been prepared pursuant to the OEQC rules and has met the deadlines for the comment period for the draft environmental assessment (DEA) as published in the OEQC Bulletin, and preparation of the FEA for the proposed project, as submitted. The project is for the gallery building, and related improvements, and is located at the site of the N.H. Greenwell Historic Museum Store, a site that was placed on the National Historic Register in 1978, and is also using State funds per the preliminary DEA, both of which are a trigger for environmental review, per Chapter 343 HRS. After Final Plan Approval is issued, you may proceed with submittal of the building permit application.

5. Irrigation Plan or Phasing Plan for manual watering to establish new plants required prior to Final Plan Approval.

6. Prior to approval of a Certificate of Occupancy (C.O.), the Planning Department may inspect the subject property to verify compliance with the approved plans. A C.O. shall not be approved where the buildings, site improvements, landscaping or use plans are found by the director to be inconsistent with the submittals for which the Final Plan Approval is issued.

7. Approved parking to be paved, striped, and appropriate signage installed prior to issuance of the Certificate of Occupancy.

8. The applicant is responsible for constructing accessible parking spaces in accordance with all current County, State, and Federal standards and requirements.

9. No Modifications to Plans without Prior Written Approval. All work shown on the development plans covered by a Final Plan Approval based on this Preliminary Plan Approval shall be completed as shown. No additions, substitutions or alterations to the site, parking, landscaping, or building design plans covered by the Final Plan Approval based on this Preliminary Plan Approval, nor any modification of the types of uses designated therein, shall be made without prior written approval of such changes by the Planning Department. A request for approval of such changes shall be submitted in writing and include scaled plan sheets clearly depicting and specifying all proposed changes. Upon assessing the requested changes, the Director may approve or deny the requested changes or require a new, complete application for Plan Approval where the Director finds the changes to be substantial. Prior to approval of a Certificate of Occupancy (C.O.), the Planning Department may inspect the subject property to verify compliance with the approved plans. A C.O. shall not be approved where the buildings, site improvements, landscaping or use plans are found by the Director to be inconsistent with the submittals for a Final Plan Approval as issued, that was based on the Preliminary Plan Approval.

B. Mark

Planning Director

Date 11/27/2018

Environmental Assessment

Kona Historical Society
Kona Museum Gallery

APPENDIX 2
Archaeological Inventory Survey and DLNR-SHPD Correspondence

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Environmental Assessment

Kona Historical Society
Kona Museum Gallery

APPENDIX 1b
Comments to Draft EA and Responses

[This page intentionally left blank]

Harry Kim
Mayor

Paul K. Ferreira
Police Chief

Kenneth Bugado, Jr.
Deputy Police Chief

County of Hawai'i

POLICE DEPARTMENT
349 Kapi'olani Street • Hilo, Hawai'i 96720-3998
(808) 935-3311 • Fax (808) 961-2389

February 11, 2019

Mr. Ron Terry
Geometrician Associates
P.O. Box 396
Hilo, HI 96721
rterry@hawaii.rr.com

Dear Mr. Terry:

RE: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) AND ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT (FONSI)
PROJECT NAME: KONA HISTORICAL SOCIETY KONA MUSEUM GALLERY
ISLAND: HAWAI'I
DISTRICT: SOUTH KONA
TMK: (3) 8-1-004:043

This is in response to your letter requesting comments on the Draft Environmental Assessment (DEA) and Anticipated Finding of No Significant Impact (FONSI) related to your above-referenced project.

Thank you for allowing the Hawai'i Police Department the opportunity to participate. At this time, the Hawai'i Police Department has no comments.

Should you have any questions, please contact Captain Gilbert Gaspar Jr., Commander of the Kona District, at 326-4646, extension 299.

Sincerely,

PAUL K. FERREIRA
POLICE CHIEF

JAMES B. O'CONNOR
ASSISTANT CHIEF
AREA II OPERATIONS

GG/jaj

c: Michael Yee, Director
Hawaii County Planning Department

geometrician
ASSOCIATES, LLC
integrating geographic science and planning

phone: (808) 969-7090 fax: (866) 316-6988 PO Box 396 Hilo Hawaii 96721
rterry@hawaii.rr.com

March 22, 2019

Paul K. Ferreira, Chief
Hawai'i County Police Department
349 Kapiolani Street
Hilo HI 96720

Dear Chief Ferreira:

Subject: Comment to Draft Environmental Assessment and Anticipated Finding of No Significant Impact (FONSI) for Kona Historical Society, Kona Museum Gallery, South Kona District, Island of Hawai'i

Thank you for your comment letter on the Draft EA dated February 11, 2019, in which you stated that your agency had no comments. We very much appreciate your review of the document. If you have any questions about the EA, please contact me at (808) 969-7090.

Sincerely,

Ron Terry

Ron Terry, Principal
Geometrician Associates

Cc: Michael Yee, Director, Planning Department, Dance Aoki, KHS, and Ken Melrose, Pa'ahana Enterprises

Harry Kim
Mayor

Wil Okabe
Managing Director

David Yamamoto, P.E.
Director

Allan G. Simeon, P.E.
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630
public_works@hawaiicounty.gov

February 26, 2019

Ron Terry
Geometrician Associates, LLC
PO Box 396
Hilo, Hawaii 96721
(via email to: rterry@hawaii.rr.com)

Subject: Draft Environmental Assessment (DEA)
Applicant: Kona Historical Society
Project: Kona Historical Society, Kona Museum Gallery Project
Tax Map Key: 8-1-004:043, Ke'eke'e 1st – Onouli 1st, South Kona, Hawaii

We have reviewed the Draft Environmental Assessment and have no additional comments or concerns.

Should there be any questions concerning this matter, please contact Natalie Whitworth of our Kona Engineering Division office at 323-4853.

for Natalie Whitworth
Ben Ishii, Division Chief
Engineering Division

NW

Copy: Engineering – Hilo/Kona
Planning Department (via email)

geometrician
ASSOCIATES, LLC
integrating geographic science and planning

phone: (808) 969-7090 fax: (866) 316-6988 PO Box 396 Hilo Hawaii 96721
rterry@hawaii.rr.com

March 22, 2019

Ben Ishii, Engineering Division Chief
Hawai'i County Department of Public Works
101 Pauahi Street, Suite 7
Hilo HI 96720

Dear Mr. Ishii:

Subject: Comment to Draft Environmental Assessment and Anticipated Finding of No Significant Impact (FONSI) for Kona Historical Society, Kona Museum Gallery, South Kona District, Island of Hawai'i

Thank you for your comment letter on the Draft EA dated February 26, 2019, in which you stated that your agency had no additional comments or concerns. We very much appreciate your review of the document. If you have any questions about the EA, please contact me at (808) 969-7090.

Sincerely,

Ron Terry

Ron Terry, Principal
Geometrician Associates

Cc: Michael Yee, Director, Planning Department, Dance Aoki, KHS, and Ken Melrose, Pa'ahana Enterprises

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

March 11, 2019

Geometrician Associates, LLC
Attention: Mr. Ron Terry
P.O. Box 396
Hilo, Hawaii 96721

via email: rterry@hawaii.rr.com

Dear Mr. Terry:

SUBJECT: Draft Environmental Assessment (DEA) and Anticipated Finding of No Significant Impact (FONSI) for the Proposed **Kona Historical Society** Kona Museum Gallery located at South Kona, Island of Hawaii; TMK: (3) 8-1-004:043

Thank you for the opportunity to review and comment on the subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed or made available a copy of your request pertaining to the subject matter to DLNR's Divisions for their review and comments.

At this time, enclosed are comments from the (a) Engineering Division, (b) Division of Forestry & Wildlife, and (c) Land Division – Hawaii District on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at (808) 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures
cc: Hawaii County Planning Department (w/copies)
Attn: Mr. Michael Yee, Director (via email: Michael.Yee@hawaiicounty.gov)
Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

February 14, 2019

RECEIVED
LAND DIVISION
2019 FEB 25 AM 11:19
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
___Div. of State Parks
X Commission on Water Resource Management
___Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment (DEA) and Anticipated Finding of No Significant Impact (FONSI) for the Proposed Kona Historical Society Kona Museum Gallery
LOCATION: South Kona, Island of Hawaii; TMK: (3) 8-1-004:043
APPLICANT: Geometrician Associates on behalf of **The Kona Historical Society**

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **March 7, 2019.**

The DEA can be found on-line at: http://health.hawaii.gov/oegc/ (Click on The Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

( ) We have no objections.
(✓) We have no additional comments.
( ) Comments are attached.

Signed: _____

Print Name: Carty S. Chang, Chief Engineer

Date: 2/22/19

Attachments
cc: Central Files

1952

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

February 14, 2019

RECEIVED
LAND DIVISION
2019 FEB 25 AM 11:19
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

TO: FR:

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: TO: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment (DEA) and Anticipated Finding of No Significant Impact (FONSI) for the Proposed Kona Historical Society Kona Museum Gallery
LOCATION: South Kona, Island of Hawaii; TMK: (3) 8-1-004:043
APPLICANT: Geometrician Associates on behalf of **The Kona Historical Society**

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **March 7, 2019.**

The DEA can be found on-line at: http://health.hawaii.gov/oeqc/ (Click on The Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

(✓) We have no objections.
( ) We have no comments.
( ) Comments are attached.

Signed: _____

Print Name: **DAVID G. SMITH, Administrator**

Date: 1/22/19

Attachments
cc: Central Files

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

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DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

February 14, 2019

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Hawaii District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment (DEA) and Anticipated Finding of No Significant Impact (FONSI) for the Proposed Kona Historical Society Kona Museum Gallery
LOCATION: South Kona, Island of Hawaii; TMK: (3) 8-1-004:043
APPLICANT: Geometrician Associates on behalf of **The Kona Historical Society**

Transmitted for your review and comment is information on the above-referenced subject matter. We would appreciate your comments by **March 7, 2019.**

The DEA can be found on-line at: http://health.hawaii.gov/oeqc/ (Click on The Environmental Notice in the middle of the page.)

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: [signature]

Print Name: GORDON C. HEIT

Date: 2/22/19

Attachments
cc: Central Files

geometrician
ASSOCIATES, LLC
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phone: (808) 969-7090 fax: (866) 316-6988 PO Box 396 Hilo Hawaii 96721
rterry@hawaii.rr.com

March 22, 2019

Russell Y. Tsuji, Administrator
Hawai'i State DLNR Land Division
P.O. Box 621
Honolulu HI 96809

Dear Mr. Tsuji:

Subject: Comment to Draft Environmental Assessment and Anticipated Finding of No Significant Impact (FONSI) for Kona Historical Society, Kona Museum Gallery, South Kona District, Island of Hawai'i

Thank you for your comment memo transmittal dated March 11, 2019, on the Draft EA. We hereby acknowledge the no-comment memo by the Land Division, Hawai'i District, the no objection memo from the Division of Forestry & Wildlife, and the no-additional comment memo from the Engineering Division.

We very much appreciate your review of the document, including circulation to various DLNR agencies. If you have any questions about the EA, please contact me at (808) 969-7090.

Sincerely,

Ron Terry

Ron Terry, Principal
Geometrician Associates

Cc: Michael Yee, Director, Planning Department, Dance Aoki, KHS, and Ken Melrose, Pa'ahana Enterprises

HISTORIC
HAWAI'I
FOUNDATION

680 Iwilei Road Suite 690, Honolulu HI 96817 • (808) 523-2900 • preservation@historichawaii.org • www.historichawaii.org

March 11, 2019

Michael Yee, Director
Hawai'i County Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720

Via email: Michael.Yee@HawaiiCounty.gov

RE: Draft Environmental Assessment
Kona Historical Society Kona Museum Gallery;
South Kona District/ Kalukalu Ahupua'a / Island of Hawaii;
TMK: 8-1-004:043

Dear Mr. Yee:

Historic Hawai'i Foundation (HHF) received notice and request for comments on the Draft Environmental Assessment (DEA) for the proposed new Gallery Addition to the Kona Historical Society campus. Thank you for the opportunity to comment.

Interests of Historic Hawai'i Foundation

Historic Hawai'i Foundation is a statewide organization established in 1974 to encourage the preservation of sites, buildings, structures, objects and districts that are significant to the history of Hawai'i. As an organization that is concerned with the effect of the project on historic properties, HHF is providing these comments in accordance with Hawai'i Revised Statutes (HRS) Chapter 343

Project Scope

Undertaking: The project proposes to construct a new Gallery building within the Kona Historical Society campus. The Kona Museum Gallery will resemble a 19th century-style Kona ranch structure externally, but will feature a modern "white cube" interior for exhibits, cultural activities, and community space.

Project Site: The project site is an approximately 8,000-square foot (sf) portion of TMK 8-1-004:043 owned by the Kona Historical Society (KHS), located along Māmalahoa Highway in mauka Kona, in the community of Kealakekua, on the Island of Hawai'i.

Identification of Historic Resources: The entire site was listed on both the National and Hawai'i Registers of Historic Places in 1978.

The project documented the remains of the historic Greenwell house (Site 30392, Feature A), two cisterns (Features B and C), a wall bordering the adjacent Hawai'i Belt Road (Feature D) and miscellaneous landscaping features in the backyard of the house (Feature E).

"The project site for the Kona Gallery was the terraced backyard of the H.N. Greenwell home, which was constructed in the 1850s by H.N. Greenwell. … The H.N. Greenwell home was demolished in the 1960s except for a few features such as foundations and walkways. Because it is now an archaeological site, it is discussed in the [DEA] section below, but it bears emphasis that, just was with the still extant Greenwell Store building, the former home and its surroundings have cultural-historical associations that have been preserved and celebrated by the Kona Historical Society."[1]

Description of New Museum Gallery:
(As described in the DEA text and attached concept drawings)[2]

- The Kona Museum Gallery will resemble a 19th century Kona ranch structure from the outside but will feature a modern "white cube" interior for exhibits, cultural activities, and community space.
- The two-story structure will be built into the slope, with 1,360 square feet of interior space for the exhibit area, retail area, storage and restrooms
- With rough-sawn plywood with 1" by 3" battens for siding and a corrugated metal gabled roof, the new building will blend seamlessly into the historic buildings and landscape surrounding it.
- The upper floor will have a wrap-around lanai and wooden railings on three sides. The lanai will function as external circulation and is not for museum display purposes.
- A combination of new and existing concrete walkways and ramps will ensure that pedestrian access to the building is ADA accessible.
- This community building has been designed for environmental sustainability and is expected to be a welcome location for education and cultural practice.

Determination of Effect:

The planned development of the property will require the destruction of the Feature E terrace area, which has already been sufficiently documented for information. The remainder of the site is recommended for preservation.

The Draft EA has determined that the proposed development will have an effect on the historic properties within the project area. Mitigation was proposed and accepted through the following measures:

1. The preservation of the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392);
2. Preparation of a Site Preservation Plan for Sites 7243 and 30392 prepared for DLNR-SHPD review and approval;
3. The National Register of Historic Places nomination will be updated to include both the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392). The update work including integration of prior research and consultation with SHPD will be initiated within the next five years;
4. The proposed gallery building will be designed in accordance with the Secretary of the Interior Standards for Treatment of Historic Properties; and
5. Archaeological monitoring of ground altering activity associated with the construction of the gallery will be conducted. This monitoring work would be guided by an Archaeological Monitoring Plan prepared for DLNR-SHPD review and approval.

[1] DEA Section 3.2.2 Cultural Setting, p. 29.
[2] DEA Section 1.1 Project Description, p. 13

Historic Hawai'i Foundation Comments

Overall, HHF believes that the new building will be a harmonious and compatible addition to the Kona Historical Society campus. HHF supports expanding public outreach and education opportunities, which will be supported by the new gallery space will provide.

HHF agrees with the proposed Preservation Plan and mitigation commitments to address the affected historic properties.

Historic Hawai'i Foundation agrees with the proposed Finding of No Significant Impact.

Very truly yours,

Kiersten Faulkner

Kiersten Faulkner
Executive Director

Copies via email:

Applicant: Kona Historical Society
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P.O. Box 398
Captain Cook, HI 96704

Consultant: Geometrician Associates LLC
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rterry@hawaii.rr.com

March 22, 2019

Kiersten Faulkner, Executive Director
Historic Hawai'i Foundation
Via email: Kiersten@historichawaii.org

Dear Ms. Faulkner:

Subject: Comment to Draft Environmental Assessment and Anticipated Finding of No Significant Impact (FONSI) for Kona Historical Society, Kona Museum Gallery, South Kona District, Island of Hawai'i

Thank you for your comment letter on the Draft EA dated March 11, 2019, in which you stated that "Overall, HHF believes that the new building will be a harmonious and compatible addition to the Kona Historical Society campus. HHF supports expanding public outreach and education opportunities, which will be supported by the new gallery space will provide. HHF agrees with the proposed Preservation Plan and mitigation commitments to address the affected historic properties. Historic Hawai'i Foundation agrees with the proposed Finding of No Significant Impact."

On behalf of the Kona Historical Society, please accept our thanks for your review and assessment of not only the EA findings but also your support for the project and its potential to significantly benefit the mission of the Kona Historical Society. If you have any questions about the EA, please contact me at (808) 969-7090.

Sincerely,

Ron Terry

Ron Terry, Principal
Geometrician Associates

Cc: Michael Yee, Director, Planning Department, Dance Aoki, KHS, and Ken Melrose, Pa'ahana Enterprises

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1192-071416

FINAL

ARCHAEOLOGICAL INVENTORY SURVEY

TMK: (3) 8-1-004: POR. 043

KALUKALU AHUPUA'A, SOUTH KONA DISTRICT

ISLAND OF HAWAI'I

HAUN & ASSOCIATES

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL RESOURCE MANAGEMENT SERVICES

73-1168 KAHUNA A'O ROAD, KAILUA-KONA HI 96740

PHONE: 808-325-2402 FAX: 808-325-1520

1192-071416

FINAL

ARCHAEOLOGICAL INVENTORY SURVEY

TMK: (3) 8-1-004: POR. 043

KALUKALU AHUPUAʻA

SOUTH KONA DISTRICT

ISLAND OF HAWAIʻI

Prepared by:

Alan E. Haun, Ph.D.
and
Dave Henry, B.S.

Prepared for:

Kona Historical Society
81-6551 Hawaiʻi Belt Road
Kealakekua, HI 96750

August 2015
(Revised July 2016)

HAUN & ASSOCIATES
ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL RESOURCE MANAGEMENT SERVICES
73-1168 KAHUNA AʻO ROAD, KAILUA-KONA HI 96740
PHONE: 808-325-2402 FAX: 808-325-1520

MANAGEMENT SUMMARY

Haun & Associates conducted an archaeological inventory survey (AIS) of an approximately 0.47 acre portion of the 3.111 acre TMK: (3) 8-1-004:043 in Kalukalu Ahupuaʻa, South Kona District, Island of Hawaiʻi. The objective of the survey was to satisfy historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained in Hawaiʻi Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 198 and 284, State Historic Preservation Rules.

The project documented the remains of the historic Greenwell house (Site 30392, Feature A), two cisterns (Features B and C), a wall bordering the adjacent Hawaiʻi Belt Road (Feature D) and miscellaneous landscaping features in the backyard of the house (Feature E). The Greenwell House (Site 30392), and the adjacent Greenwell Store (Site 7243) also located on the property, possess integrity of location, design, setting, materials, workmanship, feeling, and association. The sites are assessed for significance per Hawaiʻi Administrative Rules (HAR) §13-284-6, Criteria a-e and evaluated for inclusion in the Hawaiʻi Register of Historic Places per HAR §13-198-8 Criteria A-D. They are assessed significant for their association with significant contributions to Hawaiian history under Criterion "a", for association with H.N. Greenwell and his family under Criterion "b", for distinctive method of construction under Criterion "c" and for information content under Criterion "d". The documentation of the Greenwell House (Site 30392) has yielded information important for understanding historic land use in the project area.

The AIS was prepared in conjunction with an environmental assessment for a proposed new gallery building to be located in the western portion of the parcel. This area is currently occupied by the landscaping features (Feature E) in the backyard of the house. Subsurface testing identified no prehistoric cultural deposits in this area. The planned development of the property will require the destruction of the Feature E terrace area; however, the remainder of the site is recommended for preservation.

The proposed development will have an effect on the historic properties within the project area; however, hese impacts will be mitigated through the following measures:

1. The preservation of the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392);
2. Preparation of a Site Preservation Plan for Sites 7243 and 30392 prepared for DLNR-SHPD review and approval;
3. The National Register of Historic Places nomination (see **Appendix A**) will be updated to include both the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392). The update work including integration of prior research and consultation with SHPD will be initiated within the next five years;
4. The proposed gallery building will be designed in accordance with the Secretary of the Interior Standards for Treatment of Historic Properties; and
5. Archaeological monitoring of ground altering activity associated with the construction of the gallery will be conducted. This monitoring work would be guided by an Archaeological Monitoring Plan prepared for DLNR-SHPD review and approval.

Cover photo: Overview of Greenwell House foundation (view to east)

Contents

MANAGEMENT SUMMARY ii
INTRODUCTION 1
Scope of Work 1
Project Area Description 1
Methods 5
ARCHAEOLOGICAL AND HISTORICAL BACKGROUND 5
Historical documentary research 5
Previous archaeological work 15
CONSULTATION 20
PROJECT EXPECTATIONS 22
FINDINGS 23
CONCLUSION 48
Discussion 48
Significance Assessments and Register Eligibility 48
Treatments Recommendations 49
TRANSLATION OF HAWAIIAN WORDS 52
REFERENCES 53
APPENDIX A – NOMINATION FORM FOR GREENWELL STORE (SITE 7243) 58

FIGURES

Figure 1. Portion of 1998 USGS 7.5' Kealakekua Quadrangle showing project area 2
Figure 2. Tax Map Key 8-1-004 showing project area, Land Commission Awards and coastal features 3
Figure 3. Aerial view of project area (from Google Earth) 4
Figure 4. Ahupuaʻa boundaries and previous archaeological work 6
Figure 5. Portion of Register Map 1281 showing project area and land grants 10
Figure 6. Portion of 1928 USGS Kailua Quadrangle showing project area 14
Figure 7. Portion of December 13, 1976 aerial photograph of project area vicinity 16
Figure 8. Interior of restored Greenwell Store 19
Figure 9. Interior of restored Greenwell Store 19
Figure 10. Site location map 24
Figure 11. Site location map showing direction of historic photographs 25
Figure 12. Historic photograph of the Greenwell House (Courtesy of KHS - view to west) 26
Figure 13. Historic photograph of the Greenwell House (Courtesy of KHS - view to west) 26
Figure 14. Historic photograph of the Greenwell House (Courtesy of KHS - view to east) 27
Figure 15. Historic photograph of the Greenwell House (in background) and Greenwell Store (in foreground; Courtesy of KHS - view to west) 27
Figure 16. Historic photograph of the Greenwell House (Courtesy of KHS - view to south-southeast) 28
Figure 17. Historic photograph of the Greenwell House (Courtesy of KHS - view to south-southwest) 28
Figure 18. Historic photograph of the Greenwell House (Courtesy of KHS - view to south) 29
Figure 19. Descendant's Map of the Greenwell House (Courtesy of KHS) 29
Figure 20. Overview of Feature A Greenwell House foundation (view to east) 31

FIGURES (cont.)

Figure 21. Overview of Feature A Greenwell House Foundation (view to north) 31
Figure 22. Southern stairs (view to west) 32
Figure 23. Northern stairs (view to southeast) 32
Figure 24. Debris within western room (view to north) 33
Figure 25. Metal gear in western room (view to southwest) 33
Figure 26. Debris on west side of Feature A (view to east) 34
Figure 27. Front Lanai foundation (view to north) 34
Figure 28. Concrete pad adjacent to “Front Lanai” (view to west) 35
Figure 29. Stairs leading to “Food Safe” (view to west) 35
Figure 30. Concrete pad connecting "Pantry" to “Cowboy Dining Room" (view to west) 36
Figure 31. Disturbed "Cowboy Dining Room" and Kitchen (view to south) 36
Figure 32. Fence around Feature B cistern (view to east) 38
Figure 33. Feature B cistern (view to northeast) 38
Figure 34. Feature C cistern (view to northeast) 39
Figure 35. Metal pump on concrete block at Feature C (view to southeast) 39
Figure 36. Concrete cap and concrete pad with inscription (view to southwest) 40
Figure 37. Feature D wall (view to east) 40
Figure 38. Feature E terraces (view to east) 41
Figure 39. Feature E stairs (view to east) 41
Figure 40. Feature E, Profile of TU-1192.1 43
Figure 41. Feature E, Profile of TU-1192.2 46
Figure 42. Lead bullet from TU-1192.2 46
Figure 43. Doll parts from TU-1192.2 47
Figure 44. Proposed development 50

TABLES

Table 1. Summary of Land Commission Awards in Kalukalu 8
Table 2. Summary of midden from Site 30392 43
Table 3. Summary of artifacts from Site 30392, Feature E 44

INTRODUCTION

At the request of the Kona Historical Society, Haun & Associates completed an Archaeological Inventory Survey (AIS) of an approximately 0.47 acre portion of the 3.111 acre TMK: (3) 8-1-004:043 in Kalukalu Ahupuaʻa, South Kona District, Island of Hawaiʻi (**Figure 1** and **Figure 2**). The objective of the AIS is to satisfy current historic preservation regulatory review inventory requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD), as contained within Hawaiʻi Administrative Rules, Title 13, DLNR, Subtitle 13, Chapters 198, 276 and 284, State Historic Preservation Rules (DLNR 2003).

The project documented the architectural remains of the historic Greenwell house (Feature A), two cisterns (Features B and C), a wall bordering the adjacent Hawaiʻi Belt Road (Feature D) and miscellaneous landscaping features in the backyard of the house (Feature E). The survey fieldwork was conducted by Haun & Associates Project Supervisor and Cultural Specialist Solomon Kailihiwa, M.A. and a crew of three archaeologists between July 8th and 13th, 2015, under the direction of Dr. Alan Haun. The field work portion of the project required 8 person days to complete. This report presents the project scope of work, field methods, background information, survey findings, and site significance assessments with treatment recommendations.

Scope of Work

The following specific tasks were determined to constitute an appropriate scope of work for the project based on DLNR-SHPD rules for inventory surveys:

1. Conduct background review and research of existing archaeological and historical documentary literature relating to the project area and its immediate vicinity--including examination of Land Commission Awards, *ahupuaʻa* records, historic maps, archival materials, archaeological reports, and other historical sources;
2. Conduct 100% pedestrian survey coverage of the project area;
3. Conduct detailed recording of all potentially significant sites including scale plan drawings, written descriptions, and photographs, as appropriate;
4. Conduct limited subsurface testing (manual excavation) to determine the presence or absence of cultural deposits;
5. Analyze background research and field data; and
6. Prepare and submit Final Report.

Project Area Description

The project area is a rectangular-shaped 0.47 acre portion of TMK: (3) 8-1-004:043. The majority of the parcel contains the stone and concrete foundation of the historic home of Henry Nicholas (H.N.) Greenwell. This site is discussed in detail in the Findings section of this report. The remainder of the parcel has been landscaped with a grass lawn, Bird of Paradise (*Strelitzia reginae*), guava (*Psidium guajava*), *lauaʻe* fern (*Phymatosorus grossus*), and hibiscus (*Hibiscus* spp.). The parcel is bordered on the north by the asphalt parking lot for the modern Greenwell Meat Market, on the northwest by Greenwell Farms mailing room and roasting room, on the south by the historic Greenwell Store (SIHP Site 7243), on the east by the Hawaiʻi Belt Road and on the west by a grass lawn that occupies the remainder of the subject TMK. The existing Kona Historical Society office is located in the southwest portion of the project area, to the west of the Greenwell Store. The interior of the store is a permanent exhibit space. The entire interior was previously restored to its original condition and even contains period merchandise. There is no "visitors center" at the facility. An aerial view of the project area is presented in **Figure 3.** The project area varies in elevation from approximately 1,490 ft to 1,495 ft.

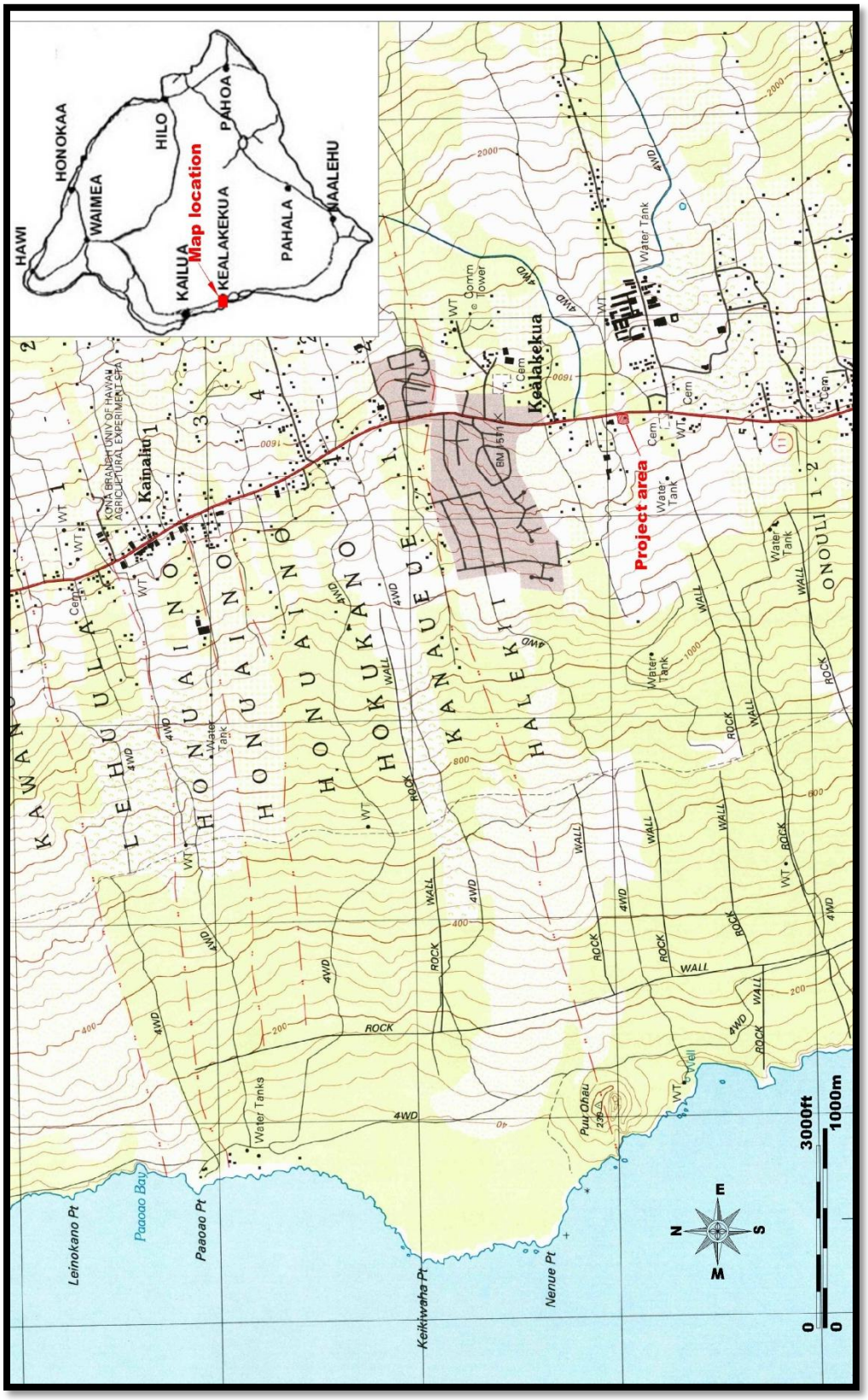

Figure 1. Portion of 1998 USGS 7.5' Kealakekua Quadrangle showing project area

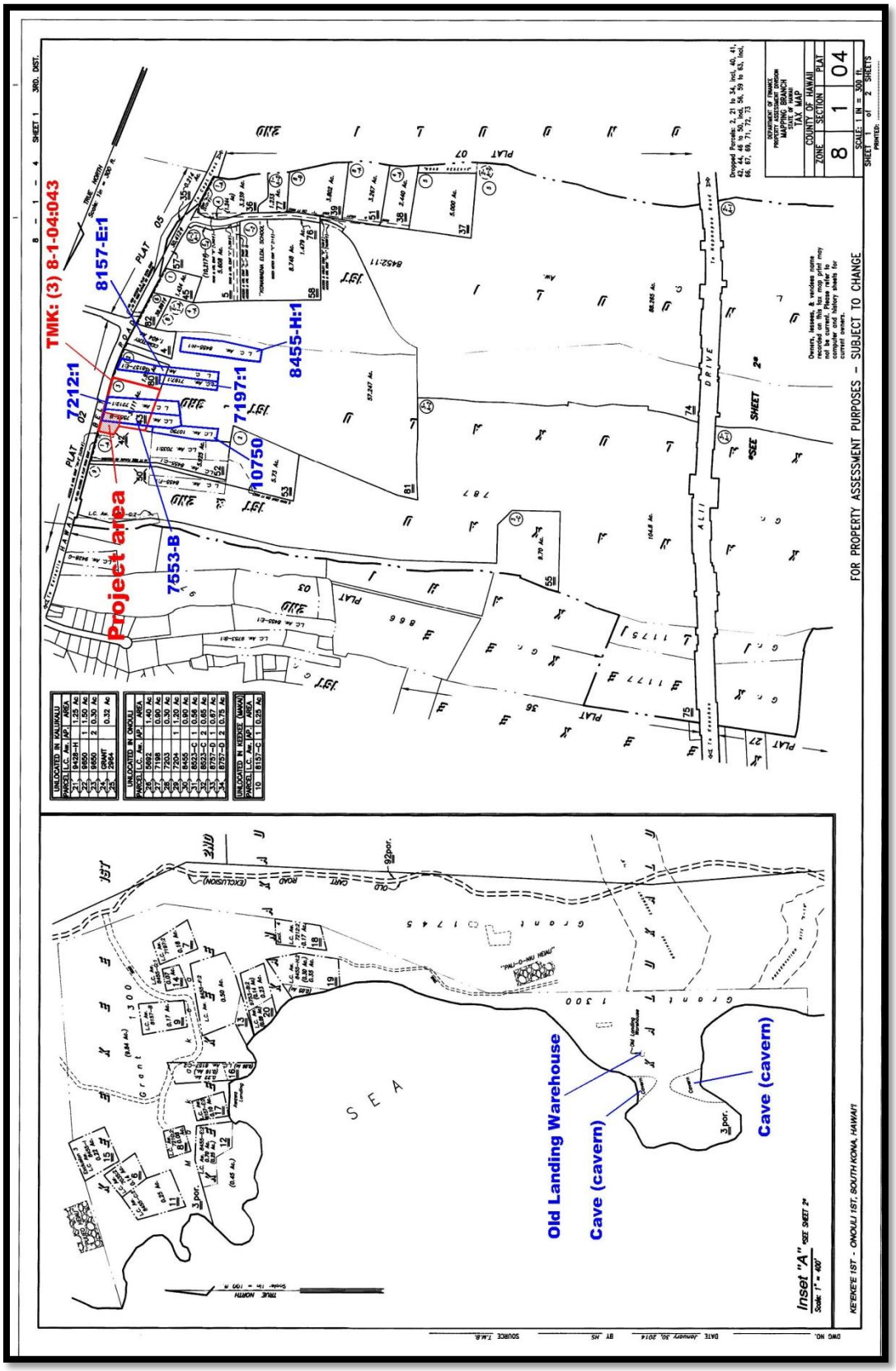

Figure 2. Tax Map Key 8-1-004 showing project area, Land Commission Awards and coastal features

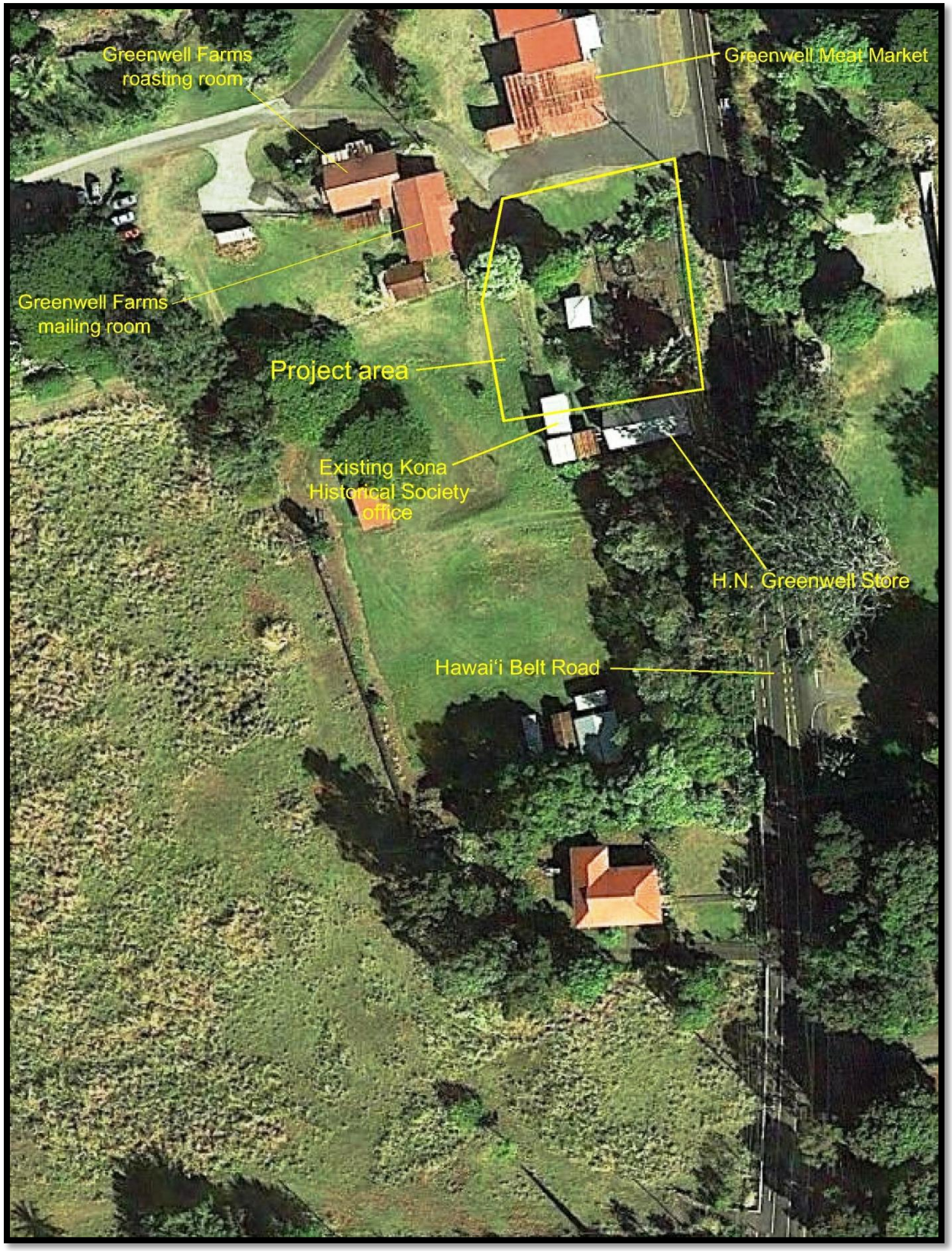

Figure 3. Aerial view of project area (from Google Earth)

The soil in the parcel is Honuaulu very stony silt clay loam (6-20% slopes). The soil type is characterized by a 9" surface layer of very dark brown silty clay loam over a 28 inch subsoil of dark brown cobbly and stony silty clay loam, above an *a'ā* lava substrate (Sato et al. 1973). The soil has a rapid permeability, a slow runoff and a slight erosion hazard and is classified as suitable for pasture. The underlying lava was deposited from Mauna Loa Volcano from 5,000 to 10,000 years ago (Wolfe and Morris 2001:11 and Sheet 1).

Methods

The project area was examined by a 100% pedestrian survey with the surveyors spaced less than 5 meters apart. Ground surface visibility throughout the parcel was excellent. One site, consisting of the remnants of the historic H.N. Greenwell house was identified. The site was subjected to detailed recording consisting of completing standardized site and feature forms, photographic documentation, and preparing a scaled plan map using hand tapes, laser distance meters, and compasses,

Subsurface testing consisted of excavating two 1.0 by 1.0 meter units located in the Feature E area in the backyard of the Greenwell House. The units were excavated in arbitrary levels within stratigraphic layers and were terminated either on bedrock or in a culturally sterile soil layer. Standardized excavation records were prepared after the completion of each stratigraphic layer. The soil removed during excavation was screened through ¼ inch mesh hardware cloth. Portable remains collected were placed in paper bags labeled with the appropriate provenience information. Charcoal samples were deposited in aluminum foil pouches and placed in properly labeled paper bags. Following the excavation, a section drawing depicting the stratigraphy was prepared and post-excavation photographs were taken. Recovered cultural remains were transported to Haun & Associates' office for analysis.

Recovered cultural material was transported to Haun & Associates' office for analysis. The recovered materials were qualitatively and quantitatively analyzed. Artifacts were analyzed to determine morphological type, condition, degree of completion, and material. Standard typological classifications were used for all artifacts. Food remains were identified to the family level, or to the genus and species level when possible. Quantitative analysis included a determination of total weight and total number of identified fragments (TNF) per taxon.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Historical documentary research

The project area is located in the *ahupua'a* of Kalukalu in South Kona District. Kalukalu refers to a type of grass that grows only in this area (Pukui et al. 1976:79). The *ahupua'a* extends from the high cliffs along the shoreline inland more than 3.7 miles to approximately 2,500 ft elevation (**Figure 4**). The historical background for Kalukalu and the adjacent lands have been extensively covered in previous project reports for the area (Kaschko 1984, Hammatt et al. 1997, Robins et al. 2001, Maly and Maly 2001). The following information is summarized from these reports.

Archibald Menzies, a member of Vancouver's crew who saw the region shortly after Contact in the late 18th Century, hiked across the region and described upland "villages" consisting of a few small huts that functioned as convenient, temporary shelters while the inhabitants of the coastal village sites worked their farm plots intermittently. Apparently, no more than a few families occupied these hamlets at any given time.

The abundance and variety of agricultural crops grown in the general vicinity of the project area, between Kealakekua Bay and Kailua, are described in journals by Ledyard and Menzies. These accounts describe the general area as populous and intensively cultivated, with village sites situated along the coast among groves of coconut palms and with myriad garden plots planted upland from the habitations. Cultivated crops were described as

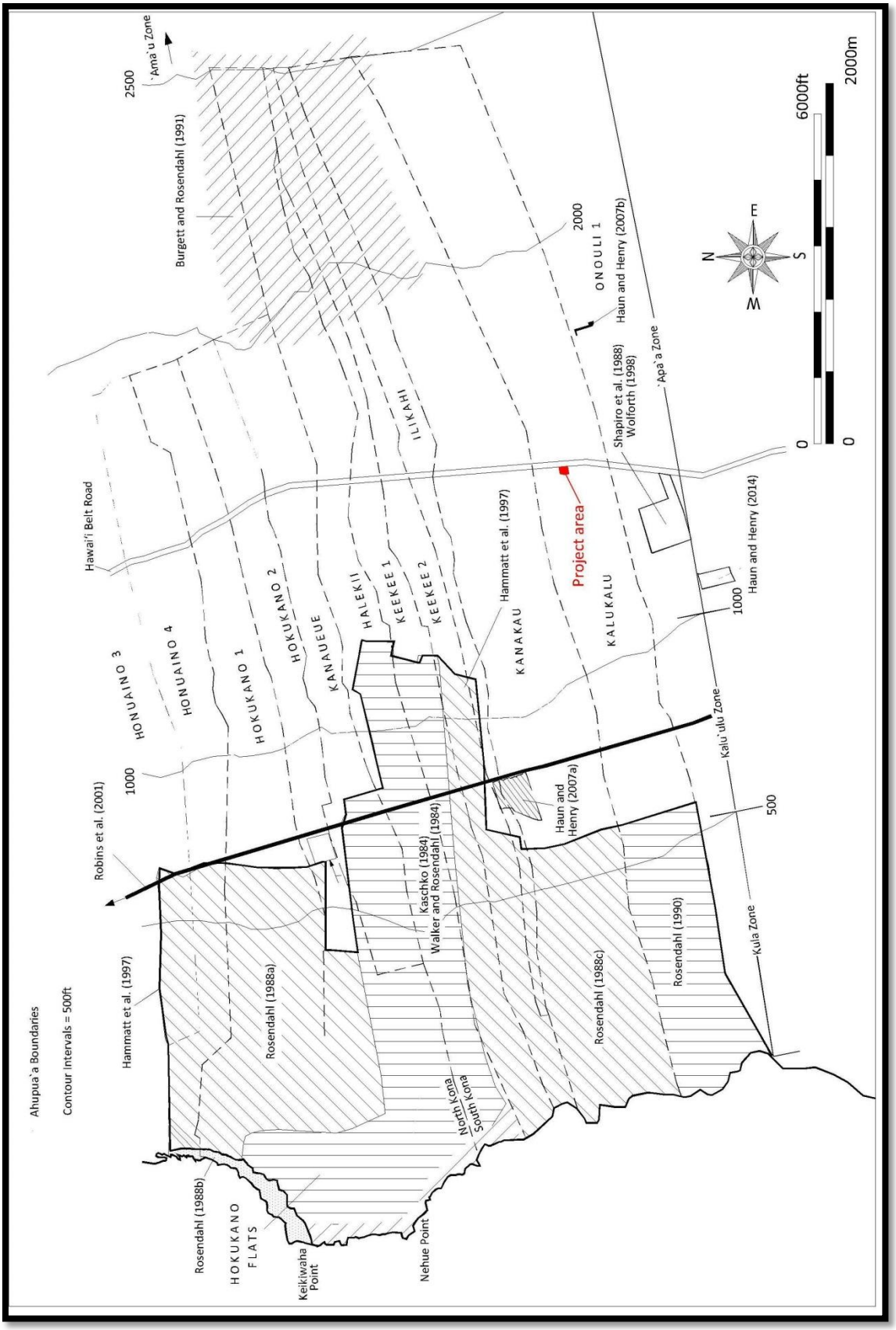

Figure 4. Ahupua'a boundaries and previous archaeological work

extending upland to the edge of the most densely forested zone. Specific cultigens were planted to maximum advantage with respect to soil depth and precipitation, requirements that varied with elevation. Ledyard considered sweet potatoes to be the staple crop, but also observed forests of breadfruit and patches of sugar cane along the Kona plains.

Menzies was the first to describe the dry land farming techniques of zonal crop arrangement that combined with environmental variables of precipitation, soils, and elevation, became the basis of the anthropologically-defined Kona Field System. Menzies noted that sweet potatoes, breadfruit, and mulberry trees were grown closest to the village, with the addition of taro, sugar cane, *ti*, and bananas further upland, and that only bananas and plantains were grown at the highest elevations. He also observed that the labor invested in clearing the land, constructing plot boundaries, and cultivating the crops would have been immense, but gives neither population estimates nor production capacity of the cultivated land. Walls denoting land subdivisions are present on even the earliest regional maps, but only hint at crop diversity and population density. Other activities observed in inland areas included bird catching and canoe building. Trails and wells are also described.

Schilt (1984) summarized Kailua's early historic period. In the late 1700s to early 1800s, Kamehameha monopolized foreign commerce including the provisioning of trading and whaling ships and beginning in 1811 the sandalwood trade. The first missionaries arrived in Kailua in 1820, but only stayed a few months. They returned in 1823 and were given land to establish missions and by 1825 schools. The gradual shift from subsistence farming to a market economy began with the introduction of coffee, corn, pumpkins, cotton, pineapple, and Irish potatoes in the 1820s to 1840s, co-incident with the arrival of missionaries. The missionaries living in the region prior to 1850 traveled overland between Keauhou Bay and Kealakekua Bay by means of a cart road that largely followed an earlier coastal footpath.

In the 1840s, political acts of the Hawaiian Kingdom government changed the land tenure system in Hawai'i. All lands were segregated into one of three categories: "Crown Lands" owned by the occupant of the throne, "Government Lands" controlled by the state, and "*Konohiki* Lands" controlled by the chiefs; and "were all subject to the rights of native tenants" (Chinen 1958:29, Beamer 2014:143). In 1846, King Kamehameha III appointed a Board of Commissioners commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10th day of December, AD 1845." Notices were frequently posted in *The Polynesian* (Moffat and Kirkpatrick, 1995); however, the legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Kirkpatrick 1995:48-49) and the act is known today as *The Great Māhele*. In 1850, the Kingdom government passed laws allowing foreigners to purchase fee simple lands (Speakman 2001:91). The Kuleana Act of 1850 allowed for fee simple land ownership by commoners.

The Waihona 'Aina (2000) Māhele Database; which is a compilation of data from the Indices of Awards (Indices 1929), Native Register (NR n.d.), Native Testimony (NT n.d.), Foreign Register (FR n.d.) and Foreign Testimony (FT n.d.); lists nine Land Commission Award (LCA) in Kalukalu, although only six of the claims were awarded. The claims are summarized in **Table 1.** The remainder of Kalukalu was retained as government land. Of the six awarded claims, only four are depicted on the current tax maps of the area, all in inland Kalukalu, seaward of the Hawai'i Belt Road (LCA 7197, 7212, 7553-B and 10750). These LCAs are depicted on **Figure 2.**

The testimony for the *ahupua'a* claims mentions a variety of cultivated crops including taro (*kalo* – 50 plots), sweet potato (*uala* - 13), paper mulberry (*poaaha* - (8), gourds (*ipu* - 5), pandanus (*lauhala* - (1), and *ti* (*ki* - 1). The claims mentioned *pahale* or enclosed house sites for four of the claims (LCAs 7212, 8376, 9428H and 9652) and two of the claims mention ownership of lands in adjacent *ahupua'a* (7197 and 10750). The tax map (see **Figure 2)** also shows two LCAs in upland Kalukalu that are listed as being in adjacent *ahupua'a* in the Waihona 'Aina (2000) Māhele

Table 1. Summary of Land Commission Awards in Kalukalu

Land Commission Award	Claimant	ili	Awarded	Testimony	Source
6990	Koikua	Kamuku, Waipo, ilioa	No	-	-
7197	Kamahele	Kamuku, Kalamaie, Kalaula	Yes	In the ili of Kamuku there is 1 mala kalo and 1 mala uala. In the ili of Kalamaie & Kalaula there is 1 mala uala and 7 mala poaaha. Paiwa & Pauole Sworn: We know his claim, parcel of land in the ili of Hoolaikukui, ahupuaa of Kanakau, gotten from Naihe in 1819. The second parcel is a Pahale in the ili of Pohakea, ahupuaa of Keekee 2, gotten from his parents in 1819.	NR 8:249, NT 8:615
7212	Kaiaino	Kulou, Waipo	Yes	A pahale & ili aina ; 2 mala kalo at Kulou.Kini & Kuluiki Sworn: We know his claim. Parcel 1 is the ili of Kulou at Kalukalu. Kapoi gave it to him in 1847. Parcel 2 is a Pahale in the ili of Waipio at Kanakau, gotten from his parents in 1819. The boundaries are surrounded by the land of the Konohiki.	NR 8:98, NT 8:601
7553B	Pa	Haneaili, Pueo, Ahuloa, Kamuku, ililoa, Kohekahela	Yes	Kini Sworn: I did write his claim. Kuawai Sworn: I know his claim in the ili of Kamuku & ililoa & Kohekahua, at Kalukalu 2. Gotten from Kahana in 1840. The boundaries are surrounded by the land of the Konohiki.	NT 8:620
8376	Kaaaka	Kohikahua, ililoa, Kamuku	No	Kaaaka has an enclosed Pahale in the ahupuaa of Kalukalu. In the ili of Kohikahua there is 1 mala kalo, 2 mala uala , 1 mala lau hala , and 1 mala ipu. In the ili of ililoa there are 3 mala kalo, 1 mala uala , and 1 mala ipu. In the ili of Kamuku there are 5 mala kalo, 1 mala uala . There is also another mala uala at ililoa. He has no claim, he has given it up in it's entirety.	NR 8:534, NT 8:622
9428H (9650 & 9651)	Koikua (with Lohi)	Kauku	Yes	An enclosed pahale for Lohi and Koikua. In the ili of Kamuku, there are 8 mala kalo, 4 mala uala , and 1 mala ipu. In the ili of Kamuku 2, there is 1 mala poaaha . In the ili of Kulou, there is 1 mala kalo and 1 mala ipu; in the ili of Keino, there is 1 mala uala . Kini & Kalaolelo Sworn: We know his claim, it is in the ili of Kamuku, ahupuaa of Kalukalu 2. Gotten from Neneue in 1839	NR 8:114-115, NT 8:631
9432	Pupule	ililoa	Yes	My claim are kihapai in the ili of ilii loa, there are 3 mala uala.	NR 8:549
9652	Lohi	Kulou, Kamuku	No	There is a pahale at Kaieie, 1161 feet in circumference at Keei… Kini & Pauole Sworn: We know his claim, a parcel in the ili of Kamuku at Kalukalu 1. Gotten from Ehu in 1839. Parcel 2 is a pahale in the ili of Kulou, ahupuaa of Kalukalu 1, gotten from his parents in 1819. The boundaries are surrounded by the land of the Konohiki.	NR 8:549
10750	Puki	ililoa, Kahekaheia, Makakea, Puunoni, Kohekahuhua, Puekahi, Kioi	Yes	An enclosed pahale in the ili of Puunoni, island of Hawaii. There are 11 mala uala and 1 mala ipu in the ili of Kamuku; in the ili of ililoa and Kohekahuhua, there are 2 mala kalo and 2 mala kobe and 2 mala uala ; in the ili of Puekahi, there is 1 mala kalo; and in the ili of Kioi, there is 1 mala kalo. Deceased. His heir is Kanewahine (f). Kini & Pa Sworn: We know his claim, it is 4 kihapai kalo in ililoa in the ahupuaa of Kalukalu. Parcel 2 is in the ili of Kohekahua, it is 3 kihapai kalo & ki plants, and 2 kihapai kalo & Cope . Given by Pa in 1844. Another parcel is a pahale in the ili of Makakea, Keekee 2, ahupuaa . Gotten from Makahiona in 1841.	NR: 8:116, NT 8:619

Database. These consist of LCA 8157-E to Kamaheaiku in Kanakau and Keʻekeʻe and LCA 8455-H to Makole in Kanakau.

Several of the LCAs are located within or in close proximity to the project area (see **Figure 2**). LCA 7553-B extends through the southern portion of the project area. This parcel was awarded to Pa in 1840; however little information on land use is available. LCA 7212 :1 is located adjacent to LCA 7553-B to the south. This parcel was awarded to Kaiaino in 1847. It contain an enclosed house lots and plots of taro plots. LCA 10750 is situated seaward of the project area and adjacent to LCA 7553-B to the northwest. This parcel was awarded to Puki in 1844. Testimony indicates the presence of a house lot and the cultivation of taro in LCA 10750. These findings indicate that the pre- and early post-contact habitation of the immediate project area vicinity was relatively limited, with the land used primarily for growing taro.

In the 1850s, large portions of Kalukalu Ahupuaʻa were sold to Henry Nicholas Greenwell as Land Grants 787 (312.8 acres), 1160 (18.75 acres) and 2964 (0.32 acres). Other grants in Kalukalu consist of Grant 2910 to John Yates (150 acres) located in inland of the upper road, Grant 1576 (64.3 acres) to Lohi on the lower slopes of the *ahupuaʻa* and Grant 1745 (118 acres) to J. Cavenagh in the coastal portion. The location of these grants is depicted in **Figure 5**.

A brief summary of Mr. Greenwell, provided by the Kona Historical Society (IN Hammatt et al. 1997) describes his journey to the Hawaiian Islands, his life in Kona and the nature of his subsequent land acquisitions:

> Henry N. Greenwell, founder of the Greenwell store was born in England in 1826 to a landed family in Lanchester, Durham at the Ford, the family home. He graduated from Sandhurst and spent time in Ireland doing Government work. Finding the military life insupportable, he sold his military commission in the army at the age of 23. He left for Australia to make a new start where he bought a sheep station. In 1849 he put all his money into a partnership which purchased a ship and goods, and sailed to San Francisco with this shipload of provisions to be sold there during the Gold Rush. The crew deserted in the harbor and because his partner was elderly, Henry had to unload the ship by himself, consequently hurting himself badly. His partner sent him off to Honolulu because the best doctors in the Pacific were held by royalty here. He returned to San Francisco after his R & R only to find his partner had taken off with all the profits.
>
> Henry then returned to Honolulu and worked on Fort Street with an English import/export company. He was sent to Kona to open a store there. In 1851 King Kamehameha III began selling land to foreigners. He purchased and planted them in oranges. After 15 years, the oranges caught a blight and Henry went on a trip around the world, stopping in the West Indies where he met a lime planters daughter and married her and brought her back in 1868, along with a new variety of oranges found in Brazil.
>
> Henry Greenwell is remembered for cultivating oranges, putting "Kona Coffee" on the European Market in the 1870s and for his temper. He raised sheep for wool at the higher elevations of his land after the civil war, dairies in the 1880s and later began extensive cattle ranching. He and his wife had 10 children. Henry N. Greenwell died in 1891 and his eldest son William H. Greenwell, born in 1869, inherited his estate which later became the W.H. Greenwell ranch (1997:44).

An additional narrative regarding the Greenwell's holdings was provided by Mrs. Jean Greenwell for the Kona Historical Society. This narrative, presented in Hammatt et al., also discusses the immediate project area vicinity:

> On the point, opposite of Nawawa, is the site of an old ware house built by Henry Nicholas Greenwell to store wool and goods for his store *mauka.* Mr. Greenwell arrived in Hawaii in 1850 shortly after the *Māhele* and the act which enabled foreigners to buy land had passed. He was able to purchase several pieces of property along this coast from the government. He later bought Dr. Trousseau's lease on the sheep ranch *mauka.* When Mr. Greenwell was raising sheep he used the same cart road Dr. Trousseau had made to Kainaliu, but continued the road further on to ship his wool from this point. There is a large cave under the point here on the south side. The small boat from the steamer would come in to the cave and the wool would be lowered into it. This of course was a very ticklish operation. The tide had to be high and the sea calm. This point of land acquired the name of Wool's Landing. It is located on the ahupuaa of Kalukalu. The old Greenwell Store, which today serves as the Kona Historical Society's headquarters, is also on the land of Kalukalu and was one of the first pieces of land purchased by Mr. Greenwell (1997:45).

The current tax map of the area (see **Figure 2**) depicts the coastal warehouse used by Henry Greenwell to store wool and goods. This map also shows caves (or caverns) on the north and south sides of the point seaward of the old warehouse.

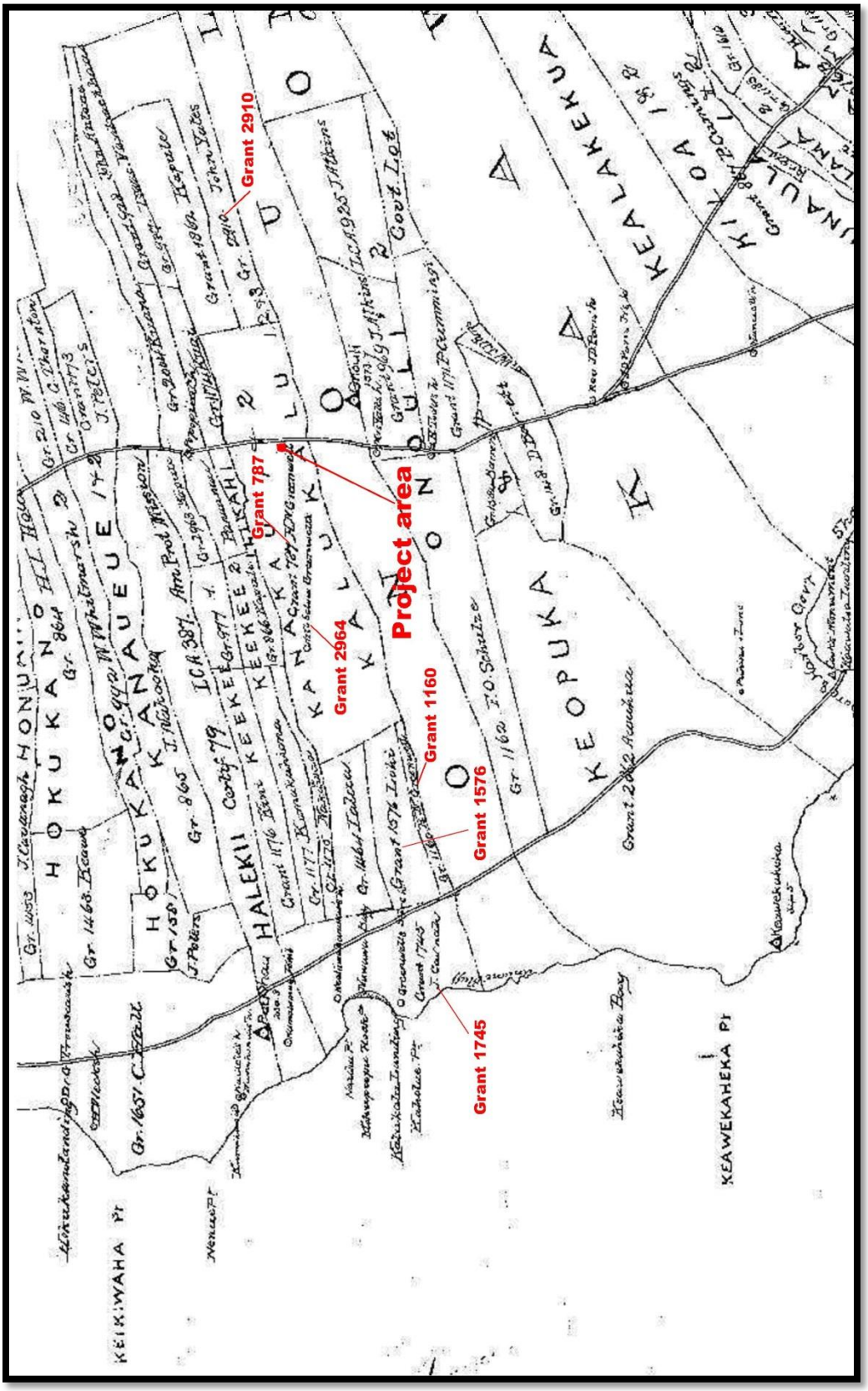

Figure 5. Portion of Register Map 1281 showing project area and land grants

The Greenwell family operated several ranches on Hawai'I Island. These include the Frank Greenwell Ranch in North Kona (also known as Honokohau Ranch and Hualalai Ranch), the Arthur Greenwell ranch in South Kona, and the Henry Greenwell Ranch that extended into both the North and South Kona Districts. The Henry Greenwell Ranch is described in the 1929 *Survey of Livestock in Hawaii* as follows:

> …Its area is about 80,000 acres, one-fourth of which is suitable for grazing; it extends from the sea to the top of Mauna Loa. Ten thousand acres are held in fee simple, the remainder is leased land. The herd on this ranch numbers approximately 3500 head. Between 600-700 cattle averaging three to four years of age with an average weight of 525 pounds are marketed in Honolulu annually. In addition, about 150 head are annually slaughtered local. The ranch is divided into paddocks; about 30 purebred Herefords are carried (Henke 1929:27).

Maly and Maly (2001) cite George Bowser's "Directory and Tourists Guide" of 1880 in which he provides descriptions of the communities and attractions in sections of Kona. According to Maly and Maly, "he paid particular attention to the mauka locations of Kāināliu and Kalukalu villages, and noted that little population was left along the shore at present, as far as Ka'awaloa (2001:68). The following describes the inland community of Kalukalu:

> My journey now brought me to the historical neighborhood of Kealakekua Bay, where Captain Cook lost his life. I arrived first at Kalukalu about four miles from the port. Here the official and business premises of the Kealakekua district are situated. Mr. Greenwell, who is the Postmaster, and holds several other official positions, has a large general store here, and Mrs. Mary Yates has an excellent boarding establishment for tourists. Next to Hilo, this district is a favorite one with visitors to Hawaii… [page 551] (2001:69).

Additional information concerning the mid-1800s land use in Kalukalu is inferred by references to the Kalukalu Road, which extended from the coast inland to the *mauka* forests. According to Jarves, "…in the year 1834 a road was made by the government by the order of Gov. Adams from the beach at Kalukalu into the forest mauka…and prisoners were employed in the formation of it" (1877:21).

Detailed descriptions of the Kalukalu Road in the mid-1800s are presented in letters from various land owners to the Interior Department. An August 20, 1871 letter from Henry Greenwell to C.T. Gulick of the Interior Department requests improvements be made to the road:

> …I shall feel obliged by your bringing under the notice of the Minister of the Interior the state of a certain road in this neighborhood. The road alluded to runs on the Kalukalu & Onouli boundary in South Kona & crossing at right angles to the main road between Kailua and Kealakekua, giving access to several residences, and leading into the Government forest, being indeed the only public way to the Government mountain land in this neighborhood. I am informed by James Atkins, who says that he was employed as an overseer at the making of the road, that it was made during the Governorship of John Adams (Kuakini), by his order, and by the prisoners of South Kona, then under the control of Kapiolani.
>
> During my residence here it has always been used as a public road, but I am not aware that any public money or labor has been expended upon it. Mr. John Yates, who bought Government land abutting on the said road, has several times endeavored to induce the Road Supervisor of South Kona to make some repairs, but without results.
>
> He has likewise frequently applied to me (Why, I don't very clearly understand), and I have recommended him to write to his Excellency. I take the liberty of suggesting to the Minister of

> the Interior the propriety of directing the Road Supervisor of South Kona to employ a portion of the road tax levied in this immediate neighborhood in improving the said road during the current year. I make this suggestion as Land Agent, because, as I have before stated, the said road is the only means of access to the Public Mountain land, comprising a probable area of 3000 or 4000 acres… [Interior Department Roads, Hawaii Box 37-folder 8] (Maly and Maly 2001:88).

The importance of the Kalukalu Road to the local inhabitants is further addressed in a November 7, 1871 letter from George E Sherman to the Minister of the Interior:

> …The Memorial of we the undersigned residents of the district of South Kona…Respectfully sheweth — That in the year 1834 a road was made by the Government, by the order of Governor Adams from the beach at Kalukalu makai, leading into the forests mauka. This road was laid out by James Atkyns and prisoners were employed in the formation of it. Such road has been and is of the greatest importance to the inhabitants, not only on account of land and timber but as leading to the only watering place for cattle, in times of drought. And has been used for such purposes both by Natives and Foreigners.
>
> We are much concerned at a rumor that is afloat here, that owing to some misunderstanding between Messr's. Yates & Hughes whose property bounds such road, that the mauka end on Onouli is likely to be closed. We beg to represent that the closing of such road or part of it, will be most injurious to the interests of the inhabitants. We likewise pray that the Government would expend some small amount in repairs to this road, as from time to time may be needed, to keep the road available for the traffic for the purposes aforementioned. And your Memorialists therefore pray that such road may not be closed, but be as heretofore, a public road for the use of the inhabitants of South Kona… (Signed by 44 native and foreign residents) [Interior Department, Roads Hawaii – Folder 8] (Maly and Maly 2001:89).

C.T. Gulick from the Interior Department subsequently responded to the Greenwell and Sherman letters, assuring them that the road would remain open and that road maintenance funds would be obtained from local taxes. A letter to the South Kona Road Supervisor, Henry Cooper reiterates the department's response. These letters, re-printed in Maly and Maly, are presented below:

> November 18, 1871
>
> C.T. Gulick (Interior Department), to H.N Greenwell:
>
> …Yours of the 15th inst. together with petition concerning the Road from Kalu-Kalu makai to the forest mauka in your district is at hand – And I am directed to say that the petition has been answered and the Road Supervisor instructed to keep the road open and repair it from the local road tax… [Interior Department Book 10:568]
>
> November 18, 1871
>
> C.T. Gulick (Interior Department), to Geo. E. Sherman et al.:
>
> …I am directed by His excellency the Minister of the Interior to acknowledge receipt of your petition concerning the road in Kona, Hawaii, leading from Kalu-Kalu makai to the forest mauka, and to say that no dispute between private individuals can have any effect on a Public Road, and that the appropriations made by the Legislature for roads are intended for the purpose of making new roads, building bridges, and making such repairs as the local road tax is insufficient for. In

> this case His Excellency is of the opinion that whatever repairs are required should be done by the local road tax.
>
> November 18, 1871
>
> C.T. Gulick (Interior Department),
>
> to Henry Cooper (South Kona Road Supervisor):
>
> …I am instructed by His excellency the Minister of the Interior to inform you that a petition has this day been received which expresses some fears that the road in your district leading from Kalu-kalu makai to the forest mauka will be closed owing to a dispute between some private individuals, and asking, also, that money be expended on said road for repairs.
>
> I am further directed to authorize you to keep said road open, and claim the full width allowed by law, viz. Sixty (60) feet, - removing any and all obstructions which may be erected thereon, and prosecute the offenders for public nuisance (See Chap. XXXV. Penal Code Sect. 4) also to expend from the local Road Tax such an amount as may be necessary to put said road in good condition… [Interior Department Book 10:568] (Maly and Maly 2001:90).

Commercial sugar cane cultivation was attempted in the early 1900s, but was abandoned by the mid-1920s (Kelly 1983). **Figure 6** shows the West Hawaiʻi Railroad tracks paralleling a mid-elevation road through Kalukalu Ahupuaʻa. Construction of the railroad began in 1901 by the West Hawaiʻi Railway Company (Condé and Best 1973). The railroad was constructed to transport sugar cane to the Kailua Sugar Company Mill situated in Waiaha.

According to Hammatt et al. (1997:45), an area inland of the project area in Kalukalu was once cultivated in sugarcane. "In Grant 2910 (to John Yates) *mauka* of Mamalahoa Hwy *(i.e.* outside of the project area), Bureau of Conveyances records indicate that by 1865 there were 50 acres of sugar cane and associated buildings. This parcel also became part of the Greenwell's land holdings by the late 1800s ". Grant 2910 is depicted in **Figure 5**.

Cattle ranching continued during the 20th Century. Oral historical accounts cited by Hammatt et al. (1997:74) describe mid-1900s pasture improvement by chain dragging and bulldozing above the 1,200 ft elevation, in the vicinity of the project area. **Figure 7** is a portion of an aerial view of the project area vicinity taken on December 13, 1976 by the U.S. Geological Survey and obtained from the University of Hawaiʻi at Manoa online library (http://magis.manoa.hawaii.edu).

This map depicts widespread clearing throughout the region, including the project area vicinity, likely the result of the extensive chain dragging and bulldozing mentioned above.

During the 20th Century, the traditional subsistence and coastal settlement pattern was completely supplanted by the market economy and a concomitant shift to dispersed settlement; with houses and commercial establishments developed along the *mauka* Alanui Aupuni, predecessor to the Hawaiʻi Belt Road. By the 1970s, the rapidly developing tourism industry began to transform the region's land use from ranching and commercial agriculture, except coffee production, to subdivisions, resorts, and commercial establishments.

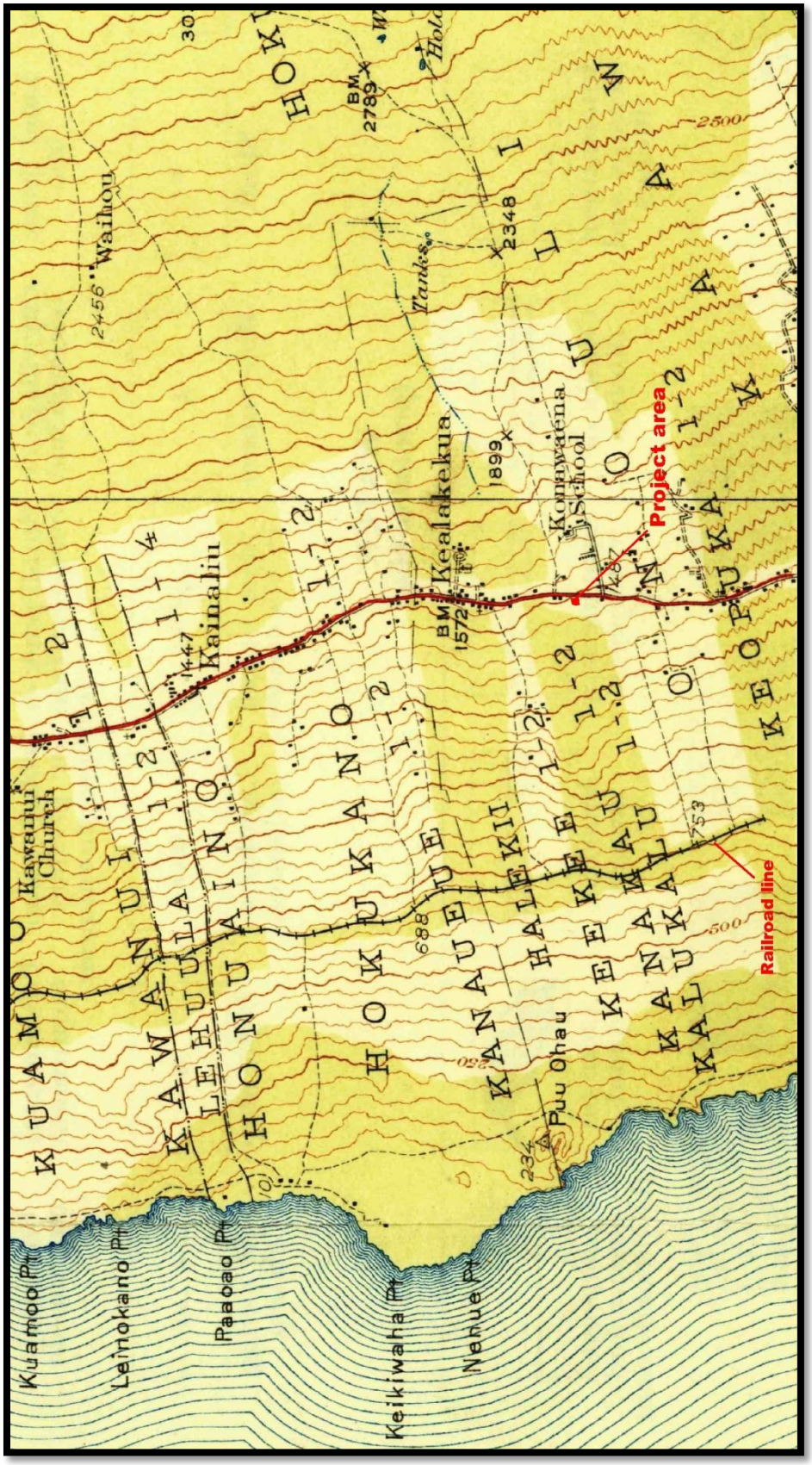

Figure 6. Portion of 1928 USGS Kailua Quadrangle showing project area

Previous archaeological work

Numerous archaeological studies have been conducted in the general vicinity of the project area, although the majority are located in the shoreline portion of the area, conducted in conjunction with the development of the Hōkūli'a Subdivision. Other projects conducted in the inland portion of the area consist of studies by Shapiro et al. (1988), Burgett and Rosendahl (1991), Wolforth (1998), and Haun and Henry (2007a, 2007b and 2014). **Figure 4** shows the locations of the projects except Reinecke's (n.d.) shoreline survey, who reported three sites along the shoreline in Kalukalu. The three sites consist of a small platform (Site 8), a house platform (Site 9) and two small, rough house sites (Site 10).

Hammatt et al. (1997) conducted a survey of over 1,500 acres between the shoreline and c. 860 ft elevation within 11 *ahupua'a* in North and South Kona within the Hōkūli'a Subdivision. Portions of this study area had been previously examined by Walker and Rosendahl (1984), Kaschko (1984) and Rosendahl (1988a, 1988b, 1988c). The survey identified a total of 408 sites with 722 features, although subsequent work by Scientific Consultant Services, Pacific Consulting Services, Inc. and Haun & Associates have significantly added to the total site and feature counts.

Currently 95 sites have been identified within the Kalukalu portion of the Hōkūli'a Subdivision. Two of the sites consist of inland-seaward oriented boundary walls associated with multiple *ahupua'a*. Site 16798 is a stone wall on the land division between Kanakau and Kalukalu and Site 16799 is a wall on the Kalukalu and Onouli 1 boundary. One of the sites is a large agricultural complex that extends throughout the coastal portion of Kalukalu below 250 ft elevation (16370). The complex contains 14 *kua'iwi* and ten cross slope walls with an unstated number of agricultural terraces, mounds, and walls. Four of the sites consist of linear structures that extend through the subdivision in a roughly north-south direction. These consist of the Great Wall of Kuakini (Site 7276), two roads (Sites 10290 and 17189) and a railroad bed (Site 10302). The remaining sites consist of permanent and temporary habitation, agricultural and burial sites.

In 1990, Walker and Rosendahl conducted a field inspection of the c. 315-acre Jack Greenwell property located in the Lands of Kalukalu and Onouli 1st (1990). The parcel extended from the shoreline to approximately 750 ft elevation. No subsurface testing was conducted. This brief survey identified eight sites with 13 features consisting of two burial caves, a complex of six possible burial platforms, two walls, a railroad bed, a cart path, and a road. Six of these sites had been previously identified during surveys that overlapped this parcel, conducted by Reinecke (1930), the DLNR Statewide Inventory of Historic Places survey in 1971, Kaschko (1984), and Rosendahl and Jensen (2001).

Walker and Rosendahl's (1990) review of the previous archaeology conducted in the area indicated that three additional sites had been reported in the area, that had been documented by Reinecke (1930) and during the Statewide Inventory of Historic Places survey in 1971. These coastal sites consisted of a habitation complex, a platform of undetermined function and a habitation/possible burial complex. Following the field work, the owner of the parcel identified two additional sites consisting of a habitation cave and a complex of three indeterminate/ranching mounds. The Walker and Rosendahl (1990) area was subsequently examined as part of the 1,540-acre Hokuli'a Subdivision by Hammatt *et al.* (1997).

From 1997 through 1999, Robins et al. (1999) conducted an inventory survey of the proposed Mamalahoa Bypass Road corridor, a 5.5 m mile long by approximately 120 ft wide corridor that extended through 17 *ahupua'a*. The corridor extends through Kalukalu at approximately 750 ft elevation. The survey identified a total of 43 sites; however, only two are located in Kalukalu Ahupua'a. These consist of the Site 16799 wall on the Kalukalu and Onouli 1 boundary and a complex of ten agricultural terraces, walls, and alignments (Site 21236).

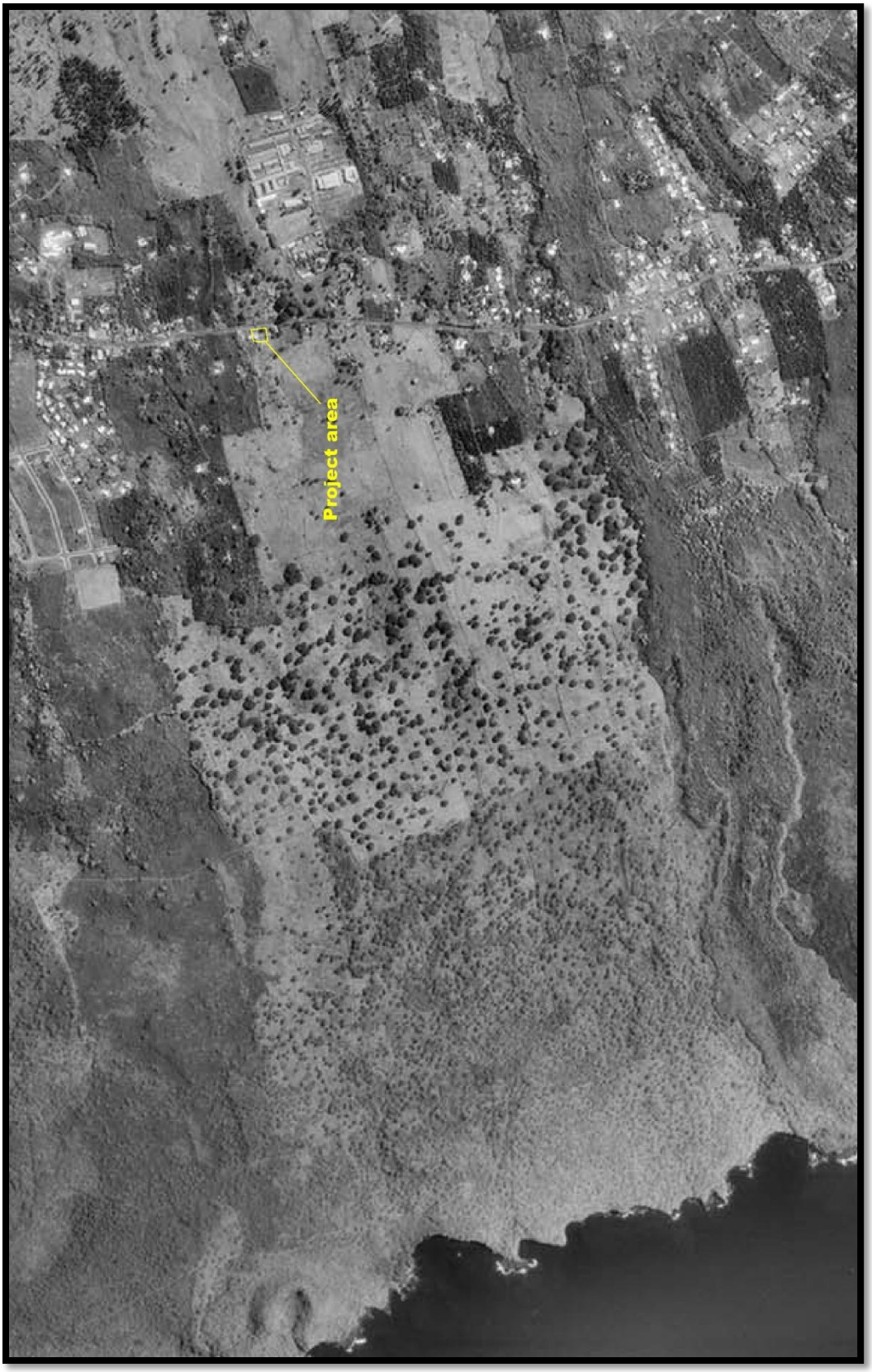

Figure 7. Portion of December 13, 1976 aerial photograph of project area vicinity

Burgett and Rosendahl (1991) conducted an archaeological inventory survey of an approximately 250-acre parcel located at elevations ranging from 1,900 ft to 2,600 ft. The parcel encompassed eight *ahupuaʻa* including a small portion of inland Kalukalu Ahupuaʻa. This survey identified 55 sites with 72 features. The sites consist of 33 agricultural sites, 11 boundary walls, 3 ranch related sites, 3 trails, a bridge, an historic habitation complex and an indeterminate cave, a water trough and a wall of indeterminate function.

Of the 55 sites, only one is situated in Kalukalu Ahupuaʻa. Site 14789 is a large rectangular enclosure (44.8 meters long by 31.2 meters wide) that contains a cattle chute, a holding pen and a loading ramp. The site was interpreted as historic ranching site by Burgett and Rosendahl (1991:A-26).

Burgett and Rosendahl (1991) conducted subsurface testing at six features of seven sites, although no excavations were conducted at Site 14789 in Kalukalu. Three test units were excavated at Sites 14856, 14860-A and 14885-A. These units revealed two soil deposits, excavated to a maximum depth of 0.75 m below surface. Charcoal was recovered from Site 14856 and an abrader was recovered from Site 14885-A. A sample of the charcoal from Site 14856 was submitted for radiometric age determination yielding a calibrated age range of AD 1670-1955 (1991:18).

Excavations at Features A and B) at Site 14862 revealed two soil deposits above bedrock. No cultural remains were recovered from Feature B although charcoal was present at the Feature A unit. A sample of this charcoal was submitted for radiometric age determination yielding a modern age range (1991:18). Excavation at Feature C of Site 14883 revealed a stone layer over a soil deposit over bedrock. Two charcoal samples were submitted for dating, yielding age ranges of AD 1420-1650 and 1640-1950 (1991:18). The remaining unit was dug at Site 14887 revealing two soil layers over bedrock with no cultural material present.

Haun and Henry (2007a) conducted an inventory survey of a 15-acre parcel in Ilikahi and Kanakau Ahupuaʻa at approximately 720 to 840 ft elevation, located along the seaward side of the Robins et al. (2001) proposed Mamalahoa Bypass road corridor. The survey identified six sites with 38 features consisting of 17 mounds, 7 modified outcrops, 6 terraces, 3 walls, 2 cisterns, and one each of the following; railroad grade, pump house and water trough. Functionally the features are comprised of agriculture (n=30), water supply (4), livestock control (3) and transportation (1).

Haun and Henry (2007b) conducted an archaeological assessment of a one acre parcel and a 150 meters long by 12 meter wide corridor in Onouli 1st Ahupuaʻa at approximately 1,737 to 1,777 ft elevation. No sites or features were identified during this project.

One of the most relevant studies to the present project area was conducted within the proposed Konawaena Elementary School located approximately 400 meters south of the project area. Shapiro et al. (1988) conducted reconnaissance surveys of potential school locations in Onouli 1st in South Kona and two parcels in North Kona. The Onouli 1st parcel encompassed approximately 38-acres and was situated between 1,305 ft and 1,415 ft elevation. The inspection of this parcel identified four historic sites (Sites T-1 through T-4) and five *kuaʻiwi* features of the Kona Field System (Site 6601). The historic sites consisted of three historic walls (Sites T-1, T-3 and T-4), and a complex of six terraces and low walls interpreted as being related to historic agricultural activity.

Wolforth (1998) undertook a data recovery program within the 38-acre Onouli 1st parcel. This project consisted of excavating 11 backhoe trenches and five excavation units in an effort to examine the development of the Kona Field System within the *apaʻa* zone. A total of ten radiocarbon samples were submitted for analysis yielding calibrated dates that ranged from AD 1295 to 1950. Based on the results of the excavations and radiocarbon analysis, it was determined that the initial habitation and agricultural use of the area potentially occurred during the 1300s and that the formal walled fields of the Kona Field System were used continuously until the early 1800s

when they were abandoned. Evidence of the construction and use of a residential complex during the late 1600s was also identified.

Haun and Henry (2014) conducted an archaeological inventory survey of 2.44 acre parcel located in Onouli 1st Ahupuaʻa located approximately 150 meters to the west of the Shapiro et al. (1988) and Wolforth (1998) project area. This survey identified five single feature ranch walls and one complex of six agricultural features.

The historic Greenwell store is located adjacent to the subject parcel to the south. The store was placed on the National Register of Historic Places as Site 50-10-37-7243 in 1978. The nomination form for the store and a series of associated photographs are presented in **Appendix A** of this report. The store is described in the nomination form as follows:

> The Greenwell store of Kona built in c. 1851 originally served as a store and post office. Nicholas Greenwell, the store's builder, also served as the area's postmaster as well as the area's general merchandiser. The building is the only commercial structure from this period left in Kona. It displays a unique commercial use of mortar and fieldstone. The building is still owned and maintained by Greenwell heirs… After serving community interests, the building was later used by the Greenwell Ranch. It was turned into a ranch warehouse. In c. 1959 the interior was altered and the exterior portico and porch were added. The building's original slate roof was replaced with corrugated iron at that time. Plans are presently underway to donate the building to the Kona Historical Society, to be used as a general headquarters (1978).

The Greenwell store was subsequently donated to the Kona Historical Society (KHS). The interior of the store has been restored with public historic programs operating in the store as a National Endowment for the Humanities exhibit. Overviews of the restored interior of the store are shown in **Figure 8** and **Figure 9**.

The project area is located within *ʻapaʻa* zone of the Kona Field System, SIHP Site 6601 (Newman 1970, Kelly 1983, Schilt 1984, Cordy 1995). This site extends north to Kāʻu Ahupuaʻa, south to Honaunau, and from the coastline to the forested slopes of Hualalai. The area was intensively cultivated and served as the resource base for the large number of chiefs and retainers that occupied the Kailua-Honuanua coast. The characteristics and general locations of the elevation zones of the system described by Newman (1970) have been confirmed and elaborated on by subsequent ethnohistorical investigations (Kelly 1983). The system is subdivided into four elevation zones.

The *kula* zone extends from sea level to 500 ft elevation. Cordy (1995) has suggested that the upper limit of this zone may be higher between 600-700 ft elevation. This lower elevation zone traditionally was used for habitation and cultivation of sweet potatoes, paper mulberry (*wauke*), and gourds. Agricultural features, including clearing mounds, planting mounds, planting depressions, modified outcrops, and planting terraces, are common in this zone (Hammatt and Clark 1980; Hammatt and Folk 1980; Schilt 1984). Habitations are scattered throughout the *kula*, but they are concentrated along the shoreline portion of the zone (Cordy 1995). The shoreline portion, extending approximately 200 m inland, was the focus of permanent habitation and activities such as burial, canoe storage, ritual, and marine exploitation. Royal centers and chiefly residences were also situated near the shoreline. These complexes included residences for high status individuals and their supporters and attendants, *heiau*, places of refuge, *hōlua* slides, and other structures.

The *kaluʻulu* zone extends from 500 to 1000 ft elevation. The zone was used for cultivating sweet potatoes, paper mulberry, and especially breadfruit. Archaeologically, this zone is not distinguishable from the adjacent *ʻapaʻa* zone (Cordy 1995). The *ʻapaʻa* zone is situated between 1000 and 2500 ft elevation. This zone traditionally was used for dryland cultivation of taro, sugar cane, sweet potato, and ti. Permanent habitations were present in the *ʻapaʻa* zone, but were infrequent (Cordy 1995, Burtchard 1995). Dwellings were observed by early historic chroniclers,

Figure 8. Interior of restored Greenwell Store

Figure 9. Interior of restored Greenwell Store

but most were probably for temporary use in conjunction with agriculture, bird hunting, and collecting of plant resources. Burials and ritual sites are rare in the upper elevation zones (Kawachi 1989).

Kuaʻiwi are prominent agricultural features of the *kaluʻulu and ʻapaʻa*, zones (Cordy 1995; Newman 1970). These are broad, linear piles of rocks built from stones cleared from the adjacent slopes that also served as field boundaries. *Kuaʻiwi* are oriented inland-seaward often interconnected with perpendicular, soil-retaining walls and terraces forming rectangular grid pattern of fields. *Kuaʻiwi* also served to control rainfall runoff (Kirch 1985). These formal fields contrast with more informal garden areas characterized by scattered agricultural features in very rocky areas, such as young lava flows, and much of the *kula* zone.

The *ʻamaʻu* zone extends from 2500 ft to 4000 ft elevation. The zone was associated with banana and plantain cultivation. The archaeological traits of the zone have not been well defined, but temporary habitations were probably present associated with agriculture and exploitation of forest resources (Allen 1984).

Eighteen radiocarbon dates are reported in the studies in the general vicinity of the project area, collected by Wolforth (1998) in Onouli 1, in Kanakau and Ilikahi by Burgett and Rosendahl (1991) and by Hammatt et al. (1997), Walker et al. (1991) and Clark and Rechtman (2002) during studies in the adjacent lands of Keopuka and Kaawaloa. The dates come from habitation and agricultural features. Three samples produced age ranges spanning the A.D. 1300s, five span the 1400s and 1500s, 15 span the 1600s and one yielded a modern date. The ranges of 11 of these extend to the mid-1900s. The radiocarbon dating results indicate occupation as early as the 1300s with most dates falling after 1600.

Tomonari-Tuggle (2006) also analyzed 30 radiocarbon dates from sites in Kealakekua that are at comparable elevations to the present project area. This analysis indicates that the initial occupation of the inland areas occurred in the 15th century and potentially as early as the 14th century (2006:11). These areas of early occupation were short term or potentially recurrently used camps, evidenced by clusters of pits, hearths and pavements along with artifacts and charcoal. She further postulates that the cross-slope terraces used to stabilize the steep slopes in this area were built around the same time, with the *kuaʻiwi* that typify the formal walled gardens of Kona Field System appearing in the mid-15th Century.

During the period between AD 1400 and the mid-1600s population in the Kona region increased dramatically and as a result larger coastal settlements developed and agricultural fields extended. From the late 1600s to the arrival of Europeans, warfare throughout the islands was common and the Kona region became a center of power for the ruling chiefs. Kealakekua Bay became one of five royal centers for the ruling chief ʻUmi-a-Liloa, along with Kailua, Holualoa, Kahaluʻu and Honaunau (Cordy 1995:13).

CONSULTATION

Haun & Associates Project Supervisor and Cultural Specialist Solomon Kailihiwa, M.A. conducted an interview with Maile Melrose on July 28, 2015. Mrs. Melrose is a great granddaughter of Henry N. Greenwell and a historian for the KHS. She grew up in her grandmother's house that is located upslope and across the Hawaiʻi Belt Road from the historic Greenwell Store and residence. She is the daughter of Dr. James and Dorothy Mitchell and the granddaughter of William H. Greenwell and Maud A. Johnstone.

Maile was told to stay away from the Greenwell residence when she was growing up and to leave the house's tenant, Julian Silva, the meat market man, alone. She lamented that much of the information about the house has been lost through the generations but she does recall some of the details of the house's history. She recalls that the house had two large lanais, one at the front, *mauka* (upslope), side of the house and one at the back, *makai* (downslope) side of the house. The original front lanai covered the southern half of the front of the house. The

front lanai was later extended to the entire eastern side of the house and the roof was expanded to cover the enlarged front lanai.

The back lanai was situated over the two lower rooms that are still extant along the western side of the main house ruins. The back lanai was covered and sections of it were converted into a bedroom and bathrooms. When asked about the two lower rooms, Maile remembers them being used for storage. H.N. Greenwell was rumored to have kept a safe in the lower room below the stairs that led to the Greenwell Store. He kept his land deeds in that safe.

Water was an issue for the Greenwell Homestead. Three cisterns were built to meet the needs of the household. Maile does not know how the cisterns were constructed or who constructed them. The first cistern was built in 1873 as inscribed in the cement for the water intake hole. This cistern was fed by the Greenwell Store roof.

H.N. Greenwell was acutely aware of the scarcity of water at his homestead and was also very concerned about the danger that fire posed to his house. In an effort to limit the risk of fire consuming his house, there were no fireplaces within the main house. The only wood burning stove was located in the kitchen, which was a free-standing structure built out of stone.

Dora Caroline "Carrie" Greenwell, the eldest daughter of Henry N. and Elizabeth C. Greenwell, married Gerald Bryant. According to Maile, they moved back to the Greenwell Homestead to help take care of Elizabeth Greenwell during her twilight years. The Bryant Wing was added on to the northwest corner of the main house to accommodate the Bryant Family.

The Greenwell Homestead, at its largest, was comprised of the Greenwell Store, the main house, the kitchen and cowboy dining room, the Christmas Room, and the Bryant Wing. The homestead stayed in this configuration until the passing of Elizabeth Greenwell. According to Maile, the Works Progress Administration (WPA) conducted road improvement projects on Hawaiʻi Island in the late 1930s. In 1938 or 1939 the family was approached in regards to improving the Māmalahoa Highway. The proposed improvements included leveling and widening the road corridor adjacent to the Greenwell Homestead. The homestead is located on a hill and the road improvements blasted the road corridor through that hill and destroyed the Christmas Room.

The main house was taken down in the 1960s at the behest of Maud Greenwell's middle son, Henry. Henry did not want people squatting in the vacant house, so he had the building torn down.

Maile has tried to gather further information about the Greenwell Homestead from her parents' generation, but much of the information has been forgotten. There is not much information about the level grassy area which is the proposed location for the new gallery. H.N. Greenwell kept his horse at the house and would have to shoe it on occasion, and Maile supposes that this area below the house may have been the location of Mr. Greenwell's smithy and perhaps a small horse stable. Maile supports the construction of the new gallery as it will provide the KHS the opportunity to showcase more of Kona's rich and diverse history.

Kuulani Auld, the Director of Programs and Collections Manager for the Kona Historical Society (KHS) was also consulted by Solomon Kailihiwa during the fieldwork portion of the project. Ms. Auld provided photographs and a hand drawn map of the Greenwell house, which have been incorporated into the following Findings section.

PROJECT EXPECTATIONS

The project area is situated in the *'apa'a* zone of the Kona Field System. Based on previous archaeological research, chronological models (Schilt 1984, Cordy 1995), and historical documentary evidence, pre-contact sites expected within this area would potentially consist of habitation sites, primarily temporary habitations used in conjunction with agriculture, bird hunting, and collecting of plant resources. The remnants of formal fields, delineated by inland-seaward *kua'iwi* and cross-slope walls may be present. Sites dating to the mid- to late 1800s would include the agricultural and habitation sites mentioned above. Differences in agricultural sites from the previous periods may be evident as a result of a shift to a market-based economy, which presumably would favor cultivated fields as opposed to small garden plots.

By the beginning of the 1900s, traditional agricultural and habitation sites should be rare. Historic documentary research and consultation with knowledgeable individuals indicate that large portions of Kalukalu Ahupua'a were extensively utilized for ranching and for the cultivation of coffee. However, a review of a modern aerial photograph of the project area (see **Figure 3**), indicates that nearly all of the parcel is occupied by the historic Greenwell House. It is therefore unlikely that remnants of these historic activities would be present in the project area.

FINDINGS

The archaeological inventory survey documented of the remains of the Henry Nicholas (H.N.) Greenwell house. This site has been designated as SIHP Site 50-10-37-30392[1] and its current extent is presented in **Figure 10**. The site is comprised of the main house (Feature A), two cisterns (Features B and C), a stone wall (Feature D), and a large terraced area (Feature E). The historic Greenwell Store (Site 7243) is located adjacent to the Greenwell house to the south (see **Figure 3**). Information concerning the history of the Greenwell house and functions of specific portions of it were obtained from Maile Melrose, Greenwell descendant and Kona Historical Society historian, and Kuulani Auld, Director of Programs for the Kona Historical Society (KHS). The site is described below.

The house (Feature A) was constructed in the 1850s by H.N. Greenwell and the wooden structure was torn down in the 1960s. All that currently remains of the house are the mortared and dry-laid stone foundations, walkways, walls, and planters. A series of historic photographs of the house were provided by the Kona Historical Society. **Figure 11** is the site location map with references to these photographs, indicating what the portions of the house they depict. The historic photographs of the Greenwell House are shown in **Figure 12** through **Figure 18**.

As indicated in the historic photographs, the structure was a U-shaped two-story house built with a combination of mortared stone and wood framed walls. Covered *lanais* extended along the sides of the house. The Greenwell house and the family's life within it are discussed in H.N. Greenwell's diary, from a manuscript provided by the Kona Historical Society, entitled a Tour of Historic Kalukalu:

> A long lanai or verandah faced the main road, which was no blasted out of the lava as it is today (Road built in 1939 as part of W.P.A). This was the domain of Mrs. Greenwell (1841-1934) who as the years passed became a true matriarch. She loved her children, her church, and became a well known and well loved figure in Kona. Members of the Christ Church Women's Guild met here twice a month for 20 years (1908-1928) to sew and embroider linen for the church. Of course, social occasions such as weddings and baptisms called for monogrammed tea towels, lace baby gowns and elaborate dresses, all of which the ladies would sew by hand to raise funds for the church.
>
> In the days before electric fans and iced tea, a shady lanai was the best spot to be, especially one facing east, away from the afternoon glare. In the 20th Century, Christmas Eve dinner was celebrated on this lanai, festooned with ferns and bright flowers. It was the perfect spot to enjoy the Japanese lanterns glowing in the garden and to watch the fireworks which were a big part of Christmas Eve. In the 1870's and 1880's, this lanai was covered with children who could romp in Kona's warm climate without too much fear of catching cold. There are no trade winds in Kona, so verandahs are a remarkably protected spot.

Figure 19 is a map drawn by the Greenwell descendants that presents a schematic view of the dwelling. According to this map the ground floor contained a central dining room, a dining room for the cowboys, a kitchen, a pantry, a storage room, a bathroom, a small toilet room, large *lanai's* along the front and back of the house, a guest room and room's for Julian, Frank and Bryant's wing. The upstairs portion of the house contained a large room with beds in them, and Marguerite's room at one end. The upstairs was accessed by the central staircase. The information from the descendants map has also been superimposed onto the **Figure 10** site location map.

[1] 50 = State of Hawai'i, 10= Island of Hawai'i, 37= Kealakekua quadrangle

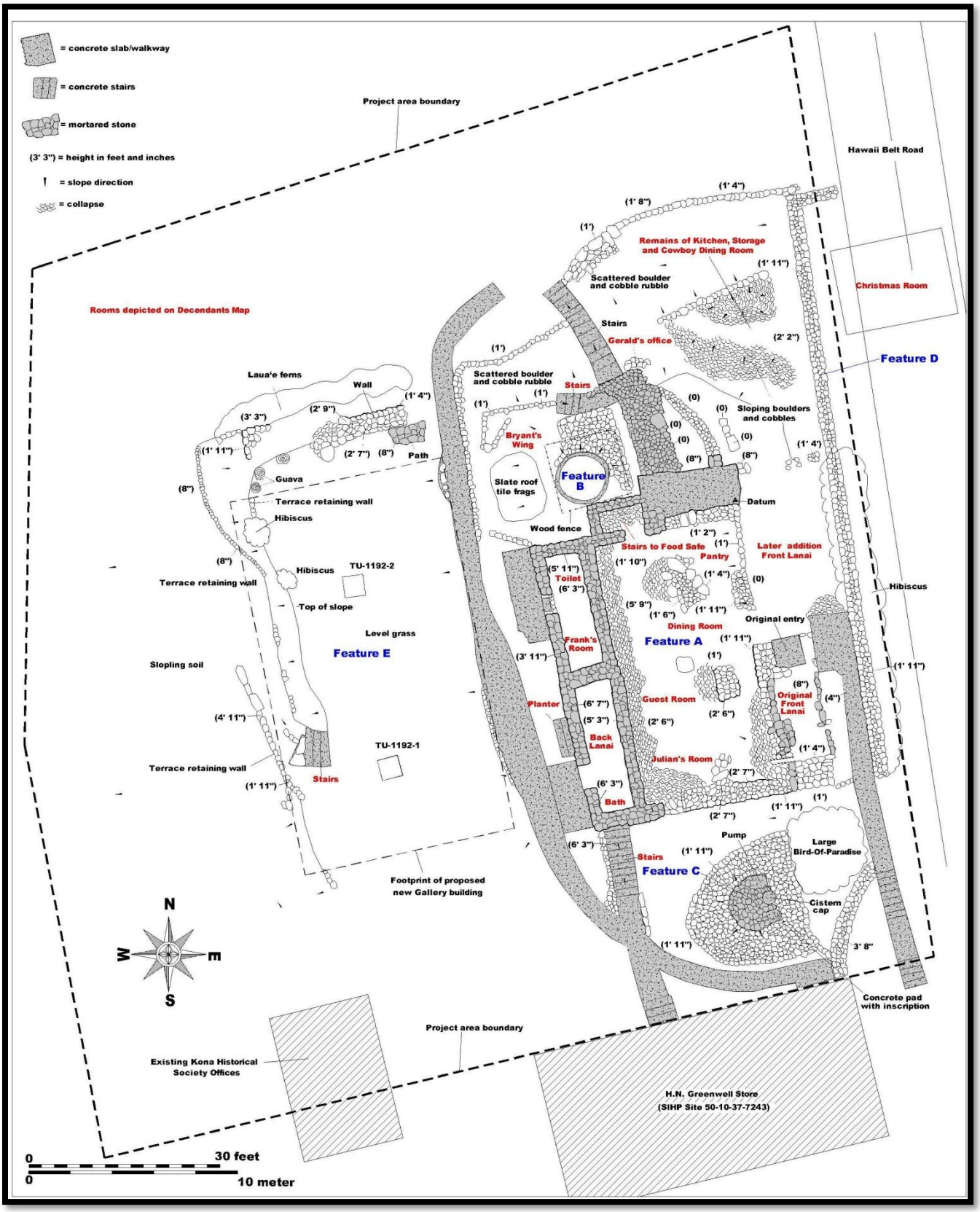

Figure 10. Site location map

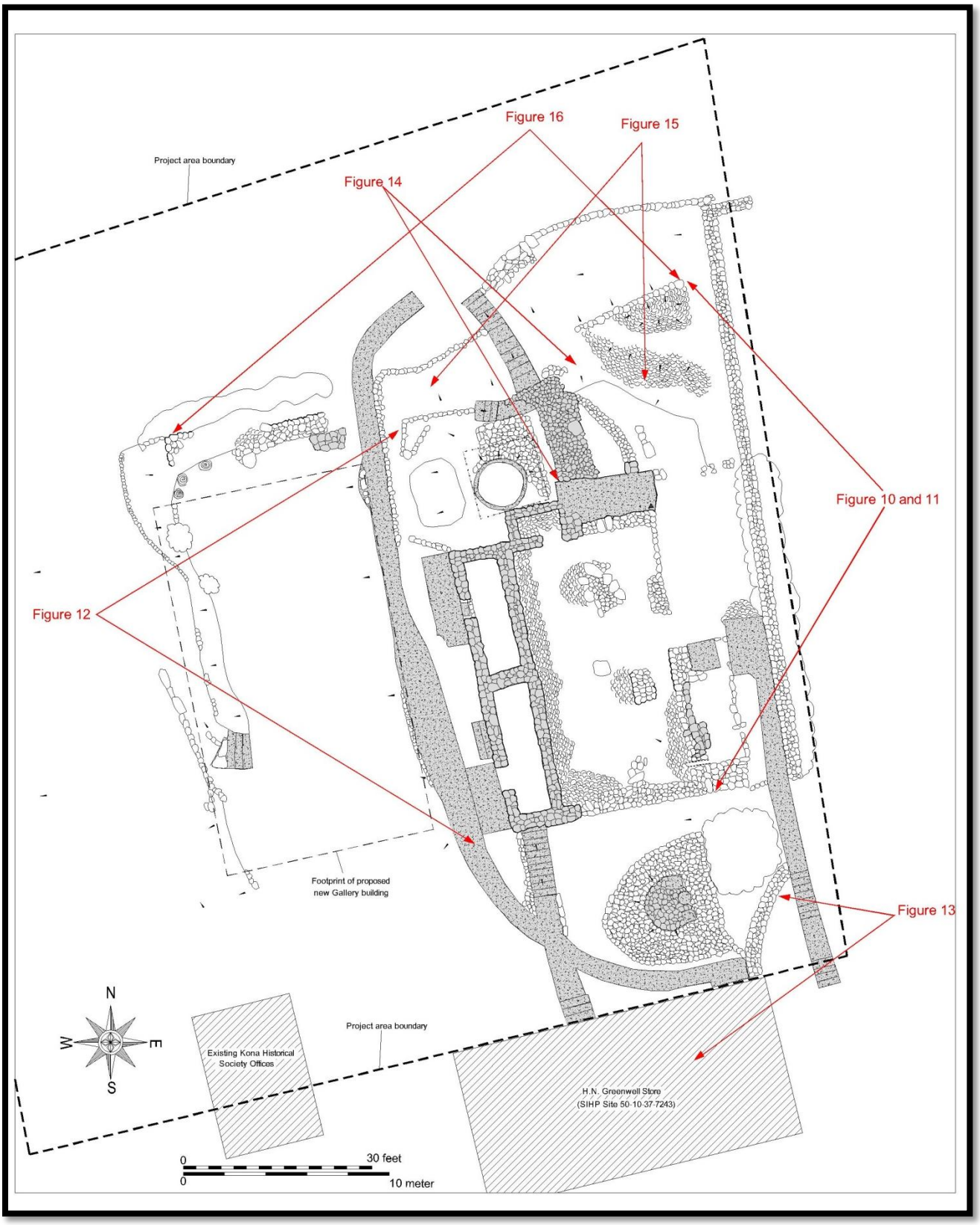

Figure 11. Site location map showing direction of historic photographs

Figure 12. Historic photograph of the Greenwell House (Courtesy of KHS - view to west)

Figure 13. Historic photograph of the Greenwell House (Courtesy of KHS - view to west)

Figure 14. Historic photograph of the Greenwell House (Courtesy of KHS - view to east)

Figure 15. Historic photograph of the Greenwell House (in background) and Greenwell Store (in foreground; Courtesy of KHS - view to west)

Figure 16. Historic photograph of the Greenwell House (Courtesy of KHS - view to south-southeast)

Figure 17. Historic photograph of the Greenwell House (Courtesy of KHS - view to south-southwest)

Figure 18. Historic photograph of the Greenwell House (Courtesy of KHS - view to south)

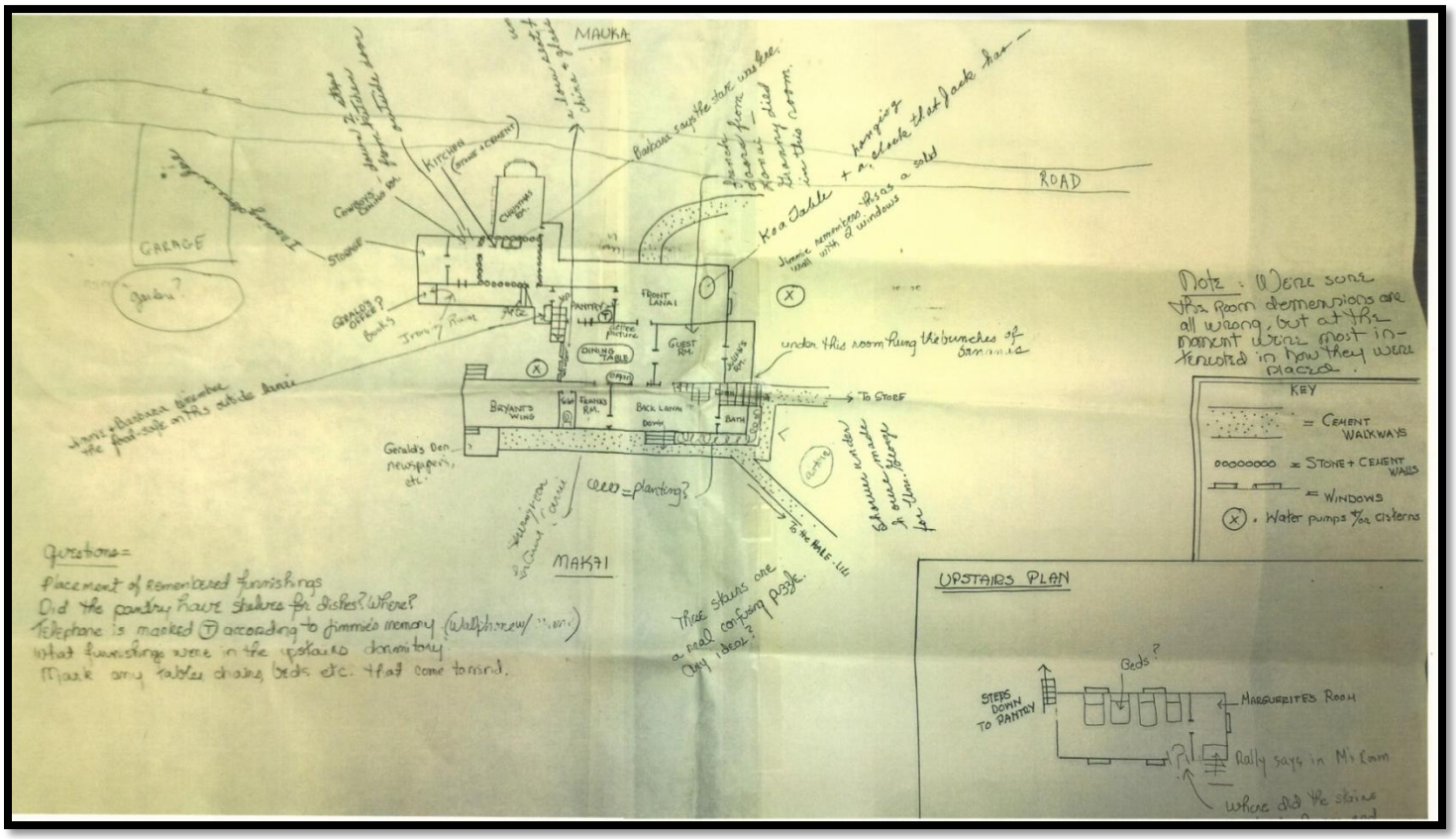

Figure 19. Descendant's Map of the Greenwell House (Courtesy of KHS)

Mapping of the house foundation indicates it encompasses an area 82 feet long by 46 feet wide. Overviews of the foundation are presented in **Figure 20** and **Figure 21,** and on the cover of this report. Concrete walkways extend along the west, south, northwest and portions of the east side. Stairways lead up into the house at the southwest corner (**Figure 22**) and in the center of the north side (**Figure 23**). The southern stairs are built with formed concrete treads on a foundation of mortared stone. This stairway leads to a path that extends to the south, connecting with the Greenwell store. The northern set of stairs is built of mortared stone and leads down to a lawn area.

The most intact part of the foundation consists of two rooms along the western side. These rooms contain metal milk crates, fragments of wood, pieces of a broken porcelain toilet, a metal gear, and other objects, with scattered boulder and cobble rubble. Examples of this debris are presented in **Figure 24** and **Figure 25**. Based on the Descendants Map (see **Figure 19**) and discussion with Kona Historical Society staff, the northern rooms correspond to "Frank's Room" and a "Toilet Room "and the southern ones include the "Back Lanai" and a "Bath" room. Several mill stones, a wood and metal box, and several concrete planters are located outside these rooms to the west (**Figure 26**).

To the east of the two intact rooms is a sloping area enclosed by mortared and dry-stacked walls. There are also three piles of boulders and cobbles that appear to have served as supports for the main house. This area corresponds to the "Dining Room", the "Guest Room" and "Julian's Room". A dry-stacked wall of boulders and cobbles is located along the east side of this room. This wall connects to the remaining foundation that was below the "Original Front *Lanai*" (**Figure 27**). The stones left in this area include undressed basalt boulders as well as dressed boulders that have mortar on them. A concrete pad is located at the north end of the "Front Lanai" that likely served as the main entrance to the house (**Figure 28**).

There is a small rectangular structure located adjacent to the "Dining Room" to the north that the descendants map indicates is a "Food Safe", accessed by a staircase that is now full of rubble (**Figure 29**). This "food" safe reference conflicts with Maile Melrose's recollection that the safe was for important documents. The "Pantry" is located to the southeast of the stairs, with a concrete pad to the north that likely connected it to the "Cowboy Dining Room" (**Figure 30**). This portion of the house, containing in the "Cowboy Dining Room" and the "Kitchen" have been disturbed and consists of a large pile of boulders and cobbles (**Figure 31**). The **Figure 19** Descendant's Map shows a structure called the "Christmas Room" at the northeast end of the house. According to Maile Melrose, this structure was torn down during road improvements in 1938 or 1939. The remains of "Gerald's Office" are located to the north of the concrete slab by the "Pantry". This area is an irregularly mortared-stone area that is level with the ground surface. Several low alignments are located to the east. A set of stairs is situated at the northwest end of this area leading down into "Bryant's Wing", which according to Maile Melrose was the residence of H.N. Greenwell's eldest daughter. Fragments of slate roof tile are scattered on the surface of this terrace.

As mentioned above, a schematic map of the house prepared by the Greenwell descendants indicates that Marguerite's room was located in the upstairs portion of the house (see **Figure 19**). According to Maile Melrose, this name refers to Marguerite Elsie Bryant Vanderbilt (1900-1996), one of five granddaughters of Henry and Elizabeth Greenwell and the only daughter of Dora Caroline Greenwell. Ms. Melrose provides the following information concerning the life of Marguerite:

> In the eulogy read at Marguerite's funeral in 1996, it says that "Marguerite grew up there, at Kealakekua,...tutored at home by the best of governesses and teacher. When she was in her teens, she attended a 'Finishing school', St. Margaret's in Victoria, British Columbia," where she studied piano and played soccer. What is certain is that the Bryant's built a separate wing on the

Figure 20. Overview of Feature A Greenwell House foundation (view to east)

Figure 21. Overview of Feature A Greenwell House Foundation (view to north)

Figure 22. Southern stairs (view to west)

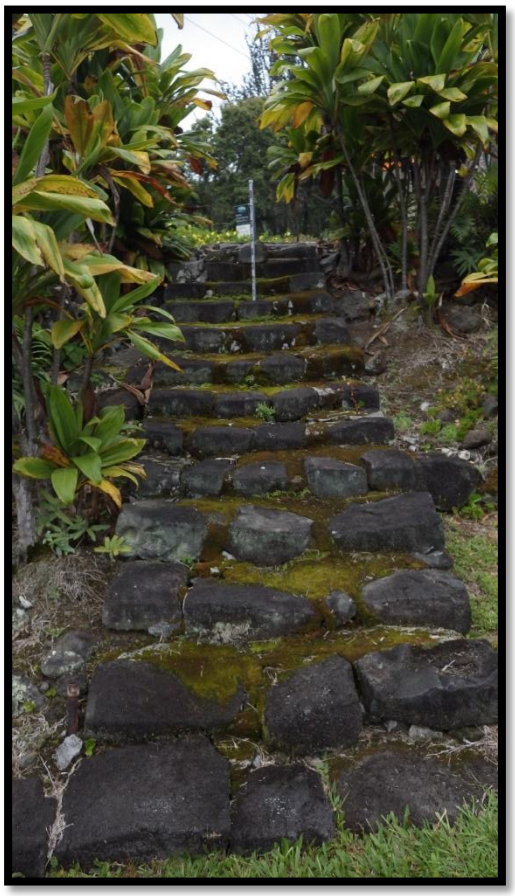

Figure 23. Northern stairs (view to southeast)

Figure 24. Debris within western room (view to north)

Figure 25. Metal gear in western room (view to southwest)

Figure 26. Debris on west side of Feature A (view to east)

Figure 27. Front Lanai foundation (view to north)

Figure 28. Concrete pad adjacent to "Front Lanai" (view to west)

Figure 29. Stairs leading to "Food Safe" (view to west)

Figure 30. Concrete pad connecting "Pantry" to “Cowboy Dining Room" (view to west)

Figure 31. Disturbed "Cowboy Dining Room" and Kitchen (view to south)

makai side of the main house at Kalukalu in which to live. The original home did not extend below the stone and mortar foundation wall that stands today mauka of the sidewalk leading to Greenwell Store. It sounds as if Marguerite slept upstairs in the old house, a way for her young eyes and ears to be close to her grandmother. Because she was so much older than her other first cousins (the eldest Greenwell son waited until was nearly 40 years old before he married!!), Marguerite became a beloved older cousin, almost an aunt, to children born decades after she was.

After Elizabeth Greenwell died in 1934, the Bryants moved to Honolulu to live, so they had a front row seat for Pearl Harbor Day and the massive influx of military men that arrived once WWII started. While volunteering at St. Andrew's cathedral with the USO in 1944, Marguerite met a young Naval officer with whom she fell in love, James Vanderbilt. After a long courtship and both her parents deaths in the 1950s, Marguerite married Jim. He was very much younger than she was, but they went on to have a long and happy marriage that lasted for over 40 years (pers.comm.).

Feature B is a circular cistern located adjacent to the house to the north. The top of the cistern is open and a wood picket fence has been built around it to prevent access (**Figure 32**). The top of the cistern was once dome-shaped, built of mortared stones that sloped inward. The top is currently broken, exposing the interior, which is coated in a cement veneer (**Figure 33**). Grass is growing out of the interior. The feature is 8 feet, 2 inches in diameter and 6 feet, 6 inches deep. A disturbed sloping boulder and cobble pavement extends along the north, northeast, and east sides. No cultural material is present.

Feature C is a second cistern feature located in the southern portion of the site, adjacent to the Greenwell store to the north. It is comprised of a central mortared stone section with a surrounding sloping pavement of boulders and cobbles (**Figure 34**). The feature encompasses an area 19 feet, 4 inches long (north-south) and 18 feet, 8 inches wide. The surface of the feature contains a concrete block with metal pump, a concrete cap, and a concrete pad. The concrete block is 1 foot, 4 inches square and 2 feet, 2 inches in height above the surface. A rusted metal hand pump is located on top of the block (**Figure 35**). The concrete cap is located adjacent to the block to the south. It is 1 foot, 9 inches in diameter and 4 inches high (**Figure 36**). A metal ring is imbedded in the top of the cap. The concrete pad is located adjacent to the cap to the south (see **Figure 36**). It is 2 feet, 7 inches long, 2 feet, 2 inches wide and 8 inches high, with a 1 foot square hole in the center. The date "1873" is inscribed into the surface. Broken fragments of mortar are scattered over the feature although no other cultural material is present.

The **Feature D** rock wall extends along the inland boundary of the project area, along the seaward side of the Hawai'i Belt Road. The main portion of the wall is 91 feet, 10 inches long (north-northwest), with a short (6 feet, 7 inches) extension to the east-northeast at the northern end. It is built of stacked and faced dry-laid boulders and cobbles. It is 2 feet, 4 inches wide and 1 foot, 11 inch to 2 feet, 2 inches in height. Hibiscus plants are growing over the wall in the southern portion. No cultural material is present. An overview of the wall is presented in **Figure 37**.

The wall is not depicted on the Descendant's Map of the house (see **Figure 19**). This suggests that the wall was not present when the house was occupied and was likely constructed after the adjacent Hawai'i Belt Road was built.

Feature E consists of a series of landscaping features bordering a grass lawn that forms the backyard of the house. This area is 72 feet meters long (north-south) and 36 feet wide. The main portion of the lawn is level, although the western side slopes down to the west. A series of terraces built of one to eight courses of boulders and cobbles (8 inches to 4 feet, 11 inches high) retain the lawn (**Figure 38**). A set of set of stairs made of formed concrete and mortared boulders are located at the southern end of the terrace (**Figure 39**). The area to the west of the terrace retaining wall is sloping soil. The north side of the feature is bordered by a stacked and faced wall that is 14 feet, 9

Figure 32. Fence around Feature B cistern (view to east)

Figure 33. Feature B cistern (view to northeast)

Figure 34. Feature C cistern (view to northeast)

Figure 35. Metal pump on concrete block at Feature C (view to southeast)

Figure 36. Concrete cap and concrete pad with inscription (view to southwest)

Figure 37. Feature D wall (view to east)

Figure 38. Feature E terraces (view to east)

Figure 39. Feature E stairs (view to east)

inches long (east-west), 3 feet, 3 inches wide and 1 foot, 4 inches to 2 feet, 9 inches high. A low path of mortared cobbles is located along the south side of the wall. No cultural material is present on the surface.

Two 1.0 by 1.0 meter test units (TUs 1192-1 and 1192-2) were excavated in the grass lawn in the Feature E area. This area is the proposed location of a new Gallery building for the Kona Historical Society. TU-1192.1 was located in the southern portion of Feature E. This excavation revealed a layer of grass roots from the lawn (0.17 to 0.2 meters thick) over two soil deposits (Layers I and II). The profile of the unit is presented in **Figure 40**. Layer I is 0.6 to 0.69 meters (10-90 cm below datum) of dark brown (7.5YR 3/2) silt with 15% boulder, cobble and pebble inclusions.

More than 670 items were recovered from Layer I, most of which are historic in origin. These consist of bottle glass, window glass, a glass pipette, fragments of glazed ceramic plates and cups, a steal sanitary can seam, square and wire nails, rubber tire fragments and rubber cap, and fragments of metal, plastic, slate roof tiles, mortar, linoleum, aluminum foil, sheet metal, cast iron and a portion of a shellac record. Fragments of volcanic glass, *kukui* nutshell, unidentified mammal bones, waterworn basalt and coral, and charcoal were also recovered. The recovered midden from Layer I is summarized in **Table 2** and the artifacts are summarized in **Table 3.**

Layer II is a dark reddish brown (5YR 3/3) silt with 1% cobble inclusions. No cultural material is present. The excavation of TU-1192.1 was terminated 0.08 to 0.2 meters into the culturally sterile Layer II soil.

TU-1192.2 was situated 8.0 meters (26 feet, 3 inches) north of TU-1192.1. The excavation revealed similar soil stratigraphy to that observed in TU-1192.1. the unit was overlain by 0.12 to 0.16 meters of grass roots from the lawn, over two soil deposits (**Figure 41**). Layer I is a 0.22 to 0.27 meter (10-50 cm below datum) thick layer of dark brown (7.5YR 3/2) silt with 5% and pebble inclusions. Cultural material from Layer I consist of bottle glass, window glass, a lead bullet, parts of a plastic doll, fragments of glazed ceramic plates and cups, metal nails and screws, a paper clip, a bobby pin, a bottle cap, an iron spike, fragments of metal, plastic, slate roof tiles, mortar and sheet metal (see **Table 2** and **Table 3**). Fragments of volcanic glass, unidentified non-human mammal bones including ones with sawn surfaces, a basalt adze flake, waterworn basalt and coral and charcoal were also recovered. **Figure 42** (lead bullet) and **Figure 43** (doll parts) depict several of the better preserved historic artifacts recovered during testing.

Layer II is 0.03 to 0.37 meters of dark reddish brown (5YR 3/3) silt with 15% pebble inclusions. A piece of cast iron pipe was recovered from the Layer II fill. The excavation of TU-1192.2 was terminated on the underlying bedrock.

Several of the historic items recovered during testing are temporally diagnostic. The seam from a steel sanitary can was recovered from TU-1192-1. Cans with seams were the result of innovations in crimping machinery, developed in 1897. By 1904, sanitary cans were in full production, completely dominating the market by 1911 (Horn 2005).

Nails were present in both test units. Cut nails have a long history of manufacture. Both hand-made and machine-made cut nails were manufactured in the nineteenth century. Transition from cut nails to wire nails took place between the 1880s to the early 1900s. Wire nails began to be imported in small numbers to America in the 1850s, and the manufacture of wire nails in America began in 1873; large-scale production did not begin until the 1880s. Wire nails were initially most competitive with cut nails in the smaller, finer sizes. It has been estimated that by 1890, approximately 50% of the nails produced were wire nails. In 1894, 70% of the nails produced were wire nails; in 1900, 82% were wire nails; and in 1913, 95% were wire nails (Clark 1929:Vol. 2:351-355, Vol. 3:126; Buckles 1978). In general, if cut nails are found on a site, a date of 1900 or before can be presumed. The rate at which wire nails replaced cut nails may vary throughout the country depending upon the source of supply.

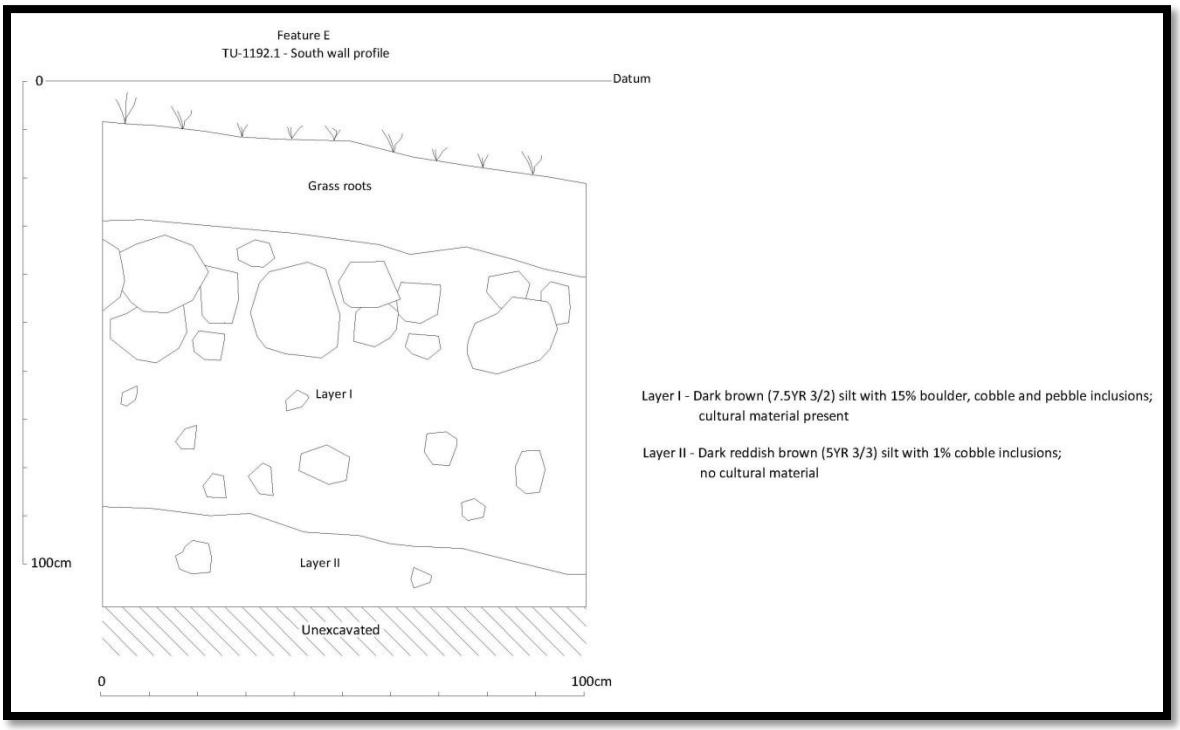

Figure 40. Feature E, Profile of TU-1192.1

Table 2. Summary of midden from Site 30392

Site 30392, Feature E	TU-1 - Layer I-1		TU-1 - Layer I-2		TU-1 - Layer I-3		TU-1 - Layer I-4		TU-2 - Layer I-2		TU-2 - Layer I-3		Feature E total	
	10-30 cmbs		30-50 cmbs		50-70 cmbs		70-90 cmbs		30-50 cmbd		50-70 cmbs		10-90 cmbd	
	TNF	WT	TNF	WT	TNF	WT	TNF	WT	TNF	WT	TNF	WT	TNF	WT
TERRESTRIAL VERTEBRATES														
MAMMALIA Butchered cow (*Bos taurus*) and pig (*Sus scrofa*)			24	68.9			4	1.3	1	0.5	1	0.1	**30**	**70.8**
MACROFLORAL														
Aleurites moluccana (unburned *Kukui* nutshell)	2	0.8	2	0.5									**4**	**1.3**
Charred wood	2	0.2	9	5.0	64	20.9			10	1.5	1	0.2	**86**	**27.8**
Total Macrofloral	**4**	**1.0**	**11**	**5.5**	**64**	**20.9**			**10**	**1.5**	**1**	**0.2**	**90**	**29.1**
TOTAL	**4**	**1.00**	**35**	**74.40**	**64**	**20.90**	**4**	**1.30**	**11**	**2.00**	**2**	**0.30**	**120**	**99.90**

cmbd= cm below datum, TNF=Total number of fragments, WT=Weight in grams

Table 3. Summary of artifacts from Site 30392, Feature E

Acc. No.	Test Unit	Layer-Level	Depth cmbd	Specimen	Material	Type	TNF	Weight	Size Range	Length mm	Width mm	Thickness mm	Comment
1.001	1	I-1	10-30	Aqua Bottle Fragment	Glass	historic container	1	8.3					
1.002	1	I-1	10-30	Amber Bottle Fragment	Glass	historic container	3	9.4					
1.003	1	I-1	10-30	Green Bottle Fragment	Glass	historic container	2	21.9					
1.004	1	I-1	10-30	Colorless Bottle Fragment	Glass	historic container	5	6.4					
1.005	1	I-1	10-30	Colorless Lighting Glass	Glass	historic lantern	1	0.2					
1.006	1	I-1	10-30	Window Glass	Glass	historic building material	9	8.4					
1.007	1	I-1	10-30	Teacup Fragment	Porcelain	historic tableware	1	0.5					blue on white transfer printed porcelain with annular band on exterior below rim
1.008	1	I-1	10-30	Sanitary Can Seam	Steel	historic container	1	2.6					
1.009	1	I-1	10-30	Square Nail Fragments	Iron	historic hardware	3	6.2					
1.010	1	I-1	10-30	Rubber Tire Fragment	Rubber	historic transportation	1	0.6					
1.011	1	I-1	10-30	Plastic Fragment	Plastic	historic container	1	0.1					
1.012	1	I-1	10-30	Roof Tile	Slate	historic building material	10	7.4					
1.013	1	I-1	10-30	Mortar	Lime and Sand	historic building material	5	3.2					
1.017	1	I-1	10-30	Waterworn Pebble	Basalt	manuport	5	249.6					
2.001	1	I-2	30-50	Aqua Bottle Fragment	Glass	historic container	1	0.8					
2.002	1	I-2	30-50	Amber Bottle Fragment	Glass	historic container	1	0.4					
2.003	1	I-2	30-50	Green Bottle Fragment	Glass	historic container	1	0.4					
2.004	1	I-2	30-50	Olive Bottle Fragment	Glass	historic container	1	6.9					
2.005	1	I-2	30-50	Colorless Bottle Fragment	Glass	historic container	8	7.8					
2.006	1	I-2	30-50	Colorless Lighting Glass	Glass	historic lantern	4	1.4					
2.007	1	I-2	30-50	Window Glass	Glass	historic building material	12	10.8					
2.008	1	I-2	30-50	Colorless Glass Tumbler	Glass	historic tableware	1	40.6					2.5" diameter base of fluted glass tumbler
2.009	1	I-2	30-50	Teacup Fragment	Porcelain	historic tableware	1	1.6					decorated with green and brown transfer print of vegetal motif
2.010	1	I-2	30-50	Tableware Fragment	Porcelain	historic tableware	1	0.3					undecorated fragment of indeterminate vessel type
2.011	1	I-2	30-50	Tableware Fragment	Refined White Earthenware	historic tableware	1	3.5					bowl or cup fragment decorated with two light blue annular bands on exterior of vessel
2.012	1	I-2	30-50	Tableware Fragment	Refined White Earthenware	historic tableware	1	0.5					undecorated fragment of indeterminate vessel type
2.013	1	I-2	30-50	Tableware Fragment	Red Earthenware	historic tableware	1	0.5					undecorated fragment of indeterminate vessel type
2.014	1	I-2	30-50	Electrical Insulator	Porcelain	historic building material	1	31.0					fragment of 1.25" diameter white insulator
2.015	1	I-2	30-50	Sheet Metal Strap	Brass	historic hardware	1	0.6					1.25" length fragment of 3/8" width strap
2.016	1	I-2	30-50	Washer	Brass	historic hardware	1	5.4					1" diameter brass washer
2.017	1	I-2	30-50	Ball Chain	Copper	historic hardware	1	4.1					2.25" length of 1/4" diameter copper ball chain; possible pie weight?
2.018	1	I-2	30-50	Square Nail Fragment	Iron	historic hardware	1	2.0					
2.019	1	I-2	30-50	Wire Nail	Steel	historic hardware	1	15.6					4" length
2.020	1	I-2	30-50	Wire Nail	Steel	historic hardware	1	7.5					3" length
2.021	1	I-2	30-50	Wire Nail	Steel	historic hardware	4	24.5					2.5" length
2.022	1	I-2	30-50	Wire Nail Fragment	Steel	historic hardware	7	21.7					
2.023	1	I-2	30-50	Sheet Metal Strap	Iron	historic hardware	1	2.7					7/8" width iron strap fragment
2.024	1	I-2	30-50	Sheet Metal Strap	Iron	historic hardware	1	7.2					1" width iron strap fragment
2.025	1	I-2	30-50	Sheet Metal	Iron	historic hardware	11	6.6					
2.026	1	I-2	30-50	Ferrous Metal Fragments	Iron	historic hardware	32	86.6					rusted fragments of indeterminate ferrous metal
2.027	1	I-2	30-50	Cast Iron Pipe	Iron	historic building material	2	452.0					4" length fragment of 1" diamter threaded pipe; 6" length fragment of 3/4" diameter pipe
2.028	1	I-2	30-50	Roof Tile	Slate	historic building material	23	59.9					
2.029	1	I-2	30-50	Mortar	Lime and Sand	historic building material	42	166.2					
2.030	1	I-2	30-50	Floor Tile	Lineoleum	historic building material	7	9.8					fragments of black floor tiles with white marbling
2.031	1	I-2	30-50	Rubber Strap	Rubber	historic material	2	0.8					
2.032	1	I-2	30-50	Rubberized Fabric	Rubber	historic clothing	3	0.2					
2.033	1	I-2	30-50	78 RPM Record Fragment	Shellac	historic entertainment	2	0.9					
2.034	1	I-2	30-50	Plastic Fragment	Plastic	historic container	1	0.1					orange
2.036	1	I-2	30-50	Secondary Flake	Volcanic Glass	debitage	1	0.5	M				
2.039	1	I-2	30-50	Pocillopora sp. Pebble	Coral	manuport	3	24.0					
2.040	1	I-2	30-50	Waterworn Pebble	Basalt	manuport	8	25.7					
3.001	1	I-3	50-70	Olive Bottle Fragment	Glass	historic container	1	0.3					
3.002	1	I-3	50-70	Colorless Bottle Fragment	Glass	historic container	7	4.6					
3.003	1	I-3	50-70	Pipet	Glass	historic medicine	5	1.4					
3.004	1	I-3	50-70	Window Glass	Glass	historic building material	7	2.9					
3.005	1	I-3	50-70	Foil	Aluminum	historic packaging	6	2.1					
3.006	1	I-3	50-70	Square Nail Fragment	Iron	historic hardware	1	3.5					
3.007	1	I-3	50-70	Wire Nail Fragment	Steel	historic hardware	1	3.8					

Table 3. Summary of artifacts from Site 30392, Feature E (cont.)

Acc. No.	Test Unit	Layer-Level	Depth cmbd	Specimen	Material	Type	TNF	Weight	Size Range	Length mm	Width mm	Thickness mm	Comment
3.008	1	I-3	50-70	Nail Fragment	Steel	historic hardware	14	20.9					
3.009	1	I-3	50-70	Sheet Metal Strap	Iron	historic hardware	1	0.8					1/2" width iron strap fragment
3.010	1	I-3	50-70	Sheet Metal	Iron	historic hardware	5	4.7					
3.011	1	I-3	50-70	Ferrous Metal Fragments	Iron	historic hardware	57	287.8					rusted fragments of indeterminate ferrous metal
3.012	1	I-3	50-70	Roof Tile	Slate	historic building material	26	186.8					
3.013	1	I-3	50-70	Mortar	Lime and Sand	historic building material	27	89.8					
3.014	1	I-3	50-70	Floor Tile	Lineoleum	historic building material	3	1.1					fragments of black floor tiles with white marbling
3.015	1	I-3	50-70	Cap	Rubber	historic material	1	0.7					small hard rubber foot or cap that would cover the end of a piece of metal
3.017	1	I-3	50-70	Tertiary Flake	Basalt	debitage	1	1.9	L	25.1	18.8	3.5	
3.018	1	I-3	50-70	Secondary Flake	Volcanic Glass	debitage	1	0.8	M				
3.020	1	I-3	50-70	Pocillopora sp. Pebble	Coral	manuport	1	0.3					
3.021	1	I-3	50-70	Waterworn Pebble	Basalt	manuport	6	26.3					
4.001	1	I-4	70-90	Colorless Bottle Fragment	Glass	historic container	1	0.8					
4.002	1	I-4	70-90	Foil	Aluminum	historic packaging	1	0.1					
4.003	1	I-4	70-90	Roof Tile	Slate	historic building material	2	0.8					
4.004	1	I-4	70-90	Mortar	Lime and Sand	historic building material	2	2.0					
4.005	1	I-4	70-90	Floor Tile	Lineoleum	historic building material	1	0.5					fragment of black floor tile with white marbling
4.007	1	I-4	70-90	Waterworn Pebble	Basalt	manuport	1	17.1					fragment
5.001	2	I-1	10-30	Olive Bottle Fragment	Glass	historic container	1	0.2					
5.002	2	I-1	10-30	Colorless Bottle Fragment	Glass	historic container	5	3.0					
5.003	2	I-1	10-30	Window Glass	Glass	historic building material	6	1.9					
5.004	2	I-1	10-30	Bullet	Lead	historic firearm	1	1.6					5mm diameter, 8mm height; poured in mold
5.005	2	I-1	10-30	Bobby Pin	Steel	historic adornment	1	0.6					2" length hair pin
5.006	2	I-1	10-30	Flat Head Screw	Brass	historic hardware	1	2.2					1" length
5.007	2	I-1	10-30	Nail Fragment	Steel	historic hardware	4	14.7					
5.008	2	I-1	10-30	Sheet Metal	Iron	historic hardware	1	0.3					
5.009	2	I-1	10-30	Ferrous Metal Fragments	Iron	historic hardware	19	17.5					rusted fragments of indeterminate ferrous metal
5.010	2	I-1	10-30	Roof Tile	Slate	historic building material	4	27.8					
5.011	2	I-1	10-30	Mortar	Lime and Sand	historic building material	20	30.7					
5.012	2	I-1	10-30	Doll Limbs	Plastic	historic toy	5	6.0					leg and arm fragments from a soft-bodied doll
5.013	2	I-1	10-30	Decorative Disc	Plastic	historic adornment	1	1.0					1/2" diameter translucent opalescent molded plastic disc comprised of a large central sphere
5.015	2	I-1	10-30	Utilized Tertiary Flake	Volcanic Glass	expedient tool	1	1.5	L	25.7	12.1	8.9	unilateral use wear
5.016	2	I-1	10-30	Tertiary Flake	Volcanic Glass	debitage	1	0.3	M				
5.017	2	I-1	10-30	Waterworn Pebble	Basalt	manuport	1	2.1					
6.001	2	I-2	30-50	Colorless Bottle Fragment	Glass	historic container	2	2.7					
6.002	2	I-2	30-50	Window Glass	Glass	historic building material	1	1.1					
6.003	2	I-2	30-50	Teacup Fragment	Porcelain	historic tableware	1	1.3					rim fragment of 3.5" diameter undecorated teacup
6.004	2	I-2	30-50	Tableware Fragment	Red Earthenware	historic tableware	1	2.9					undecorated fragment of indeterminate vessel type
6.005	2	I-2	30-50	Paper Clip	Steel	historic fastener	1	0.4					1.25" length
6.006	2	I-2	30-50	Bottle Cap	Steel	historic container	2	4.7					1.25" diameter cap with rolled rim
6.007	2	I-2	30-50	Wrought Spike	Iron	historic hardware	1	21.1					4" length
6.008	2	I-2	30-50	Nail Fragment	Steel	historic hardware	6	10.2					
6.009	2	I-2	30-50	Ferrous Metal Fragments	Iron	historic hardware	7	44.7					rusted fragments of indeterminate ferrous metal
6.010	2	I-2	30-50	Roof Tile	Slate	historic building material	1	0.2					
6.011	2	I-2	30-50	Mortar	Lime and Sand	historic building material	8	7.6					
6.013	2	I-2	30-50	Adze Flake	Basalt	formal tool	1	2.5	L	19.2	14.2	11.9	1 polished facet
6.015	2	I-2	30-50	Pocillopora sp. Pebble	Coral	manuport	1	0.2					
6.016	2	I-2	30-50	Waterworn Pebble	Basalt	manuport	1	2.1					
8.001	2	II-4	15-76	Cast Iron Pipe	Iron	historic building material	1	1935.0					2 foot length of 1.5" diameter pipe threaded on one end
TOTAL NUMBER AND WEIGHT OF ARTIFACTS							**525**	**4165.8**					

cmbd= cm below datum, TNF=Total number of fragments, WT=Weight in grams , Size range - M=Medium, L=Large

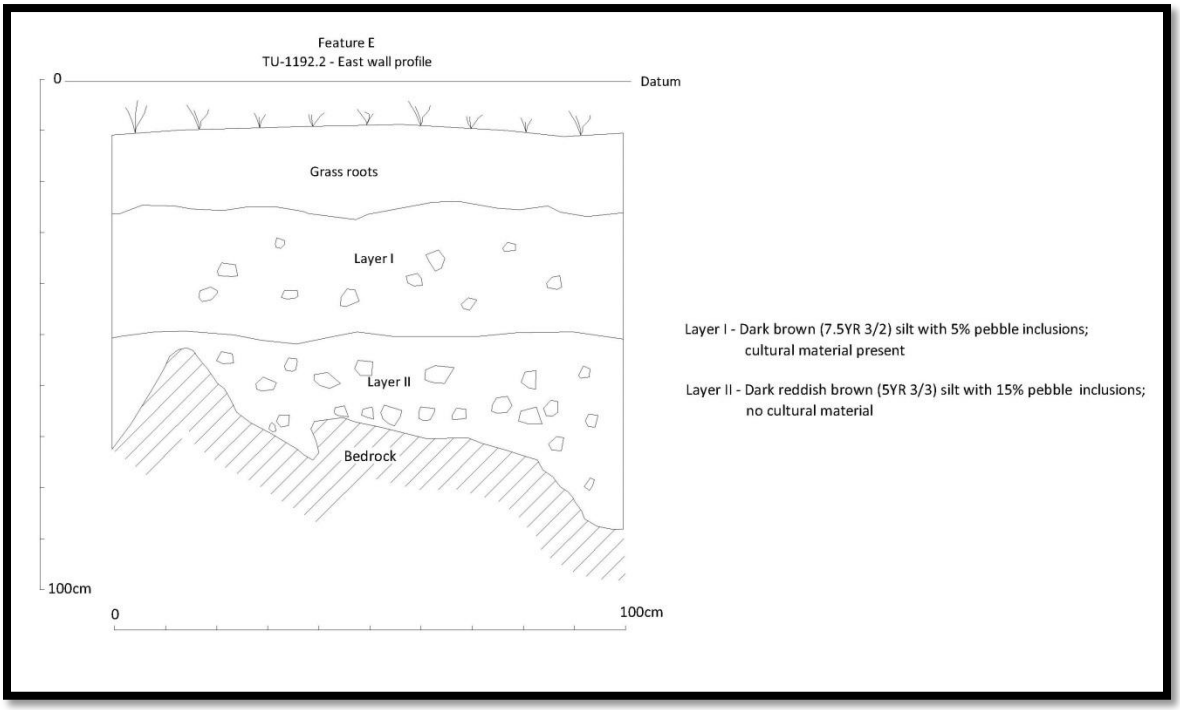

Figure 41. Feature E, Profile of TU-1192.2

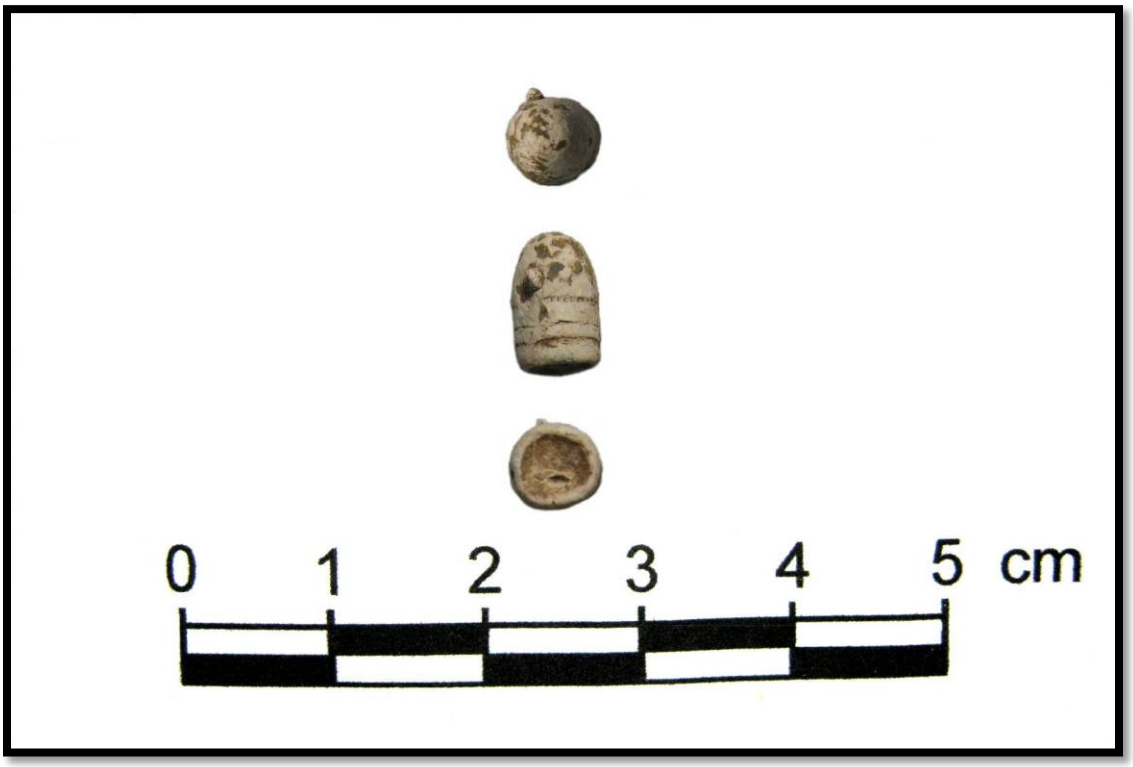

Figure 42. Lead bullet from TU-1192.2

Figure 43. Doll parts from TU-1192.2

The bullet recovered from TU-1192-2 is referred to as a Minie ball. This bullet was developed in 1849 by Claude-E´tienne Minie´ and Henri-Gustave Delvigne, who created the conical, soft-lead bullet with rings (see rings in **Figure 42**) and a rifle with a grooved barrel to go with it (www.historynet.com/minie-ball). A fragment of a shellac record was recovered from TU-1192-2. Records produced with shellac are industry standard by 1895. In 1931, RCA Victor introduces vinyl records which are not quickly adopted until WW2 when shellac supplies become scarce (www.wikipedia.org/wiki/Gramaphonerecord).

The results of testing in the Feature E area revealed a homogenous deposit with no internal stratification, containing both historic and pre- and/or early post-contact cultural material. The unstratified nature of this cultural layer indicates the continued use of the Feature E area over time,. The materials were deposited by the occupants of the adjacent Greenwell House and include construction material, food and beverage containers, food remains, table ware, and recreational items. The feature does not represent a trash dump, but rather represents the discarded remains associated with the daily life of the house.

Feature A of Site 30392 is the remains of the historic Greenwell residence. The Feature B and C cisterns supplied water to the dwelling. The Feature D wall appears to be a more recent addition to the site, built after the destruction of the Christmas Room in the late 1930s. Feature E consists of surface landscaping elements present in the backyard of the house. The remnants of the Site 30392 Greenwell House is altered and in fair to poor condition. It is assessed as significant for its information content, for its distinctive method of construction and for its association with the life of an important person.

CONCLUSION

Discussion

The project area contains the remains of the historic Greenwell house, constructed in the 1850s by Henry Nicholas Greenwell and occupied by the Greenwell family. The wooden portion of the structure was demolished in the 1960s, leaving only the concrete and mortared stone foundation, walkways, stairs, walls and terraces. Portions of the house were destroyed during the construction of the adjacent Hawai'i Belt Road in 1938 or 1939.

The historic Greenwell Store (Site 7243) is located adjacent to the Greenwell House (Site 30392) to the south (see **Figure 3** and **Figure 10**). This structure was constructed in 1851 by Henry Greenwell and served as a store and post office until it was subsequently turned into a ranch warehouse (see **Appendix A**). The proximity of the store and house to each other indicates that the two structure once formed a unified complex with the Greenwell family members living and working on the site.

The Greenwell house also once served as the focal point for the Henry Greenwell Ranch; an 80,000 acre cattle operation that extended into both the North and South Kona Districts. The presence of the "Cowboy Dining Room" within the house indicates that the ranch *paniolo* were fed in the family home.

No surface pre-contact archaeological remains are present in the project area. The absence of such surface remains is not surprising due to the extensive historic modifications to the parcel. The project area is located in the *'apa'a* zone of the Kona Field System, in which substantial prehistoric sites are not usually expected. This zone is characterized by scattered permanent habitations and temporarily sites associated with agriculture, bird hunting, and collecting of plant resources. Several pre- and/or early post-contact items (volcanic glass and basalt debitage, waterworn coral and basalt, and a basalt adze flake) were recovered during testing; although these are from a homogenous deposit containing mostly historic materials.

Significance Assessments and Register Eligibility

Site 30392 is assessed for site significance based on Hawai'i Administrative Rules (HAR) §13-284-6, Criteria a-e , and evaluated for the Hawai'i Register of Historic Places per HAR §13-198-8, under Criteria A-D. According to HAR §13-198-8, the review board shall evaluate whether the property meets or possesses, individually or in combination, the following criteria or characteristics:

> The quality of significance in Hawaiian history, architecture, archaeology, and culture, which is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> > (a) That are associated with events that have made a significant contribution to broad patterns of our American or Hawaiian history;
> >
> > (b) That are associated with the lives of persons significant in our past;
> >
> > (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
> >
> > (d) That have yielded, or may be likely to yield, information important in prehistory or history.

Based on these criteria, the Greenwell House (Site 30392) and the adjacent Greenwell Store (Site 7243) possess integrity of location, design, setting, materials, workmanship, feeling, and association. The sites are assessed as significant for their association with significant contributions to Hawaiian history under Criterion "a", for association with H.N. Greenwell and his family under Criterion "b", for distinctive method of construction under Criterion "c" and for information content under Criterion "d". The documentation of the Greenwell House (Site 30392) has yielded information important for understanding historic land use in the project area. The sites are also evaluated as eligible for inclusion in the Hawai'i Register of Historic Places under Criteria A, B, C, and D.

Treatments Recommendations

The AIS was prepared in conjunction with an environmental assessment for a proposed new gallery building to be located in the western portion of the parcel. The location of this new gallery building is presented in **Figure 44**. The area of proposed development is currently occupied by landscaping features (Feature E) in the backyard of the Greenwell house (see **Figure 10**). The planned development of the property will require the destruction of the Feature E terrace area; however, the remainder of the site is recommended for preservation. The proposed development will have an effect on the historic properties within the project area. These impacts will however be mitigated through the following measures:

1. The preservation of the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392);
2. Preparation of a Site Preservation Plan for Sites 7243 and 30392 for DLNR-SHPD review and approval;
3. The National Register of Historic Places nomination (see **Appendix A**) will be updated to include both the Greenwell Store (Site 7243) and the Site 30392 Greenwell House (Site 30392). The update work including integration of prior research and consultation with SHPD will be initiated within the next five years;
4. The proposed gallery building will be designed in accordance with the Secretary of the Interior Standards for Rehabilitation, specifically Standards 9 and 10. The structure will be differentiated from the store and house ruins and will be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment. The gallery project will be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. The proposed development is described by the Executive Director of the Kona Historical Society, Joy Holland as follows:

    > Kona Historical Society's "Kona Museum," gallery will be a small, sustainable, (green and solar panel powered) "white cube" gallery. The exterior has been designed to fit both the historic size (modest) and style of homes that would have been typical in Kona in the mid-to-late 19th century on ranch parcels. The construction will include a high pitched roof, board and batten exterior, and period looking windows and lanai from the front footprint of the Kona Historical Society site as visitors and patrons approach or drive by. A ranch home very much in this style was once part of this site and our project is intended to restore and replace the historic appearance and appeal of our site, and eliminate the modern and temporary tent currently in its proposed location which is marring the continuity and current historical aesthetics of our historic site. This gallery will also cover space, besides the tent area, that currently has invasive-species plants and under-utilized grass space The appearance of this building will restore the site to its former 19th century "homestead" feeling and glory.

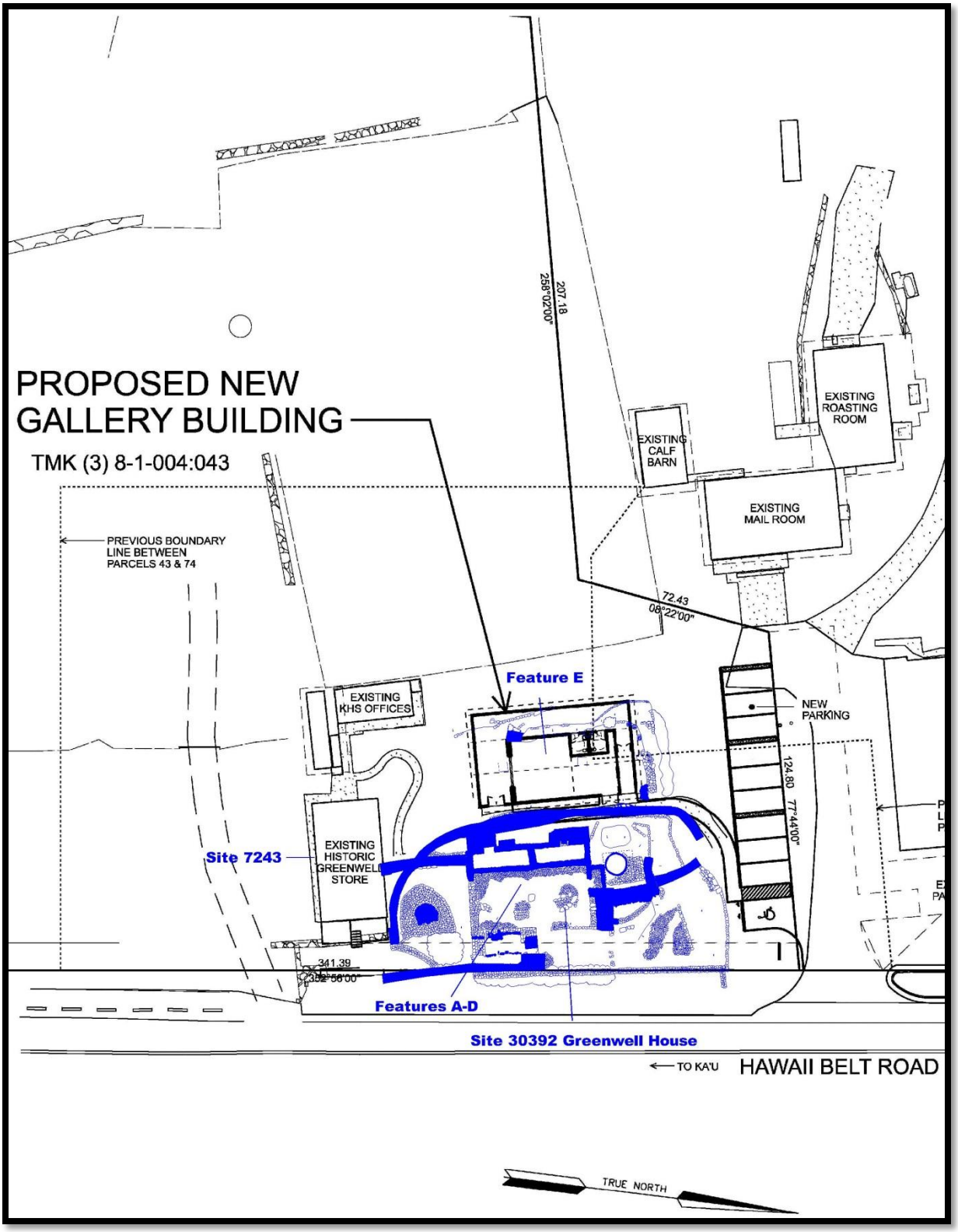

Figure 44. Proposed development

With this project we are marrying the older traditional elements that will fit with the style of the H.N. Greenwell Store museum (on the State Historic Register), but will at the same time, serve the modern function of our organization, which is to educate and serve our community through the exhibits, programs, and preservation that we do at our site and for which we have won dozens of awards at the state and national level. Elements of this project (e.g., the replica construction of our Portuguese Stone Bread Oven, and construction of a traditional dry-stack ranch wall) were recently acknowledged for superior Preservation with a commendation from the Historic Hawaii Foundation and for our Board President, lifetime rancher, and highly respected Cultural Historian, Allen Wall's preservation contributions here in the State. With the addition of this building, we are eager to continue to fulfill our mission of preserving the buildings, sites, and collections that reflect the rich history of Kona. Hawai'i State's Grant in Aid, several prominent Hawaii foundations, the County of Hawaii, and other community stakeholders have granted us funds and resources because of their belief in our project and its mission. We are also garnering tremendous press with articles in local newspapers, *Hawaii Magazine*, *Ke Ola*, and a forthcoming large feature article in *Hana Hou Magazine* about Kona ranching and elements of this project.

The structure will be available for rotating exhibits covering topics of both general history and fine arts. The topics of exhibition there will reflect the culture and contributions of the many ethnicities and commercial pioneers who call Hawaii and Kona home, including, Native Hawaiians and early 19th century immigrants, and the historic events, which played out here on Hawaii island. There is no museum like this in Kona, or, even on the island; and

5. Archaeological monitoring of ground altering activity associated with the construction of the gallery will be conducted. This monitoring work would be guided by an Archaeological Monitoring Plan prepared for DLNR-SHPD review and approval.

TRANSLATION OF HAWAIIAN WORDS[1]

aʻā – lava; stony

ahupuaʻa - traditional Hawaiian land unit usually extending from the uplands to the sea

āina - Land, earth

ala loa - highway, main road, belt road around an island, a long road

aliʻi - Chief, chiefess, officer, ruler, monarch, peer, headman, noble, aristocrat, king, queen, commander; royal, regal, aristocratic, kingly; to rule or act as a chief, govern, reign; to become a chief

heiau - pre-Christian place of worship, shrine

hōlua - Sled, especially the ancient sled used on grassy slopes; the sled course

konohiki – headman of an *ahupuaʻa* land division under the chief

Kuhina nui - powerful officer in the days of the monarchy

Māhele - land division of 1848

makai – towards ocean

makaʻāinana - Commoner, populace, people in general; citizen, subject

mauka – inland

mōʻī - King, sovereign, monarch, majesty, ruler, queen.

ʻŌiwi - Native, native son.

paniolo – cowboy

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[1] - from wehewehe.org

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APPENDIX A – NOMINATION FORM FOR GREENWELL STORE (SITE 7243)

Form No. 10-300 (Rev. 10-74) PH0661538

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

DATA SHEET

FOR NPS USE ONLY
RECEIVED JAN 30 1978
DATE ENTERED MAY 22 1978

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC **

AND/OR COMMON GREENWELL STORE

2 LOCATION

STREET & NUMBER NONE — NOT FOR PUBLICATION

CITY, TOWN Kealakekua — VICINITY OF CONGRESSIONAL DISTRICT 2nd

STATE Hawaii CODE 15 COUNTY Hawaii CODE 001

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	__PUBLIC	__OCCUPIED	__AGRICULTURE	__MUSEUM
X BUILDING(S)	X PRIVATE	X UNOCCUPIED	__COMMERCIAL	__PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	X YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		__NO	__MILITARY	X OTHER:

4 OWNER OF PROPERTY

NAME Jack B. Greenwell et al

STREET & NUMBER P.O. Box 238

CITY, TOWN Kealakekua — VICINITY OF STATE Hawaii 96750

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC. Bureau of Conveyances

STREET & NUMBER 1151 Punchbowl Street

CITY, TOWN Honolulu STATE Hawaii

6 REPRESENTATION IN EXISTING SURVEYS

TITLE Hawaii Register of Historic Places #10-37-7243

DATE January 1974 — FEDERAL X STATE — COUNTY — LOCAL

DEPOSITORY FOR SURVEY RECORDS State Historic Preservation Office

CITY, TOWN Honolulu STATE Hawaii

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	__UNALTERED	__ORIGINAL SITE
__GOOD	__RUINS	X ALTERED	__MOVED DATE_____
X FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The structure itself is a rectangular plan about 25 feet by 55 feet with a basement, first floor and attic. It is located on a steep cross-slope lot with a main entrance verandah across the end facing the highway below. It is surrounded by open, overgrown pastures. Exterior walls are solid fieldstone, 24 inches thick below and 21 inches above on the first floor. The stone is rough cut into irregular blocks and is laid up in irregular courses with wide mortar joints, achieving an unusually picturesque pattern. Interior construction is timber framing with a steep open gable roof. The original slate roof is now covered with corrugated iron and has narrow eaves.

The full basement is completely above ground on one long side and rear end where there is an entrance door at grade. It has earth floor, 7 foot open ceiling and 2 rows of 6 inch 'ohi'a[1] posts with 6 inch by 6 inch beams supporting the first floor joists. The first floor is a single open space with a wood floor and 2 inch by 12 inch joists spanning the full 24 foot width to carry the attic floor above.

There is a narrow steep wood ladder-type stairs to attic. The attic is a single open space under the sloping roof with a wood floor and open rafters. Single windows are located in the gable at each end.

Windows on the main floor are single wood casements in thick wood frames set into the stone walls. Basement windows are small open grilled vents. The main feature is the entrance verandah facing a steep side road leading up from the highway. It is an open 3 bay porch with stone base and steps, wood rail and posts and full wood-planked gable end above.

On the main entrance is a pair of vertical plank doors. There is also a side entrance on the upper slope with stone steps and a single plank door.

Architecturally, this is an especially interesting construction. It is picturesquely fitted into its sloping site, well-proportioned and unadorned, depending on its straightforward constructural components, skillfully handled for its quality.

[1] 'ohi'a: a native hardwood, metrosideros macropus, M. collina

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
__1600-1699	X ARCHITECTURE	__EDUCATION	__MILITARY	X SOCIAL/HUMANITARIAN
__1700-1799	__ART	__ENGINEERING	__MUSIC	__THEATER
X 1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION
X 1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)
		__INVENTION		

SPECIFIC DATES c. 1851 construction BUILDER/ARCHITECT Nicolas Greenwell

STATEMENT OF SIGNIFICANCE

The Greenwell store of Kona built in c. 1851 originally served as a store and post office. Nicholas Greenwell, the store's builder, also served as the area's postmaster as well as the area's general merchandiser. The building is the only commercial structure from this period left in Kona. It displays a unique commercial use of mortar and fieldstone. The building is still owned and maintained by Greenwell heirs.

H. Nicholas Greenwell was born in England in 1826. He sold his commission in the Army at age 23 and left for Australia to make a new start where he bought a sheep station. In 1849 he sailed to California in search for gold. He then came to Hawaii and worked in Kailua. In 1867 Mr. Greenwell returned to England to visit his family and on his way back to Hawaii stopped in the Caribbean. On the island of Monsarrat he met his bride Elizabeth Caroline Hall. They returned to Hawaii together, bringing a new variety of oranges found in Brazil. Nicholas Greenwell is remembered for his cultivation of navel oranges which he exported, and his buying and selling of sheep skins which he did through his store. He also became involved with dairies in the 1880's and later began extensive ranching. He and his wife had eleven children.

After serving community interests, the building was later used by the Greenwell ranch. It was turned into a ranch warehouse. In c. 1959 the interior was altered and the exterior portice and porch were added. The building's original slate roof was replaced with corrugated iron at that time. Plans are presently underway to donate the building to the Kona Historical Society, to be used as a general headquarters.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Greenwell family records and interviews with Amy and Norman Greenwell (1974).

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 1.0 A

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	05	193160	2160320
B			
C			
D			

VERBAL BOUNDARY DESCRIPTION

Greenwell Store is located on a one acre rectangular lot in Kealakekua town bounded by Mamalahoa Highway on the west side, Youth With A Mission facility on the east side, Kona Meat Market on the north side and Greenwell Ranch pastures on the south side.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE
John C. Wright

ORGANIZATION
Bishop Museum

DATE
January 19, 1974

STREET & NUMBER
1355 Kalihi Street

TELEPHONE
847-1443

CITY OR TOWN
Honolulu

STATE
Hawaii

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE ___ LOCAL X

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE James L. Silverman

TITLE SHPO DATE January 30, 1978

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

~~DIRECTOR, OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION~~ KEEPER OF THE NATIONAL REGISTER DATE 5-22-78

ATTEST: Catherine Cole DATE 5-5-78

~~KEEPER OF THE NATIONAL REGISTER~~

GPO 892-453

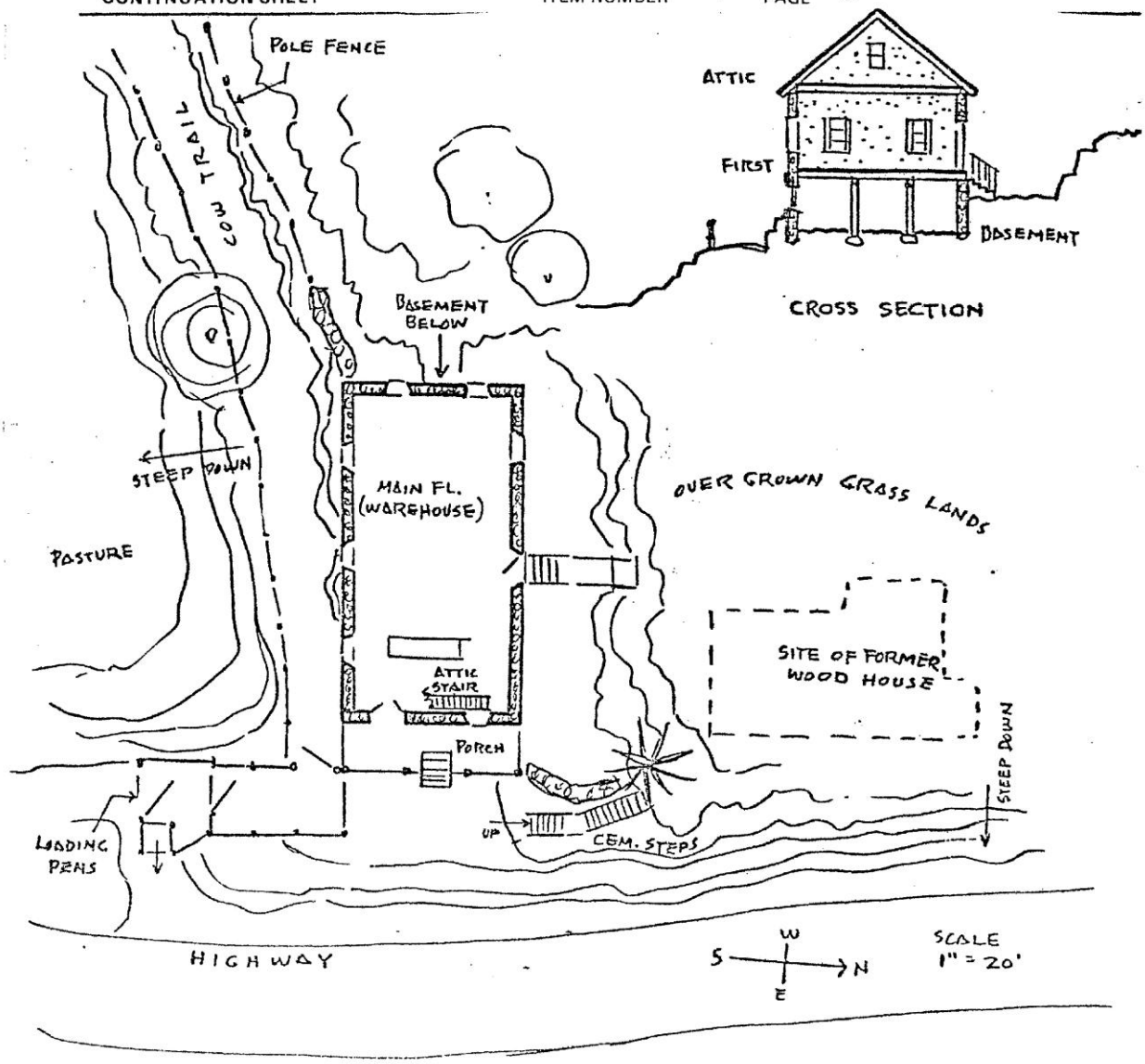
Form No. 10-300a
(Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY	
RECEIVED	JAN 2 0 1978
DATE ENTERED	MAY 2 1978

CONTINUATION SHEET ITEM NUMBER 7 PAGE 1



THE OLD GREENWELL STORE
KEALAKEKUA • SOUTH KONA, HAWAII

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

July 14, 2016

Dr. Alan E. Haun
Haun and Associates
73-1168 Kahuna A‘o Road
Kailua-Kona, Hawaii 96740

Log No. 2016.01578
Doc. No. 1607KM11
Archaeology, Architecture

Dear Dr. Haun:

SUBJECT: **Chapter 6E-10 and 6E-42 Historic Preservation Review – Archaeological Inventory Survey for Amy Greenwell Kalukalu Ahupua‘a, South Kona District, Island of Hawai‘i TMK: (3) 8-1-004:043 por.**

Thank you for the opportunity to review the revised draft report titled *Archaeological Inventory Survey TMK: (3) 8-1-04:por. 043, Kalukalu Ahupua‘a, South Kona District, Island of Hawai‘i* (Haun and Henry; August 2015). The State Historic Preservation Division (SHPD) on July 5, 2016. The SHPD received the original draft on September 14, 2015, requested revisions on January 19, 2016 (Log No. 2015.03423, Doc. No. 1601SL09), and received the revised draft on July 5, 2016 (Log No. 2016.01578) and a few minor revisions via email on July 14, 2016.

The archaeological inventory survey was completed for the Kona Historical Society on a 0.47-acre portion of a 3.111 acre parcel (TMK: [3] 8-1-004:043) in the Kalukalu Ahupua‘a in the South Kona District, island of Hawai‘i. The project area contains the stone and concrete foundation of the historic home of Henry Nicholas Greenwell. The larger TMK parcel is bordered on the north and northwest by the asphalt parking lot for the modern Greenwell Store, on the south by the historic Greenwell Store, on the east by the Hawai‘i Belt Road, and on the west by a grass lawn that occupies the remainder of the subject parcel. The project area is planned for development of a new gallery/exhibit area for the historical society.

This report presents the results of background research, pedestrian survey, and excavation of two 1 by 1 meter test units. The AIS documented the remains of the Henry Nicholas (H.N.) Greenwell house and adjacent Greenwell Store, which are designated as Site 50-10-37-30392 and Site 50-10-37-7243, respectively. The H.N. Greenwell House is currently listed on the National Register of Historic Places (NRHP). Portions of the house were destroyed during the construction of the adjacent Hawaii Belt Road in 1938 or 1939. The wooden superstructure of the remaining house was demolished in the 1960s, leaving only the concrete and mortared stone foundation, walkways, stairs, walls, and terraces. Site 30392 is comprised of the main house (Feature A), two cisterns (Features B and C), a stone wall (Feature D), and a large terraced area (Feature E). Excavation of two test units in Feature E showed the occurrence of two strata underlying a relatively thick, grass root mat. Layer I in both units contained a considerable number of mostly historic period artifact fragments. Layer II did not contain any cultural material.

Pursuant to Hawaii Administrative Rules (HAR) §13-284-6, the AIS evaluated the H.N. Greenwell House (Site 30392) and Greenwell Store (Site 7243) to be significant and possessing integrity of location, design, setting, materials, workmanship, feeling, and association. The sites are assessed significant under Criteria a-d for their broad contributions to history, their association with H.N. Greenwell and his family, distinctive method of construction, and information content, respectively. Additionally, the main house (Site 30392) and store (Site 7243) are eligible for listing on the Hawaii Register of Historic Places under Criteria A, B, C, and D per HAR §13-198-8. The report also states that the planned development of the property will require the destruction of the Feature E terrace area, but

that the remainder of the site is recommended for preservation. Pursuant to HAR §13-284-7, the AIS report provides a project effect determination of "effect with agreed upon mitigation commitments." The mitigation recommendations include the following:

(1) Preservation for the remaining portions of the H.N. Greenwell House (Site 30392) and Greenwell Store (Site 7243);
(2) An update to the NRHP nomination form to include both the Greenwell house and store, and the update shall occur no more than 5 years from the date of project completion;
(3) The proposed gallery building design shall be in keeping with the Secretary of the Interior's (SOI) Standards for Rehabilitation Standards 9 and 10, as per 36 CFR 67; and
(4) All ground disturbing activities shall require archaeological monitoring that will be guided by an SHPD accepted archaeological monitoring plan.

The SHPD concurs with the site significance assessment, the register eligibility evaluation, the project effect determination, and the mitigation commitments. In addition, interim protection measures for the Greenwell house (Site 30392) and store (Site 7243) shall be established prior to project work commencing. Interim protection measures shall remain in place throughout the duration of project work.

The revisions adequately address the issues and concerns identified in our previous correspondence. The revised report meets the requirements of HAR §13-276-5 and **it is accepted**. Please send two hardcopies of the document, clearly marked FINAL, along with a copy of this review letter; one to our Kapolei Office and one to our Hilo Office, attention to SHPD Library. Please also send a text-searchable PDF version to Heather Kaufman, SHPD Librarian/Archivist, at Heather.A.Kaufman@hawaii.gov.

As stipulated in HAR §13-284-7(e), when SHPD comments that the project will have an "effect, with agreed upon mitigation commitments," then detailed mitigation plans shall be developed for SHPD review and acceptance. The agreed-upon mitigation measures for this project include preservation of Sites 30392 and 7243, and data recovery in the form of archaeological monitoring for all ground disturbance.

Pursuant to HAR §13-284-8, **SHPD looks forward to** receiving and reviewing a preservation plan meeting HAR §13-277 and an archaeological monitoring plan meeting HAR §13-279-4.

SHPD also requests verification of implementation of the interim protection measures prior to project related work commencing.

SHPD will notify you when the appropriate documents have been reviewed and accepted and the project may proceed.

Please contact Megan Borthwick, Architectural Historian, at Megan.Borthwick@hawaii.edu or at (808) 692-8029 for any questions concerning architectural resources. Please contact me at Susan.A.Lebo@hawaii.gov or at (808) 692-8019 for any questions or concerns regarding this letter.

Aloha,

Susan A. Lebo

Susan A. Lebo, PhD
Archaeology Branch Chief

cc: Joy Holland (Joy@konahistorical.org)

DAVID Y. IGE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
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October 31, 2016

IN REPLY REFER TO:
Log No. 2016.01990
Doc. No. 1609JA05
Archaeology, Architecture

Alan Haun, PhD
Haun and Associates
73-1168 Kahuna A‘o Road
Kailua-Kona HI 96740

Dear Dr. Haun:

SUBJECT: **Chapter 6E-42 Historic Preservation Review —**
Archaeological Monitoring Plan, H. N. Greenwell House, Site 50-10-37-30392
Kalukalu Ahupua‘a, South Kona District, Island of Hawai‘i
TMK: (3) 8-1-004:043 por.

Thank you for the opportunity to review your draft plan titled *Archaeological Monitoring Plan for H.N. Greenwell House, Site 50-10-37-30392 Kalukalu Ahupua‘a, South Kona District, Island of Hawai‘i TMK: (3)8-1-034: por. 043* (Haun and Henry, August 2016). SHPD received this submittal on August 17, 2016.

The Kona Historical Society (KHS), the private landowner, proposes construction of a gallery building in a western portion of State Inventory of Historic Places (SIHP) Site 50-10-37-30392, the remains of the historic Henry Nicholas Greenwell House, which was built in the 1850s. The proposed “Kona Museum” gallery will be approximately 60 ft. long (north-south) and 35 ft. wide, built in a modest size and a board-and-batten style typical of ranch homes in middle to late l9th century Kona. The gallery will be built within Site 30392 Feature E, an area of landscaping features including rock-faced terraces, a wall, and a staircase behind (west of) the historic house.

The project area, on the west (downslope) side of Mamalahoa Highway, is a 0.43-acre portion of the 3.111-acre TMK: (3) 8-1-004:043. The house site is bounded on the east by the highway, on the south by the restored historic Greenwell Store, on the west by a grass lawn, on the northwest by the Greenwell Farms mailing and roasting rooms, and on the north by the Greenwell Meat Market parking lot. The Greenwell store, Site 50-10-37-7243, built circa 1851, was listed on the National Register of Historic Places (NRHP) in 1978. The house site has not yet been nominated. Neither site is listed on the Hawaii Register of Historic Places (HRHP). The project will destroy portions of the Feature E terraced landscaping area, but monitoring during all ground-disturbing activities, and protection of the other site features with fencing, will ensure that construction will not damage any other site features.

An Archaeological Inventory Survey (AIS) was conducted in a 0.47-acre portion of the 3.111-acre property, including the house site, Site 30392. The AIS report (Haun and Henry 2016) indicates that portions of the house were destroyed during construction of the Hawaii Belt Road (Mamalahoa Highway) in 1938 or 1939, and that the wooden superstructure was demolished in the 1960s, leaving the concrete and mortared stone foundation, walkways, stairs, walls, and terraces. The house site contains five features, including the main house (Feature A), two cisterns (Features B and C), a stone wall (Feature D), and the terraced landscaped area mentioned above (Feature E), where the gallery will be built. Excavation of two test units in Feature E sectioned two strata, under a relatively thick grass root mat. Layer I in both units produced a number of artifacts, most postdating Contact (AD. 1778). Layer II produced no cultural material. SHPD accepted the AIS report on July14, 2016 (Log No. 2016.01578, Doc. No. 1607KM11). Henry and Haun (2016) assessed Sites 30392 and 7243 as retaining integrity of location, design, setting, materials, workmanship, feeling, and association; and pursuant to Hawaii Administrative Rules (HAR) §13-284-6, they assessed the two sites as significant under Criteria a-d, for, respectively, their broad contributions to

history, their association with H. N. Greenwell and his family, distinctive method of construction, and information content. Both sites are evaluated as eligible for listing on the Hawaii Register of Historic Places under Criteria A, B, C, and D, per HAR §13-198-8. Henry and Haun (2016) explain that, although the project will require destruction of Feature E, the remainder of Site 30392 will be protected by bright orange fencing during the project, and will be preserved permanently.

No surface historic properties were encountered during the AIS anywhere at the house site, but it is possible that subsurface cultural deposits and materials, and/or lava tubes or blisters, may be encountered during excavation in the Feature E area. Pursuant to HAR § 13-284-7, Henry and Haun (2016) provided a project effect recommendation of "effect, with agreed upon mitigation commitments." The agreed-upon mitigation measures for this project include preservation of Sites 30392 and 7243, and data recovery in the form of archaeological monitoring during all ground disturbing activities; SHPD concurred with the site significance assessments, project effect, and mitigation recommendations. The five specified mitigation commitments are as follows:

(1) Preservation of the H.N. Greenwell House (Site 30392) except for Feature E, and continued preservation of the store (Site 7243);
(2) Preparation of a preservation plan for the house and store sites for SHPD review and acceptance;
(3) Updating the (Site 7243) NRHP nomination form to include both the store and the house, the update to be completed no more than five years after project completion;
(4) Development of a gallery design that is in keeping with the Secretary of the Interior's (SOT's) Standards for Rehabilitation Standards 9 and 10, as per 36 Code of Federal Regulations (CFR) 67; and
(5) Archaeological monitoring during all ground-disturbing activities, guided by an SHPD-accepted archaeological monitoring plan (this document).

This AMP provides satisfactory discussions concerning the environment, historical background information, previous archaeological findings in the area, and monitoring methods. The plan satisfies the requirements listed in HAR § 13-279-4. **It is accepted**. Please send two hardcopies, clearly marked FINAL, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office, attention SHPD Library.

SHPD requests to be notified when monitoring begins.

SHPD looks forward to receiving, within 180 days after project completion, an archaeological monitoring report that satisfies the requirements of HAR § 13-279-5.

Please contact Megan Borthwick, Architectural Historian, at (808) 692-8029 or at Megan.Borthwick@hawaii.gov for any questions concerning architectural resources. Please contact me at Susan.A.Lebo@hawaii.gov or at (808) 692-8019 for questions or concerns regarding archaeological resources or this letter.

Aloha,

Susan A. Lebo

Susan A. Lebo, PhD
Archaeology Branch Chief

DAVID Y. IGE
GOVERNOR OF HAWAII

STATE OF HAWAII
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KAHOOLAWE ISLAND RESERVE COMMISSION
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STATE PARKS

November 4, 2016

Alan Haun, PhD
Haun and Associates
73-1168 Kahuna Aʻo Road
Kailua-Kona HI 96740

Log No. 2016.02169
Doc. No. 1609JA03
Archaeology, Architecture

Dear Dr. Haun:

SUBJECT: **Chapter 6E-42 Historic Preservation Review –**
Archaeological Site Preservation Plan, Sites 50-10-37-7243 and 30392
Kalukalu Ahupuaʻa, South Kona District, Island of Hawaiʻi
TMK: (3) 8-1-004:043 por.

Thank you for submitting for SHPD's review your draft plan titled *Archaeological Preservation Plan for Sites 50-10-37-7243 and 30392 TMK: (3) 8-1-004: por. 043 Kalukalu Ahupuaʻa , South Kona District, Island of Hawaiʻi* (Haun and Henry, August 2016). SHPD received this submittal for a private project on September 8, 2016.

The Kona Historical Society (KHS) proposes to construct a gallery in a western portion of Site 50-10-37-30392, the remains of the 1850's Henry Nicholas Greenwell House. The KHS's "Kona Museum" gallery will be 60 ft. long and 35 ft. wide, built in a modest size and a board-and-batten style typical of ranch homes in middle to late 19th-century Kona. The gallery will be built within Site 30392 Feature E, an area of landscaping features including rock-faced terraces, a wall, and a staircase behind (west of) the historic house.

The house site (Site 50-10-37-30392) and the adjacent restored circa-1951 Greenwell Store (SIHP 50-10-37-7243), together occupy an 0.45-acre portion of the 3.111-acre Lot 043; the house site totals 0.43 acre and the store site 0.02 acre. The project area is located on the west (downslope) side of Māmalahoa Highway. The house is located north of the store. The project area is bounded on the east by the highway, on the south by open land, on the southwest by the current KHS offices and lawn grass, on the northwest by the Greenwell Farms mailing and roasting rooms, and on the north by the Greenwell Meat Market parking lot. The store was listed on the National Register of Historic Places (NRHP) in 1978; the house site has not been nominated yet. Neither site is listed on the Hawaii Register of Historic Places.

Archaeological Inventory Survey (AIS; Haun and Henry 2015) was conducted in a 0.47-acre portion of the 3.111-acre property, including the house site (Site 30392). The previously restored store (Site 7243) was not included in the AIS project area. As the AIS report explains, portions of the house were destroyed during construction of the Hawaii Belt Road (now Māmalahoa Highway) in 1938 or 1939, and the wooden superstructure was demolished in the 1960s, leaving only the concrete and mortared stone foundation, walkways, stairs, walls, and terraces. The house site contains five features: the main house (Feature A), two cisterns (Features B and C), a stone wall (Feature D), and the terraced landscaped area (Feature E) where the gallery will be built. Excavation of two test units in Feature E sectioned two strata, under a relatively thick grass root mat. Layer I in both units produced a number of artifacts, most postdating Contact (A.D. 1778). Layer II produced no cultural material. SHPD, in a letter dated January 19, 2016 (Log No. 2015.03423, Doc. No. 1601SL09), reviewed the draft AIS report and requested information concerning architectural properties in the project area; locational details and specifications for the gallery, with a clarification of the effects construction will have on Feature E; and evaluation of the house and store sites as a possible historic district to be nominated to the NRHP.

The revised AIS report evaluates Sites 30392 and 7243 as retaining integrity of location, design, setting, materials, workmanship, feeling, and association, pursuant to Hawaii Administrative Rules (HAR) §13-284-6. The sites are assessed as significant under Criteria a-d, for, respectively, their broad contributions to history, their association with H. N. Greenwell and his family, distinctive method of construction, and information content. Additionally, both sites are considered eligible for listing on the Hawaii Register of Historic Places under Criteria A, B, C, and D, per HAR §13-198-8. The revised AIS report was accepted by SHPD on July 14, 2016 (Log No. 2016.01578, Doc. No. 1607KM11).

The AIS report explains that, although the planned development will require destruction of the Feature E terraced area, the remainder of Site 30392 will be preserved. Pursuant to HAR §13-284-7, the AIS report provides a project effect determination of "effect, with agreed upon mitigation commitments." The mitigation recommendations include the following:

(1) Preservation of the H.N. Greenwell House (Site 30392) except for Feature E, and continued preservation of the store (Site 7243);
(2) Updating the (Site 7243) NRHP nomination form to include both the store and the house, the update to be completed no more than 5 years after project completion;
(3) Development of a proposed gallery design that is in keeping with the Secretary of the Interior's (SOI's) Standards for Rehabilitation Standards 9 and 10, as per 36 Code of Federal Regulations (CFR) 67; and
(4) Archaeological monitoring during all ground-disturbing activities, guided by the SHPD-accepted archaeological monitoring plan (Haun and Henry 2016).

The preservation plan (PP) summarizes the results of the AIS and reviews the history of the area, focusing on the Greenwell family and their development of the store and several ranches. Site 30392 Features A-E are described, and preservation is planned, as avoidance and protection (conservation), for the house site. Except for Feature E, all portions of the house site will be protected during development of the gallery, and in perpetuity. Conservation, which is the responsibility of the landowner, includes immediate, short-term and long-term protective measures, to ensure that no damage occurs through negligent or unintentional means.

Immediate conservation involves a licensed land surveyor establishing the metes and bounds for both Sites 7243 and 30392. The metes and bounds description of the area to be preserved, including buffer zones, will be incorporated into the property deed as a restrictive covenant. The deed will be recorded with the Bureau of Conveyances, with a copy sent to SHPD.

Short-term conservation measures, to be implemented at Site 30392 before and during construction of the gallery, will include creation of a physical barrier along the north and west sides of the site. Orange safety, polyethylene mesh, fencing will be installed 3 ft. outside the north side and 0-6 ft. outside the west side of Site 30392, creating a permanent buffer zone. No physical barrier will be built on the east or south sides, where no construction will be conducted. In the south, the entire area between the house site and the north side of the store site will be a protected buffer zone. Proper placement of the fence will be verified by a qualified archaeologist in a letter to SHPD before construction begins. The fencing will remain in place until development is complete. Construction supervisors will be advised as to the nature and importance of each of the sites, as the importance of avoiding damage to the preserved areas will be explained. Gallery construction will be archaeologically monitored, following the stipulations of the SHPD-accepted archaeological monitoring plan (Haun and Henry 2016) (October 31, 2016; Log No. 2016.01990, Doc. No. 1609JA05).

Long-term conservation will involve maintaining the sites' current condition, restricting access, regular monitoring of site condition, and notification of SHPD of any deterioration or change in site condition. Signs will mark the permanent buffer zone, prohibiting access to the Site 30392 interior. Public access will be limited to the store's interior; no public access will be allowed into the house interior, with four exceptions. The landowner has unlimited access, and access will be permitted to personnel for litter control and maintenance, to SHPD for periodic inspection, and to researchers whose research plans have been approved by SHPD.

The PP provides satisfactory discussions concerning the environment, historical background information, previous archaeological studies, and preservation methods. The plan satisfies the requirements listed in HAR §13-277. **It is accepted**. Please send two hardcopies of the document, clearly marked FINAL, along with a copy of this review letter to the Kapolei SHPD office, attention SHPD Library, and email a pdf version to Heather Kaufman, Librarian, at

Heather.A.Kaufman@hawaii.gov with a cc to Susan.A.Lebo@hawaii.gov.

SHPD looks forward to receiving a copy of the property deed with metes and bounds. SHPD also looks forward to receiving, after the project is completed, updated NRHP information for Site 7243 and either a listing for Site 30392 or one that includes the two sites as a historic district.

Please contact Megan Borthwick at (808) 692-8029 or at Megan.Borthwick@hawaii.gov for questions concerning architectural resources or the NRHP update. Please contact Jane Allen at (808) 692-8046 or Jane.Allen@hawaii.gov for questions regarding archaeological resources or this letter.

Aloha,

Susan A. Lebo

Susan A. Lebo, PhD
Archaeology Branch Chief

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
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KAPOLEI, HAWAII 96707

November 8, 2018

Michael Yee, Director
Planning Department, County of Hawaii
01 Pauahi Street, Suite 3
Hilo, HI 96720
c/o: Planning@hawaiicounty.gov

IN REPLY REFER TO:
Log No. 2018.01773
Doc. No. 1811GC05
Archaeology

Dear Mr. Yee:

SUBJECT: **Chapter 6E-10 and 6E-42 Historic Preservation Review-**
County of Hawaii Grading Permit Application and Construction Plans for
New Gallery Building – Kona Historical Society
Kalukalu Ahupua'a, South Kona District, Island of Hawai'i
TMK: (3) 8-1-004:043 por.

This letter provides the State Historic Preservation Division's (SHPD's) response to the Kona Historic Society's (KHS's) letter dated July 17, 2018, in which KHS requests the SHPD formally indicate "that the project may proceed subject to the agreed upon mitigation commitments pursuant to HAR 13-284-10" [sic; HAR §13-284-9]. In support of this request, the KHS letter describes the project area and project background and summarizes the previous SHPD reviews, SHPD's determination of "effect with agreed upon mitigation commitments," the status of the agreed upon mitigation commitments, including each of the SHPD-approved mitigation plans. The submittal also includes maps and construction plans. The submittal indicates the proposed project involves grading and the construction of a new gallery building, a new CRM wall, a 10-stall parking lot, a drainage sump, and new concrete walkways within an 8,828-sq.-ft. portion of the 3.11-acre parcel owned by the Kona Historic Society.

KHS has secured funding from the Hawaii State Legislature Grant-in-Aid program. The County Department of Public Works has requested that the applicant (Kona Historical Society) carry out the historic preservation review pursuant to HAR §13-284-1. The project area is a rectangular-shaped 0.47-acre portion of TMK: (3) 8-1-004:043. The parcel includes the stone and concrete foundation of the historic home of Henry Nicholas (H.N.) Greenwell.

SHPD's review is pursuant to HAR §13-284-9 Verification of completion of the detailed mitigation plan, not HAR §13-284-10, Conclusion of the historic preservation review process. The latter applies when HAR §13-284-10(a)(1) no historic properties are present or (2) SHPD agrees the project shall result in "no historic properties affected" or (3) SHPD agrees the mitigation plan(s) has/have been verified by SHPD to have been successfully executed. Mitigation has not yet been completed for the current project.

Pursuant to HAR §13-284-9(d) "In cases involving preservation, archaeological data recovery, or architectural recordation, the agency has the option to request an accelerated, 2-step verification…"

Pursuant to HRS §6E-42 and HAR §13-284-3(b)(1-5), KHS has completed the following five of the six historic preservation review procedural steps:

(1) Identification and inventory to determine if historic properties are present and, if so, to identify and document them;
(2) Evaluation of significance;

(3) Effect determination;
(4) Mitigation commitments; and
(5) Detailed mitigation plan(s).

1. Identification and inventory. SHPD accepted an archaeological inventory survey (AIS) titled *Archaeological Inventory Survey, TMK: (3)8-1-004: por. 043, Kalukalu Ahupua'a, South Kona District, Island of Hawai'i* (Haun and Henry; August 2015) in a letter dated July 14, 2016 (Log No. 2016.01578, Doc. No. 1607KM11). The AIS documented two significant historic properties, the remains of the Henry Nicholas (H.N.) Greenwell house with five features ([Features A-E] Site 50-10-37-30392) and the adjacent Greenwell Store (Site 50-20-37-7243).

2. Evaluation of significance. Site 30392 is currently listed on the National Register of Historic Places (NRHP). Site 30392 and Site 7243 are eligible for listing on the Hawaii Register of Historic Places under Criteria A, B, C, and D, pursuant to HAR §13-198-8. Haun and Henry (2015) indicated in the AIS that the planned development will require the destruction of the Feature E terrace area. The remainder of the site is recommended for preservation.

3. Effect determination.
SHPD concurred with the project effect determination of "effect with agreed upon mitigation commitments" (July 14, 2016; Log No. 2016.01578, Doc No. 1607KM11).

4. Mitigation commitments. SHPD concurred with the following agreed upon mitigation commitments specified in the AIS (July 14, 2016; Log No. 2016.01578, Doc. No. 1607KM11):
   1. Preservation for the remaining portions of H.N. Greenwell House (Site 30392) and Greenwell Store (Site 7243;
   2. An update to the NRHP nomination form to include both the Greenwell House and Greenwell Store, and the update shall occur not more than 5 years from the date of project completion;
   3. The proposed gallery building design shall be in keeping with the SOI Standards for Rehabilitation Standards 9 & 10, per 36 CFR 67 and;
   4. All ground disturbing activities shall require archaeological monitoring and guided by an SHPD accepted archaeological monitoring plan (AMP).

5. Mitigation Plans. Pursuant to HAR §13-284-3(b)(5), SHPD has accepted the following agreed-upon mitigation plans:
   1. *Archaeological Preservation Plan for Sites 50-10-37-7243 and 30392, TMK: (3) 8-2-034: por. 043, Kalukalu Ahupua'a, South Kona District, Island of Hawai'i* (Haun and Henry, August 2016) in a letter dated November 4, 2016 (Log No. 2016.02169, Doc. No. 1609JA03); and

   2. *Archaeological Monitoring Plan, H.N. Greenwell House, Site 50-10-37-30392, Kalukalu Ahupua'a, South Kona District, Island O Hawai'i, TMK: (3) 8-1-034: por.043* (Haun and Henry; August 2016) in a letter dated October 31, 2016 (Log No. 2016.01990, Doc. No. 1609JA05).

6. Verification of Completion. Pursuant to HAR §13-284-3(b)(6), Kona Historical Society (KHS) has submitted a letter requesting accelerated, 2-step verification process outlined in HAR §13-284-9(d), and provided documentation of completion of the following mitigation commitments:
   a. #1 SHPD-approved preservation plan;
   b. #3 Submittal Appendix A construction plans showing compliance with SOI standards 9 and 10; and
   c. #4 SHPD-approved archaeological monitoring plan.

   KHS will implement the following procedures and schedules to verify completion of the historic preservation review process:

   (1) During the pre-construction period, Haun and Associates, Inc. will conduct a meeting (or meetings) to ensure all contractor personnel are aware of the preservation plan and preservation measures and their compliance responsibilities and with the archaeological monitoring requirements and provisions;

(2) During construction, Haun and Associates will ensure compliance with all provisions in the preservation plan and archaeological monitoring plan;
(3) Within 30 days of completion of archaeological monitoring, Haun and Associates will submit to SHPD an End-of-Fieldwork archaeological monitoring letter report documenting compliance with the archaeological monitoring plan;
(4) Within 180 days of completion of archaeological monitoring Haun and Associates will submit to SHPD for review and acceptance an archaeological monitoring report meeting the requirements of HAR 13-279-5; and
(5) Within 5 years of the date of project completion, KHS will submit an update to the NRHP nomination form to include both the Greenwell house and Greenwell Store.

Based on the above, SHPD indicates that it has reviewed and commented on the effect of the proposed project pursuant to HRS §6E-42 and HAR §13-284-3; that it is SHPD's determination that KHS has completed Steps 1 through 5 pursuant to HAR §13-284-3(b)(1-5); and that SHPD concurs with the procedures and schedule to complete Step 6 (verification of completion) per HAR §13-284-3(b).

SHPD hereby notifies the County that SHPD agrees with the request that the subject project proceed in accordance with an accelerated, 2-step verification historic preservation review process, and **SHPD hereby notifies the County** that the permit issuance process may proceed.

Please contact Dr. Susan A. Lebo, Archaeology Branch Chief, at Susan.A.Lebo@hawaii.gov or at (808) 692-8019 if you have any questions regarding this letter.

Aloha,

Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Office

cc: William Norwood, President, Kona Historical Society, khs@konahistorical.org
Mike Vitousek, Board Member, Kona Historical Society, mvitousek@hokulia.com
Jeff Darrow, County of Hawaii, jeff.darrow@hawaiicounty.gov
Christian Kay, County of Hawaii, christian.kay@hawaiicounty.gov
Esther Inamura, County of Hawaii, esther.inamura@hawaiicoutnty.gov