

***DRAFT - Version 2***

**PHASE I ENVIRONMENTAL SITE ASSESSMENT**

**SAMUEL MAHELONA MEDICAL CENTER**

4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

Tax Map Key:  
(4) 6-014-113

Prepared for:

State of Hawaii, Department of Health  
Hazard Evaluation and Emergency Response Office  
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# CONTENTS

<b>ACRONYMS and ABBREVIATIONS.....</b>	<b>v</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>1 INTRODUCTION .....</b>	<b>1</b>
1.1 PURPOSE .....	1
1.2 SCOPE OF SERVICES .....	2
1.3 SIGNIFICANT ASSUMPTIONS.....	3
1.4 LIMITATIONS AND EXCEPTIONS OF ASSESSMENTS .....	3
1.5 SPECIAL TERMS AND CONDITIONS .....	5
1.6 USER RELIANCE .....	5
<b>2 SITE DESCRIPTION.....</b>	<b>7</b>
2.1 LOCATION AND LEGAL DESCRIPTION.....	7
2.2 SITE AND VICINITY GENERAL CHARACTERISTICS .....	7
2.3 CURRENT AND PAST USES OF PROPERTY .....	7
2.4 DESCRIPTION OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS.....	7
2.5 CURRENT AND PAST USES OF ADJOINING PROPERTIES .....	8
2.6 PHYSICAL SETTING .....	8
2.6.1 TOPOGRAPHY .....	8
2.6.2 SOILS AND GEOLOGY.....	8
2.6.3 WATER WELLS.....	9
2.6.4 HYDROLOGY .....	9
2.6.5 FLOODPLAIN AND ZONING INFORMATION.....	9
<b>3 USER PROVIDED INFORMATION .....</b>	<b>10</b>
3.1 TITLE RECORDS.....	10
3.2 ENVIRONMENTAL LIENS AND ACTIVITY AND USE LIMITATIONS .....	10

3.3	SPECIALIZED KNOWLEDGE .....	10
3.4	COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION .....	10
3.5	VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES .....	10
3.6	OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION .....	11
3.7	REASON FOR PERFORMING PHASE I.....	11
3.8	PREVIOUS ENVIRONMENTAL REPORTS/OTHER REPORTS .....	11
3.9	OTHER INFORMATION .....	12
<b>4</b>	<b>RECORDS REVIEW .....</b>	<b>13</b>
4.1	HISTORICAL USE INFORMATION .....	13
4.1.1	OWNERSHIP INFORMATION.....	13
4.1.2	REVIEW OF AERIAL PHOTOGRAPHS.....	13
4.1.3	CITY DIRECTORIES.....	14
4.1.4	REVIEW OF TOPOGRAPHIC MAPS .....	15
4.1.5	ADDITIONAL SOURCES.....	16
4.1.6	HISTORICAL SUMMARY.....	17
4.2	REGULATORY REVIEW .....	17
4.2.1	ORPHAN SITES .....	19
4.2.2	ENVIRONMENTAL LIENS AND ACTIVITY USE LIMITATIONS .....	20
<b>5</b>	<b>SITE RECONNAISSANCE .....</b>	<b>21</b>
5.1	METHODOLOGY AND LIMITING CONDITIONS .....	21
5.2	NO ACCESS AREAS.....	21
5.3	GENERAL SITE SETTING AND OBSERVATIONS.....	22
5.4	SITE RECONNAISSANCE OBSERVATIONS.....	22
5.5	VICINITY RECONNAISSANCE.....	25
5.6	NON-SCOPE ITEMS.....	25
5.6.1	ASBESTOS-CONTAINING MATERIAL.....	25

5.6.2	LEAD-BASED PAINT .....	25
5.6.3	RADON .....	26
<b>6</b>	<b>INTERVIEWS .....</b>	<b>27</b>
6.1	INTERVIEWS WITH OWNER .....	27
6.2	INTERVIEWS WITH PROPERTY MANAGERS .....	27
6.3	INTERVIEWS WITH OCCUPANTS .....	27
6.4	INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS .....	27
6.5	INTERVIEW WITH OTHERS .....	28
<b>7</b>	<b>DATA GAPS .....</b>	<b>29</b>
<b>8</b>	<b>FINDINGS, CONCLUSIONS, AND OPINIONS .....</b>	<b>31</b>
8.1	RECs .....	31
8.2	CRECs .....	31
8.3	HRECs .....	31
8.4	<i>DE MINIMIS</i> CONDITIONS .....	31
8.5	BUSINESS ENVIRONMENTAL RISK .....	32
<b>9</b>	<b>DEVIATIONS AND LIMITATIONS .....</b>	<b>33</b>
<b>10</b>	<b>ADDITIONAL SERVICES .....</b>	<b>34</b>
<b>11</b>	<b>REFERENCES .....</b>	<b>35</b>
<b>12</b>	<b>SIGNATURE OF ENVIRONMENTAL PROFESSIONALS .....</b>	<b>37</b>

## **FIGURES**

Figure 1 – Subject Property Location

Figure 2 – Subject Property Vicinity

## **TABLES**

Table 1 – Aerial Photographs Reviewed .....	13
Table 2 – City Directory Review Summary .....	14
Table 3 – Topographic Maps Reviewed .....	15
Table 4 – Regulatory Database Information for Nearby Facilities .....	18

## **APPENDICES**

Appendix A – EDR Radius Map Report (Regulatory Database Search)

Appendix B – EDR Historical Aerial Photographs and EDR Historical Topographic Maps

Appendix C – Interview Documentation

Appendix D – EDR City Directory Report and EDR Sanborn Maps

Appendix E – EDR Environmental Lien Search and EDR Property Tax Report

Appendix F – Additional Information Reviewed

Appendix G – EDR Building Permit Report

Appendix H – Photographic Log

Appendix I – Staff Resumes

## **ACRONYMS and ABBREVIATIONS**

<b>AAI</b>	All Appropriate Inquiries
<b>ACM</b>	Asbestos-containing material
<b>AST</b>	Aboveground storage tank
<b>ASTM</b>	American Society for Testing and Materials
<b>AUL</b>	Activity and use limitations
<b>BER</b>	Business environmental risk
<b>BVNA</b>	Bureau Veritas North America, Inc.
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CFR</b>	Code of Federal Regulations
<b>CHMM</b>	Certified Hazardous Materials Manager
<b>CMU</b>	Concrete masonry units
<b>CREC</b>	Controlled recognized environmental condition
<b>EAL</b>	Environmental Action Level
<b>EDR</b>	Environmental Data Resources, Inc.
<b>EMET</b>	EnvironMETeo Services, Inc.
<b>ENPRO</b>	ENPRO Environmental
<b>EPA</b>	U.S. Environmental Protection Agency
<b>ESA</b>	Environmental site assessment
<b>FEMA</b>	Federal Emergency Management Agency
<b>FIRM</b>	Flood Insurance Rate Map
<b>GIS</b>	Geographic information system
<b>HDOH</b>	State of Hawaii Department of Health
<b>HEER</b>	Hazard Evaluation and Emergency Response
<b>HREC</b>	Historical recognized environmental condition
<b>HVAC</b>	Heating, ventilation, and air conditioning
<b>KPAL</b>	Kauai Police Activities League
<b>LBP</b>	Lead-based paint
<b>LLP</b>	Landowner liability protections



<b>mg/L</b>	Milligrams per liter
<b>NFA</b>	No Further Action
<b>pCi/L</b>	Pico-Curies per liter
<b>REC</b>	Recognized environmental condition
<b>SDWB</b>	Safe Drinking Water Branch
<b>SF</b>	Square foot
<b>SHWB</b>	Solid and Hazardous Waste Branch
<b>SHWS</b>	State Hazardous Waste Site
<b>SMMC</b>	Samuel Mahelona Medical Center
<b>Subject Property</b>	<i>Samuel Mahelona Medical Center, 4800 Kawaihau Road, Kapaʻa, Kauai County, Hawaii</i>
<b>Tetra Tech</b>	Tetra Tech, Inc.
<b>TMK</b>	Tax Map Key
<b>TPH</b>	Total petroleum hydrocarbon
<b>TSI</b>	Thermal system insulation
<b>UIC</b>	Underground Injection Control
<b>USC</b>	U.S. Code
<b>USGS</b>	U.S. Geological Survey
<b>UST</b>	Underground storage tank
<b>VTR</b>	Vent through roof

## EXECUTIVE SUMMARY

Upon the request of the State of Hawaii, Department of Health (HDOH) Hazard Evaluation Emergency Response (HEER) Office, on behalf of the *County of Kauai*, Tetra Tech, Inc. (Tetra Tech) provided environmental due diligence services concerning the property referred to as the Samuel Mahelona Medical Center, located at 4800 Kawaihau Road, in Kapaa, Kauai County, Hawaii (herein after referred to as the “Subject Property”).

The purpose of this Phase I Environmental Site Assessment (ESA) report is to inform the *County of Kauai* of the potential for environmental liabilities associated with the Subject Property, which is being considered for affordable housing redevelopment. This report does not and cannot guarantee that all environmental liabilities that exist at or near the Subject Property are, or could be, identified. Rather, it evaluates existing, readily obtainable information to provide general information concerning environmental factors that relate to the *County of Kauai’s* business interests. This Phase I ESA report generally complies with ASTM International (ASTM) “ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-13” (ASTM E 1527-13) (ASTM 2013).

This Phase I ESA report focuses on the presence of anthropogenic (human-caused) environmental degradation that may reflect a business liability to the *County of Kauai*. To this end, the Phase I ESA report identifies obvious recognized environmental conditions (REC), controlled RECs (CREC), historical RECs (HREC), and *de minimis* conditions in connection with the previous and current uses and ownership of the Subject Property. This Phase I ESA report also identifies Business Environmental Risks (BER). BERs are a non-scope consideration under ASTM E 1527-13 (i.e., they are described and defined by ASTM but are not covered under this practice). Tetra Tech defines BERs as a potential environmental business risk for our clients, even though the ASTM definition of a REC, CREC, or HREC is not met.

The Subject Property encompasses approximately 34 acres at 4800 Kawaihau Road, in Kapaa, Kauai County, Hawaii. The land is owned by Hawaii Health Systems Corporation (HHSC) and operated as a regional health care facility. The Tax Map Key (TMK) for the Subject Property is (4) 6-014-113. The Subject Property is zoned for residential use.

To assess environmental conditions at the Subject Property, Tetra Tech performed the following: (1) reviewed site land use history, geology, hydrogeology, and site and vicinity environmental records; (2) conducted a visual site reconnaissance; and (3) performed interviews.

- This Phase I ESA report has revealed the following REC in connection with the Subject Property:

According to EDR, the Subject Property is listed on the UST and HI Financial Assurance database for the following: one 10,000-gallon diesel UST, installed in 1985; one 2,500-gallon UST with unknown contents, installed in 1951; and, one 600-gallon gasoline UST, installed in 1951. Both the 2,500-gallon and 600-gallon USTs were listed as permanently out of use. At the time of the most recent database update, the 10,000-gallon UST was still listed as in use.



However, according to a closure report prepared by Environmental Risk Analysis LLC in November 2018, the 10,000-gallon fiberglass diesel fuel tank was closed at the Subject Property in October 2018, with all post-closure samples indicating no exceedances of applicable HDOH Environmental Action Levels (EALs) for unrestricted use.

According to Mr. Arruba, the Building Maintenance Foreman, an approximately 3,000-gallon empty UST (likely the 2,500-gallon UST identified by EDR) is located on the northwest corner of the former boiler room, and has been empty and not in use for the past 39 years that he has worked at the facility. He was not aware of the presence of the 600-gallon gasoline UST.

Based on the limited information available, and the lack of removal/closure documentation for the 2,500-gallon and 600-gallon USTs identified in the EDR Radius Search, the potential presence of two former USTs which may not have been properly abandoned, is considered a REC to the Subject Property.

- No CRECs were identified in connection with the Subject Property.
- No HRECs were identified in connection with the Subject Property.
- One *de minimis* condition was identified in connection with the Subject Property, as follows:
  - During the site reconnaissance, minor staining was observed on the wooden pallet and concrete slab beneath the 55-gallon drum of oil in the grounds keeping garage. The staining surrounding the oil drum appears to be from dispensing or transferring oil, not from a leak. The staining is minor and is considered *de minimis*.
- Two BERs were identified in connection with the Subject Property, as follows:
  - The Subject Property buildings were constructed prior to 1950, and asbestos containing material (ACM) was likely used in their construction. The following suspect ACM were observed during the site reconnaissance: drywall, plaster, lay-in acoustical ceiling tiles, sink undercoats, cove base, ceramic tiles, carpet, and floor tiles with associated mastics, door and window caulking, and asphalt roofing.

An asbestos survey from 2011 identified ACM on the roofs of the main hospital building (Wing C) and the medical center specialty clinic. Asbestos abatement occurred on the thermal system insulation (TSI) on pipes from areas throughout the main hospital building in 2014 and from floor tile (and associated mastic) and concrete masonry units (CMU) from the kitchen in the main hospital building in 2018. The presence and likely presence of ACM in the Subject Property buildings represents a BER for the Subject Property.

- The Subject Property buildings were constructed prior to 1950, and lead based paint (LBP) was likely used in their construction. An LBP survey from 2011 identified LBP on the concrete wall on the main hospital building (Wing C) roof and the air conditioning ducts on the medical center and specialty clinic roof. The presence and likely presence of LBP in the Subject Property buildings poses a BER to the Subject Property.

## I INTRODUCTION

This Phase I Environmental Site Assessment (ESA) report presents the results of environmental due diligence services completed by Tetra Tech, Inc. (Tetra Tech), requested by the State of Hawaii Department of Health (HDOH), Hazard Evaluation Emergency Response (HEER) Office on behalf of the *County of Kauai*, concerning the property referred to as the Samuel Mahelona Medical Center (SMMC) at 4800 Kawaihau Road in Kapaa, Kauai County, Hawaii (herein after referred to as “Subject Property”) (see **Figures 1 and 2**).

This section discusses the purpose, technical approach, scope of services, and limitations of this work.

### I.1 PURPOSE

The purpose of this Phase I ESA report is to inform the *County of Kauai* of the potential for environmental liabilities associated with the Subject Property, which is being considered for affordable housing redevelopment. This report does not and cannot guarantee that all environmental liabilities that exist at or near the Subject Property are, or could be, identified. Rather, it evaluates existing, readily obtainable information to provide general information concerning environmental factors that relate to *County of Kauai’s* business interests. This Phase I ESA report generally complies with ASTM International (ASTM) “ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E 1527-13” (ASTM E 1527-13) (ASTM 2013).

This Phase I ESA report focuses on the presence of anthropogenic (human-caused) environmental degradation that may reflect a business liability to the *County of Kauai*. To this end, the Phase I ESA report identifies obvious recognized environmental conditions (REC), controlled RECs (CREC), historical RECs (HREC), and *de minimis* conditions in connection with the previous and current uses and ownership of the Subject Property.

A REC is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

A CREC is a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (i.e., as evidenced by the issuance of a No Further Action (NFA) letter [or equivalent], or meeting risk-based criteria established by a regulatory authority), with hazardous substances or petroleum products allowed to remain in-place at a property subject to the implementation of required controls (i.e., property use restrictions, activity and use limitations [AUL], institutional controls, or engineering controls).

A HREC is past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (i.e., property use restrictions, activity and use limitations, institutional controls,

or engineering controls). A HREC is an environmental condition which in the past would have been considered a REC, but which may or may not be considered a recognized environmental condition currently.

*De minimis* conditions generally do not represent a material risk of harm to public health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Per ASTM E 1527-13, *de minimis* conditions are not considered a REC, CREC, or HREC.

This Phase I ESA report also identifies business environmental risks (BER). BERs are a non-scope consideration under ASTM E 1527-13 (i.e., they are described and defined by ASTM but are not covered under this practice). Tetra Tech defines BERs as a potential environmental business risk for our clients, even though the ASTM definition of a REC, CREC, or HREC is not met. Examples of BERs include failure to have up-to-date environmental-related permits, non-compliance with environmental regulations, or community complaints related to environmental issues, as well as the presence of lead-based paint (LBP) and asbestos-containing materials (ACM).

In addition to these designations, this Phase I ESA report identifies data gaps. A data gap is lack of or inability to obtain information required by ASTM E 1527-13 despite good-faith efforts by the environmental professional to gather the information.

This ESA is intended to satisfy one of the requirements for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability (hereafter “landowner liability protections” or LLPs); that is, the practices that constitute “all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice”, as defined at 42 U.S. Code (USC) Section 9601 (35)(B).

## **I.2 SCOPE OF SERVICES**

The scope of services was defined by Tetra Tech’s revised proposal dated October 18, 2018. The scope of this Phase I ESA update report involved:

- Evaluating topographic maps, aerial photographs, environmental regulatory databases, geographic information system (GIS) data, and historical records provided by various public and private sources.
- Compiling data and noting findings related to the historical use and compliance of the Subject Property.
- Reviewing information provided by the User.
- Conducting a site reconnaissance which occurred on November 7, 2018.
- Identifying potential RECs, CRECs, HRECs, *de minimis* conditions, and BERs that may be associated with the Subject Property.

- Interviewing key personnel knowledgeable of the Subject Property.
- Preparing summaries of the activities.

Tetra Tech's professional opinion regarding the presence or absence of RECs, CRECs, HRECs, *de minimis* conditions, and BERs is based on information obtained during activities as described herein.

### **I.3 SIGNIFICANT ASSUMPTIONS**

In conducting these environmental due diligence services, Tetra Tech made the following significant assumptions.

- Site contacts were knowledgeable about the Subject Property and its history, would be available for interviews, and would provide information as necessary to complete the scope of work.
- Tetra Tech assumes that all information obtained from others for the Subject Property is correct and complete.
- Tetra Tech assumes that the *County of Kauai* (via the HDOH HEER Office) and the current owner(s) and/or occupants have provided Tetra Tech with all reasonably ascertainable prior environmental information concerning the Subject Property.
- Groundwater flow direction was assumed to generally match surface water flow direction unless other site-specific data were referenced within the report. Local shallow groundwater flow is generally toward surface water drainages. Regional groundwater flow near the Subject Property is likely toward the southeast towards the Pacific Ocean (U.S. Geological Survey [USGS] 1996).
- Tetra Tech would rely on information provided by the *County of Kauai* on the location and boundaries of the Subject Property.
- Additionally, Tetra Tech assumes that the User (as defined by ASTM E 1527-13) will read this report in its entirety.

### **I.4 LIMITATIONS AND EXCEPTIONS OF ASSESSMENTS**

No environmental due diligence effort can eliminate uncertainty regarding the potential for environmental liabilities associated with a site. This Phase I ESA report is intended to reduce uncertainty within reasonable limits of time and cost.

To this end, Tetra Tech reviewed documents that were "reasonably ascertainable," meaning information that is: (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable. "Publicly available" means information that can be accessed by anyone on request. "Within reasonable time and cost constraints" means that the information will be provided by the source within 20 calendar days after a request is received at no more than a nominal cost intended to cover the source's cost of retrieving and duplicating the information. "Practically reviewable" means that

the information is provided by the source in a manner and in a form that, on examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data.

In order to conduct this Phase I ESA, Tetra Tech relied upon information as discussed in the report, which it believes to be reliable. (Please also refer to the Environmental Data Resources, Inc. [EDR] Disclaimer, **Appendix A**).

The observations in the Phase I ESA are based on conditions readily observable during the Subject Property reconnaissance. These observations are typically unable to address conditions of subsurface soil, groundwater, soil vapor, underground storage tanks (UST), surrounding properties, and the like, unless specifically mentioned.

Vapor migration in the subsurface soil is described in “ASTM Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions, Designation E 2600-10” (ASTM 2010). Per ASTM E 1527-13, migration of soil vapor in the subsurface is included under the definition of “migrate/migration”. Vapor migration should be considered when conducting a Phase I ESA. However, per Note 4 from ASTM E 1527-13, nothing in this Standard Practice should be construed to require application of the ASTM E 2600-10 standard to achieve compliance with All Appropriate Inquiries (AAI) (ASTM 2013). Therefore, Tetra Tech did not conduct a Vapor Encroachment Screening as part of this Phase I ESA.

The findings and conclusions presented in this report are based on the procedures described in ASTM Practice E1527-13. This report was prepared based on a review of data, as described therein, in accordance with generally accepted professional practices, applicable to work of similar nature and complexity of similar localities, at the time the services were performed. The scope of this report is limited in nature and intended to provide an evaluation of the current environmental conditions at the Subject Property at the time of the report preparation and does not constitute definitive review of all the potential environmental impairments and situations not otherwise ascertainable from the available information and observation.

It is important to recognize that even the most comprehensive scope of services may not detect all the environmental liabilities at a particular site. Therefore, nothing herein shall be construed as a representation or certification that the Subject Property is either fully characterized or is free of environmental impairments and/or contamination. This Phase I ESA conforms to the level of documentation required in ASTM Practice E1527-13.

Tetra Tech has endeavored to meet what it believes is the applicable standard of care for the services performed and, in doing so, is obliged to advise the *County of Kauai*, via the HDOH HEER Office, of Phase I ESA limitations. Tetra Tech believes that providing information about limitations is essential to help clients identify and thereby manage risks.

This Phase I ESA did not include any sampling with respect to radon, methane, ACM, LBP, or lead in drinking water. This Phase I ESA did not include any inquiry with respect to formaldehyde, endangered species, wetlands, subsurface investigation activities or other services or potential conditions or features not specifically identified and discussed herein. In those instances where additional services or service

enhancements are included in the report as requested or authorized by the client, specific limitations attendant to those services are presented in the text of the report.

This report represents Tetra Tech's service to the *County of Kauai*, via the HDOH HEER Office, as of the report date. In that regard, the report constitutes Tetra Tech's final document, and the text of the report may not be altered in any manner after final issuance of the same. Opinions relative to environmental conditions given in this report are based upon information derived from the Subject Property reconnaissance on August 8, 2018, and from other activities described herein. The *County of Kauai* is herewith advised that the conditions observed by Tetra Tech are subject to change. Certain indicators of the presence of hazardous materials may have been latent or not present at the time of the most recent site reconnaissance and may have subsequently become observable. In similar manner, the research effort conducted for a Phase I ESA is limited.

Further, the services herein shall in no way be construed, designed or intended to be relied upon as legal interpretation or advice.

## **I.5 SPECIAL TERMS AND CONDITIONS**

Tetra Tech makes no warranties or guarantees as to the accuracy or completeness of information obtained from or compiled by outside parties. Information may also exist that was beyond the scope of this investigation, or that was not provided to Tetra Tech, which may have an impact on the conclusions of this report. This Phase I ESA report does not attempt to forecast future Subject Property conditions.

This Phase I ESA report has been conducted and prepared in accordance with generally accepted practices and procedures exercised by reputable professionals under similar circumstances. Tetra Tech makes no other warranties or guarantees, either expressed or implied, as to the findings, opinions, or recommendations contained in the report, or as to the existence or non-existence of RECs, CRECs, HRECs, *de minimis* conditions, or BERs at the Subject Property.

## **I.6 USER RELIANCE**

This report is an instrument of service of Tetra Tech and includes research and a review of specified and reasonably ascertainable information and a reconnaissance of the Subject Property to identify RECs, CRECs, HRECs, and *de minimis* conditions, in general accordance with ASTM E 1527-13. Tetra Tech's Phase I ESA was performed in accordance with generally accepted practices of the profession undertaken in similar studies at the same time and in the same geographical area, and Tetra Tech observed that degree of care and skill generally exercised by the profession under similar circumstances and conditions.

The term "User" is defined in ASTM E 1527-13 as "the party seeking to use Practice E 1527-13 to complete an environmental site assessment of the property. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager". The scope of services and the report have been completed on behalf of and for the exclusive use of the *County of Kauai* solely for their use and reliance in the Phase I ESA of the Subject Property. The *County of Kauai (user)*, via the HDOH HEER Office (*requestor*), is the only party to which Tetra Tech has



explained the risks involved, and which has been involved in the shaping of the scope of services needed to satisfactorily manage those risks, if any, from the *County of Kauai* point of view.

Accordingly, Tetra Tech's findings and opinions related in this report may not be relied upon by any party except for the *County of Kauai* and the HDOH HEER Office without the consent of Tetra Tech. Tetra Tech may be available to contract with other parties to develop findings and opinions related specifically to such other parties' unique risk management concerns related to the Subject Property.

## 2 SITE DESCRIPTION

The location, general characteristics and current use of the Subject Property, as well as the current use of adjoining properties and general vicinity are discussed below.

### 2.1 LOCATION AND LEGAL DESCRIPTION

The Subject Property is located at 4800 Kawaihau Road in Kapaa, Kauai County, Hawaii.

The Subject Property is located within one parcel as described below:

- **Tax Map Key (TMK) (4) 6-014-113:** This parcel is approximately 34 acres and is located on the western coast of Kauai. This parcel is zoned for residential use (County of Kauai 2018).

The Subject Property is currently owned by Hawaii Health Systems Corporation (HHSC). The Subject Property boundaries are depicted on **Figure 2**.

### 2.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The Subject Property is in a mixed use residential and commercial area in Kapaa. Details regarding the Subject Property and vicinity are provided in Sections 2.3 and 2.4, below.

### 2.3 CURRENT AND PAST USES OF PROPERTY

#### *Current*

- The Subject Property is currently developed with a medical center complex that includes an outpatient facility, emergency room, psychiatric ward, long term care ward, and administrative offices. The Subject Property also includes maintenance buildings, a groundskeeping garage, three buildings for staff housing, a former physician's residence, and a former civil defense building that is now used by the Kauai Police as an athletic program center.

#### *Past*

- The Subject Property was developed as one of the first hospitals on Kauai in 1917 (Mahelona Medical Center 2018). Various additions were made to the main hospital building over the years. Prior to being developed as a hospital, the Subject Property was undeveloped land.

### 2.4 DESCRIPTION OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS

The Subject Property is currently developed as 11 buildings, with a medical center complex that includes an outpatient facility, emergency room, psychiatric ward, long-term care ward, and administrative offices. The Subject Property also includes the following: maintenance buildings; a groundskeeping garage; three buildings for staff housing; a former physician's residence; and, a former civil defense building that is now used by the Kauai Police as an athletic program center (Kauai Police Activities League [KPAL]). Two access



roads from Kawaihau Road and Nunu Road provide access to the buildings on the Subject Property. Asphalt parking lots provide parking to the Subject Property buildings. The remainder of the Subject Property consists of manicured grass lawns.

## **2.5 CURRENT AND PAST USES OF ADJOINING PROPERTIES**

Additional detail is provided in Section 4 and electronic copies of the historical aerial photographs and topographic maps are included in **Appendix B**.

### ***Current***

- The Subject Property is surrounded by the following: to the north by Kapaa Elementary School, Kapaa High School, and Hale Hauoli Adult Day Care, with Mailihuna Road and residential development beyond; to the east by a public housing complex, undeveloped land and the Kauai Fire Station #8, with Kuhio Highway and the Pacific Ocean beyond; to the south by undeveloped land, with residential development beyond; to the west by Kawaihau Road, with residential development beyond.

### ***Past***

- The surrounding area has been used for residential and commercial development since sometime between 1910 and 1950.

## **2.6 PHYSICAL SETTING**

The physical setting and general characteristics of the Subject Property were determined by the various supplemental reports and documents provided by EDR (EDR 2018a, 2018c, and 2019f). EDR is the leading provider of environmental risk information in the United States. Various other references were also reviewed for this section of the report and are cited accordingly.

### **2.6.1 Topography**

The general location of the Subject Property is shown on the 2013 USGS 7.5-minute topographic map of Kapaa. The contour lines on the 2013 topographic map indicated that elevations in the Subject Property vicinity are approximately 118 feet above mean sea level. The Subject Property's topography is generally flat, with a slope to the southeast toward the Pacific Ocean. The general topographic gradient decreases to the southeast, towards the Pacific Ocean (EDR 2018d).

### **2.6.2 Soils and Geology**

According to the EDR report, soil at the Subject Property consists primarily of Lihue silty clay. The natural drainage class for Lihue silty clay is well-drained and this soil is not considered hydric. This soil series has moderate infiltration rates (EDR 2018a).

### **2.6.3 Water Wells**

Tetra Tech reviewed water well information for the Subject Property provided by EDR (EDR 2018a). According to the EDR Report, 15 state water wells and seven (7) federal water wells were identified within a 1-mile radius of the Subject Property. No federal public water supply system wells were identified within 1 mile of the Subject Property. Tetra Tech reviewed information regarding these 22 water wells. None of the well listings revealed any potential concerns. It is Tetra Tech's opinion that the water wells identified do not represent RECs, CRECs, HRECs, or BERs. Additional details pertaining to the identified water wells are found within the EDR Report (**Appendix A**) (EDR 2018a).

### **2.6.4 Hydrology**

Tetra Tech reviewed hydrology information for the Subject Property. According to "Aquifer Identification and Classification for the Island of Kauai" (Mink and Lau 1992), one aquifer underlies the Subject Property. The aquifer is in the Anahola Aquifer System of the Lihue Sector. The aquifer is "high level" and does not have contact with seawater, is unconfined, and is in a perched lithology. The aquifer has potential use for drinking water purposes, and is considered drinking water. The water in the aquifer is considered fresh water with less than 250 milligrams per liter (mg/L) of chloride, is considered irreplaceable, and has a high vulnerability to contamination (Mink and Lau 1992).

The entire Subject Property is located on the seaward side (makai) of the underground injection control (UIC) line. The UIC line was established by the HDOH Safe Drinking Water Branch (SDWB) to protect groundwater resources. Groundwater inland (mauka) of the UIC line is considered a potential drinking water source. Groundwater seaward (makai) of the UIC line is considered non-potable and saline. Injection wells are prohibited inland of the UIC line (HDOH SDWB 2018).

Based on topography, the inferred groundwater flow direction is expected to be to southeast, toward the Pacific Ocean. The local gradient and groundwater flow direction under the Subject Property may be influenced naturally by zones of higher or lower permeability, tidal fluctuations, and other factors. Information available in the EDR Report and other available historical references did not indicate direction of groundwater flow in the vicinity of the Subject Property.

### **2.6.5 Floodplain and Zoning Information**

Tetra Tech accessed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) website on November 19, 2018. The Subject Property was identified on a panel (Map Number: 1500020210F and 1500020204F, dated November 26, 2010) that was readily available from the FEMA website. According to the FEMA website, the Subject Property is located in an area of minimal flood hazard (FEMA 2018).

### **3 USER PROVIDED INFORMATION**

This section discusses information provided by the User, the *County of Kauai*, relevant to the goals of this Phase I ESA.

#### **3.1 TITLE RECORDS**

Title record information was not reviewed by Tetra Tech as part of this Phase I ESA. Pursuant to our proposal, it is the responsibility of the User to provide title record information for review. No title record information was provided to Tetra Tech by the *County of Kauai*, via the HDOH HEER Office.

An environmental lien search was ordered for the subject property from EDR, and a copy of the current title is in Appendix E. The subject property was transferred to Hawaii Health Systems Corporation from Benjamin J. Cayetano, Governor of Hawaii in 2000.

#### **3.2 ENVIRONMENTAL LIENS AND ACTIVITY AND USE LIMITATIONS**

Pursuant to our proposal, it is the responsibility of the User to provide environmental liens or AULs information for review. No environmental liens or AULs were identified for either Subject Property parcel in the search performed by EDR (EDR 2018b).

#### **3.3 SPECIALIZED KNOWLEDGE**

The *County of Kauai*, via the HDOH HEER Office, did not provide any specialized knowledge to Tetra Tech during the preparation of this Phase I ESA report.

#### **3.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION**

The *County of Kauai*, via the HDOH HEER Office, provided Tetra Tech with information concerning the Subject Property location. This information was incorporated into this Phase I ESA report. The *County of Kauai* did not provide any additional commonly known or reasonably ascertainable information to Tetra Tech during the preparation of this Phase I ESA report.

#### **3.5 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES**

In a transaction involving the purchase of a parcel of commercial real estate, the User shall consider the relationship of the purchase price of the property to the fair market value of the property if the property was not affected by hazardous substances or petroleum products. No analysis of land value was conducted by Tetra Tech as part of this Phase I ESA report, and no land value information was provided to Tetra Tech.

### **3.6 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION**

Tetra Tech conducted interviews with personnel knowledgeable about the Subject Property operations and history. Refer to Section 6 for more details on these interviews.

### **3.7 REASON FOR PERFORMING PHASE I**

This Phase I ESA report was completed to inform *County of Kauai* of potential environmental liabilities associated with the Subject Property prior to converting the property to affordable housing.

### **3.8 PREVIOUS ENVIRONMENTAL REPORTS/OTHER REPORTS**

Mr. John Pimental, SMMC Facilities Director, provided Tetra Tech with several reports regarding the Subject Property. These reports are summarized below:

Tetra Tech reviewed the asbestos and lead survey report conducted at the Subject Property in 2011 by EnvironMETeo Services, Inc. (EMET). The survey only included the roof of the Main Hospital Building (wing C), covered lanai roof, covered walkways roof, and medical center and specialty clinic roof (EMET 2011).

The survey identified the following ACM:

- Main hospital building (Wing C) lower roof.
  - Approximately 200 square feet (SF) of grey patch/sealant, found at the roof vents, vents through roof (VTR), gravity ventilators, roof penetrations, and pitch pockets.
- Main hospital building (Wing C) upper roof.
  - Approximately 10 SF of grey patch/sealant, found around the base of the exhaust fan and in two patches at the northeast end of the assembly roof.
- Medical Center and Specialty Clinic roof.
  - Approximately 100 SF of grey patch/sealant, found at exhaust fans, roof vents, and VTRs.

The survey identified the following lead-based paint:

- Main hospital building (Wing C) roof.
  - Beige painted concrete wall between the lower and upper roof.
- Medical Center and Specialty Clinic roof
  - Off-white painted air conditioning ducts.

Tetra Tech reviewed the *Environmental Consultation Services During the Removal of Asbestos-Containing Materials Report*, prepared for the Subject Property in 2015 by Bureau Veritas North America, Inc. (BVNA).

From August 18, 2014 to September 19, 2014, BVNA provided contractor oversight and collected air samples during the removal of asbestos containing thermal system insulation (TSI) located on pipes in the office hallways, kitchen pantry, exterior men's and women's restrooms, the former laundry room, boiler room, along the exterior wall next to the kitchen, and under the walkway on the north side of the Central Court (BVNA 2015).

Tetra Tech reviewed the *Limited Asbestos Sampling and Analysis Report*, prepared for the Subject Property in 2018 by ENPRO Environmental (ENPRO). The survey was limited to the Clinic Wing of the main hospital building prior to renovation activities. According to the report, ACM was identified in the mastic associated with floor tile in the kitchen and in the concrete masonry units (CMU) in the pocket door opening in the kitchen (ENPRO 2018).

Tetra Tech reviewed the UST closure report for the Subject Property prepared by Environmental Risk Analysis LLC (November 2018). According to the closure report, one 10,000-gallon fiberglass diesel fuel tank was closed at the Subject Property on September 21, 2018. On October 2, 2018, approximately 3,700 gallons of remaining diesel were removed, and, on October 4, 2018, the interior of the tank was cleaned and purged of vapors. After cleaning the UST, the tank shell was examined and found to be in excellent condition with no holes or perforations. The piping connecting the UST to the nearby aboveground day tank was disconnected and capped. The old piping was flushed to remove residual product, removed from the ground, and properly disposed. Soil samples were collected from beneath the tank and piping. Total petroleum hydrocarbons (TPH)-Oil Range Organics was detected under the piping system at concentrations below the HDOH Environmental Action Level (EAL) for unrestricted land use. No other contaminants were detected. The UST was filled with concrete, and all piping connections were cut and capped. No further investigation of potential contamination was required, and the UST closure was completed in accordance with HDOH guidance (Environmental Risk Analysis LLC 2018). A copy of the closure report is also included in **Appendix C**.

### **3.9 OTHER INFORMATION**

The ASTM E1527-13 standard requires that the User of the Phase I ESA provide certain information for incorporation into the Phase I ESA report. Therefore, in order to meet the AAI rule, *County of Kauai* representatives were contacted, via the HDOH HEER Office, to provide responses to the ASTM E1527-13 User Questionnaire that is included in **Appendix C**. The User Questionnaires are discussed in Section 6.2.

## 4 RECORDS REVIEW

The objective of the records review is to develop an understanding of the history of the previous uses of the Subject Property and surrounding area to identify the likelihood of past uses or activities that would result in RECs, CRECs, HRECs, or BERs. The records reviewed for the Subject Property were determined by the various supplemental reports and documents provided by EDR. Copies of the EDR report are provided in **Appendices A, C, D, F, and G**. Various other references were also reviewed for this section of the report and are cited accordingly.

### 4.1 HISTORICAL USE INFORMATION

#### 4.1.1 Ownership Information

The Subject Property is located within one parcel (TMK: (4) 6-014-113) that is currently owned by the Hawaii Health Systems Corporation. Additional information regarding this TMK was previously discussed in Section 2.1.

#### 4.1.2 Review of Aerial Photographs

Available aerial photographs depicting development of the Subject Property and vicinity were provided by EDR (EDR 2018g). Tetra Tech reviewed the historical aerial photographs indicated in Table 1, below, to assess Subject Property history and use.

**Table 1 – Aerial Photographs Reviewed**

DATE	SOURCE AND SCALE (INCH TO FEET)
1950	EDR. 1:500
1959	EDR. 1:500
1960	EDR. 1:500
1975	EDR. 1:500
1978	EDR. 1:500
1992	EDR. 1:500
<b>Notes:</b> EDR      Environmental Data Resource, Inc.	

Review of the historical aerial photographs indicates that the main hospital building was constructed by 1950. Several other buildings were present east, southeast (near current staff housing), and southwest of the main hospital building in 1950. By 1959, the buildings immediately east and southwest of the hospital building have been demolished. The former physician's residence was constructed on the southwest portion of the Subject Property, and a wing on the north side of the main hospital building were constructed between 1950 and 1959, respectively. The current outpatient clinic wing was constructed

between 1960 and 1975. The current maintenance shop building appears to have been constructed between 1975 and 1978. The current groundskeeping garage and current Hoola Lahui clinic appears to have been constructed between 1978 and 1992. It appears that the buildings near the current staff housing buildings were being demolished in the 1992 aerial photograph; however, details are difficult to distinguish due to the image quality.

The Subject Property appears to be surrounded by a mix of residential and commercial structures in all directions. It appears that two retention ponds are visible east of the Subject Property from 1978 to 1992.

None of these features appear to constitute a REC, CREC, HREC, or BER to the Subject Property. The aerial photographs can be found in **Appendix B**.

### 4.1.3 City Directories

City directories include listings of residents, businesses, and professional concerns organized alphabetically by name (similar to a telephone book). City directories have been published for major cities and towns across the U.S. since the 19<sup>th</sup> century. City directories published in the 20<sup>th</sup> century included a street index for each street address during a year. City directories are a valuable source of historical information with regard to property tenancy and use. Available city directories for the Subject Property and vicinity were provided by EDR (EDR 2018e). A copy of the City Directory Report is provided in **Appendix D**.

EDR's City Directory Report includes a search of available city directory data at 5-year intervals. The Subject Property was identified in all of the city directories provided by EDR. Table 2 below summarizes non-residential listings identified in the city directory information provided by EDR.

**Table 2 – City Directory Review Summary**

DATE	ADDRESS	PROPERTY USE
<b>Subject Property</b>		
1992	4800 Kawaihau Road	State of Hawaii, Serenity House Inc.
1995	4800 Kawaihau Road	Civil Defense Agency Kauai, State of Hawaii, Ka-ea-hou hospice, Serenity House Inc.
2000	4800 Kawaihau Road	Hawaii Department of Health
2005	4800 Kawaihau Road	East Kauai Walk-in Clinic, Hawaii Department of Health
2010	4800 Kawaihau Road	East Kauai Walk-in Clinic, Hawaii Department of Health
2014	4800 Kawaihau Road	Flores, Jason A, Odam, Caleb, Tanigawa, Louisa H
<b>Surrounding Properties</b>		
1992	4886 Kawaihau Road	Kapaa Elementary School
1995	4886 Kawaihau Road	Kapaa Elementary School
2000	5421 Kawaihau Road	Manny's Repair Service Inc.
2005	5421 Kawaihau Road	Manny's Repair Service Inc.

DATE	ADDRESS	PROPERTY USE
2010	5685 Kawaihau Road	Manny's Repair Service Inc.
2014	5685 Kawaihau Road	Manny's Repair Service Inc.
2005	6855 Kawaihau Road	L&B Country Store and Tack
2005	5611 Kawaihau Road	Atsuka S Home Center, Furniture & Appliance warehouse, Otsuk Sales & Services LTD
2010	5470 Kawaihau Road	Garden Isle Paining Co.
2014	5470 Kawaihau Road	Garden Isle Paining Co.
2010	5370 Kawaihau Road	Crop Production Services, Inc.
<b>Note:</b> Listings with the same address are shaded together.		

None of the listed facilities in the city directories appear to constitute a REC, CREC, HREC, or BER to the Subject Property.

#### 4.1.4 Review of Topographic Maps

Available topographic maps depicting development of the Subject Property and vicinity were provided by EDR (EDR 2018d). Tetra Tech reviewed historical topographic maps indicated in Table 3, below, to assess Subject Property history and use.

**Table 3 – Topographic Maps Reviewed**

DATE	USGS QUADRANGLE/MINUTE/SCALE
1910	Kapa'a. Series 7.5. Scale 1:31,680
1963	Kapa'a. Series 7.5. Scale 1:24,000
1983	Kapa'a Series 7.5. Scale 1:24,000
1996	Kapa'a. Series 7.5. Scale 1:24,000
2013	Kapa'a. Series 15. Scale 1:24,000
<b>Notes:</b> USGS U.S. Geological Survey	

The following findings were noted based on review of the topographic maps:

- The topography of the Subject Property and surrounding area appears to slope southeast toward the Pacific Ocean.
- The 1910 topographic map shows the Subject Property as undeveloped land. Kapaa School is depicted northwest of the Subject Property. Residential structures and the town of Kapaa are depicted south of the Subject Property.



- The 1963 topographic map shows the Subject Property is depicted as a hospital, with several other structures on the property to the northeast, east, southeast and southwest of the hospital building. The surrounding areas appear to be a mix of residential and commercial development.
- The 1983 topographic map is similar to the 1963 map with regard to the Subject Property and surrounding area. Two retention ponds are depicted east of the Subject Property.
- The 1996 topographic map is similar to the 1983 map with regard to the Subject Property and surrounding areas. No structures are depicted on this map.
- The 2013 topographic map is similar to the 1996 map with regard to the Subject Property and surrounding areas. No structures are depicted on this map.

No features were identified that appear to constitute a REC, CREC, HREC, or BER to the Subject Property. The topographic maps can be found in **Appendix B**.

## **4.1.5 Additional Sources**

### **4.1.5.1 SANBORN FIRE INSURANCE MAPS**

Sanborn Fire Insurance Maps are detailed drawings that show the locations and uses of structures on a property during specific years. Insurance companies originally used these maps to assess fire risk, but they are now a valuable source of historical and environmental risk information. Sanborn Fire Insurance Maps typically exist for cities with populations of 2,000 or more. Available Sanborn maps depicting the Subject Property and vicinity were provided by EDR (EDR 2018c). Tetra Tech reviewed Sanborn Fire Insurance Maps from 1975, 1981, and 1990 to assess Subject Property history and use.

- The 1975 Sanborn map shows the Subject Property depicted as Samuel Mahelona Hospital. The surrounding area is not depicted, as the Subject Property is an inset on the map.
- The 1981 Sanborn map is similar to the 1975 map with regard to the Subject Property.
- The 1990 Sanborn map is similar to the 1981 map with regard to the Subject Property.

No features were identified that appear to constitute a REC, CREC, HREC, or BER to the Subject Property. The Sanborn maps can be found in **Appendix D**.

### **4.1.5.2 PROPERTY TAX FILES AND MAPS**

Property tax files and maps are a valuable source of historical information with regard to property ownership and can indicate potential Site use. However, EDR did not have any property tax map coverage for the Subject Property (EDR 2018h). A copy of the correspondence from EDR that indicates lack of coverage is included in **Appendix E**.

According to the County of Kauai (County of Kauai 2018), the Subject Property (TMK (4) 6-014-113) is owned by Hawaii Health Systems Corporation. A copy of this document is included in **Appendix F**.

#### **4.1.5.3 BUILDING PERMITS**

Building permit records are a valuable source of historical information with regard to the types of structures and other site improvements present. EDR identified various building permit records for the Subject Property and adjoining properties (EDR 2018f). All of the building permit records for the Subject Property and adjoining properties were for demolition, sign application, electrical, plumbing, fire inspections, and construction. No RECs, CRECs, HRECs, or BERs were identified in the review of building permits. A copy of the building permit report is included in **Appendix G**.

#### **4.1.6 Historical Summary**

Review of historical information, as presented in Sections 4.1.1 through 4.1.5, did not reveal any RECs, CRECs, HRECs, or BERs on the Subject Property.

### **4.2 REGULATORY REVIEW**

Regulatory information from the federal and state environmental databases was reviewed to determine whether USTs, hazardous waste generation, or hazardous material releases have been reported at the Subject Property or surrounding properties. The federal and state database information was provided in the EDR Report and is reportedly the most recent available from each agency (EDR 2018a). A copy of this report is included as **Appendix A**.

The environmental database information for the Subject Property and surrounding properties was reviewed and is summarized in this section. All databases reviewed in the EDR report were, in Tetra Tech's opinion, determined to be sufficiently complete and current to serve as the basis for Tetra Tech's opinions (EDR 2018a).

EDR performed a database search of an approximation of the Subject Property in accordance with the ASTM E 1527-13. A copy of this report is included as **Appendix A**.

A summary of the listings queried by EDR, the corresponding ASTM minimum search distances for each respective listing, and the date of the last government version of each listing is provided in the EDR report presented in **Appendix A**. **Appendix A** also provides a map showing the location of the Subject Property and sites identified in the EDR Report. It should be noted that this information is generally reported as it was received from EDR, with corrections where site visit information assisted in locating facilities. EDR obtains its data from the range of government databases listed in the report.

Tetra Tech reviewed the EDR Report for the Subject Property and sites within the ASTM minimum search for several representative databases. The ASTM standard allows for adjustment to the approximate minimum search distance at the discretion of the environmental professional. Factors for this adjustment can include the distance the hazardous substance or petroleum product is likely to migrate based on local geologic or hydrogeologic conditions, the property types, existing or past uses of the surrounding properties, and other reasonable factors. Tetra Tech considered these and other factors when including the adjacent or nearby properties identified by the EDR Radius Map in Table 4, below. For a complete list of all properties identified in the EDR Radius Map and the search distances, refer to **Appendix A**.

**Table 4 – Regulatory Database Information for Nearby Facilities**

FACILITY NAME AND LOCATION	DATABASES	FACILITY DETAILS AND STATUS INFORMATION
Subject Property/Samuel Mahelona Memorial Hospital	HI UST, HI Financial Assurance	<p>The Subject Property is listed on the UST and HI Financial Assurance database for the following: one 10,000-gallon diesel UST, installed in 1985; one 2,500-gallon UST, with unknown contents, installed in 1951; and, one 600-gallon gasoline UST installed in 1951. Both the 2,500-gallon and 600-gallon USTs were listed as “permanently out of use”. At the time of the most recent database update, the 10,000-gallon UST was still listed as in use.</p> <p>However, based on a UST closure report from November 2018 (see Section 3.8), the 10,000-gallon diesel UST was properly emptied and closed with no residual contamination above EALs.</p> <p>Based on the limited amount of information regarding the 600-gallon and 2,500-gallon UST, and a lack of removal/closure documentation, these listings represent a REC to the Subject Property.</p>
Subject Property/Samuel Mahelona Memorial Hospital	HI UIC	<p>The Subject Property is listed on the HI UIC database. The Subject Property has four UIC wells for disposal of sewage. The approval to construct was issued on 2/12/1997. The construction permit expired on 8/11/1997 (permit number: UK-1959).</p> <p>Based on the regulatory status, this listing does not pose a REC to the Subject Property.</p>
Subject Property/Samuel Mahelona Memorial Hospital	RCRA-CESQG, FINDS, ECHO	<p>The Subject Property is listed on the RCRA-CESQG database. The facility received violations in 2001 related to generators of used oil and hazardous waste. The facility achieved compliance for both violations. The Subject Property is listed on the FINDS and ECHO databases for its RCRA listing.</p> <p>Based on the regulatory status, this listing does not pose a REC to the Subject Property.</p>
Subject Property/Samuel Mahelona Memorial Hospital	CA HAZNET	<p>The Subject Property is listed on the CA HAZNET database for hazardous waste transportation in 2001. Hazardous wastes included alkaline solution without metals, liquids with halogenated organic compounds, empty containers (30 gallons or greater), other organic solid waste, and off-specification, aged, or surplus organics.</p> <p>This listing does not on its own pose a REC to the Subject Property.</p>

FACILITY NAME AND LOCATION	DATABASES	FACILITY DETAILS AND STATUS INFORMATION
Subject Property/Samuel Mahelona Memorial Hospital	HI SPILLS	<p>The Subject Property is listed on the HI SPILLS database for the cleanup of abandoned cylinders. The status is listed as no further action.</p> <p>Based on the regulatory status, this listing does not pose a REC to the Subject Property.</p>
Kapaa Elementary School 4886 Kawaihau Road 398 feet north-northwest of the Subject Property Higher Elevation	RCRA-SQG	<p>The facility is on the RCRA-SQG database. No violations were noted for this facility.</p> <p>Based on the regulatory status, the facility does not pose a REC to the Subject Property.</p>
4-1532 Kuhio Highway, Site Assessment Determination 4-1532 Kuhio Highway 0.305 south-southwest of the Subject Property Lower Elevation	HI SHWS	<p>The facility is on the HI SHWS database for benzo(a)pyrene in groundwater. The facility status is No Further Action – unrestricted land use.</p> <p>Based on the cleanup status and crossgradient location from the Subject Property, this listing does not pose a REC to the Subject Property.</p>
Notes: CA California CESQG Conditionally exempt small quantity generator EAL Environmental Action Level ECHO Enforcement and Compliance History Information EDR Environmental Data Resources, Inc. FINDS Facility Index System HAZNET Hazard Network HI Hawaii RCRA Resource Conservation and Recovery Act REC Recognized environmental condition SHWS State Hazardous Waste Site SPILLS Spills Inventory List SQG Small quantity generator UIC Underground Injection Control UST Underground Storage Tank		

Tetra Tech reviewed all of the sites listed in the report. None of the surrounding sites represent a concern to the Subject Property. However, two UST listings for the Subject Property, with lack of closure documentation, represent a REC to the Subject Property, as discussed above. Additional information on these sites is located in the EDR Report in **Appendix A**.

## 4.2.1 Orphan Sites

The EDR listed two orphan sites within the search radius. These are sites for which the records searched do not contain sufficient address or location information to evaluate their locations relative to the search radius.

After further review, it was determined that one orphan site is located within 1 mile of the Subject Property. The Kapaa Landfill Facility is 0.87 mile southwest of the Subject Property. The facility is listed on the HI State Hazardous Waste Site (SHWS) database. The facility received a No Further Action letter. Based on the regulatory status and crossgradient location from the Subject Property, this listing is not considered to represent a REC to the Subject Property.

The Pono Cleaners Facility is 0.97 mile south-southwest of the Subject Property. The facility is listed in the HI Drycleaners database, but has no further information. Based on the separating distance and crossgradient location from the Subject Property, this facility is not considered to represent a REC for the Subject Property.

#### **4.2.2 Environmental Liens and Activity Use Limitations**

An EDR Environmental Lien and AUL Search Report was completed for the Subject Property by EDR (EDR 2018b). It is included in **Appendix E**. No environmental liens or AULS were identified for the Subject Property.

## 5 SITE RECONNAISSANCE

Site reconnaissance included observation of surface characteristics, structures and improvements, surrounding properties, and general conditions to identify visual indications of present or past activities that have or could have contaminated the Subject Property.

A reconnaissance of the Subject Property was conducted on November 7, 2018, by Mr. Aaron Ungerleider of Tetra Tech. Mr. Ungerleider was accompanied by Mr. John Pimental, SMMC Director of Facilities, and Mr. Joe Arruba, Building Maintenance Foreman. Observations made during the Subject Property visits were recorded in field notes and are summarized in the subsections below. Photographic documentation of the Subject Property reconnaissance is presented in **Appendix H**.

### 5.1 METHODOLOGY AND LIMITING CONDITIONS

Permission to access the Subject Property was granted by Ms. Melody Calisay, HDOH HEER Office.

Observations during the Subject Property reconnaissance were made in an attempt to identify RECs, CRECs, HRECs, *de minimis* conditions, and BERs at the Subject Property and adjoining properties. Tetra Tech only visually observed the improvements associated with the adjoining properties from the exterior.

### 5.2 NO ACCESS AREAS

During the reconnaissance, Tetra Tech was able to access all areas included in the Subject Property, except for:

- The KPAL building, because the site contact did not have access and it could not be scheduled with the Kauai Police Department on the day of the site visit.
- The staff housing buildings, because they were occupied at the time of the site visit.
- The shed on the east side of the groundskeeping garage, the northern portion of the groundskeeping garage, and the maintenance shop, because security and maintenance did not have a key.

However, Tetra Tech was able to see inside the maintenance shop via windows, and there was no evidence of leaks, spills, or bay drains or trench drains. The groundskeeping garage was newer aluminum construction, and appeared to be related to equipment and materials storage. The accessible portions of the groundskeeping garage did not exhibit any activities of concern, or presence of bay or trench drains. Therefore, based upon observations of accessible areas, and general construction and operations, these facilities do not appear to represent a concern to the Subject Property.

### 5.3 GENERAL SITE SETTING AND OBSERVATIONS

The Subject Property encompasses approximately 34 acres. The Subject Property is currently developed with 11 buildings, including the following: a medical center complex that includes an outpatient facility; emergency room; psychiatric ward; long-term care ward; and, administrative offices. The Subject Property also includes the following: maintenance buildings; a groundskeeping garage; three buildings for staff housing; a former physician's residence; and, a former civil defense building that is now used by the KPAL as an athletic program center. Two access roads from Kawaihau Road and Nunu Road provide access to the buildings on the Subject Property. Asphalt parking lots provide parking to the Subject Property buildings. The remainder of the Subject Property consists of manicured grass lawns.

### 5.4 SITE RECONNAISSANCE OBSERVATIONS

Additional details observed during the Subject Property reconnaissance are discussed in the following subsections and documented in photographs presented in **Appendix H**.

#### ***Hazardous Substances and Petroleum Products***

Multiple containers of hazardous substance were observed in the groundskeeping garage, including:

- Approximately 25 containers (5 gallons or less) of industrial cleaners, roofing products, and primers.
- A 55-gallon drum of oil and two 55-gallon drums of diesel.
- 17 drums of water that previously contained detergent.
- Two 30-gallon drums of Condensate TRT (corrosion inhibitor).

All of the containers were in good condition with no signs of leaking, except the oil drum. Minor staining was observed on the wooden pallet and concrete slab beneath the oil drum. The staining surrounding the oil drum appears to be from dispensing or transferring oil, not from a leak. The staining is minor and is considered *de minimis*.

In addition, a temporary 500-gallon diesel aboveground storage tank (AST) used for a backup generator was observed on the north side of the former boiler room.

None of these materials pose a REC to the Subject Property.

#### ***Hazardous Waste***

No hazardous waste was observed on the Subject Property.

#### ***Landfills, Dumps, Burials, or Solid Waste Disposal***

Four solid waste dumpsters were observed on the northwest side of the warehouse, and one dumpster was observed near the grounds keeping garage. The presence of solid waste dumpsters does not pose a

REC to the Subject Property. No other evidence of landfills, dumps, burials, or solid waste disposal was observed on the Subject Property.

#### ***Underground Storage Tanks***

According to Mr. Arruba, one approximately 3,000-gallon empty UST (likely the 2,500-gallon UST identified in the EDR) is located on the northwest corner of the former boiler room. Mr. Arruba indicated that the tank has been empty and not in use for the past 39 years that he has worked at the facility. A former 10,000-gallon diesel UST was cleaned, filled, and closed on the north side of the former boiler room and laundry room in September and October 2018. According to the closure report from November 2018, the UST was properly closed, and no contamination was identified exceeding the HDOH EALs (see **Appendix C**).

According to EDR, a 600-gallon gasoline UST was also present on the Subject Property. Mr. Aruba was unaware of this UST, and no evidence of the UST was observed during the site reconnaissance.

Therefore, the potential of two USTs (a 600-gallon and a 2,500-gallon UST) with no documentation regarding condition or proper closure represents a REC for the Subject Property.

#### ***Aboveground Storage Tanks***

A temporary 500-gallon diesel AST used for a backup generator was observed on the north side of the former boiler room. An approximately 500-gallon propane AST was observed on the east side of the long-term care ward. Both ASTs appeared to be in good condition with no signs of leaking and do not pose a REC to the Subject Property.

According to Mr. Arruba, there was a former approximately 500-gallon gasoline AST on the southeast corner of the maintenance shop that was used to fuel maintenance vehicles. No staining or other evidence of the AST was observed during the site reconnaissance. Therefore, the presence of the former AST does not pose a REC to the subject Property.

#### ***Drums or Other Containers***

Drums and other containers were discussed previously.

#### ***Equipment Containing Polychlorinated Biphenyls***

Two pad-mounted transformers were observed, one on the west side of the warehouse and one inside the warehouse building on the Subject Property. No labels were observed on the transformers; however, both appeared to be newer with no evidence of staining or leaks. The presence of the transformers does not pose a REC to the Subject Property.

#### ***Heating / Cooling Systems and Fuel Source***

Pad-mounted air conditioning systems were observed in the Subject Property buildings. The presence of a heating, ventilation and air conditioning (HVAC) system is not considered to pose a REC to the Subject Property.



***Drains, Sumps, Cisterns, Cesspools***

A large floor drain was observed in the former laundry room. The specific details regarding the laundry operations, were not available; however, it was reported that on-site laundering was discontinued and is now performed off-site. Typically, a facility of this nature would utilize traditional laundering methods. The floor drain would be expected to catch overflow from the washing machines should that occur, and is not expected to represent a concern to the Subject Property.

There were no other drains, sumps, cisterns, or cesspools observed during site reconnaissance.

***Pits, Ponds, Lagoons***

A large pit was observed in the pump house which used to house a pump which directed diesel fuel to the emergency generator. The pump is no longer present. The bottom of the pit appeared to be dry and there was no a petroleum stain or odor present; therefore, the pit does not represent a concern to the Subject Property.

There were no other pits, ponds, or lagoons observed during site reconnaissance.

***Stains or Corrosion on Soil or Pavement***

Minor staining was observed on the wooden pallet and concrete slab beneath the 55-gallon drum of oil in the grounds keeping garage. The staining surrounding the oil drum appears to be from dispensing or transferring oil, not from a leak. The staining is minor and is considered *de minimis*.

***Areas of Dead, Distressed, Discolored or Stained Vegetation***

No areas of dead, distressed, discolored, or stained vegetation that may be indicative of RECs were observed on the Subject Property.

***Possible Fill or Grading***

Grading was likely done during the development of the parcel. Grading during construction of the Subject Property does not pose a REC to the Subject Property.

***Chemical, Petroleum, or other Noxious Odors***

No odors were detected at the time of site reconnaissance.

***Wastewater / Stormwater***

Stormwater drains were not observed on the Subject Property.

Wastewater is conveyed in subsurface sewer lines to the city sewer. According to Mr. Arruba, the Subject Property previously utilized a private wastewater treatment plant, which was in the off-site location of the current fire station, on the parcel adjacent to the east of the Subject Property. No information was available as to when the Subject Property was connected to city sewer, or how long the private wastewater treatment system operated. However, given the general nature of the facility, a private

wastewater treatment system and associated permitted injection wells is not expected to represent a concern to the Subject Property.

#### ***Wells and Potable Water Supply***

Water wells were not observed at the Subject Property. Potable water is provided by the City. According to EDR, four underground injection control wells were installed on the Subject Property in 1997. The wells were not observed during the site reconnaissance and, as discussed above, are not expected to represent a concern to the Subject Property based upon the nature of the historic operations (hospital use).

## **5.5 VICINITY RECONNAISSANCE**

Site vicinity reconnaissance identified the following:

- **To the north:** Kapaa Elementary School, Kapaa High School, Hale Hauoli Adult Day Care with Mailihuna Road and residential development beyond;
- **To the east:** a public housing complex, undeveloped land and the Kauai Fire Station #8, with Kuhio Highway and the Pacific Ocean beyond;
- **To the south:** undeveloped land, with residential development beyond;
- **To the west:** Kawaihau Road, with residential development beyond.

## **5.6 NON-SCOPE ITEMS**

### **5.6.1 Asbestos-containing Materials**

The Subject Property buildings were constructed prior to 1950, and ACM was likely used in their construction. The following materials were observed during the site reconnaissance: drywall, plaster, lay-in acoustical ceiling tiles, sink undercoats, cove base, ceramic tiles, carpet, and floor tiles with associated mastics, door and window caulking, and asphalt roofing.

An asbestos survey from 2011 identified ACM on the roofs of the main hospital building (Wing C) and the medical center specialty clinic. Asbestos abatement occurred on the TSI on pipes from areas throughout the main hospital building in 2014 and from floor tile (and associated mastic) and CMU from the kitchen in the main hospital building in 2018. These reports are discussed in detail in Section 3.8. Presence and likely presence of ACM in the Subject Property buildings poses a BER to the Subject Property.

### **5.6.2 Lead-based Paint**

The Subject Property buildings were constructed prior to 1950 and LBP was likely used in their construction. An LBP survey from 2011 identified LBP on the concrete wall on the main hospital building (Wing C) roof and the air conditioning ducts on the medical center and specialty clinic roof. These reports are discussed in detail in Section 3.8. Presence and likely presence of LBP in the Subject Property buildings poses a BER to the Subject Property.

### 5.6.3 Radon

Radon assessment is not included in the scope of ASTM E 1527-13 and radon sampling was not conducted as part of this investigation; however, readily available radon information is presented in this section. Radon is a naturally occurring radioactive gas created by the natural decay of uranium and thorium. Geologic materials containing elevated levels of uranium, such as granite and shale, are potential sources of radon gas. Radon is odorless, tasteless, and invisible. Radon gas is lighter than air, migrates upward in soil, and tends to accumulate in homes and other structures with poor ventilation. Radon especially tends to accumulate in basements and first-floor areas of buildings. High concentrations of radon gas correlate positively with increased incidence of lung cancer in those exposed to the gas.

The EPA has established a radon concentration of 4.0 pico-Curies per liter (pCi/L) of air as the recommended residential action level for additional testing or for radon mitigation. The EPA has established three zones for radon potential and has assigned a zone for all U.S. counties. According to information on radon concentrations contained in the EDR, Kauai County, Hawaii, is in U.S. Environmental Protection Agency (EPA) Radon Zone 3. Zone 3 has the lowest potential for radon concentrations, with the predicted average indoor radon screening level less than 2 pCi/L. Based on four sites tested near the Subject Property, 100% of the first-floor samples were below 4.0 pCi/L. Second floor and basement samples were not reported.

Based on the fact that the Subject Property is located in EPA Radon Zone 3, it is Tetra Tech's opinion that potential naturally occurring radon gas exposure is not likely to constitute an environmental or health concern at the Subject Property.

## **6 INTERVIEWS**

### **6.1 INTERVIEWS WITH OWNER**

Tetra Tech was not provided contact information for the owner of the Subject Property; therefore, the owner was not interviewed. Tetra Tech's inability to interview the current owner of the Subject Property does not impact Tetra Tech's ability to render an opinion regarding potential RECs, HRECs, or CRECs.

### **6.2 INTERVIEWS WITH PROPERTY MANAGERS**

Tetra Tech interviewed the property manager, Mr. Pimental, SMMC Director of Facilities, and Mr. Arruba, Building Maintenance Foreman, during the site reconnaissance. Mr. Pimental and Mr. Arruba provided information that is included throughout Section 5.0 and completed a user questionnaire (**Appendix C**).

Tetra Tech also sent a user questionnaire to Ms. Calisay, HDOH HEER Office, to provide to the County of Kauai, for additional information regarding the Subject Property. Tetra Tech received the User Questionnaire completed by Lee Steinmetz, Kauai County Transportation Planning Officer, dated December 10, 2018. The completed questionnaire is presented in Appendix C. The questionnaire indicates that the property is considered "ceded lands", but the implications as related to future use were unknown. The questionnaire also states that lead and asbestos are likely to be present, based upon the age of the facility, and that a "diesel tank" is present on the Subject Property. No further details were provided.

### **6.3 INTERVIEWS WITH OCCUPANTS**

Mr. Pimental and Mr. Arruba were the on-site personnel interviewed, as discussed above in Section 6.2, above.

### **6.4 INTERVIEWS WITH LOCAL GOVERNMENT OFFICIALS**

Tetra Tech contacted the HEER Office and Solid and Hazardous Waste Branch (SHWB) by email on November 5, 2018, to determine if they have on file any available environmental regulatory files or reports for the Subject Property. The HEER Office responded on November 8, 2018, with records for the Subject Property. The files included the consent for access agreement for the Target Brownfields Assessment and email correspondence regarding building information for the TBA (see **Appendix C**).

Tetra Tech received a partial SHWB review. The SHWB provided UST records via email on November 30, 2018, and indicated there were no Leaking UST records for the Subject Property. Hazardous Waste Branch records could not be emailed, and will require separate review by Tetra Tech. The only records provided were related to the former 10,000-gallon diesel fuel UST, including inspection citations for inability to produce records at time of the inspection, as well as inadequate release detection monitoring. However, the UST was properly closed in October 2018, with post-closure samples indicating no exceedances of HEER Office EALs for unrestricted use. Therefore, the former 10,000-gallon diesel UST does not represent

a REC to the Subject Property. However, there were no records available for the 2,500-gallon and 600-gallon USTs identified in the EDR report. The SHWB records are included in **Appendix C**.

Tetra Tech subsequently received a response from the SHWB that there were no Solid Waste Branch records, but Hazardous Waste Branch Records were available for review. On December 7, 2018, Tetra Tech reviewed available Hazardous Waste Branch records. The Hazardous Waste Branch (HWB) records included a Warning Letter issued by the SHWB based upon a March 28, 2001 Hazardous Waste and Used Oil Compliance Evaluation Inspection. The inspection identified housekeeping issues related to storage of unknown paint related materials, unlabeled used oil drums and containers, surface staining near the paint shed related to referenced storage activities, and a used transformer which required disposal. The SMMC subsequently provided documentation, dated June 27, 2001 and August 1, 2001, regarding proper disposal and management of the deficiencies noted in the March 28, 2001 inspection, including disposal manifest documentation. The SHWB issued a "Return to Compliance" letter, dated August 8, 2001, stating that all compliance issues had been adequately addressed. HWB Documentation reviewed is included in **Appendix C**.

## **6.5 INTERVIEW WITH OTHERS**

No other interviews were performed for this ESA.

## 7 DATA GAPS

This section summarizes the data gaps related to the Subject Property that were identified during this environmental due diligence report. This report has revealed the following data gaps, as noted below:

- The *County of Kauai*, the User of this Phase I ESA report, did not provide all required user information per ASTM E 1527-13. Specifically, the *County of Kauai* did not provide title record information. As of the date of this report, the *County of Kauai* has not provided a completed User Questionnaire.
- No Sanborn Fire Insurance Maps prior to 1975 were available for review; however, it is Tetra Tech's opinion that this does not represent a significant data gap. The Subject Property was characterized back to 1910 (prior to the property's first development) using historical topographic maps.
- No historical topographic maps prior to 1910 were available for review; however, it is Tetra Tech's opinion that this does not represent a significant data gap. The Subject Property was characterized back to 1910 (prior to the property's first development).
- No historical aerial photographs prior to 1950 were available for review; however, it is Tetra Tech's opinion that this does not represent a significant data gap. The Subject Property was characterized back to 1910 (prior to the property's first development) using historical topographic maps.
- No city directories prior to 1992 were available for review; however, it is Tetra Tech's opinion that this does not represent a significant data gap. The Subject Property was characterized back to 1910 (prior to the property's first development) using historical topographic maps.
- The following areas could not be accessed on the day of Tetra Tech's site inspection:
  - The KPAL building, because the site contact did not have access and it could not be scheduled with the Kauai Police Department on the day of the site visit.
  - The staff housing buildings, because they were occupied at the time of the site visit.
  - The shed on the east side of the groundskeeping garage, the northern portion of the groundskeeping garage, and the maintenance shop, because security and maintenance did not have a key.

However, Tetra Tech was able to view inside the maintenance shop via windows, and there was no evidence of leaks, spills, or bay drains or trench drains. The groundskeeping garage was newer aluminum construction, and appeared to be related to equipment and materials storage. The accessible portions of the groundskeeping garage did not exhibit any activities of concern, or presence of bay or trench drains. Therefore, based upon observations of



accessible areas, and general construction and operations, these facilities do not appear to represent a concern to the Subject Property.

The staff housing buildings, KPAL building, and groundskeeping garage and maintenance shop could not be inspected for the potential presence of suspect ACM, however, based upon the age of construction, the likely presence of suspect ACM and LBP is considered a BER, as with all buildings present at the Subject Property.

## **8 FINDINGS, CONCLUSIONS, AND OPINIONS**

This section summarizes the findings, conclusions, and opinions of this Phase I ESA report. Findings, conclusions, and opinions are summarized as they relate to RECs, CRECs, HRECs, *de minimis* conditions, and BERs.

### **8.1 RECs**

The following REC was identified in connection with the Subject Property:

- According to EDR, the Subject Property is listed on the UST and HI Financial Assurance database for the following: one 10,000-gallon diesel UST, installed in 1985; one 2,500-gallon UST with unknown contents, installed in 1951; and, one 600-gallon gasoline UST, installed in 1951. Both the 2,500-gallon and 600-gallon USTs were listed as permanently out of use. At the time of the most recent database update, the 10,000-gallon UST was still listed as in use.

However, according to a closure report prepared by Environmental Risk Analysis LLC in November 2018, the 10,000-gallon fiberglass diesel fuel tank was closed at the Subject Property in October 2018, with all post-closure samples indicating no exceedances of applicable HDOH Environmental Action Levels (EALs) for unrestricted use.

According to Mr. Arruba, the Building Maintenance Foreman, an approximately 3,000-gallon empty UST (likely the 2,500-gallon UST identified by EDR) is located on the northwest corner of the former boiler room, and has been empty and not in use for the past 39 years that he has worked at the facility. He was not aware of the presence of the 600-gallon gasoline UST.

Based on the limited information available, and the lack of removal/closure documentation for the 2,500-gallon and 600-gallon USTs identified in the EDR Radius Search, the potential presence of two former USTs which may not have been properly abandoned, is considered a REC to the Subject Property.

### **8.2 CRECs**

No CRECs were identified in connection with the Subject Property.

### **8.3 HRECs**

No HRECs were identified in connection with the Subject Property.

### **8.4 DE MINIMIS CONDITIONS**

One *de minimis* condition was identified in connection with the Subject Property:

- During the site reconnaissance, minor staining was observed on the wooden pallet and concrete slab beneath the 55-gallon drum of oil in the grounds keeping garage. The staining surrounding



the oil drum appears to be from dispensing or transferring oil, not from a leak. The staining is minor and is considered de minimis.

## **8.5 BUSINESS ENVIRONMENTAL RISK**

Two BERs were identified in connection with the Subject Property:

- The Subject Property buildings were constructed prior to 1950, and ACMs were likely used in their construction. The following materials were observed during the site reconnaissance: drywall, plaster, lay-in acoustical ceiling tiles, sink undercoats, cove base, ceramic tiles, carpet, and floor tiles with associated mastics, door and window caulking, and asphalt roofing.

An asbestos survey from 2011 identified ACM on the roofs of the main hospital building (wing C) and the medical center specialty clinic. Asbestos abatement occurred on the TSI on pipes from areas throughout the main hospital building in 2014 and from floor tile (and associated mastic) and CMU from the kitchen in the main hospital building in 2018. Presence and likely presence of ACM in the Subject Property buildings poses a BER to the Subject Property.

- The Subject Property buildings were constructed prior to 1950, and LBP was likely used in their construction. A LBP survey from 2011 identified LBP on the concrete wall on the main hospital building (wing C) roof and the air conditioning ducts on the medical center and specialty clinic roof. Presence and likely presence of LBP in the Subject Property buildings poses a BER to the Subject Property.

## **9 DEVIATIONS AND LIMITATIONS**

There were no deviations from ASTM E 1527-13, other than the non-scope considerations discussed in Section 1.2 of this Phase I ESA.

This report was compiled based partially on information supplied to Tetra Tech from outside sources and other information in the public domain. The conclusions and opinions herein are based on the information Tetra Tech obtained in compiling the report. This information is on file at Tetra Tech's office in Honolulu, Hawaii. Tetra Tech makes no warranty as to the accuracy of statements made by others which may be contained in the report, nor are any other warranties or guarantees, expressed or implied, included or intended by the report except that it has been prepared in accordance with the current generally accepted practices and standards consistent with the level of care and skill exercised under similar circumstances by other professional consultants or firms performing the same or similar services. Because the facts forming the basis for the report are subject to professional interpretation, differing conclusions could be reached.

Tetra Tech does not assume responsibility for the discovery and elimination of hazards that could possibly cause accidents, injuries, or damage. Compliance with submitted recommendations or suggestions does not assure elimination of hazards or the fulfillment of client's obligations under local, state, or federal laws or any modifications or changes to such laws. None of the work performed hereunder shall constitute or be represented as a legal opinion of any kind or nature but shall be a representation of findings of fact from records examined.

## **I0 ADDITIONAL SERVICES**

No additional services were performed as part of this scope, beyond the non-scope considerations discussed in Sections 1.1 (BERs), 1.2 (BERs), and 5.6 (ACM, LBP, and Radon) of this Phase I ESA report.

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## 12 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

Mr. Aaron Ungerleider conducted the Subject Property site reconnaissance, and Ms. Kaitlyn Mitchell authored the report. Mr. Ungerleider is an environmental scientist with seven years of experience in performing ESAs. Ms. Mitchell is an environmental scientist with eight years of environmental consulting experience. Mr. Eric Jensen, Operations Manager and Certified Hazardous Materials Manager (CHMM) with 26 years of experience conducting and reviewing ESAs, performed the technical review of the report. The resumes of Mr. Ungerleider, Ms. Mitchell, and Mr. Jensen are included in **Appendix I**.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 Code of Federal Regulations (CFR) 312.10 of this part. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

The following Tetra Tech professionals certify that they participated in the Phase I ESA of this parcel.

- **Site Visit Completed By:**



**Aaron Ungerleider**  
**Environmental Scientist**

- **Report Prepared By:**



**Kaitlyn Mitchell**  
**Environmental Scientist**

- **Reviewed by:**



**Eric M. Jensen, CHMM**  
**Operations Manager**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## FIGURES



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **APPENDICES**





Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix A      EDR Radius Map Report (Regulatory Database Search)**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix B      EDR Historical Aerial Photographs and EDR Historical Topographic Maps**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix C**

## **Interview Documentation**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix D      EDR City Directory Report and EDR Sanborn Maps**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

**Appendix E                      EDR Environmental Lien and AUL Search and Property Tax  
Report**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix F      Additional Information Reviewed**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix G**

## **EDR Building Permit Report**



Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix H      Photographic Log**





Phase I ESA  
Samuel Mahelona Medical Center  
4800 Kawaihau Road  
Kapaa, Kauai, Hawaii

## **Appendix I**

## **Staff Resumes**