

# DHHL Oahu Cesspool Assessment

For  
State of Hawaii, Department of Hawaiian Home Lands  
By Fukunaga and Associates, Inc.

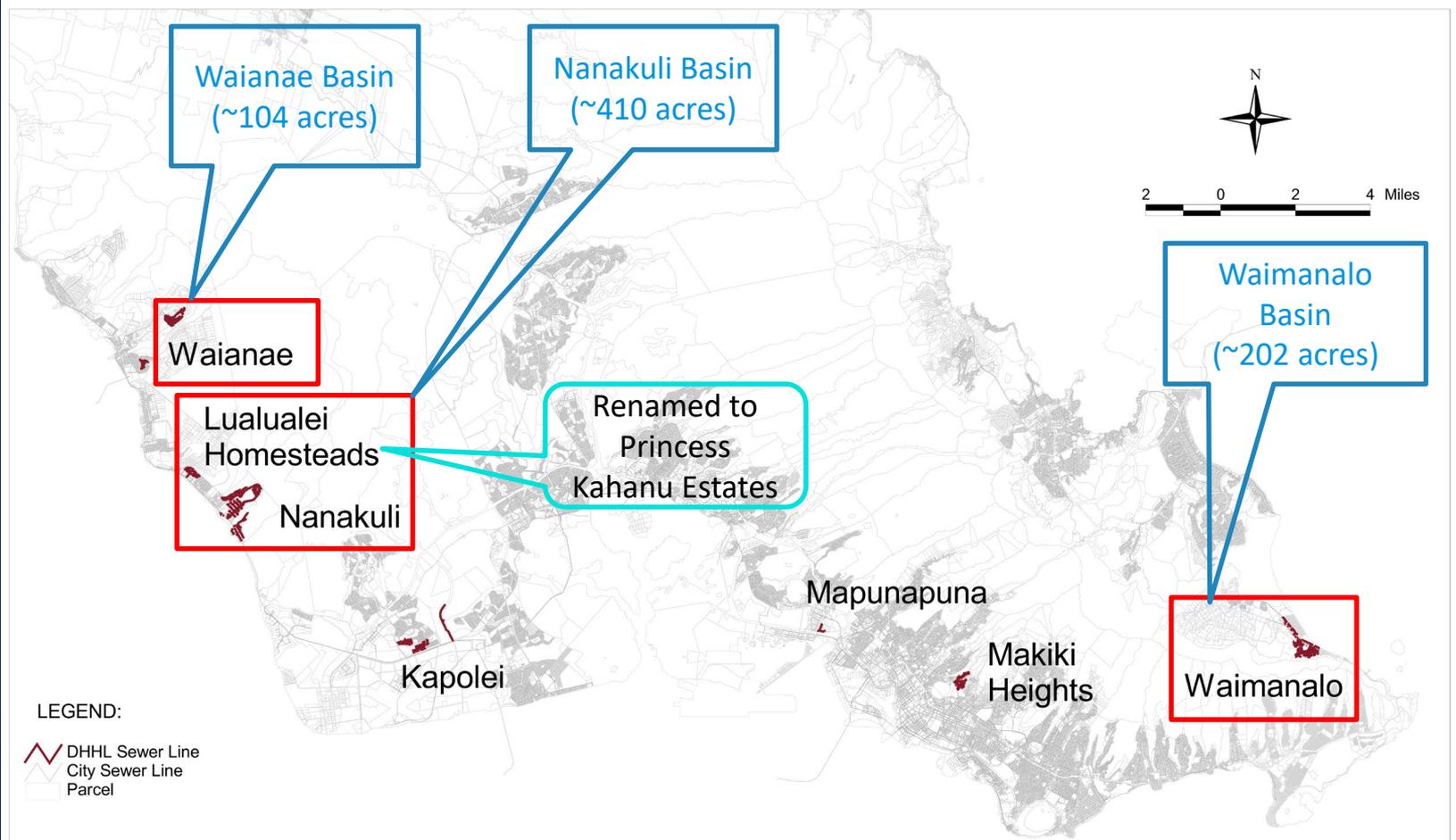
July 22, 2021  
Updated August 24, 2021

# Meeting Agenda

- Project Description
- Project Approach
- Phase I Survey
- Phase II Survey
- Conversion Option Assessment
- Preliminary Schedule and Budgetary Estimates
- Future Work

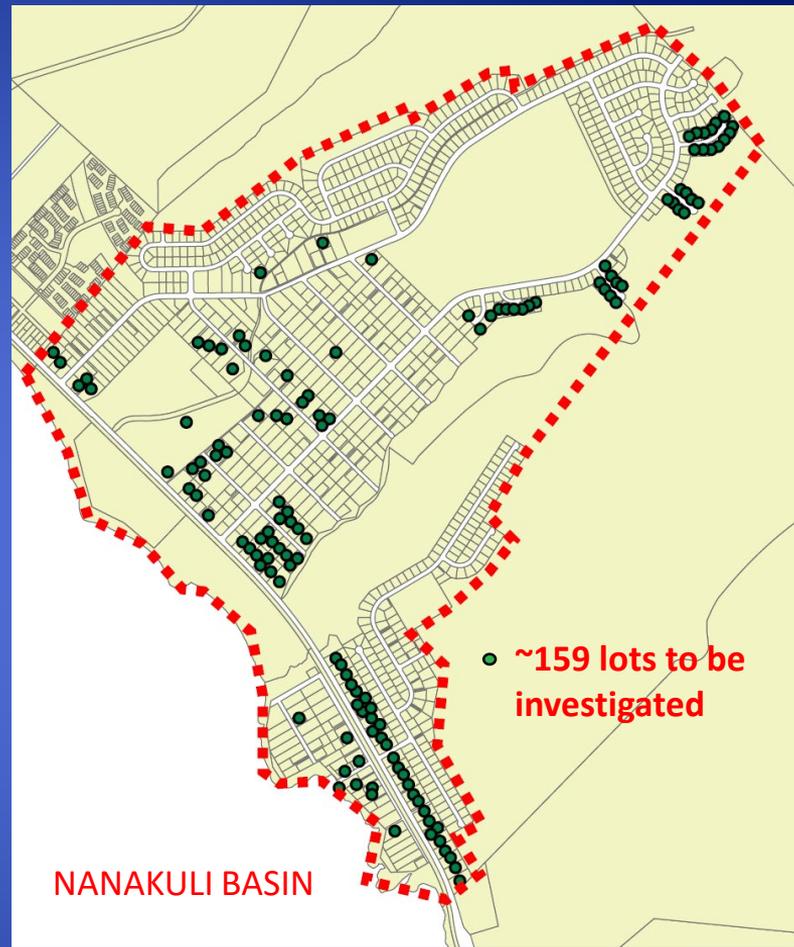
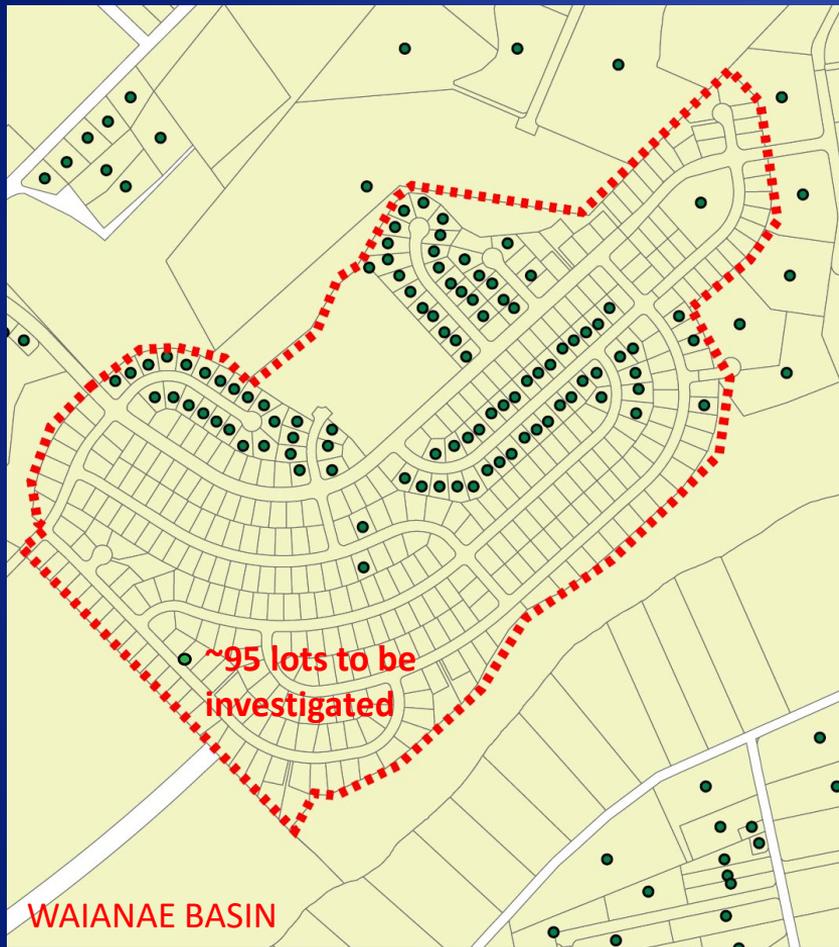
# Project Description

- Background : Act 125 requires upgrade, conversion, or sewer connection of all cesspools by 2050 unless exempted
- Project Objectives:
  - 1) Confirm the existing lots with cesspools
  - 2) Assess options of connections to the public sewer
- Scope of Work:
  - Identification and survey of the DHHL lots with cesspools in three basins at Waianae, Nanakuli and Waimanalo
  - Assessment report



ISLAND OF OAHU

Sanitary Sewer Systems Owned By Department of Hawaiian Home Lands  
State of Hawaii



Source: Hawaii Statewide GIS Program - On-site Sewage Disposal Systems  
Lots without dot: connected to public sewers or undeveloped

## Onsite Sewage Disposal System (OSDS) Classes

- Class 1: Soil treatment
- Class 2: Septic tank
- Class 3: Aerobic treatment
- Class 4: Cesspool
- Class 5: Any two of the above

~82 lots to be investigated

WAIMANALO BASIN

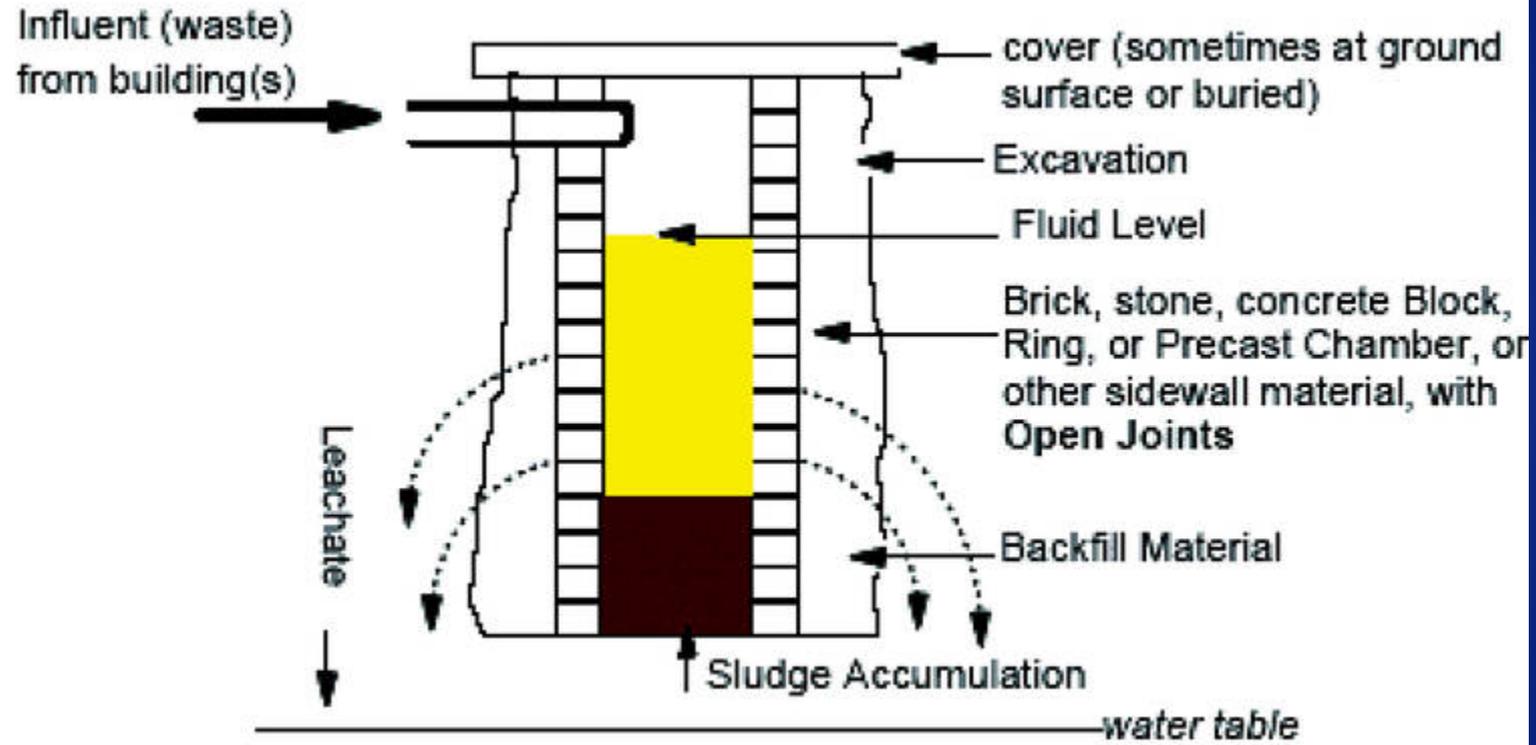
Project Area Categories per HDOH:

Waimanalo: Priority 3  
(Potential to impact sensitive waters)

Waianae and Nanakuli: Priority 4  
(Impacts to be fully analyzed)

Source: Hawaii Statewide GIS Program - On-site Sewage Disposal Systems  
Lots without dot: connected to the public sewer or undeveloped

# Typical Cesspool



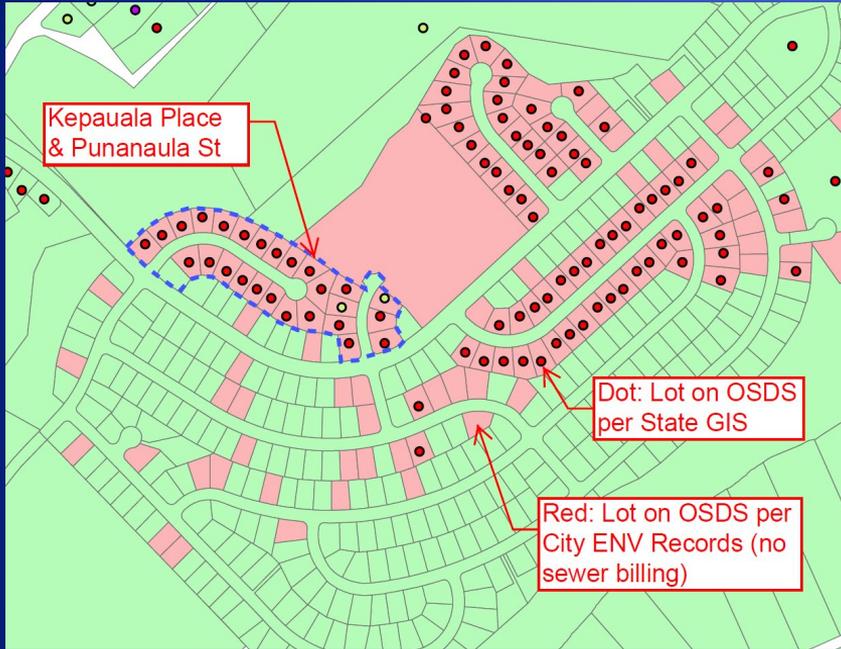
# Project Approach

- Phase I
  - Background research
  - Public notification
  - Field verify OSDS lots and identify cesspools
- Phase II
  - Phase II topographical survey of cesspool lots
  - Connection option assessment
  - Design for sewer connection: gravity sewer or low pressure sewer system (LPSS) connection - not in scope yet

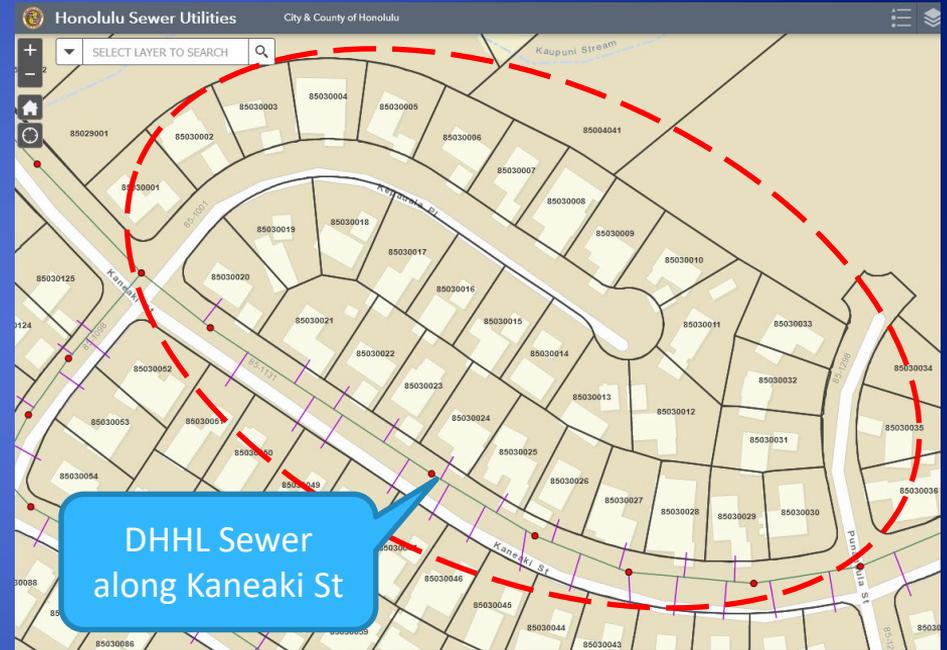
# Phase I Survey

- Pre-survey desktop research to identify OSDS lots
  - State GIS database
  - State DOH records
  - City GIS database
  - BWS billings
- **Phase I Field Survey** to verify cesspool lots
- HDOH is updating its database, so actual numbers of cesspool lots could be much different from what the State GIS map shows

# Pre-survey Desktop Research



**Waianae Subdivision Results**



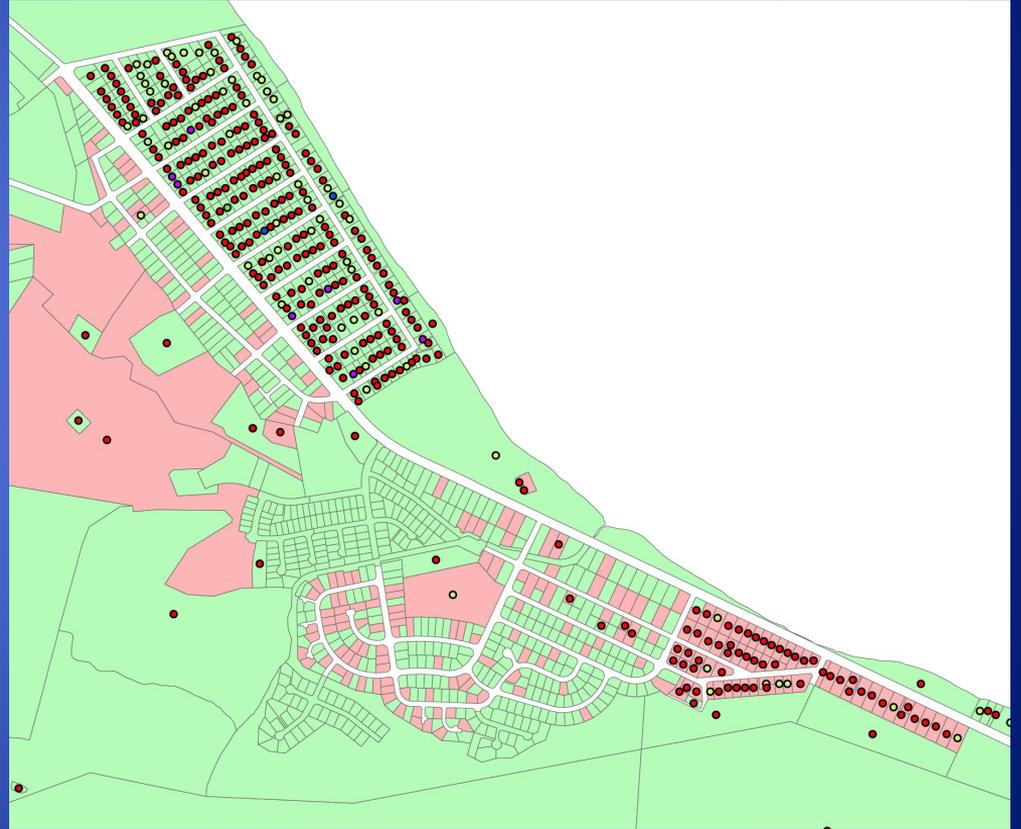
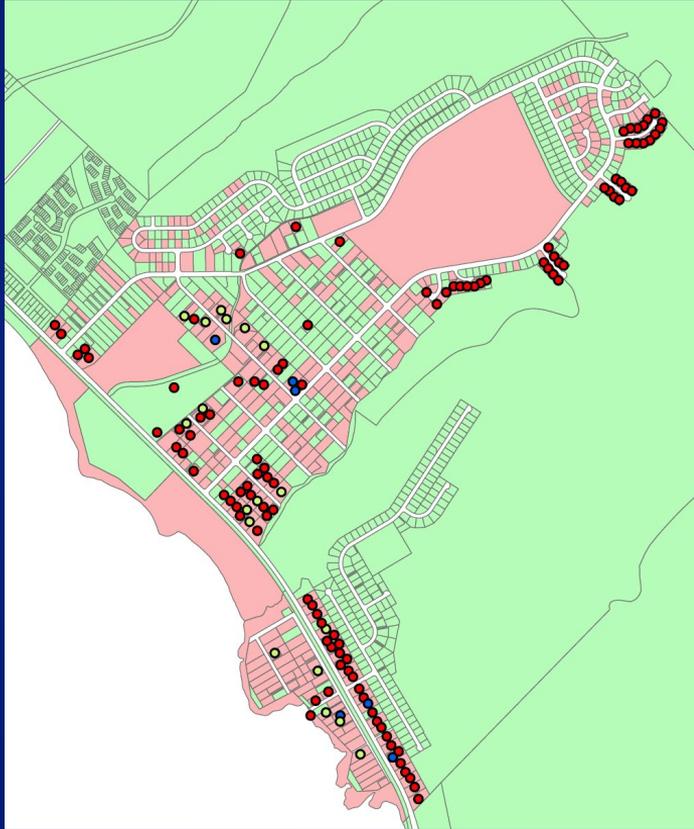
**Kepaula Pl & Punanaula St**

# Pre-survey Desktop Research

## Notes:

1. A parcel with a sewer lateral installed doesn't mean that parcel is connected to the sewer system
2. State GIS Map is dated 2008
3. No sewer billing could also be due to vacant land or government owned facilities
4. Field verification is necessary

# Nanakuli and Waimanalo Results



# Phase I Field Survey

- Public Notification Letter: inform lessees of the project
- Questionnaire:
  - Check boxes for preliminary OSDS information
  - Contact information for survey scheduling
  - Right of entry agreement
- **Phase I Field visit** after receiving the questionnaire back from the lessees
- Successful project progress is highly dependent on cooperation from the lessees

# Notification Letter

Dear Lessee:

Subject: DHHL Oahu Cesspool Assessments  
Survey Notification, Questionnaire, and Right of Entry Agreement  
**85-1076 Kepauuala Place, TMK: 85030001**

Hawaii State Act 125 requires upgrade, conversion or sewer connection of all cesspools in the State before 2050 unless exempted. The Department of Hawaiian Home Lands (DHHL) plans to conduct a cesspool assessment in your area for feasible options to connect the existing cesspooled lots to a public sanitary sewer system. After they are connected, existing cesspools will be disconnected, and the sewage discharged from those lots will be collected and transported to a public wastewater treatment plant for treatment and disposal. This will significantly improve public health, water quality and the environment. DHHL will install the sewer pipe from the homestead property line to a public sewer nearby at no cost to the lessees.

This letter is to inform you that our project team has determined that your homestead property is not currently connected to a public sewer system and may be served by cesspool(s) or other type of onsite sewage disposal system (OSDS). A Phase I field survey will be performed at your property to identify the locations of cesspool(s) and the location of sewer pipes connecting the dwelling units to the cesspool. Phase I survey may take about 15 to 30 minutes, including walk around the property and interview with the lessees.

After the Phase I survey is done, a Phase II topographic survey will be performed to determine feasible connection options to a public sewer nearby. The DHHL requests you to grant our survey team the right of entry into your property for both phases and provide a safe and unobstructed access allowing passage of equipment and personnel to perform the required survey. Phase II field survey may take up to 2 hours. Please clear any obstacles that may prevent or delay the completion of the survey. Design and construction will follow the Phase II survey.

Please fill out the attached pre-survey questionnaire. Please check proper boxes, provide the contact information, indicate the best days/time for the survey team to visit your property, sign and return the questionnaire to DHHL within 30 days of receiving this letter. The information provided will be used by the project team to arrange/schedule both Phase I and Phase II field surveys.

If you have any questions, please call Mitchell Kawamura, Project Manager, Land Development Division, at 620-9278.

Mahalo for your cooperation.

Sincerely,

Stewart T. Matsunaga, Acting Administrator  
Land Development Division

# Questionnaire

## CESSPOOL QUESTIONNAIRE

### 1. Check applicable boxes

My property doesn't have active cesspool(s) or other onsite sewage disposal system (OSDS).

SKIP the following if you check the box above. Go to 2 directly.

My property has active cesspool(s) or other type of OSDS.

I don't know what type of OSDS I have at my property.

Concurrence for DHHL and Consultant Team to access property for the OSDS survey.  
(for both Phase I and Phase II field survey)

#### a. OSDS location (check one):

Front yard  Back yard  Side yard  I don't know

#### b. My property has (check those applicable):

Fence/Wall  Gate  No gate  Watchdog(s)

### 2. Information for Field Survey Schedule Arrangement

a. Contact person's name: \_\_\_\_\_

b. Property street address: \_\_\_\_\_

c. Mailing Address: \_\_\_\_\_  
(if it is different from the property street address)

d. Phone: \_\_\_\_\_ Email: \_\_\_\_\_

e. Best day and time to visit: \_\_\_\_\_

\*During the visit the survey team will interview the lessee, asking questions relating to cesspools.

### 3. Owner Grants the project team the right of entry to perform the required survey

Owner's name (print): \_\_\_\_\_

Sign: \_\_\_\_\_ Date: \_\_\_\_\_

Check boxes

Contact  
information

Entry  
agreement

# Phase I Field Visit

- Confirm/verify the information provided by the lessees
- Determine the general location of the cesspools (backyard, front yard, etc.). The information will be used to plan the Phase II Field Survey
- **Entry assistance from DHHL is very critical for a successful cesspool survey based on the experience from the previous sewer cleanout survey**

# Entry Assistance from DHHL

- Experience from the previous sewer cleanout survey
  - Undeliverable mails
  - Dogs and/or locked gates (inaccessible)
  - Lack of response from the lessees resulted in multiple trips
  - Low percentage of sewer cleanouts being surveyed
- DHHL Assistance: Hand deliver the letter and/or accompany the survey team to visit the lots with access issues

# Phase II Survey

- Topographical survey of cesspool lots
  - Critical information: lateral inverts at the cesspool and all cleanouts in the property, especially the ones next to the building
- Phase II field survey form
  - Interview lessees
  - Pictures
- Entry assistance from DHHL required

# Phase II Field Survey Form

## Existing On-site Sewer Disposal System (OSDS) Field Survey

Date/Time: \_\_\_\_\_ Record No.: \_\_\_\_\_

TMK: \_\_\_\_\_ Location (circle one): Waianae Nanakuli Waimanalo

Property Owner: \_\_\_\_\_ Contact Info \_\_\_\_\_

Property Address: \_\_\_\_\_ City: \_\_\_\_\_

Engineer: \_\_\_\_\_ Contractor: \_\_\_\_\_

Weather (circle one): Sunny Clear Cloudy Shower Other \_\_\_\_\_

Lot Occupied? (circle one) Yes Vacant No House Other \_\_\_\_\_

OSDS Found? (circle one) Yes No If Yes, Access Port Provided? (circle one) Yes No

Number of Access Ports: \_\_\_\_\_ Port Size (in): \_\_\_\_\_

OSDS Location (circle all that apply): Frontyard Backyard Next to Bldg Other \_\_\_\_\_

Right of Entry Issue (circle all that apply): None Fenced Gated Dogs Other \_\_\_\_\_

### Questions for Homeowner to Answer

Is this property on OSDS or on Public Sewer? (circle one) OSDS Public Sewer Unknown

If OSDS is found, is OSDS still in service? (circle one) Yes No (Abandoned) Unknown

Number of Living People: \_\_\_\_\_ Number of OSDS units: \_\_\_\_\_ Total volume: \_\_\_\_\_ Gal Unknown

Does your house have a basement? Yes No If Yes, does it have sink or toilet? Yes No

How many sewer cleanouts in your property? \_\_\_\_\_ (Please open all to measure their inverts)

Solids pumped out every (circle one): <6 6-9 9-12 12-24 >24 Other \_\_\_\_\_ (month) Unknown

Does the OSDS unit have an overflow pipe to public sewer? (circle one) Yes No Unknown

OSDS Type (circle one): Cesspool Septic Tank Aerobic Unit Other \_\_\_\_\_ Unknown

Best Day/Time for Future Visit \_\_\_\_\_

Contact (name/phone) \_\_\_\_\_ / \_\_\_\_\_ Email \_\_\_\_\_

Mailing Address \_\_\_\_\_

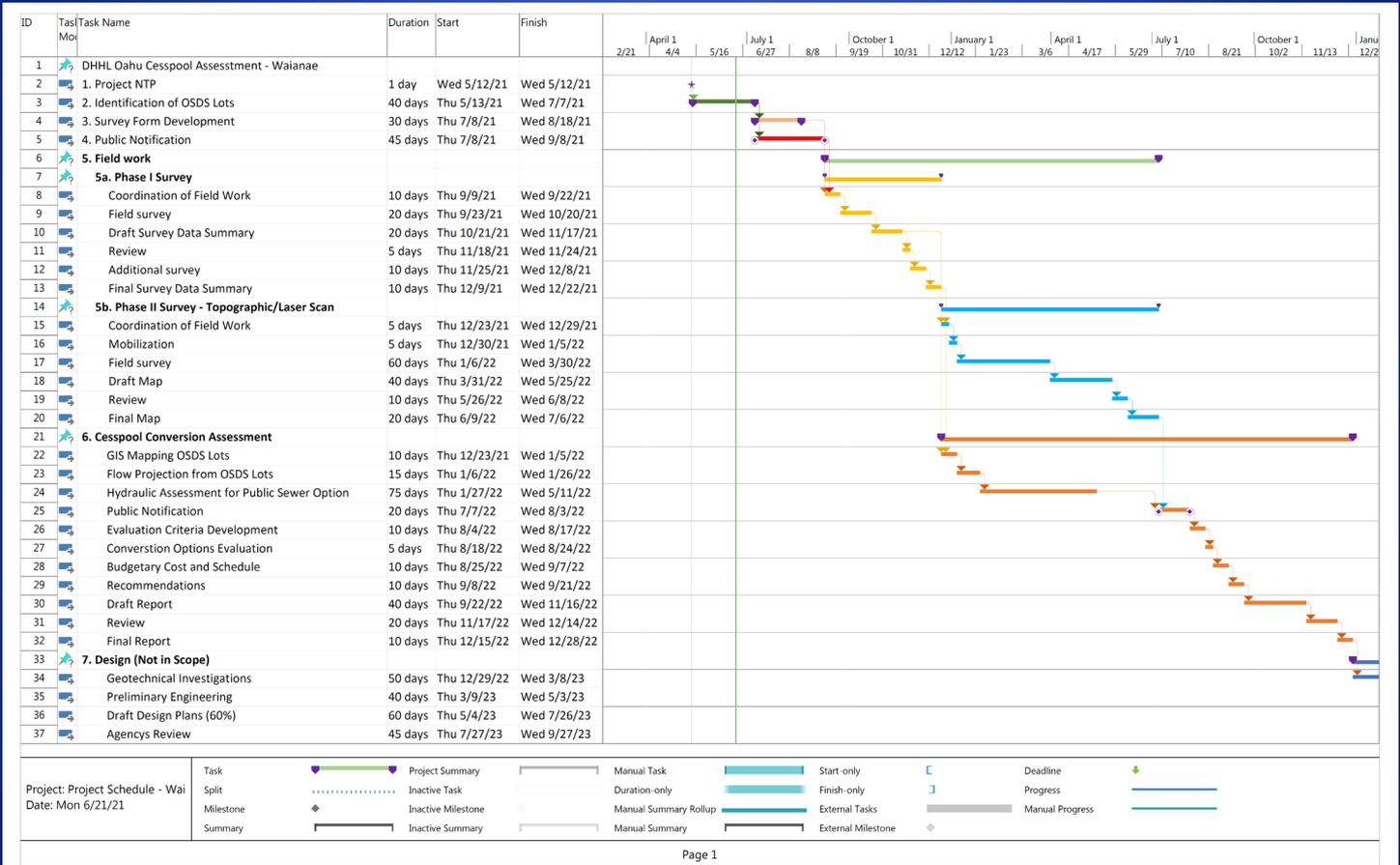
## Notes:

1. Sample data form to reflect the information to be collected.
2. Form to be filled out electronically and stored in a Cloud server
3. Some data fields will be prefilled using the data collected from the Phase I Survey

# Conversion Option Assessment

- Evaluation of connection options
  - Gravity sewer connection to the public sewer
  - Small lift (packaged) pump station
  - LPSS connection to the public sewer (for the lots located lower than the public sewer)
  - Individual wastewater systems (not in scope and more study required; will discuss briefly)

# Waianae Schedule - Preliminary





MAHALO!