

## **DRAFT SOLID WASTE MANAGEMENT PERMIT**

This solid waste management permit renewal and modification is issued under the provisions of Chapters 342H, "*Solid Waste Pollution*" Hawaii Revised Statutes (HRS), and Title 11, Chapter 58.1, "*Solid Waste Management Control*" Hawaii Administrative Rules (HAR). The above-named permittee is hereby authorized to construct and to operate the facility shown on the application and additional submittals, and other documents on file with the Department of Health (DOH) as follows:

**To Construct:** The Kekaha Municipal Solid Waste Landfill (KLF) is situated on approximately 98 acres of land and is comprised of two distinct refuse fill areas identified as Phase I, approximately 32.78 acres, and Phase II, approximately 44.03 acres. Phase I ceased operations on October 8, 1993 and final cover was subsequently constructed. Phase I has no liner system beneath the refuse as there was no requirement for one at that time. Phase II began operations on October 9, 1993 with the closure of Phase I. Phase II was constructed to meet the Resource Conservation and Recovery Act (RCRA) Subtitle D criteria and is currently the only active municipal solid waste (MSW) landfill on Kauai.

Phase II was initially permitted for a maximum elevation of 37 feet above mean sea level (msl). However, due to waste generated by Hurricane Iniki in 1992, a vertical expansion was approved in 1998 raising the maximum fill elevation to 60 feet msl. An additional vertical expansion was approved in 2005 to raise the maximum fill level to 85 feet msl. A lateral expansion into Cell 1 was approved in November 2009, with another vertical expansion to 120 feet above msl for Phase II approved in 2014. A lateral expansion into Cell 2, bridging the area between Phase 1 and Phase 2 was approved in 2019. Phase II has been permitted to vertically expand to 171.5 feet above msl with the issuance of this permit.

**To Operate:** A MSW landfill consisting of the existing Phase II (inclusive of Cell 1 and Cell 2), approximately 44.03 acres. The average daily acceptance rate of the landfill is 275 tons per day. The peak daily disposal rate is limited to 600 tons per day. The MSW landfill shall be operated with the approved environmental controls and monitoring systems, which includes a storm water management system with an infiltration basin, a leachate collection system and evaporation pond, a perimeter gas monitoring system, a subsurface gas and temperature and settlement monitoring system, and leachate and groundwater monitoring systems.

### **IN ACCORDANCE WITH:**

- (1) A permit renewal and modification application was received on October 11, 2023.
- (2) Engineering Report for Kekaha Municipal solid Waste Landfill, Phase II Vertical Expansion by Tetra Tech BAS, and dated November 29, 2023.
- (3) Kekaha Municipal Solid Waste Landfill Operations Manual prepared by Geosyntec, revised November 22, 2023. The document includes multiple plans including but not limited to: (a) Leachate Management Plan prepared by Geosyntec, revised November 22, 2023. (b) Groundwater and Leachate Monitoring Plan prepared by Geosyntec, revised November 22, 2023. (c) Perimeter Gas Monitoring Plan prepared by Geosyntec, revised November 22, 2023. (d) Subsurface Landfill Gas Temperature Monitoring and Contingency Plan, prepared by Geosyntec, dated March 3, 2023. (e) Closure/Post Closure Plan, prepared by AECOM, revised by Tetra Tech dated November, 2023.

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County of Kauai  
6900-D Kaunualii Highway  
Kekaha, Hawaii 96752

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- (4) Surface Water Management Plan (SWMP) 2023-2024 Annual Update dated August 30, 2024.

All other plans and information submitted as required by this permit and approved by the DOH are also part of the permit documents. Should there be any discrepancies among the aforementioned documents, HRS 342H and I, HAR 11-58.1 and the conditions of this permit, then solid waste laws, rules and permit conditions shall take precedence.

**LOCATED AT:** Mile marker 28  
Kaunualii Highway (Highway 50)  
About 2 miles west of Kekaha, Kauai  
TMK: (4) 1-2-002:001

**SUBJECT TO:** HRS 342H and 342I; HAR 11-58.1; and Part I - Standard Conditions, Part II - Special Conditions, Sections A through J, of this permit.

Acceptance of this permit constitutes an acknowledgement and agreement that the holder will comply with all rules, regulations, and orders of the DOH and the conditions precedent to the granting of this permit.

This permit supersedes Solid Waste Management Permit Number LF-0042-16, issued on September 13, 2019, in its entirety.

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For DIRECTOR OF HEALTH  
State of Hawaii

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The solid waste management facility is subject to HRS Chapter 342H, *Solid Waste Pollution*, HRS Chapter 342I, *Special Wastes Recycling*, and HAR Chapter 11-58.1, *Solid Waste Management Control*, and the following conditions:

## **PART I - STANDARD CONDITIONS**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable, pursuant to the authority of HRS §342H. The DOH will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants, representatives, contractors, or subcontractors. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall not be affected and shall remain valid.
2. This permit:
  - a. shall not in any manner affect the title of the premises upon which the facility is or will be located;
  - b. does not release the permittee from any liability for any loss due to personal injury or property damage caused by, resulting from, or arising out of the design, installation, construction, operation, maintenance, closure, or post-closure of the facility;
  - c. does not release the permittee from compliance with other applicable statutes and regulations of the State of Hawaii or with applicable federal or local laws, regulations, or ordinances;
  - d. in no way implies or suggests that the State of Hawaii, or its officers, agents, or employees assumes any liability, directly or indirectly, for any losses due to personal injury or property damage caused by, resulting from, or arising out of the design, construction, operation or maintenance of the facility; and
  - e. shall not constitute nor be construed to be an approval of the design, construction, operation, maintenance, closure and post-closure of the facility beyond the regulatory requirements mandated by HRS §342H and HAR §11-58.1.
3. Issuance of this permit does not preclude the responsibility of the permittee to obtain any and all necessary approvals and permits from the appropriate federal, state, and local agencies, including zoning clearances, prior to the start of operations.
4. Unless the submitted documents and other information secured by the DOH from the permittee contain confidential information, such as secret processes or methods of manufacture, they shall be made available for inspection by the public (HRS §342H-14). The permittee shall be responsible for identifying, in writing, the specific information asserted to be confidential. The DOH shall review the assertion made by the permittee and determine if confidentiality is indeed warranted.

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5. This permit is valid only for the specific processes and operations applied for and indicated in the submitted application and additional submissions approved by the DOH. Any unauthorized deviation that affects the facility's design, operations or procedures, or which could threaten human health and the environment, from the submitted application, approved drawings, operations manual, and additional submissions or conditions of this permit may constitute grounds for revocation of this permit, and/or enforcement action by the DOH. Should there be any discrepancies between the submitted documents and the permit conditions, the permit conditions shall take precedence. A copy of the submitted application and additional submissions shall be maintained at the facility.
6. This permit is non-transferable whether by operation of law or otherwise, either from one location to another, from one solid waste disposal operation to another, or from one person to another without the written approval of the director [HAR §11-58.1-04(e)(2)].
7. This permit shall be kept at or near the construction and operation site for which the permit is issued and shall be available upon request [HAR §11-58.1-04(f)]. A request for a duplicate permit shall be made in writing to the director within ten (10) days after the destruction, loss, or defacement of this permit. A fee of \$50 shall be charged and submitted with the request [HAR §11-58.1-04(h)(3)].
8. The permittee shall at all times properly operate and maintain the facility and systems of treatment, process, and control (and related appurtenances), as applicable to the facility, that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by DOH rules. The facility shall be designed, constructed, and equipped in accordance with best practicable technology so as to operate without causing a violation of applicable rules and regulations.
9. Incident Notification Requirements. The permittee shall notify the DOH, in writing, by use of a fax machine (fax), or electronic mail (email) whenever there are incidents such as fire, explosion, or release of regulated material/waste, which could threaten human health or the environment (i.e., air, soil, or surface and subsurface waters). Initial notification may be by phone or fax and reported within eight (8) hours, whenever possible, and no more than twenty-four (24) hours. The notification report shall be completed and submitted by an Environmental Compliance Officer or other responsible official within three (3) calendar days for waste disposal facilities, such as landfills and incinerators, and shall include:
  - a. name, address, and telephone number of the owner and operator;
  - b. name, address, and telephone number of the facility at which the incident occurred;
  - c. date, time, and type of incident (i.e., fire, explosion, release, etc.);
  - d. name and quantity of material(s) involved;
  - e. the extent of injuries, if any;
  - f. an assessment of actual or potential hazards to human health or the environment, where this is applicable;
  - g. estimated quantity and disposition of recovered and unrecovered material that resulted from the incident;

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- h. evaluation of the circumstances that led to the incident;
- i. steps being taken to reduce, eliminate, and prevent recurrence, including an implementation schedule; and
- j. other information or monitoring as required by the DOH.

Notification requirements for releases only apply to releases of a quantity equal or exceeding the reportable quantity (RQ) listed in HAR §11-451.

10. Noncompliance Notification Requirements. If, for any reason, the permittee does not comply with, or will be unable to comply with, any condition or limitation specified in the permit, the permittee shall notify the DOH verbally within twenty-four (24) hours followed by a written report within three (3) calendar days for waste disposal facilities, such as landfills and incinerators of the verbal notification. The written report shall be completed and submitted by an Environmental Compliance Officer or other responsible official and contain the following information:

- a. description and cause of noncompliance;
- b. period of noncompliance, including exact dates and times; and, if not corrected, the anticipated duration that the noncompliance is expected to continue; and
- c. steps that will be taken to correct the area of noncompliance;
- d. steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance, including an implementation schedule; and
- e. other information or monitoring as required by the DOH.

The permittee may be subject to enforcement action by the DOH, penalties, or revocation of this permit.

Notification via fax or email is acceptable. Any data transmission or detailed explanations transmitted shall be accompanied by regular mail submittals. Failure to notify in accordance with this requirement may initiate enforcement action.

11. Monitoring and Recordkeeping Requirements. The permittee shall comply with the following monitoring and recordkeeping requirements:
- a. Upon request, the permittee shall furnish all records (e.g., transaction reports, disposal receipts, sampling, and testing results) and plans required by the DOH. The retention period for all records shall be a minimum of five (5) years unless otherwise specified in Standard Conditions, Item 11.b; however, there shall be an indefinite retention period for all records associated with any unresolved enforcement action as determined by the DOH.
  - b. The permittee shall retain at the facility or other location designated by this permit, records of all monitoring information (including all calibration and maintenance records and all original recordings of monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The retention period shall be for the life of the facility, through closure and post-closure periods, for waste disposal facilities (such as landfills and incinerators).

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- c. Records of monitoring information, if applicable, shall include:
    - the date, exact location, and time of sampling or measurements;
    - the person responsible for performing the sampling or measurements;
    - the date(s) analyses were performed;
    - the person responsible for performing the analyses;
    - analytical techniques or methods used; and
    - results of such analyses.
12. The permittee shall submit complete and detailed plans and reports on existing solid waste management systems and of any proposed addition to, modification of, or alteration of any such systems that affects the facility's operations or procedures, or which could threaten human health and the environment and contain the information requested by the DOH in the form prescribed by the DOH. Any submission for permit modification shall be submitted in accordance with Standard Conditions, Item 13. The plans and reports shall be prepared by a competent person acceptable to the DOH, and at the expense of the permittee.
13. Should the permittee decide to modify the permit or continue operation of the solid waste facility beyond the expiration date of the permit, the permittee shall submit a complete permit modification or renewal application at least one year prior to the modification or the date of permit expiration. Any submission for permit modification does not affect these permit conditions until such modification becomes final in accordance with HAR §11-58.1-04, or as approved by the DOH.
14. The director may, in accordance with HRS §342H-6, enter and inspect the facility for the purpose of
  - a. investigating an actual or suspected source of solid waste or other pollution;
  - b. ascertaining compliance or noncompliance with any rule, regulation, permit condition, or standard promulgated by the DOH; and
  - c. conducting tests in connection therewith (including collecting soil, water, air, ash, and any other material or samples).

The permittee, by accepting this permit, specifically agrees to allow authorized DOH personnel, upon presentation of credentials or other documents as may be required by law, access to the premises. The permittee may conduct testing (including collecting soil, water, air, ash, and any other material or samples) simultaneously.
15. The DOH may require the permittee to conduct sampling and testing to determine the degree of pollution, if any, from the solid waste facility (including soil, water, air, ash, and any other materials or samples). If contamination is found, the permittee shall appropriately address the situation to protect human health and the environment.
16. When requested by the DOH, the permittee shall within a reasonable time, as specified by the DOH, furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the DOH, such

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facts or information shall be submitted or corrected promptly. Upon the written request of the permittee, the deadline for submission of information may be extended, if the DOH determines that reasonable justification exists for the extension.

17. If the DOH determines that the permittee has violated or is violating any provision of HRS §342H, HAR §11-58.1, or these permit conditions, the DOH may pursue enforcement action in accordance with HRS §342H-7, *Enforcement*; §342H-9, *Penalties*; §342H-10, *Administrative Penalties*; §342H-11, *Injunctive and other relief*, or any other pertinent rules.
18. The DOH may, on its own motion, modify, suspend, or revoke a permit if, after affording the applicant a hearing in accordance with HRS 91, the DOH determines that any permit condition, rule, or provision of HRS §342H has been violated or that such is in the public interest [HAR §11-58.1-04(d)].
19. If the governor or the director determines that an imminent peril to the public health and safety is, or will be, caused by the disposal of solid waste or any combination of discharges of other waste that requires immediate action, the governor or the director, without a public hearing, may order the permittee to immediately reduce or stop the disposal, discharge, or process, and may take any and all other actions as may be necessary (HRS §342H-8).

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## **PART II - SPECIAL CONDITIONS**

### **Section A. General Facility Conditions**

1. The County shall construct and operate the facility in accordance with HRS 342H and 342I, HAR §11-58.1, the permit renewal and modification application received on October 11, 2023 (Halehaka Condensate/Leachate Acceptance), December 1, 2023 (Vertical Expansion), additional information received on December 16, 2024 (Increase Daily Tonnage), and subsequent submissions, approved subsequent submissions, and the conditions of this permit. If there are any discrepancies among the aforementioned documents, HRS, HAR and permit conditions, then solid waste laws, rules and these permit conditions shall take precedence.
2. The permittee shall maintain a Master Plan that provides information on future landfill capacity requirements in both numerical and graphical presentations with a minimum projection of 20 years and shall include the waste footprints and service lives of Phase II and future lateral expansion phases and/or future landfills. The Master Plan shall include the proposed Basis of Design, transition areas, appurtenant and support facilities. Updates and revisions to the plan shall be submitted annually in conjunction with the Annual Operating Reports.
3. The height of the MSW landfill, including final cover, shall not exceed 171.5 feet above msl at its highest point. The final grades of the MSW landfill shall be in accordance with Drawing No. C-102, Final Cover Grading Plan, dated November 2023. This drawing is imbedded in the Engineering Report Kekaha Landfill Phase II Vertical Expansion, dated November 29, 2023. Note that the vertical datum in the drawing correlates to designated USGS Brass Monument G1000 plus 1.21 feet.
4. No construction of additional disposal cells or modification of the lateral or vertical extent of disposal cells shall occur without written approval by the DOH. Any modification requests shall be submitted in accordance with Standard Conditions, Item 13, at least one (1) year prior to commencement of the proposed construction or modification. The construction and design plans shall be prepared and certified by a professional engineer, with at least five (5) years of experience in designing landfills, and registered in the State of Hawaii.
5. A permanent sign shall be posted at the facility entrance identifying the facility, the hours and days of operation, and the name and address of the operator, a telephone number and other pertinent information.
6. The permittee may only operate the facility during the normal operating hours of 8:00 a.m. to 4:00 p.m., seven days per week, for acceptance and disposal of waste at the MSW landfill. In the event that the facility proposes any waste acceptance and disposal outside normal operating hours, the permittee shall notify the DOH, in writing, of this event. The notification shall be provided at least twenty-four (24) hours in advance of the event. If the event is unanticipated, the permittee shall provide verbal notice of the event within four (4) hours and written notification within eight (8) hours of

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commencement of the event. A facsimile or email submission of the notification is acceptable. The written notification shall specify the affected dates and times, the nature and reason for the extended operations, identification of any considerations associated with the extended operations, and controls/procedures that will be implemented to mitigate any adverse impacts of the extended operations.

7. An all-weather access road shall be maintained into and out of the facility site, through the entrance facility and to and from the working area of the landfill.
8. The permittee is responsible for providing measures to control public access in accordance with HAR 11-58.1-15(f). The permittee shall provide and maintain controlled access to the facility in the form of fences and gates along the site perimeter. All gates shall be kept locked when an attendant is not on duty. Scavenging at the facility is prohibited.
9. The facility shall have a Site Manager, and an Environmental Professional who shall be knowledgeable of state solid waste laws, regulations, these permit conditions and the permit application components including, but not limited to, the Kekaha Municipal Solid Waste Landfill Operations Manual, revised November 22, 2023, and approved subsequent submissions. The Environmental Professional may be an employee based outside of the County. The permittee shall submit written updates in the event that there are any changes in the responsibilities or identification of the Site Manager or the Environmental Professional.
10. Landfill operations shall be supervised by an individual who has successfully completed a Manager of Landfill Operations (MOLO) training course conducted by the Solid Waste Association of North America, or a DOH-approved alternative. MOLO training certifications or equivalent shall be current. Records of such training shall be placed in the operating record.
11. The permittee shall comply with the financial assurance requirements in HAR 11-58.1-18 for closure of the landfill, post-closure care, and corrective action, if required. The permittee shall include documentation of financial assurance and a copy of the detailed written estimates, including annual adjustments for inflation, in the Annual Operating Report, as required in Part II: Special Conditions - MSW Landfill, Section J of this permit. At a minimum, the Closure and Post Closure Plan shall be revised every five (5) years, or whenever facility plans are updated or changed.
12. Emergency Action Plan. The permittee shall implement the Emergency Action Plan, provided as Section I, Part D of the November 22, 2023, Site Operations Manual, and approved subsequent submissions.
  - a. The permittee shall provide verbal and written notification of incidents to the DOH, in accordance with Standard Conditions, Item 9 of this permit. Incidents shall also include suspected subsurface fires or subsurface oxidation events (SOE) and be reported based on any of the notification criteria listed in the Special Condition H.1.a.

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- b. The permittee shall implement the Emergency Action Plan for the following situations:
  - i. Fires (including surface, nearby, incoming waste loads, vehicle/equipment, subsurface, etc.),
  - ii. Severe storm (2-year, 24- hour storm or greater, or continued rainy conditions over duration of 14 days), including hurricanes.
  - iii. Earthquakes and tsunamis,
  - iv. Hazardous material spills at or above the Reportable Quantity,
  - v. Other emergency procedures, and trigger levels, as provided in the Emergency Action Plan.
  
- c. The permittee shall assess, monitor, and maintain the landfill after emergencies that may affect the integrity of the landfill, including, but not limited to, the liner system, leachate collection and control system, surface water management system, and any other affected portions of the landfill. If the acceptance and disposal of waste ceases, the permittee shall submit a written evaluation of whether waste acceptance can resume. The evaluation shall be prepared by a professional engineer registered in the State of Hawaii and the Site Manager, certifying that the landfill and its associated environmental controls are functional, equivalent or better than required, and that operation of the landfill will not cause a violation of environmental regulations. The evaluation shall also include a description of any findings and corrective actions. The facility may resume acceptance and disposal of waste upon submission of this evaluation to the DOH. The DOH may require additional assessment, monitoring, and corrective actions, as necessary to address the event.

## **Section B. Construction and Maintenance of Phase II**

1. The permittee shall maintain the integrity of the liner system and leachate collection and control system as designed and constructed, or implement equivalent or better alternative environmental controls, as approved by the DOH.
  - a. Phase II was installed in accordance with Harding Lawson Associates drawings, *Kekaha Sanitary Landfill Phase 2*, dated March 1993. The original Phase II is divided into fourteen (14) cells, each of which is 100 feet wide and 800 to 1,110 feet long. Each cell is graded at a slope of 3% toward a central trench for leachate collection. The trenches contain drainage gravel and eight (8)-inch diameter perforated high-density polyethylene (HDPE) pipes. Each pipe drains to a leachate collection manhole located outside the liner cell perimeter. Leachate collected in the manholes flow by gravity to two pump stations (wet wells), from which it is pumped through HDPE force main pipes to the leachate evaporation pond. The base liner system consists of the following components (bottom to top):

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- i. 6-inch thick granular foundation layer (sideslopes only).
  - ii. Prepared granular subbase grade.
  - iii. Geosynthetic Clay Liner (GCL) consisting of a smooth 20-mil HDPE geomembrane with an adhered bentonite powder layer on one side (Gundseal). The GCL was installed with the smooth side in direct contact with the granular subbase base grade and foundation layer on sideslope, and with the bentonite component side up.
  - iv. Single-sided textured 60-mil HDPE geomembrane (textured side down) against the bentonite component of the GCL on the sideslope.
  - v. Smooth 60-mil HDPE geomembrane against bentonite component of the GCL on the base.
  - vi. 24-inch sand drainage layer (base and side slope).
- b. Phase II, Cell 1 was constructed in accordance with the January 2009 Engineering Report, with an expansion of the existing leachate collection system and introduction with a third pump station (wet well). Phase II, Cell 2 was constructed in accordance with the October 2017 *Engineering Report, Kekaha Sanitary Landfill Phase II Cell 2 Lateral Expansion*. The base liner for Cell 1 and Cell 2 generally consists of the following layers (from bottom to top):
- i. Prepared subbase grade.
  - ii. Secondary liner of 60-mil HDPE geomembrane, textured on both sides.
  - iii. GCL composite product consisting of bentonite powder/granules encapsulated between a carrier non-woven geotextile and a cover of non-woven geotextile, needle punched for additional strength.
  - iv. Primary 60-mil HDPE geomembrane, textured on both sides.
  - v. 16 oz/yd<sup>2</sup> non-woven cushion geotextile.
  - vi. 12-inch drainage layer consisting of gravel, with a maximum rock size of 1.5 inches, with a permeability of  $3 \times 10^{-1}$  cm/sec or greater, and containing less than 12 percent calcium.
  - vii. 6 oz/yd<sup>2</sup> separator geotextile.
  - viii. 24-inch operations layer.
  - ix. The side slope liner of Cell 1 consists of a layer of internally reinforced GCL sandwiched between two 60-mil HDPE geomembranes textured on both sides. The geotextiles, 12-inch drainage, and 24-inch operations layers on the base liner shall extend up the entire length of the side slopes.
  - x. The side slope liner of Cell 2 over Phase I also includes, in certain areas, a reinforcement grid and a non-woven geotextile between the prepared subbase grade and secondary HDPE geomembrane, which is smooth on the bottom side.
- c. Phase II, Cell 2 leachate sumps 2A and 2B were constructed in accordance with the *Cell 2 Base Liner Construction Drawings Phase II Lateral Expansion Kekaha Sanitary Landfill*, revised May 6, 2020 including red-lined construction drawings. Leachate collected in the sumps is pumped via a sideslope riser

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pipe into a double contained HDPE force main routed to the leachate evaporation pond. The liner beneath each sump is constructed with identical material used for construction of the base liner for Phase II, Cell 2 referenced in Special Condition B.1.b, with the addition of:

- i. 60-mil HDPE geomembrane, and
  - ii. GCL composite layer.
- d. The Leachate Evaporation Pond base liner system was constructed as documented in the *Report of Construction Quality Assurance for New Leachate Evaporation Pond*, dated May 25, 2010. The lowest base liner elevation is at least five (5) feet above the high ground water level. The base liner system for the Evaporation Pond was constructed as follows (from bottom to top).
- i. Prepared subbase grade.
  - ii. 60-mil HDPE geomembrane, textured on both sides.
  - iii. GCL composite product consisting of bentonite powder/granules encapsulated between a carrier woven geotextile and a cover of woven geotextile, which are needle punched.
  - iv. 60-mil HDPE geomembrane, textured on both sides.
  - v. GCL composite, same as d. iii above.
  - vi. 60-mil HDPE geomembrane, textured on both sides.
  - vii. 16-oz/sq yd non-woven cushion geotextile layer.
  - viii. 12-inch granular operations layer with maximum rock size of 3/4 inch and less than 12 percent calcium.
  - ix. 6 oz/sq yd non-woven separator textile layer.
  - x. 2-inch thick granular protection layer.
- e. Repairs to the Phase II liner damaged by termites, as evidenced in the March 20, 2015 *Summary of the Second Phase II Liner Investigation* were performed in accordance with the *Cell 2 Base Liner Construction Drawings Phase II Lateral Expansion Kekaha Sanitary Landfill*, revised May 6, 2020 including red-lined construction drawings.
2. MSW disposal activities shall not occur within:
- a. 52 feet from the edge of waste to the property line along the west/northwest edge of Cell 1. This would provide an approximate 82-foot distance from the closest edge of waste of Cell 1 to the nearest agricultural activity. This distance is comprised of about 52 feet from the edge of waste to the landfill property line, and 30 feet from the landfill property line to the far edge of a federal roadway right-of-way for the Lae-O-Kokole Lighthouse.
  - b. 300 feet from edge of waste to the property line along Kaunualii Highway.
  - c. 1000 feet from the property line of any future urban area known at the time of permit issuance.

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3. The permittee shall submit any significant proposed changes affecting the design or structural integrity of the installed liner system or leachate collection system, in writing, at least one hundred eighty (180) days prior to commencement of the proposed change. Regular maintenance procedures, such as replacing broken valves with a similar valve, do not require DOH approval. Any proposed changes shall be comparable or improved in its capability to protect human health and the environment. At a minimum, the written proposal shall include:
- a. Identification of affected cells or areas;
  - b. Reason for the proposed change;
  - c. Engineering design;
  - d. Point of Compliance Evaluation;
  - e. Implementation schedule; and
  - f. Other pertinent information.

The DOH may also require additional information to evaluate the request. If the proposed changes require a modification to this permit, a modification application shall be submitted in accordance with Standard Conditions, Item 13.

4. Installation of any geosynthetic liner shall be performed by an experienced installer who has installed a minimum of 500,000 square feet of similar type liners or shall be performed under the supervision of the manufacturer. An experienced QA/QC landfill inspector with at least five (5) years of experience in landfill CQA responsible to a professional engineer shall observe liner installation and grade elevations. The permittee shall notify the DOH, in writing, five (5) days prior to any liner installation work.
5. The permittee is responsible for obtaining the services of a registered land surveyor who shall provide an as-built survey of any construction or repairs to the landfill or monitoring systems, which includes, but is not limited to, base grades, liner grades, leachate lines, sumps, stormwater and leachate management systems, gas and groundwater monitoring systems, and other features needed to assist in any future site repairs and development, and to demonstrate compliance with the approved drawings. The permittee shall install and maintain survey control benchmarks and shall use these benchmarks to delineate the boundaries and elevations of the MSW landfill areas, in sufficient number to demonstrate compliance with permitted grades.
6. The permittee shall retain a professional engineer registered in the State of Hawaii for the supervision of the CQA requirements of this project, and upon the completion of all construction phases or elements (including repairs on liner and leachate systems) the engineer shall submit a CQA report to the DOH as to the complete conformity of construction to the plans and specifications as approved. The CQA report is described in Special Condition B.7.
7. The permittee shall prepare and submit a CQA report to the DOH.
- a. The CQA report shall be submitted to the DOH prior to placement of the

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- initial select waste lift.
- b. A professional engineer, with at least five (5) years' experience in designing landfills and registered in the State of Hawaii shall review the inspections and test records for each sector as certified by the liner manufacturer or manufacturer's representative and the QA/QC engineer. The professional engineer shall also verify that the bottom liner and leachate collection system have been installed in accordance with the plans as approved by the DOH.
- c. The CQA report shall also include the following, as applicable:
- i. A map of each sector showing panel layouts as installed;
  - ii. A letter of certification signed by the QA/QC engineer stating that all weld test results and vacuum or pressure testing of all welded seams were visually observed;
  - iii. Liner inspection reports;
  - iv. QA/QC testing procedures;
  - v. Laboratory analyses;
  - vi. As-built and survey drawings documenting the cell construction, including the bottom and top of sump elevations, location and elevation of base grades, liner system, and leachate collection system;
  - vii. Written certification, by the liner contractor and installer, certifying the acceptability of the soil cushion layer prior to liner placement;
  - viii. Documentation showing that panels were properly joined within the cell, as well as with liner systems in adjacent cells;
  - ix. Documentation and as-built drawings to show supporting berms constructed beneath areas where new liner systems are connected with previously installed liner systems;
  - x. Documentation and as-built drawings of anchor trenches and berms (temporary and permanent) located around each cell;
  - xi. Documentation and description of any temporary storm water control measures implemented;
  - xii. Identification of any deviations from the construction plan, reason for the deviation, and effects on the stability and integrity of the design. Any deviations shall be reviewed and approved by the design engineer, who shall verify that the deviation is comparable or improved in its capability to protect human health and the environment; and
  - xiii. Written certification by a professional engineer that the liner system, leachate collection system, and any other associated items were installed in accordance with the approved documents and HAR 11-58.1.
8. No solid waste shall be disposed of into any new cell or sector until an experienced professional engineer certifies completion of construction in accordance with approved drawings and HAR 11-58.1, and the CQA report is submitted in accordance with Special Condition B.7.

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9. The permittee shall afford the opportunity for an inspection of each new cell or sector by the DOH, with the presence of the CQA engineer and on-site facility operator.
10. The permittee shall install and maintain grade survey control markers to delineate the boundaries and elevations of the MSW landfill areas, in sufficient number to demonstrate compliance with permitted grades.

### **Section C. Acceptance Criteria**

1. The permittee is authorized to accept for disposal, solid wastes, as defined in HAR 11-58.1-03, except unacceptable waste listed under Special Condition C.2.h.
2. The permittee shall implement the November 22, 2023 Waste Acceptance/Hazardous Waste Exclusion Program as provided in Section I, Part B of the November 22, 2023 Site Operations Manual, approved subsequent submissions, and the following conditions.
  - a. The permittee shall screen waste, prevent unacceptable waste from entering the facility, and remove unacceptable waste if it enters the facility.
  - b. The permittee shall post a sign on the property that lists unacceptable wastes.
  - c. The permittee shall conduct random visual surveillance of mixed commercial loads (not inclusive of loads known to only contain single source-separated materials, such as sludge), at least once per day, to spot check for unacceptable wastes. Findings shall be documented on the Load Check Data Sheet.
  - d. The equipment operators and spotters at the active workface shall visually screen the contents of each load and remove unacceptable waste.
  - e. If unacceptable waste is observed, the permittee shall reject the load. If the waste has been unloaded, the permittee shall separate the unacceptable waste, move it away from the active workface, and manage it in accordance with Special Condition C.3.
  - f. Equipment operators and spotters shall receive training on visual surveillance and unacceptable waste handling procedures set forth in the Operations Plan. Training shall be attended at least once per year, or more frequently as needed to ensure compliance with the facility procedures.
  - g. The permittee shall maintain records of random inspections on the Load Check Data Sheets and personnel training.
  - h. Unacceptable waste is defined as:
    - i. Regulated hazardous waste, as defined in state hazardous waste laws and regulations;
    - ii. Polychlorinated biphenyl (PCB) waste, as defined in 40 CFR Part 761;
    - iii. Untreated infectious waste, excluding infectious waste generated within the household, in accordance with HAR 11-58.1-63;
    - iv. Bulk or noncontainerized liquid waste, except as provided in HAR 11-58.1-15(i) and except for liquids accepted in accordance with Special Conditions G.8 for disposal in the evaporation pond;

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- v. Containers holding liquid waste, except as provided in HAR 11-58.1-15(i)(2);
  - vi. Commercial loads containing greater than 25% green waste and household loads containing greater than 50% green waste, in accordance with HAR 11-58.1-65(b);
  - vii. Scrap automobiles, white goods, and whole motor vehicle tires, in accordance with HAR 11-58.1-65(c);
  - viii. Lead acid batteries, in accordance with HRS 342I;
  - ix. Compressed gas tanks; and
  - x. Other unacceptable wastes listed in the Operations Plan and Waste Acceptance/Hazardous Waste Exclusion Program.
3. If unacceptable waste is identified at the facility, the permittee shall separate the waste, manage, transport, and recycle/dispose of it in accordance with the November 22, 2023 Site Operations Manual and applicable laws and rules. Unacceptable waste shall not be disposed of at the facility.
- a. Unacceptable waste shall be transported from the facility prior to posing a nuisance, health, or safety concern.
  - b. Unacceptable waste shall be transported to a permitted solid waste management facility allowed to accept the waste, or to an out-of-state recycling/disposal facility.
  - c. The permittee shall maintain a daily log of unacceptable waste turned away from the facility or separated from disposal, including date, hauler, waste type, estimated quantity, and destination.
  - d. The permittee shall notify the DOH in writing within the next working day of the identification of hazardous or PCB waste. The notification shall include the date and time of incident, origin of the waste, hauler/generator, description and quantity of waste, actions that will be taken to manage the waste at the site, and actions that will be taken to remove the waste from the premises. The permittee shall also provide written notification, including a copy of the associated manifests, within seven (7) days of removal of the waste from the facility.
4. The permittee shall manage and dispose of radioactive waste in accordance with HAR 11-58.1-64.
5. The permittee shall implement the Waste Acceptance/Hazardous Waste Exclusion Program, as provided in Section I, Part B of the November 22, 2023 Site Operations Manual, approved subsequent submissions, and these permit conditions. All documentation shall be maintained at the facility and made available to the DOH upon request.
- a. The permittee shall pre-approve special wastes, prior to acceptance at the facility.
  - b. The permittee shall maintain written documentation and implement special handling procedures associated with each type of special waste. The procedures

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shall be based on the physical, chemical or pertinent characteristics of the special waste.

- c. Special waste means any solid waste which, because of its source or physical, chemical, or biological characteristics, require special consideration for its proper processing or disposal, or both, and includes, but is not limited to:
- i. Asbestos;
  - ii. Semi-solid wastes including:
    - (1) dewatered car and equipment wash wastes;
    - (2) sewage sludges; and
    - (3) underground storage tank and other sludges;
  - iii. Off-specification and outdated products;
  - iv. Baghouse dusts;
  - v. Inorganic filter cakes;
  - vi. Treated infectious waste;
  - vii. Dead animals and offal;
  - viii. Contaminated Materials including:
    - (1) Contaminated soils and debris, including: resins and chemical debris; petroleum and other contaminated soils; and petroleum fuels (i.e., used oil, diesel, jet fuel, gasoline) and debris,
    - (2) Sandblast grits,
    - (3) Waste that are toxic in nature, such as insecticides, poisons, or radioactive materials (provided that they are not regulated under another authority such as RCRA Subtitle C, TSCA that requires disposal other than at a permitted MSW landfill), and
    - (4) Other solid waste, which may be accepted for disposal such as contaminated industrial/commercial waste and non-TSCA regulated PCB waste, provided such materials are not regulated hazardous waste;
  - ix. Other special waste listed in the Waste Acceptance/Hazardous Waste Exclusion Program; and
  - x. Fresh or frozen uncooked shrimp and other crustaceans.
- d. The permittee shall approve Contaminated Materials (as defined in Special Condition C.5.c.viii), on a case-by-case basis, prior to acceptance at the facility.
- i. The permittee shall implement procedures for the acceptance of contaminated material specified in Section 5.2.3 of the November 22, 2023 Site Operations Manual and approved subsequent submissions. These procedures shall be implemented for all contaminated materials defined in Special Condition C.5.c.viii. The DOH, Hazard Evaluation and Emergency Response Office Technical Guidance Manual for sampling and analysis shall be incorporated, where appropriate.
  - ii. A Notice of Contaminated Material Approval shall be prepared for contaminated material accepted at the facility. The notice shall include approval from both the owner and operator of the facility, acceptance date(s), quantity and description of waste, origin of waste, waste profile

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sheet/approval manifest; proposed management of contaminated material (use as daily cover or disposal as void space fill) and any special management and handling procedures. The permittee shall maintain a copy of the approval and provide a copy to DOH prior to acceptance.

#### **Section D. Provisions Related to the Operation of the Phase II Landfill**

1. The permittee shall implement the November 22, 2023 Site Operations Manual and approved subsequent revisions. The DOH may periodically require revisions to the Site Operations Manual. The contents of the Site Operations Manual shall address permit requirements and be implemented to ensure compliance. Any significant changes to the Site Operations Manual require approval from the DOH. Depending on the scope of the change, a permit modification may also be required. If there are discrepancies between the Site Operations Manual and these permit conditions, the permit conditions take precedence.
2. The average acceptance rate of the landfill is approximately 275 tons per day. The peak daily disposal rate shall not exceed 600 tons per day.
3. **User Population.** The permittee shall maintain a list of the types of users for operator reference and regulatory review. In the event that a change is required for the user population or the screening and review process to identify legitimate users, the permittee shall submit a written update of such change. The written update shall propose adjustments to the screening and review process, as appropriate to respond to the changes in the user population.
4. **Air Criteria.** The permittee is responsible for obtaining permits and maintaining compliance with any state or federal clean air regulations. Open burning of solid waste, except for debris from emergency cleanup operations, is prohibited. Open burning of debris from emergency cleanup operations shall not commence without prior approval from the DOH.
5. **Climatic Information.** Climate information shall be collected on a daily basis and shall include information on rainfall, solar radiation, evaporation, wind speed and direction, humidity, temperature, and other meteorological data, as applicable, for use in modeling evapotranspiration and leachate generation with the HELP Model at the landfill and evaluating litter/odor control. The permittee shall minimize any weather equipment downtimes. In the event that the equipment is not operational, the permittee shall maintain a record of the affected date(s), reason, and actions taken. Data shall be provided to the DOH upon request.
6. **Program for Regular Training.** The permittee shall provide training to landfill operators annually, or more frequently, as needed, to ensure that the operators are familiar with the Site Operations Manual and these permit conditions. Training shall be conducted by a Site Manager or Environmental Professional. Records of training shall be maintained.

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7. **Queuing.** The permittee shall provide adequate on-site queuing for waste delivery vehicles at the scalehouse area. The permittee shall also make reasonable best efforts to prevent waste vehicles from idling on the highway.
8. **Mud and Dust Prevention Program.** The permittee shall provide measures for minimizing the tracking of mud onto public roads, and the generation of dust on site. If the measures do not adequately minimize the tracking of mud on to public roads or generation of dust from vehicular traffic onsite, the permittee shall implement additional mud prevention and dust control measures.
  - a. The mud prevention measures shall include the installation and maintenance of wet weather pads and access routes constructed of material (such as cold plane material or asphalt/concrete rubble) that will minimize the exposure of excessive muddy conditions. A wet weather deck shall be present to allow for safe disposal of MSW during wet weather or muddy conditions. If mud is tracked offsite, the permittee shall clean up the tracked mud off the property and implement additional mud prevention measures. Possible measures that may be implemented include: rumble strips, drive-through tire wash, and/or wash pad.
  - b. The permittee shall provide adequate signage to inform drivers/operators of non-household vehicles that their loads should be covered prior to entering the facility.
  - c. Dust prevention measures include, but are not limited to, applying water spray to roads and active workface throughout the day, as needed to control dust. The permittee shall also minimize dust generated from areas with intermediate cover. The DOH may require that intermediate slopes be vegetated, or measures be taken to control dust.
9. **Disease Vector Control.** The permittee shall prevent or control on-site populations of disease vectors, including rodents, insects and birds.
  - a. A monthly Vector Control Report shall be completed and placed in the operating record to document the following:
    - i. Results of a monthly inspection of the landfill documenting the presence or absence of flies and other insects, rodents and birds.
    - ii. Summary of vector abatement activities.
  - b. If vector control measures are not adequate, the permittee shall implement additional vector control measures.
  - c. Special measures shall be taken to prevent birds from alighting at the workface during delivery and disposal of loads of fresh or frozen uncooked shrimp and other crustaceans. Such measures may include producing noise, deploying balloons and/or having active equipment guard the load.
10. **Litter Control.** The permittee shall confine litter to the working face area and prevent litter from leaving the facility. The permittee shall implement litter control measures as delineated in the Site Operations Plan and these conditions. During the course of the

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working day of operation, all windblown material shall be collected and be properly disposed. At a minimum, the collection measures shall include:

- a. The use of litter screens/fences within 100 yards downwind of the active workface (primary fencing).
  - b. The use of additional temporary litter screens/fences in secondary control positions at the workface area in places where they will not hinder traffic control.
  - c. The presence of a truck clean-out area near the active workface, with litter screens/fences and disposal receptacles for truck clean-out. If the truck clean-out area is within 100 feet of a downwind primary fencing area, additional screens/fences shall only be required if the primary and secondary fencing areas are inadequate.
  - d. Cleaning of litter screens/fences (primary, secondary, and truck clean-out area screens/fences) throughout the day. At the end of the operating day, all litter shall be removed from all litter screen/fences.
  - e. Additional litter cleanup of all impacted areas in the event of a major windstorm or other incident in which litter escapes the normal litter containment systems.
  - f. Documentation of the number of personnel picking up litter, number of bags collected, and maximum wind speed for each day.
  - g. If litter control measures are not adequate, the permittee shall implement additional litter control measures.
11. **Temporary Storage.** Stockpiled materials within the landfill waste boundary shall be limited to cover material, gravel for roads/wet weather areas, and landfill equipment, except as otherwise approved by the DOH. The volume of material storage stockpiles shall not exceed a limit of thirty (30) days capacity. If temporary storage exceeds or is anticipated to exceed thirty (30) days, the permittee shall construct temporary berms or implement other measures to prevent erosion of the stored material and allow for proper surface water flow.
12. The permittee shall provide adequate equipment and personnel to operate the MSW landfill facility, including provisions for back-up personnel and equipment. A minimum of one bulldozer, one compactor, one water truck, and one traffic controller shall be available to operate at the working face during operational hours, except that the water truck could be making rounds at other locations at the facility. Equipment and personnel changes could be made if approved by the DOH in writing. The traffic controller and bulldozer operator may be the same person.
13. Operators shall routinely clean the tracks/wheels at the working face using shovel/dry methodology. If water is needed, cleaning shall be at the workface and the amount of water used shall be limited to an amount that would otherwise be used for dust control and not cause infiltration into the waste layer.
14. The permittee shall implement the Asbestos Management and Disposal Plan (Section I, Part B, Appendix A of the Kekaha Municipal Solid Waste Landfill Operations Manual, revised November 22, 2023) and approved subsequent submissions. Compliance with the plan does not preclude compliance with other applicable statutes, regulations, and

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- rules. The permittee shall document the quantity, type, and location of asbestos disposed of in the MSW landfill. Disposal locations shall be recorded with GPS coordinates. The permittee shall maintain records on the amount and location of asbestos disposal.
15. Loads of treated medical waste shall be placed in a trench/pit excavated within waste that was placed on the same day. Loads of treated medical waste shall be immediately covered with a minimum of two (2) feet of MSW and compacted.
  16. Loads of dead animals, offal (hides, intestines and other waste from slaughtered animals) and fresh or frozen uncooked shrimp and other crustaceans shall be placed in trench/pit areas, excavated within waste that was placed on the same day, and shall be immediately covered with a minimum of two (2) feet of MSW or soil and compacted. The thickness of MSW shall be increased or additional soil shall be used, as needed to minimize odors. Odor neutralizers and soil cover shall be used, as needed to minimize odors. Prior to acceptance, uncooked shrimp and other crustaceans shall also be containerized and double-bagged.
  17. The Odor Control Program in the November 22, 2023 Site Operations Manual shall be implemented. If odor control measures are not adequate, the permittee shall implement additional odor control measures and the DOH may require that additional measures be implemented.
    - a. Odorous loads shall be placed in trench/pit areas, excavated within waste that was placed on the same day and known to contain no odorous special wastes. The pit will be large enough to contain approximately twice the volume of the anticipated odorous load.
    - b. The odorous load shall be immediately covered with a minimum of two (2) feet of MSW or soils and compacted. The thickness of MSW shall be increased or additional soil shall be used, as needed to minimize the odor.
    - c. Daily cover soil will be placed and compacted above the solid waste. Odor neutralizers and added soil cover shall be used, as needed to minimize odors.
  18. The following controls shall apply to the operations with contaminated materials (as defined in Special Conditions, Section C, Item 5.c.viii):
    - a. The permittee shall ensure that contaminated materials are removed from the truck during disposal to the best practicable extent possible.
    - b. The permittee shall implement appropriate dust control measures, such as water sprays and barriers, containerization, or restricting disposal to only non-windy conditions to adequately control dust and the scattering of contaminants during placement of contaminated material. The selection of dust/contaminant control measures shall be determined based on operations, the type of waste, and type and concentration of contaminants. The permittee shall also determine whether air monitoring is necessary for the specific disposal. The control measures and procedures for dust control and air monitoring, if applicable, shall be specified in the Contaminated Materials Notification.

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- c. The permittee shall document the special disposal procedures implemented for the contaminated material. Special disposal procedures may include the use of isolation of the material by the use of synthetic or soil barriers or containers.
19. Contaminated soil with contaminant concentrations below current DOH, Environmental Action levels for Direct Exposure in Industrial Setting may be used as daily cover, provided that the daily cover shall not be exposed for more than twenty-four (24) hours.
20. Contaminated soil with contaminant concentrations greater than DOH Environmental Action Levels for unrestricted use shall not be used as intermediate or final cover. The permittee shall implement DOH's Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material in determining whether soil is appropriate for cover use.
21. The permittee shall place daily cover on the disposed solid waste at the end of each workday, or at more frequent intervals, if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging. The daily cover material shall be comprised of a minimum of six inches of earthen material or an alternative daily cover and shall leave no exposed waste. Of primary preference, earthen material shall be soil. The permittee shall maintain a daily log, including the date, volume of waste disposed, cell geometry, and volume and type of material used as daily cover.
22. The permittee may submit a written proposal to request the use of an alternative daily cover (ADC), comprised of alternative materials of an alternative thickness (other than at least six inches of earthen material).
  - a. The use of ADC is limited to daily cover use.
  - b. The use of ADC shall be evaluated in demonstration projects. The demonstration project shall be performed in 6-month increments to determine whether the ADC and its thickness can control disease vectors, fires, odors, nuisance, litter, and scavenging without presenting a threat to human health and the environment.
  - c. The request shall include ADC specifications, associated operational procedures, an assessment of whether the alternative material and thickness can control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment, and any other pertinent information.
  - d. The permittee shall obtain DOH approval, in writing, prior to the commencement of the demonstration project.
  - e. The permittee shall report the performance of the ADC at the end of the demonstration period, including an evaluation of whether the ADC is appropriate for use at the facility, and successful operational procedures.
  - f. The permittee shall obtain DOH approval, in writing, prior to commencement of continued use of ADC beyond the demonstration period. The DOH may impose conditions on the use of ADC. Those conditions shall become part of this permit.
  - g. The demonstration period or the approved use of an ADC may be rescinded or cancelled by either the DOH or permittee at any time without cause.

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23. In accordance with the DOH's letter dated January 24, 1995, the Kekaha Landfill is approved to use tarps as ADC. The tarps shall be Griffolyn TX1200 or equal (10 mil thickness with nylon scrim reinforcement). The tarps may only be used under the following conditions:
- a. The area where ADC is used shall be covered with waste or soil daily cover within twenty-four (24) hours after initial ADC placement.
  - b. The ADC placement is limited to 100 feet x 100 feet (approximately 3 tarps). The areas that are not covered with ADC shall be covered with at least 6-inches of compacted daily soil cover.
  - c. An intermediate cell construction method shall be used, with the intermediate cells being limited to 2,000 tons. The approximate dimensions of a 2,000 ton intermediate cell at the Kekaha Landfill are to be 100 feet by 100 feet by 10 feet high. Once the intermediate cell is completed, all faces of the cell shall receive a compacted six-inch layer of soil.
  - d. Additional soil to 12-inches thick shall be added to the six-inch cover material for all-weather haul roads, at the tipping pad, and areas needing intermediate cover.
  - e. Intermediate cell construction soil shall use a fine grain, clay type soil.
24. Daily Cover Monitoring Verification Program. The permittee shall take digital photos of the active workface at the middle and end of each day (Monday through Sunday), from the same perspective, to document the placement and thickness of daily cover. Digital photo records shall be maintained at the facility and submitted to the DOH via email by noon on the following business day, with cell location information provided in photographs and in emails.
25. The permittee shall cover all areas that do not receive waste (MSW) within a 30-day period with intermediate cover. The permittee shall also cover any area receiving vehicular traffic with intermediate cover, regardless of the time period since last receiving waste. The DOH may require that intermediate slopes be vegetated, or measures be taken to control dust.
- a. Intermediate cover shall be a minimum of 12 inches of earthen material (may include six inches of soil daily cover). The particle size shall be adequate to minimize infiltration and direct storm water to collection systems.
  - b. Intermediate cover shall be inspected at least once per month, and issues shall be addressed as they are identified, such as repairs for erosion and cracking. The permittee shall maintain a log of inspections, findings, and corrective actions, if needed.
26. The permittee shall cease acceptance and disposal of waste in high wind conditions, as necessary for safety and environmental compliance and as determined by the foreman and Site Manager or Environmental Professional. The permittee shall maintain a log of such events, including the date, time of shutdown, and associated estimated wind speed.

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27. The permittee shall stop accepting waste when the landfill has reached its design capacity as defined in Drawing No. C-102, Final Cover Grading Plan of the November 29, 2023 Engineering Report Kekaha Landfill, Phase II Vertical Expansion, or is terminated by any land use permits, whichever comes first, and begin closure actions as delineated in Part II, Special Conditions, Section I.

### **Section E. Surface Water Management**

1. The permittee shall design, construct, and maintain a surface water run-on and run-off control system throughout the life of the landfill and through post-closure in accordance with HAR 11-58.1-15(9).
2. The surface water system is generally depicted in Section IV of the November 22, 2023 Site Operations Manual and shall be as shown on Drawing No.C-103 of the Engineering Report Kekaha Landfill, Phase II Vertical Expansion dated November 29, 2023 and approved subsequent submitted documents. The surface water management system consists of storm water conveyance that transfers surface water to infiltration ditches and to an infiltration basin on the northeast corner of the facility. Storm water shall not come into contact with the GCL of the landfill and storm water run-on shall be prevented from entering the evaporation pond containment system. If the design is insufficient to comply with the conditions of this permit, proposed modifications shall be submitted to the DOH and implemented.
3. Storm water that comes in contact with solid waste shall be managed and disposed of as leachate. Storm water that enters the evaporation pond shall be managed as leachate.
4. The conditions of this permit do not preclude compliance with any other applicable federal, state, or local requirements including water quality and surface water discharge regulations.
5. The Surface Water Management Plan as delineated in Section IV of the Site Operations Manual shall be updated annually and filed with the DOH by September 1 of each year. It shall contain the following information:
  - a. An annual inspection report of surface water management features and facilities, together with a description of required maintenance and changes;
  - b. Updated drawings showing current topography of the landfill, surface water drainage paths and conveyances, and drainage system modifications planned for the next year in response to waste filling;
  - c. All areas with intermediate cover shall be graded to direct storm water away from the workforce and towards the storm water collection system;
  - d. Engineering calculations documenting the capability of the surface water management system to comply with the run-on and run-off requirements listed under Special Condition E.1. Top deck areas shall have minimum slope of 3% to promote drainage. Side-slopes shall not exceed 3.5 horizontal to 1 vertical (final slope design); and

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- e. Any updates to the Storm Water Pollution Control Plan or Spill Prevention, Control, and Countermeasures (SPCC) Plan prepared pursuant to federal requirements under the Clean Water Act.

## **Section F. Explosive Gases Control**

1. The permittee shall implement the November 22, 2023 Perimeter Gas Monitoring Plan in the November 22, 2023 Site Operations Manual or a DOH-approved updated plan. The plan shall be conducted in accordance with HAR 11-58.1-15( d), which requires the permittee to ensure that:
  - a. The concentration of methane gas generated by the facility does not exceed twenty-five percent (25%) of the lower explosive limit (LEL) for methane in facility structures (excluding gas control or recovery system components); and
  - b. The concentration of methane gas does not exceed the LEL for methane at the facility property boundary. The LEL for methane is five percent (5%) by volume.
2. At a minimum, the permittee shall monitor the concentration of gases, including oxygen, methane and carbon dioxide on a quarterly basis in accordance with the November 22, 2023 Perimeter Gas Monitoring Plan, or as approved by the DOH. The permittee shall monitor the concentration of the gases in facility structures, including temporary structures, and at the property boundary in accordance with the November 22, 2023 Perimeter Gas Monitoring Plan, or as approved by the DOH. If an exceedance is identified, the permittee may conduct a verification monitoring event within one (1) hour of the initially detected exceedance. If exceedances or other anomalous condition is identified, the DOH may increase the frequency of monitoring events.
3. The permittee shall inspect and maintain the gas monitoring probes. In the event that a probe is unusable, the permittee shall repair the probe or install a new probe prior to the next monitoring event.
  - a. If the probe is repaired, submit documentation to the DOH indicating the reason for repair, type of repairs completed, and evaluations performed to ensure the probe is acceptable for use.
  - b. If the probe is replaced, the permittee shall:
    - i. Update the Perimeter Gas Monitoring Plan to show the new probe locations and identification numbers within thirty (30) days of probe installation. The update shall also document the reason for the replacement or addition of the probe.
    - ii. Submit an installation report for the new probe within sixty (60) days of completion. The report shall include geologic logs for each probe location, survey locations, elevations of probes, and as-built drawings of each monitoring probe.
    - iii. Abandon the unusable probe and submit associated documentation.
4. The permittee shall ensure that the field meters are factory calibrated in accordance with manufacturer's specifications. The permittee shall also field calibrate the meters prior to

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each monitoring event. The permittee shall conduct monitoring events only with equipment that has been properly calibrated and maintained.

5. The permittee shall submit a report with results within sixty (60) days of each monitoring event. The results shall include the date and time, gas concentrations by volume, barometric pressure, site conditions, name of personnel conducting the monitoring, description of equipment and calibration results, description of monitoring procedure, and identification of any procedures or observations outside of normal conditions.
6. If explosive gas concentrations exceed the limits in Special Condition F.1, and verification monitoring is not performed, or verification monitoring confirms the initial exceedance, the permittee shall perform the following.
  - a. Immediately take all necessary steps to ensure protection of human health,
  - b. Immediately notify the DOH of the exceedance,
  - c. Within seven (7) days of detection, place in the operating record and submit to the DOH documentation that methane gas levels detected and a description of the steps taken to protect human health,
  - d. Within sixty (60) days of detection, prepare and implement a remediation plan for the combustible gas releases, place a copy of the plan in the operating record, provide a copy of the plan to the DOH, and notify the DOH that the plan has been implemented.
  - e. Within thirty (30) days after the remediation plan has been completed, submit a report to the DOH documenting the actions taken, additional monitoring results, and plans to prevent future recurrences.
  - f. The DOH may modify the reporting and implementation schedule, as necessary to protect human health and the environment.

## **Section G. Leachate Management/Groundwater and Leachate Monitoring**

### Leachate Management

1. The permittee shall implement the November 22, 2023 Leachate Management Plan and/or approved subsequent submissions, and the following conditions. If there are discrepancies between the plans and the permit conditions, the HRS, HAR, and permit conditions take precedence.
2. The permittee shall manage storm water that comes in contact with solid waste as leachate. Leachate shall be managed to prevent entry into the storm water collection system and contact with the public.
3. The permittee shall maintain an elevation control point at the top of casing of each groundwater monitoring well and leachate sump/manhole/wet well, for the measurement of groundwater/leachate level in each monitoring system. The elevation control point shall be surveyed at least once every five (5) years and clearly marked.

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Reference elevations at the top of each wet well and sump shall be permanently marked on the surface of the access opening to allow the manual measurement of leachate surface elevation from the access hatch opening. The permittee shall also maintain a monument, showing benchmark elevation, located in a position off the landfill.

4. The permittee shall inspect, operate, and maintain the leachate management system and evaporation pond, as designed. The leachate management system includes the leachate collection and transmission piping, sumps, manholes, wet wells, and pumping stations that deliver leachate from the landfill to the evaporation pond.
  - a. The leachate management system and evaporation pond shall be operated and maintained in accordance with HLA drawing titled *Kekaha Sanitary Landfill Phase II* and dated March 1993 (original Phase II leachate collection system) and as modified by the following and approved subsequent drawings.
    - i. Cell 1 Leachate Collection System: *Report of CQA Cell 1 (1A through 1D)*, dated October 18, 2010, and prepared by Geosyntec Consultants, including red-lined construction drawings.
    - ii. Evaporation Pond: *Report of Construction Quality Assurance for New Leachate Evaporation Pond*, prepared by Geosyntec Consultants, dated May 25, 2010, including red lined construction drawing numbers 3, 11, 12, 13, 14 and 22, as of May 24, 2010.
    - iii. *Report of Construction Quality Assurance, Phase II Leachate Management System Modifications, Kekaha Sanitary Landfill*, prepared by Geosyntec Consultants, dated April 14, 2016.
    - iv. Cell 2 Leachate Collection System: *Cell 2 Base Liner Construction Drawings Phase II Lateral Expansion, Kekaha Sanitary Landfill*, prepared by AECOM, dated October 2018.
  - b. The permittee shall maintain in good working order an automated leachate pump system, with preset sump and wet well levels to minimize backup of leachate into the cells or leachate transmission lines. The pump settings shall be as specified in listed references and as listed below; or as approved by the DOH. The automated systems shall include an alarm system to alert the permittee to anomalous conditions with the pumps, or in wet wells or sumps.

	Wet Well 1 <sup>1,4</sup>	Wet Well 2 <sup>1,4</sup>	Wet Well 3 <sup>2,5</sup>	Sump 2A <sup>5,6</sup>	Sump 2B <sup>5,6</sup>
High Alarm (inches from bottom of well)	34	34	60 <sup>7</sup>	n/a	n/a
High Alarm (feet, elevation)	5.63	6.53	8.00 <sup>7</sup>	12.1	12.1
Pump On (inches from bottom of well)	22	22	48	n/a	n/a
Pump On (feet, elevation)	4.63	5.53	7.00	11.6	11.6
Pump Off (inches from bottom of well)	13	13	14.25	n/a	n/a

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Pump Off (feet, elevation)	3.88	4.78	4.19	11.1	11.1
Low Alarm (inches from bottom of well)	11	11	13.25	n/a	n/a
Low Alarm (feet, elevation)	3.71	4.61	4.11	n/a	n/a

<sup>1</sup> Report of Construction Quality Assurance, Phase II Leachate Management System Modifications, Kekaha Sanitary Landfill, prepared by Geosyntec Consultants, dated April 14, 2016.

<sup>2</sup> Report of CQA Cell 1, prepared by Geosyntec Consultants, dated October 18, 2010.

<sup>3</sup> Draft Cell 2 Base Liner Construction Drawings Phase II Lateral Expansion, Kekaha Sanitary Landfill, prepared by AECOM dated October 2018.

<sup>4</sup> Vertical datum correlates to designated USGS brass monument G1000 plus 1.21 feet.

<sup>5</sup> Vertical datum correlates to Local Tidal.

<sup>6</sup> Email from Donn Kakuda, County of Kauai to Kevin Kihara, dated June 15, 2018.

<sup>7</sup> Revised Leachate Management Plan, prepared by Waste Management of Hawaii, Inc., dated August 2018.

- c. The permittee shall inspect the condition and integrity of the leachate collection system and evaporation pond at least once per month, and in accordance with the Leachate Management Plan.
  - d. The permittee shall perform a system check of the interstitial monitoring system of each of the wet wells at least once a month in accordance with the manufacturer's recommendation.
  - e. The permittee shall document the results of the inspections and implement corrective actions to address any findings that may compromise the integrity of the system and result in a release.
  - f. If the pump system or any portion of the leachate collection and removal system is inoperable, the permittee shall take immediate steps to rectify the problem and implement contingency measures to comply with remaining conditions of this permit.
5. The permittee shall maintain usable access to all groundwater monitoring wells and leachate sumps/manholes/wet wells. The permittee shall inspect and maintain the integrity of the monitoring wells and sumps/manholes/wet wells, and protect them from damage, destruction, or vandalism. If repair or replacement is necessary to ensure proper management and monitoring, then the permittee shall design and construct the necessary repairs and/or replacements.
- a. Should any of these sumps/wells/manholes become damaged, destroyed, or vandalized, the permittee shall notify the DOH immediately. The notification shall include pertinent information as to the cause of the destruction, description of measures to replace and/or repair the sumps/wells/manholes, and actions taken to prevent the recurrence of such problems in the future.
  - b. If a well/manhole/sump will be constructed, modified or repaired, a construction plan shall be submitted to the DOH prior to commencement of construction. At a minimum, the plan shall include the proposed well/manhole/sump location; the rationale for the well/manhole/sump location; a description of the

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well/manhole/sump design, modification or repair; and installation procedures. The permittee shall implement the repair/construction upon DOH approval.

- c. The permittee shall ensure that the existing Phase II leachate collection pipe cleanouts are periodically extended in accordance with the *Cell 2 Base Liner Construction Drawings Phase II Lateral Expansion, Kekaha Sanitary Landfill*, revised May 6, 2020 including red-lined construction drawings, or subsequent updates provided by the engineer of record.
  - d. A Well/Manhole/Sump Completion Report shall be sent to the DOH within sixty (60) days of any new groundwater monitoring well and leachate manhole/wet well/sump (as appropriate) construction or repair. At a minimum, the report shall include geologic logs, well/manhole/wet well/sump design, installation activities, surveyed location, as-built drawings (with depths and elevations of all pertinent components, such as top of casing, total depth of well, screened interval, groundwater elevation, pipe inverts, and pump intake placement) and pump level information. Upon well/manhole/wet well/sump completion, the permittee shall incorporate wells/manholes/wet wells/sumps into the leachate/groundwater monitoring program.
6. The permittee shall remove leachate from the landfill via each of the leachate wet wells and sumps using the automated system that is described in Special Condition G.4.b. Based on design plans, the leachate levels in the wet wells shall not exceed the following compliance levels, or as approved by the DOH:

Location	Top of Well or Sump, Elevation (feet)	Lowest Pipe Invert Elevation (feet)	Lowest Sump Elevation (feet)	Lowest Liner Elevation (feet)	Compliance Elevation (feet)
WetWell 1	18.00 <sup>1,4</sup>	6.50 <sup>1,4</sup>	n/a	6.6 msl <sup>5,6</sup>	7.50 <sup>1,4</sup>
WetWell 2	16.11 <sup>1,4</sup>	7.03 <sup>1,4</sup>	n/a	6.6 msl <sup>5,6</sup>	8.03 <sup>1,4</sup>
Wet Well 3 <sup>2,5</sup>	22.5 msl	8.11 msl	n/a	10.50 msl	9.11 msl
Sump 2A <sup>3,5</sup>	TBD	n/a	10.50 msl	11.56 msl	12.56 msl
Sump 2B <sup>3,5</sup>	TBD	n/a	10.50 msl	11.61 msl	12.61 msl

<sup>1</sup> Report of Construction Quality Assurance, Phase II Leachate Management System Modifications, Kekaha Sanitary Landfill, prepared by Geosyntec Consultants, dated April 14, 2016.

<sup>2</sup> Report of CQA Cell 1, prepared by Geosyntec Consultants, dated October 18, 2010.

<sup>3</sup> Draft Cell 2 Base Liner Construction Drawings, Phase II Lateral Expansion, dated October 2018.

<sup>4</sup> Vertical datum correlates to designated USGS brass monument G1000 plus 1.21 feet.

<sup>5</sup> Vertical datum correlates to Local Tidal.

<sup>6</sup> Kekaha Sanitary Landfill Phase II, Design Drawings, prepared by Harding Lawson and Associates, dated March 1993.

7. Leachate Level Monitoring and Recordkeeping

- a. The permittee shall use automated monitoring and recordkeeping systems to monitor leachate levels in the sumps and wet wells.
  - i. The permittee shall maintain a daily log of the leachate levels in each sump and wet well, and an indication of whether moisture was detected in the interstitial space of Wet Wells 1, 2, and 3.
  - ii. The log shall include the date, level of leachate in each sump and wet well, results of interstitial monitoring, volume of leachate pumped into the

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Evaporation Pond as measured by the flowmeters, or other approved methods, and name of person conducting the inspection.

- b. The permittee shall construct and maintain two independent sump level transducer measurement systems. The systems shall be independent such that each system operates as a backup for the other in the event that one of the systems requires maintenance, repair, or becomes inoperable.
  - c. In the event that any portion of the automated monitoring or recordkeeping systems is under repair or inoperable, the permittee shall ensure that the remaining system is operating properly. Within seven (7) days of triggering the requirement repair or one of the systems becoming inoperable, the permittee shall submit written notification to the DOH describing the situation, corrective actions, and schedule.. After the repair/maintenance is completed, the permittee shall record measurements daily for a minimum of three (3) days, and weekly for three (3) weeks to verify that both systems are operating and providing independent verification of sump levels. The permittee shall submit written notification, including documentation, of the three (3)-week verification test.
  - d. The permittee shall notify the DOH of any exceedances of the leachate compliance levels, in accordance with Standard Conditions, Item 10.
  - e. The permittee shall update the Leachate Monitoring Plan in their Operations Plan to detail the additional sump level transducer measurement system and its use in conjunction with the existing sump level transducer measurement system to ensure accuracy of the measurements in the sump and submit to the DOH for approval.
8. Evaporation Pond
- a. Leachate levels in the evaporation pond shall not exceed 6-foot depth, leaving about 2 feet of freeboard.
  - b. The permittee shall implement contingency plans as needed to address potential exceedances, in accordance with the Operations Plan. These contingency plans include providing storage tanks to temporarily store excess leachate from the evaporation pond and haul excess leachate to an authorized wastewater treatment plant as necessary. The transfer of leachate and temporary storage of leachate shall be conducted with secondary containment measures.
  - c. The permittee shall maintain records of leachate removal (by means other than evaporation), including date, volume, beginning and ending depths of leachate, and manner of disposal.
  - d. Leachate levels in the evaporation pond shall be recorded at least weekly, except during periods of heavy rainfall, when the level shall be recorded daily, in accordance with the Leachate Management Plan. Leachate levels will also be recorded each time condensate and/or leachate liquids are accepted from the Halehaka Landfill. If leachate levels in the pond following release of Halehaka liquids cannot be measured due to insufficient detectable liquid in the pond, the recorded date and volume of the Halehaka liquids shall serve as documentation.
  - e. The record log shall include the date, leachate level, and name of person conducting the inspection.

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- f. The permittee shall notify the DOH of any exceedances of the leachate evaporation pond compliance levels in accordance with Standard Condition Item 10.
- g. The permittee may accept condensate and/or leachate generated from the County of Kauai's closed Halehaka Landfill for disposal in the evaporation pond.
- h. The facility shall not accept a load of condensate and/or leachate that is considered unacceptable waste as defined in Special Condition C.2.h. The facility shall not accept a load of condensate and/or leachate if it will cause or contribute to odor nuisances from the evaporation pond.
- i. Within 90 days of the issuance of this permit, the permittee shall provide to the DOH for approval, a Halehaka Condensate and Leachate Acceptance Plan. Any procedures provided to the permittee from the Halehaka Landfill facility in order to meet the requirements of the plan will be incorporated into the plan for DOH review.  
Any subsequent revisions to the plan will be submitted to the DOH for review and approval prior to implementation.
- j. The information gathered from the Halehaka Condensate and Leachate Acceptance Plan shall be provided to the DOH prior to acceptance of any of the condensate and/or leachate.
- k. Upon acceptance of any Halehaka liquids, specific records of the discharges to the evaporation pond will be recorded including, but not limited to, date, time, amount of gallons of condensate or leachate accepted.
- l. After receiving sufficient data on the characteristics of the condensate and/or leachate from Halehaka, the DOH may adjust the sampling frequency and/or parameters.

#### Groundwater and Leachate Monitoring

9. The permittee shall implement the November 22, 2023 Groundwater and Leachate Monitoring Plan and/or approved subsequent submissions, and the following conditions. If there are discrepancies between the plans and the permit conditions, the HRS, HAR, and permit conditions take precedence.
10. The permittee shall measure groundwater elevations from each monitoring well prior to groundwater sampling and within a reasonable time period in order to estimate groundwater flow direction. The elevation datum and source shall be noted in each groundwater report.
11. All sample collection, handling, management, and analysis shall be conducted in accordance with EPA SW-846, Test Methods for Evaluating Solid Waste.
12. Each sample shall be properly collected, identified, contained, and preserved. The name and signature of the person who collected the sample shall be included in the records. A chain of custody shall be maintained from the time of sample collection through the final analysis and disposition.

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13. Sample analysis shall be conducted by an independent third party with appropriate credentials and performed at the expense of the permittee.
14. Groundwater samples shall be collected and analyzed in accordance with the Groundwater and Leachate Monitoring Plan and as follows, or as required or otherwise approved by the DOH.
  - a. Groundwater samples shall be analyzed, on a quarterly basis, for constituents listed in 40 CFR 258 Appendix I, major cations and anions (Mg, Mn, Na, Ca, K, Cl, CO<sub>3</sub>, SO<sub>4</sub>, and HCO<sub>3</sub>), major leachate indicators (TDS, TOC, total alkalinity, nitrogen-ammonia, Cl, and Fe), COD, nitrate-N, bromide, and field measurements (electrical conductance, pH, temperature, turbidity, and groundwater surface elevation), or as required or otherwise approved by the DOH.
  - b. Groundwater samples from newly installed wells shall be analyzed on a quarterly basis for the following constituents: constituents listed in 40 CFR 258 Appendix I, major cations and anions (Mg, Mn, Na, Ca, K, Cl, CO<sub>3</sub>, SO<sub>4</sub>, and HCO<sub>3</sub>), major leachate indicators (TDS, TOC, total alkalinity, nitrogen-ammonia, Cl, and Fe), COD, nitrate-nitrite as N, bromide, and field measurements (electrical conductance, pH, temperature, turbidity, and groundwater surface elevation), or as required or otherwise approved by the DOH.
15. Leachate samples shall be collected and analyzed on an annual basis. Leachate samples shall be analyzed for constituents listed in the Groundwater and Leachate Monitoring Plan and as follows: 40 CFR 258, Appendix II, major cations and anions (Mg, Na, Ca, K, Cl, CO<sub>3</sub>, SO<sub>4</sub>, and HCO<sub>3</sub>), major leachate indicators (TDS, TOC, total alkalinity, nitrogen-ammonia, Cl, and Fe), COD, nitrate-nitrite as N, bromide, and field measurements (electrical conductance, pH, temperature, and turbidity), or as required or otherwise approved by the DOH. Individual samples shall be collected and analyzed from Wet Wells 1, 2, and 3, Sumps 2A and 2B.
16. The permittee shall prepare and submit a Groundwater/Leachate Monitoring Report within ninety (90) days of sampling, or other applicable reporting period. At a minimum, the monitoring reports shall include:
  - a. Identification of groundwater or leachate wells/sumps sampled during the event.
  - b. Sample collection dates and methodology.
  - c. Identification of third-party entity that performed the sample analysis.
  - d. Analytical data, including copies of laboratory reports. The laboratory electronic data deliverable (EDD) files of the analytical data will also be provided either as a file on readable physical media (compact disk, USB flash drive) or as an electronic file in an attachment or link on an email.
  - e. Time-series plots for each detection monitoring parameter (except field measurements) and Piper/Stiff diagrams.
  - f. Comparison of analytical data to drinking water standards and Environmental Action Levels.
  - g. Identification of any deviations from the plan, reason for the deviation, and effect on the sampling results.

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17. The permittee shall provide statistical analysis and documentation in each groundwater monitoring report that adequately supports each assumption, position, and/or conclusion. This shall include, but is not limited to:
  - a. Step-by-step methodology for determining and/or updating baseline statistics.
  - b. Methodology and statistical data for evaluating monitoring data.
  - c. Methodology and historical analysis for determining trends or spikes.
  - d. Methodology and statistical data for describing changes or additions to the parameter monitoring list.
18. In the event of a detection of VOCs above the practical quantitation limit, or a statistically significant increase, the permittee shall comply with the requirements of HAR 11-58.1-16 and the Landfill Groundwater Monitoring Guidance Document.

**Section H Subsurface Landfill Gas Temperature Monitoring and Contingency Plan Phase I Landfill Disposal Area**

1. At a minimum, the permittee shall implement the March 3, 2023 Subsurface Landfill Gas Temperature Monitoring and Contingency Plan, or an approved alternative, and the following.
  - a. A subsurface oxidation event (SOE) is presumed to have occurred if any of the following conditions are observed at a Phase I landfill gas extraction well:
    - i. CO concentration exceeds 1,000 parts per million by volume (ppmv);
    - ii. CO concentration exceeds 400 ppmv in three consecutive and repeatable measurements in a span of one week.
    - iii. The temperature exceeds 131 degrees F and the CO concentration exceeds 400 ppmv; or
    - iv. Actual observance of evidence of an SOE (e.g., smoke, smoldering ash, or burnt materials).
  - b. The permittee shall notify the DOH of any SOE in accordance with Standard Conditions, Item No. 9 of this permit.

In the event of a SOE, the contingency plan in the Subsurface Landfill Gas Temperature Monitoring and Contingency Plan shall, at a minimum, be implemented. The permittee shall also evaluate whether temperatures or SOE may have impacted the integrity of the cover, liner, and leachate collection system, and take corrective measures as necessary.

2. The permittees shall implement the settlement monitoring plan proposed in the March 3, 2023 Subsurface Landfill Gas Temperature Monitoring and Contingency Plan for the Phase I Landfill Disposal Area, or an approved alternative. Settlement measurements shall be taken at least monthly during the first year, which may be reduced if settlement is not identified. Measurements shall be recorded in the Annual Operating Record. If settlement measurements indicate potential damage to the Phase I or Phase II landfills, appropriate measures shall be taken to minimize impact to human health and the environment.

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**PERMIT NUMBER:** LF-0042-23  
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3. The permittee shall maintain usable access to all working landfill gas extraction wells for the purpose of temperature and CO monitoring . The permittee shall inspect and maintain the integrity of the working wells and protect them from damage, destruction, or vandalism. If repair or replacement is necessary to ensure proper landfill gas management, then the permittee shall design and construct the necessary repairs and/or replacements. All repairs, replacements, decommissioning shall be performed in a manner that minimizes the infiltration of oxygen to the waste mass.. If the landfill gas extraction wells are no longer needed for the purpose of landfill gas collection, the permittee shall propose to the DOH for approval an alternate method of monitoring subsurface temperature.

### **Section I Closure and Post-Closure Requirements**

1. The permittee shall perform closure and post-closure activities in accordance with HAR §11-58.1-17, the February 20, 2023 Closure/Post Closure Plan or a DOH-approved updated plan, and these permit conditions.
2. The permittee shall submit closure construction plans and specifications with the notice of intent to close as specified in Special Condition I.3. The construction plans and specifications shall be prepared and certified by a professional engineer, with at least five (5) years' experience in designing landfills, and registered in the State of Hawaii.
3. The permittee shall provide written notice of intent to close each landfill unit at least one hundred eighty (180) days prior to initiating closure activities. The notice of intent shall include a schedule and shall also be placed in the operating record.
4. The permittee shall begin closure activities of each landfill unit after receiving DOH approval on the closure construction plans and specifications and:
  - a. Within thirty (30) days after the date on which the unit receives the known final receipt of wastes;
  - b. Within one (1) year after the most recent receipt of wastes, if remaining capacity exists and there is a reasonable likelihood of additional waste acceptance; or
  - c. Otherwise as approved by the DOH.
5. Soil with contaminant concentrations above DOH Environmental Action Levels for unrestricted use shall not be used in the final cover system. The permittee shall follow the DOH's Guidance for Soil Stockpile Characterization and Evaluation of Imported and Exported Fill Material.
6. The permittee shall complete closure activities of each unit within one hundred eighty (180) days following the beginning of closure in Special Condition 11.1.4. The permittee shall retain a professional engineer registered in the State of Hawaii for the supervision of the closure CQA requirements, and upon the completion, the engineer shall submit a summary CQA report to the DOH to demonstrate as to the complete conformity to the plans and specifications as approved. The summary report shall be submitted within sixty (60) days after closure activities are completed. The summary report shall include a

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description of closure activities, as-built drawings, a survey prepared by a licensed land surveyor of the final cover system and horizontal and vertical extent of the landfill, a documented control program of the final cover system construction, QA/QC testing procedures, laboratory analyses, and engineer's certification that the closure was completed in accordance with the closure plan and complies with the requirements of HAR 11-58.1-17.

7. Within one (1) year of completion of closure construction, the permittee shall submit a copy of the notation on the deed to the landfill property in accordance with HAR 11-58.1-17; and implement post-closure care in accordance with HAR 11-58.1-17 and these permit conditions. The notation shall at a minimum include a surveyed location of the landfill and reference to as-built drawings associated with the construction and closure of the landfill, and the post-closure monitoring plan and reports.
8. The permittee shall inspect and maintain the final cover system, including portions of the final cover system in the case of a phased closure, and other environmental controls associated with the facility on a quarterly basis, or more frequently if necessary or required by the DOH. If post closure plans are inadequate to maintain the integrity of the final cover system and associated environmental controls, additional measures may be required. The DOH may periodically require revisions to the plan.
  - a. The inspections of the final cover system shall include, but are not limited to, an assessment of security control; erosion and erosion damage; cover deformation resulting from settlement, subsidence, or deformation; and run on and runoff control structures.
  - b. The inspections of other environmental controls shall include, but is not limited to, an assessment of the surface water management system, groundwater monitoring system, perimeter gas monitoring system, leachate collection and control system, Phase I temperature monitoring system, and presence of odors, vectors, and litter.
  - c. The permittee shall document findings and implement corrective actions or other procedures, as necessary to maintain the integrity and functionality of the final cover system and environmental controls. The permittee shall submit written notification of any areas requiring attention and any associated corrective actions or procedures performed, within thirty (30) days of the quarterly inspection.
9. The permittee shall operate the surface water management system, perimeter gas management system, Phase I temperature monitoring system, leachate collection and control system, and groundwater monitoring programs in accordance with this permit through closure and post-closure care. The DOH may periodically require revisions to the plans.
10. During closure and post-closure periods, the permittee shall continue to assess the landfill after emergency events such as earthquakes and fires, in accordance with Special Condition A 12.

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11. If portions of the landfill are closed while the remainder of the facility is still operating, the permittee shall continue operating and monitoring the closed sections in accordance with this permit.
12. Should the landfill reach full design capacity based on the permitted final grades referenced in Special Condition A.3, the permittee shall cease acceptance of waste and begin closure of remaining active portions of the landfill.

## **Section J Recordkeeping and Reporting Requirements**

1. The permittee shall maintain records in accordance with HAR 11-58.1-150), Standard Condition 11, and the conditions of this permit. Records shall include the following list and any other recordkeeping requirements set forth in this permit:
  - a. Financial assurance requirements (Special Condition A.11).
  - b. Training records (Special Conditions A.10, C.2, and D.6).
  - c. Load Check Data Sheets (Special Condition C.2).
  - d. Daily log of unacceptable waste (Special Condition C.3).
  - e. Implementation of Waste Acceptance/Hazardous Waste Exclusion Program (Special Condition C.5).
  - f. User population (Special Condition D.3).
  - g. Climatic information (Special Condition D.5).
  - h. Vector control (Special Condition D.9).
  - i. Litter control (Special Condition D.10).
  - j. Asbestos disposal locations (Special Condition D.14).
  - k. Special disposal procedures for contaminated material (Special Condition D.18.c).
  - l. Daily cover log (Special Condition D.21).
  - m. Daily cover monitoring verification program (Special Condition D.24).
  - n. Monthly monitoring of intermediate cover (Special Condition D.25).
  - o. Ceasing operations due to wind (Special Condition D.26).
  - p. Inspection of leachate collection and groundwater monitoring systems (Special Condition G.5).
  - q. Leachate collection system logs (Special Conditions G.7 and G.8).
  - r. Gas temperature monitoring well measurements, monthly, and settlement marker measurements, as specified (Special Conditions H.1 and H.2).
  - s. Inspections of the final cover system (Special Condition I.8).
2. The permittee shall comply with the reporting requirements of Standard Condition 11, the following list, and any other reporting requirements set forth in this permit:
  - a. Operations outside normal operating hours (Special Condition A.6).
  - b. Personnel updates (Special Condition A.9).
  - c. Financial assurance requirements (Special Condition A.11).
  - d. Incident reporting, including suspected subsurface fires (Special Condition A.12).
  - e. Evaluation of landfill integrity after emergency events (Special Condition A.12.c).
  - f. Proposed changes to liner or LCRS design (Special Condition B.3).
  - g. Liner installation notification (Special Condition B.4).

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- h. Identification of hazardous or PCB waste (Special Condition C.3.d).
  - i. Contaminated materials acceptance (Special Condition C.5.d).
  - j. Changes to user population (Special Condition D.3).
  - k. Daily cover monitoring verification program (Special Condition D.24).
  - l. Explosive gas exceedances (Special Condition F.6).
  - m. Monitoring well/manhole/wet well/sump status (Special Condition G.5).
  - n. Exceedance of leachate compliance levels (Special Conditions G.6, G.7, and G.8).
  - o. Notification of intent to close landfill units (Special Condition I.3).
  - p. Final cover system areas (Special Condition I.8).
3. The permittee shall submit the following documents, and any other document requirements specified in this permit, in hardcopy and electronic format:
- a. Surface Water Management Plan (Special Condition E.5).
  - b. Gas monitoring probe construction/repair/abandonment (Special Condition F.3).
  - c. Explosive gas monitoring reports (Special Condition F.5).
  - d. Explosive gas exceedance plans/reports (Special Condition F.6).
  - e. Monitoring well/manhole/wet well/sump construction and repair (Special Condition G.5).
  - f. Halehaka Condensate and Leachate Acceptance Plan (Special Condition G.8)
  - g. Groundwater/Leachate Monitoring Report (Special Condition G.15).
  - h. Closure plans and specifications (Special Condition I.2).
  - i. Summary report of closure construction (Special Condition I.6).
  - j. Copy of notation to deed following closure (Special Condition I.7).
4. The permittee shall submit an Annual Operating Report (AOR), for reporting period July 1 - June 30. The AOR shall be submitted by July 31 of each year to:
- Department of Health  
Environmental Management Division  
Solid and Hazardous Waste Branch  
2827 Waimano Home Road, #100  
Pearl City, Hawaii 96782
5. The AOR shall be submitted in hardcopy and electronic format, and shall include the following information:
- a. Quantities of solid waste received (MSW, industrial/commercial, green waste, tires, wood, metals, asbestos, and other special wastes) by type, using an appropriate unit of measure.
  - b. Quantities of leachate (gallons) generated and how it was handled or disposed.
  - c. Using site-specific data, provide results of the HELP model and demonstrate the validity of the alternative liner design with respect to point of compliance requirements. An alternative validation method may be utilized if agreed to by the DOH. This validation shall be included in the first AOR submitted after receipt of this permit, unless meteorological conditions require further evaluation.

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- d. Quantities of filled airspace for the present year, past filled airspace and remaining airspace in both cubic yards and years shall be provided. The information shall be provided in both numerical and graphical presentations.
- e. An annual topographic survey of the site as prepared by a land surveyor registered in the State of Hawaii, aerial surveys, or an approved alternate method. The survey shall also compare topographic elevations to final grades (isopach) as approved in this permit
- f. A Sequencing Plan, including a drawing, identifying the cell areas to be filled in the coming year including identification of the wet weather areas. The cell areas and wet weather area capacity shall be provided using an appropriate unit of measure.
- g. Final fill areas, intermediate fill areas, and future unused fill areas shall be identified for the projected year.
- h. Daily (MSW) cell construction plan, including cell geometry, estimated daily cover volumes, and soil to waste ratios.
- i. A soil-balance report of the past year and coming projected year reported separately. The soil daily cover and intermediate cover, including erosion replacement soil, also shall be reported separately. The source and type of soil shall be recorded separately for daily cover and intermediate cover. The soil-balance report for the past year shall be based on records of actual use on a daily, weekly and monthly basis. Any exceedance of permit grades or incomplete/non-application of daily cover shall be identified. Current soil use records shall be maintained at the facility for review.
- j. Date of final receipt of waste at each cell in the landfill. A schedule and description of anticipated closure and post-closure activities to be performed within the next five (5) years.
- k. A summary of closure and post-closure activities performed during the reporting period.
- l. A copy of the detailed written estimates and documentation of financial assurance.
- m. Updates to the Master Plan pursuant to Special Condition A.2.