



Hong Kong International Airport

Contract 3103 – 3RS

Environmental Permit

Consultancy Services

Operational Phase Waste Management Plan

12 July 2022

Environmental Resources Management
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Hong Kong International Airport Contract 3103 – 3RS Environmental Permit Consultancy Services

Operational Phase Waste Management Plan

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Airport Authority Hong Kong		0313181			
Summary:		Date:			
<p>This document presents the Operational Phase Waste Management Plan for the AAHK consultancy for the Hong Kong International Airport – 3RS Environmental Permit Consultancy Services (Contract 3103).</p>		12 July 2022			
		Approved by:			
					
		Craig A Reid Project Manager			
0	Operational Phase Waste Management Plan	Var	JH/KY/FW	CAR	12/7/22
Revision	Description	By	Checked	Approved	Date
<p>This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.</p> <p>We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.</p> <p>This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.</p>		<p>Distribution</p> <p><input checked="" type="checkbox"/> Public</p> <p><input checked="" type="checkbox"/> Government</p> <p><input type="checkbox"/> Confidential</p>			



Expansion of Hong Kong International Airport into a Three-Runway System
Environmental Certification Sheet
EP-489/2014

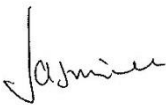
Reference Document/Plan

Document/Plan to be Certified/ Verified:	Operational Phase Waste Management Plan
Date of Report:	12 July 2022
Date prepared by ET:	12 July 2022

Reference EM&A Manual/ EP Requirement

EP Condition:	Condition No. 2.25 of EP-489/2014
Content:	<i>Operational Phase Waste Management Plan</i>
<p>The Permit Holder shall, no later than 3 months before the commencement of operation of the Project, deposit 3 hard copies and 1 electronic copy of a Waste Management Plan (The Plan) for the operation of the Project with the Director. The Plan shall describe the arrangements for avoidance, minimization, recovery, recycling, reuse, storage, collection, treatment and disposal of different categories of waste to be generated from the operation activities and shall include the recommended mitigation measures on waste management in the approved EIA report (Register No. AEIAR-185/2014).</p>	

ET Certification

I hereby certify that the above referenced document /plan complies with the above referenced condition of EP-489/2014.	
Dr Jasmine Ng, Environmental Team Leader (ET for submission of the Waste Management Plan under Environmental Permit Condition 2.25):	 Date: 12 July 2022

Our Ref : 60440482/C/JCHL220715

By Email

Airport Authority Hong Kong
HKIA Tower, 1 Sky Plaza Road
Hong Kong International Airport
Lantau, Hong Kong

Attn: Mr. Lawrence M L Tsui, Principal Manager. Environmental Compliance

15 July 2022

Dear Sir,

Contract No. 3102
3RS Independent Environmental Checker Consultancy Services

Operational Phase Waste Management Plan

Reference is made to the ET's submission of Operational Phase Waste Management Plan in accordance with section 2.25 of Environmental Permit No.EP-489/2014, this submission was certified by the ET Leader on 12 July 2022.

We would like to inform you that we have no comment on the captioned submission. Therefore we write to verify the captioned submission in accordance with the requirement stipulated in Condition 1.9 of EP-489/2014.

Should you have any query, please feel free to contact the undersigned at 3922 9376.

Yours faithfully,
AECOM Asia Co. Ltd.



Jackel Law
Independent Environmental Checker



CONTENTS

1	INTRODUCTION	1
1.1	BACKGROUND	1
1.2	OBJECTIVE OF THE OWMP	1
1.3	STRUCTURE OF THIS OWMP	2
2	AAHK'S WASTE MANAGEMENT COMMITMENT AND OBJECTIVES	3
3	AAHK'S ORGANISATIONAL STRUCTURE	5
4	RELEVANT ENVIRONMENTAL LEGISLATIONS, STANDARDS, GUIDELINES AND REQUIREMENTS	6
4.1	ENVIRONMENTAL LEGISLATIONS, STANDARDS AND GUIDELINES	6
4.2	AAHK'S INTERNAL REQUIREMENTS	7
5	WASTE MANAGEMENT ARRANGEMENTS FOR THE OPERATION OF THE PROJECT	9
5.1	INTRODUCTION	9
5.2	PROPOSED WASTE MANAGEMENT ARRANGEMENTS	14
6	WASTE MANAGEMENT PERFORMANCE MONITORING AND AUDIT	26
6.1	OBJECTIVES OF PERFORMANCE MONITORING AND AUDIT	26
6.2	SCOPE OF MONITORING AND AUDIT	26
6.3	REPORTING	27
ANNEXES		
	ANNEX A: FOOD WASTE MANAGEMENT PLAN	A1
	ANNEX B: UPDATED EM&A MANUAL – IMPLEMENTATION SCHEDULE FOR WASTE MANAGEMENT IMPLICATION (OPERATION PHASE)	B1





The Airport Authority Hong Kong (“AAHK”) is responsible for operation of the Hong Kong International Airport (HKIA). The *HKIA Master Plan 2030* (MP2030) recommended expansion of HKIA into a three-runway system (3RS) (“the Project”) as the best way forward to cope with the Projected increase in air traffic demand and to secure the continual growth of HKIA operation for the benefit of the economic development of Hong Kong. This development option for HKIA received approval in principle from the Government of the Hong Kong Special Administrative Region (HKSAR) on 20 March 2012.

An Environmental Impact Assessment (EIA) Study Report for the Project was prepared in accordance with the study brief requirements (ESB-250/2012) issued by the Environmental Protection Department (EPD). The EIA Report for the Project (Register No. AEIAR-185/2014) was approved by the EPD on 7 November 2014 and the Environmental Permit (EP) (EP No. EP-489/2014) was granted on 7 November 2014.

1.1

BACKGROUND

In accordance with EP Condition 2.25 and detailed implementation requirements as summarised in the EPD’s letter of approval of EIA Report (AEIAR-185-2014) dated 7 November 2014, a waste minimisation strategy and a detailed Waste Management Plan have to be developed for the operation of the Project (hereafter “the Operational Phase Waste Management Plan (OWMP)”). Under this EP Condition, the Permit Holder, AAHK, shall incorporate into the infrastructural design of the Project, suitable facilities to effect separation, storage, recovery, recycling and reuse of different categories of waste generated during the operation phase of the Project. In addition, the Advisory Council on the Environment (“ACE”) recommended AAHK to consider further waste minimisation and recycling strategies for carrying out the Project, as well as to develop a Food Waste Management Plan (“FWMP”) for food and beverage (F&B) outlets managed by his tenants in the HKIA facilities.

1.2

OBJECTIVE OF THE OWMP

The OWMP describes how waste arising from the operation of the Project will be handled and managed. The key objectives of the OWMP are:

- Identifying and classifying the types of waste to be generated from the operation of the Project;
- Identifying measures for avoidance, minimisation, reuse, recycling, recovery and on-site treatment (if applicable) of different categories of waste to be generated from the operation of the Project;





- Describing the arrangements for handling, storage, collection, transfer and disposal of different types of waste to be generated from the operation of the Project;
- Describing the responsibilities and procedures for implementation of the OWMP (including any monitoring and audit programme);
- Outlining the specific infrastructural design elements incorporated into the Project for effecting / enhancing separation, storage, recovery, recycling and re-use of different categories of waste generated from the Project; and
- Outlining a FWMP for the Project and the F&B outlets managed by the AAHK's tenants in the HKIA facilities.

1.3

STRUCTURE OF THIS OWMP

The remainder of this OWMP is organised as follows:

- *Section 2* describes AAHK's waste management commitment and objectives;
- *Section 3* describes AAHK's organisational structure and key waste management roles and responsibilities;
- *Section 4* outlines the relevant environmental legislations, standards, guidelines in Hong Kong and AAHK's internal requirements on waste management;
- *Section 5* describes the types of waste to be generated during the operation of the Project and the proposed handling, storage, recycling, collection, treatment (if appropriate) and disposal arrangements of the wastes;
- *Section 6* describes the proposed monitoring and audit requirements to evaluate the performance of the proposed arrangements;
- *Annex A* outlines a FWMP for the Project and the F&B outlets managed by the AAHK's tenants in the HKIA facilities; and
- *Annex B* presents the waste management implication in the operation phase of the Project under the implementation schedule of the approved *Updated Environmental Monitoring and Audit (EM&A) Manual (December 2020)*.





2 AAHK'S WASTE MANAGEMENT COMMITMENT AND OBJECTIVES

This *Section* summarises the AAHK's waste management targets and the latest actions that have been proposed or taken.

AAHK has been effectively managing waste in compliance with all statutory waste management requirements since the commencement of HKIA operations and has progressively introduced wide-ranging measures to reduce waste going to landfill and promote recycling at HKIA.

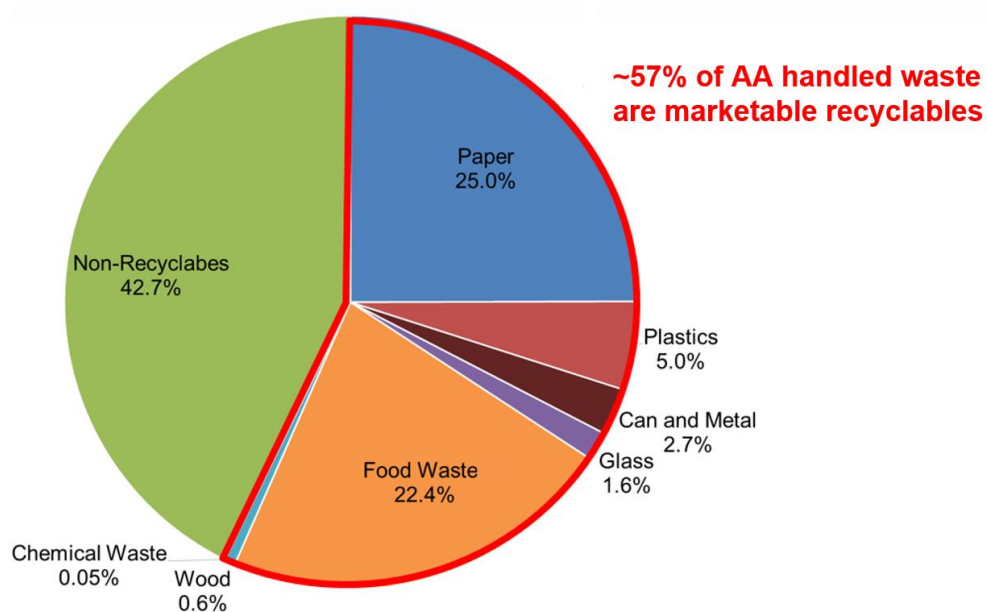
AAHK has implemented various initiatives to reduce waste generation and increase recycling rates within HKIA, including ongoing efforts to separate recyclables from general wastes in passenger accessible areas; separation of recyclables from aircraft waste; working with F&B tenants to separate food wastes from general wastes; encouraging the use of reusable cutlery; provision of training for tenants and cleaning/waste management contractors on source separation of waste; and conducting waste surveys to better understand waste streams and reduction opportunities. These initiatives will continue to be implemented during the operation of the Project. AAHK has also achieved the requirements of the Government's "Wastewiše" scheme for many years.

During the period of 2016 to 2021, AAHK identified several additional waste management actions intended to further reduce the amount of waste generated and promote recycling for the existing HKIA operations under AAHK management. For instance, AAHK commissioned a Consultancy Study on a Municipal Solid Waste (MSW) Charging Pilot Scheme at HKIA (hereafter referred to as the "MSW Charging Pilot Scheme Study") to better understand the practicalities of implementing a waste charging mechanism with the different AAHK tenants. Other measures that promote waste reduction and recycling include promotion of the use of reusable tableware as well as inclusion of the requirement to wash cutlery in licensed areas at the East Hall Food Court, and exploration of enhancing the sorting facilities at the airside waste station to increase waste separation efficiency.

In late 2021 AAHK committed to a new waste recovery target of seeking to increase the recyclables recovery rate by 25% by 2025 compared to a 2018 baseline for the overall HKIA operations under the AAHK management. Referencing the 2015 waste composition profile for HKIA obtained from the Consultancy Service on Waste Management at Hong Kong International Airport (Ref: PRO/Q5107/14/LL, hereafter referred to as the "2015 AA Waste Study"), approximately 57% of the total waste managed by AAHK are marketable recyclables, from which paper (about 25%) and food waste (about 22%) comprise the largest components (see *Figure 2.1*). Recognising this, AAHK has further developed new waste management strategies focusing on reduction and recovery of marketable recyclables and food wastes generated, via separation at source and post-disposal sorting.



Figure 2.1 **Waste Composition Profile in the HKIA in 2015**

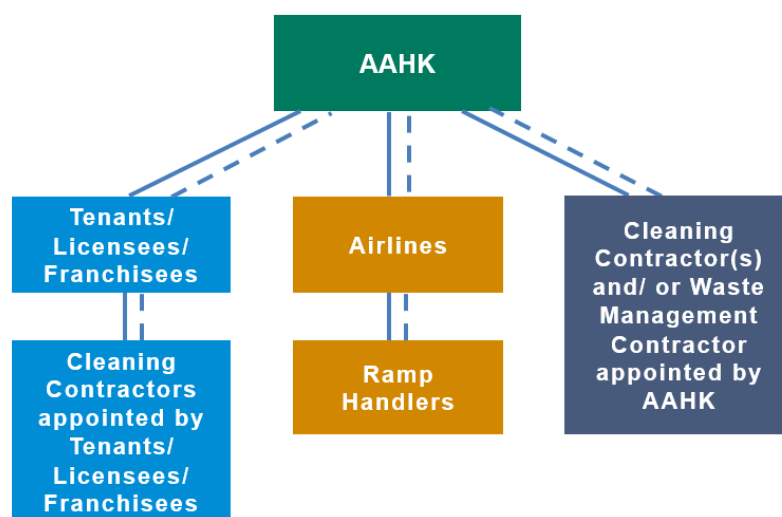


This *Section* presents AAHK's organisational arrangements for waste management and describes the duties and responsibilities of key organisational roles. The management of waste arising from the operation of the Project will mainly involve the following parties:

- AAHK;
- tenants, licensees and franchisees;
- cleaning contractor(s) appointed by AAHK tenants, licensees and franchisees;
- waste management contractor and / or cleaning contractor(s) appointed by AAHK;
- airlines; and
- ramp handlers appointed by airlines.

An indicative organisation chart is shown in *Figure 3.1*.

Figure 3.1 *Indicative Organisation Chart*



Legend

- Contractual Relationship
 - - - Line of Communication

Note:

If the tenants/licensees/franchisees do not hire cleaning contractors, they will dispose of the recyclables/ food waste/residual waste at the refuse rooms by their own staff.



RELEVANT ENVIRONMENTAL LEGISLATIONS, STANDARDS, GUIDELINES AND REQUIREMENTS

This *Section* describes current Hong Kong environmental legislation, standards and guidelines relevant to the management of the wastes expected to be generated from the operation of the Project. In addition, AAHK's internal arrangements for waste management and requirements for waste management as set out in the contracts with tenants, franchises, licensees and/ or contractors are also detailed.


4.1

ENVIRONMENTAL LEGISLATIONS, STANDARDS AND GUIDELINES

The following ordinances, regulations and guidelines, which cover, or have some bearing on the handling, treatment and disposal of waste to be generated from the operation of the Project, will be complied with:

- Ordinances and Regulations
 - Waste Disposal Ordinance (Cap 354);
 - Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C);
 - Land (Miscellaneous Provisions) Ordinance (Cap 28);
 - Public Health and Municipal Services Ordinance (Cap 132) – Public Cleansing and Prevention of Nuisances Regulation;
 - Hazardous Chemicals Control Ordinance (Cap 595);
 - Promotion of Recycling and Proper Disposal (Electrical Equipment and Electronic Equipment) (Amendment) Ordinance 2016; and
 - Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Ordinance.
- Other Relevant Guidelines
 - Waste Disposal Plan for Hong Kong (December 1989), Planning, Environment and Lands Branch Government Secretariat, Hong Kong Government;
 - Chapter 9 – Environment (1999), Hong Kong Planning Standards and Guidelines, Hong Kong Government;
 - Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes (1992), EPD, Hong Kong Government;
 - Waste Reduction Framework Plan, 1998 to 2007, Planning, Environment and Lands Bureau, Government Secretariat, 5 November 1998;



- 
- Review of the Waste Reduction Framework Plan (2001), Waste Reduction Committee; and
 - Waste Blueprint for Hong Kong 2035 which sets out the vision of waste reduction and resources circulation to achieve zero landfilling and outlines the strategies, goals and measures to tackle the challenge of waste management up to 2035.

AAHK has been effectively managing waste in compliance with all waste management statutory requirements since the commencement of HKIA operations.


AAHK is registered as a chemical waste producer for the current HKIA operation, and the current registration will be amended to cover the expanded 3RS facilities.

4.2 AAHK'S INTERNAL REQUIREMENTS

AAHK sets out internal requirements and arrangements for waste management in agreements with franchisees, tenants and/or licensees; internal requirements include the following:

- The franchisee/tenant/licensee's Environmental Management Plan (EMP) shall include waste management and minimisation (including storage, handling and transportation of dangerous goods, solid waste, chemical and hazardous waste, separation of waste at source and recycling of waste);
- The franchisee/tenant/licensee shall take all reasonable steps to minimise waste arising from its activities and operation under the agreement. The franchisee/tenant/licensee shall be responsible for the safe and controlled disposal of all waste and ensure that, unless otherwise agreed in writing by AAHK, solid waste, other than chemical, hazardous, re-usable and recyclable, inert construction and sorted construction and demolition waste, will be transported to the designated refuse rooms at HKIA, or such other location as advised by AAHK from time to time, prior to its ultimate disposal;
- The franchisee/tenant/licensee shall separate recyclables such as paper, plastic, metal and food waste at source. The recyclables, particularly food waste, shall be collected separately to avoid contamination with general waste during the transportation and disposal process. Recyclables shall be disposed of in appropriate recycling containers in the designated refuse rooms at HKIA, or such other location as advised by the AAHK;
- The franchisee/tenant/licensee shall use reusable and durable crockery, cutlery and food containers for eat-in customers under the agreement;
- The Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 has been passed by the Legislative Council on 26 August 2021. EPD will put in place a preparatory period of 18 months as a basic arrangement, so as to provide





appropriate time for the Government, various stakeholders and members of the public to prepare for the implementation of MSW charging. When the Ordinance is fully enacted during the agreement period, the franchisee/tenant/licensee and/or its contractor shall comply with all applicable requirements under such legislation and in accordance with the AAHK's MSW charging mechanism; and

- The franchisee/tenant/licensee shall co-operate with AAHK and participate in the implementation of AAHK's plan, policies, initiatives and commitments for the management of the environment at the HKIA, including but not limited to the MSW charging pilot scheme, undertaken by AAHK. The franchisee/tenant/licensee shall implement such plans, policies and initiatives to the fullest extent insofar as it relates to the franchisee/tenant/licensee's activities and operation under the agreement.

AAHK will update the relative requirements with respect to the enactment of the Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Ordinance.





5 WASTE MANAGEMENT ARRANGEMENTS FOR THE OPERATION OF THE PROJECT

This *Section* recaps the types of waste to be generated from the operation of the Project as identified in the approved EIA Report, and describes the proposed waste management arrangements for the operation of the Project.

5.1 INTRODUCTION

5.1.1 *Types of Waste to be Generated*

The following types of waste will be generated from the operation of the Project.

- General refuse (including food waste);
- Chemical waste;
- Floating refuse; and
- Sludge from the proposed greywater treatment plant.

Waste management measures are described below, including infrastructure design and suitable facilities to avoid, reduce and recycle waste to be generated during the operation of the Project and the associated handling, storage and collection arrangements of the recyclables taking into account identified constraints and operational challenges in the arrangements for waste management in the current HKIA operation. Storage, collection and disposal arrangements for residual wastes (non-recyclable) are also described.

The proposed waste management procedures are established in accordance with the following waste management hierarchy (with descending priority).

- Avoidance and reduction
- Reuse of materials
- Recovery and recycling
- Treatment and disposal

The overall aim is to avoid, reduce and minimise the amount of waste generated from the operation of the Project, and hence reduce waste handling and disposal requirements.



5.1.2

Overview of Proposed Waste Management Measures at AAHK Premises (including T2 Expansion and T2C)

The key waste management procedures proposed for AAHK Premises (including T2 expansion and T2C) are presented in *Figures 5.1*. Key principles are:


- **Avoidance and reduction:** The Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 was passed by the Legislative Council on 26 August 2021. In order to prepare for the implementation of mandatory MSW charging in Hong Kong, the AAHK will collaborate with the tenants, airlines and airport business partners to implement the charging scheme with reference to the findings of an earlier MSW Charging Pilot Scheme Study at HKIA conducted between January 2018 and December 2018. Meanwhile, AAHK is supporting airport stakeholders to reduce and recycle waste as much as possible before disposal. Other waste avoidance and reduction measures for general waste (including food waste) are described in *Section 5.2*.
- **Reuse of materials:** Implementation of HKIA food rescue programme.
- **Recovery and recycling:** The existing 4-in-1 Bin system (paper, plastics, metals and residual waste) within the passenger accessible areas and the recycling facilities (paper, plastics, metals, glass bottles, food waste and residual waste) in back of house areas will be provided. Free recycling bags for collection of source separated recyclables will be provided to tenants to encourage source separation of recyclables. In addition, an Artificial Intelligence (A.I.) robotic sorter system will be deployed to assist in the recovery of recyclables. The infrastructure design of the Project (including refuse rooms in the T2 expansion and the T2C) has taken account of the need to provide suitable space to effect collection and storage of source separated recyclables and residual waste during the operation phase of the Project.
- **Treatment and disposal:** Source separated recyclables and recyclables recovered from on-site sorting facilities will be sent to recyclers for recycling. Source separated food waste will be collected by registered food waste contractor and delivered to the Organic Resources Recovery Centre Phase 1 (O-PARK1) or other licensed food waste handling facilities. The residual waste will be compacted and disposed of at the West New Territories (WENT) Landfill or other licensed waste transfer or disposal facilities.

5.1.3

Overview of Proposed Waste Management Measures for Wastes from Aircrafts and from Apron Cleaning in Airfield Areas

The key waste management procedures proposed for wastes from aircrafts and apron cleaning in airfield areas of the Project are shown in *Figure 5.1*. The Hong Kong-based carriers are practicing in-cabin waste separation (i.e. separate collection of recyclables and residual waste) as far as practicable; and AAHK will encourage other foreign airlines and/ or their ramp handlers to practice similar measures as normal operations





pick up after COVID pandemic is over. Recyclables and wastes from aircrafts and from the apron will be collected and transferred by several ramp handlers or cleaning contractor(s) to the existing Airside Waste Station (AWS) (see *Figure 5.2*) for further sorting of marketable recyclables and compaction of residual waste. An existing A.I. robotic sorter system installed at the T1 Midfield Concourse Central Refuse Room (MFC) will provide additional capacity for sorting of marketable recyclables from the aircraft waste.



Figure 5.1 *Proposed Waste Management Process at AAHK Premises (including T2 Expansion & T2C) as well as Aircrafts and Apron Cleaning in Airfield Areas under the Project*

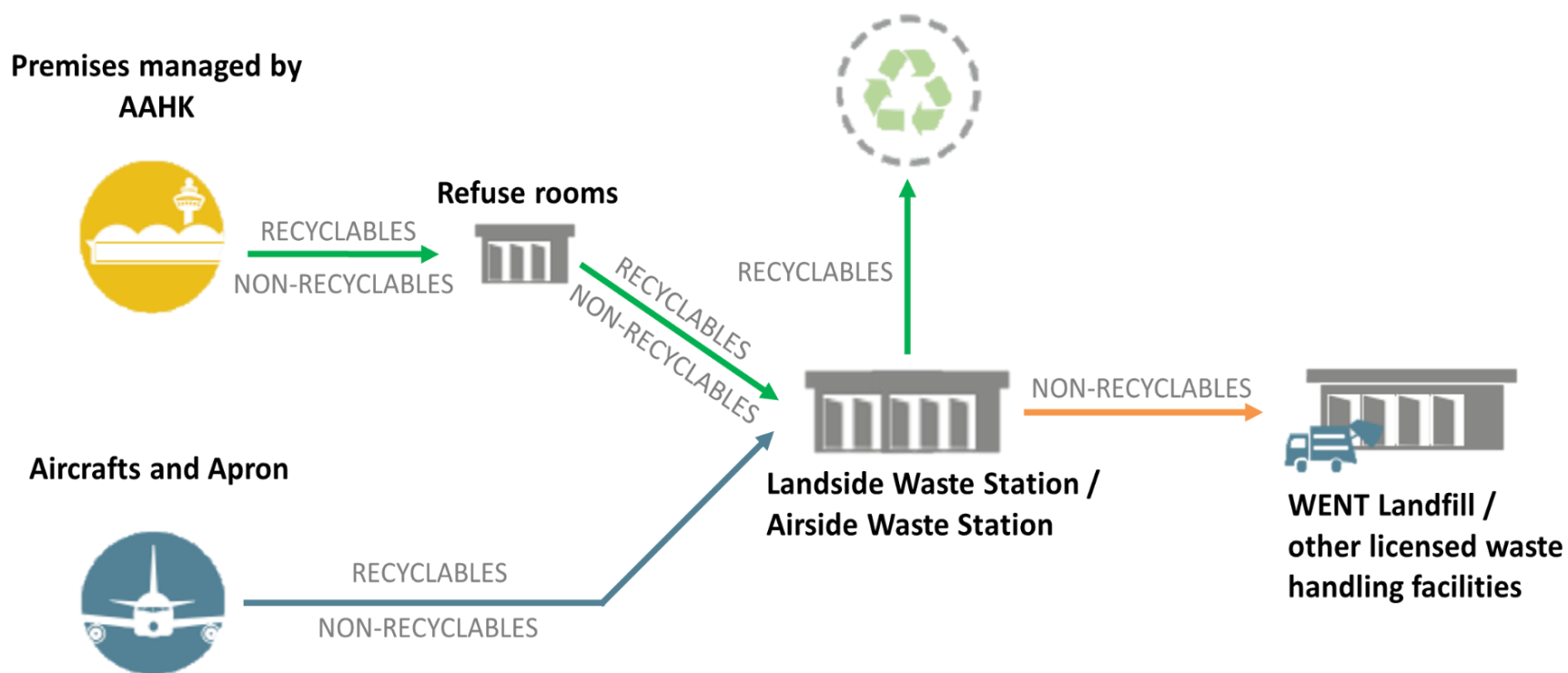
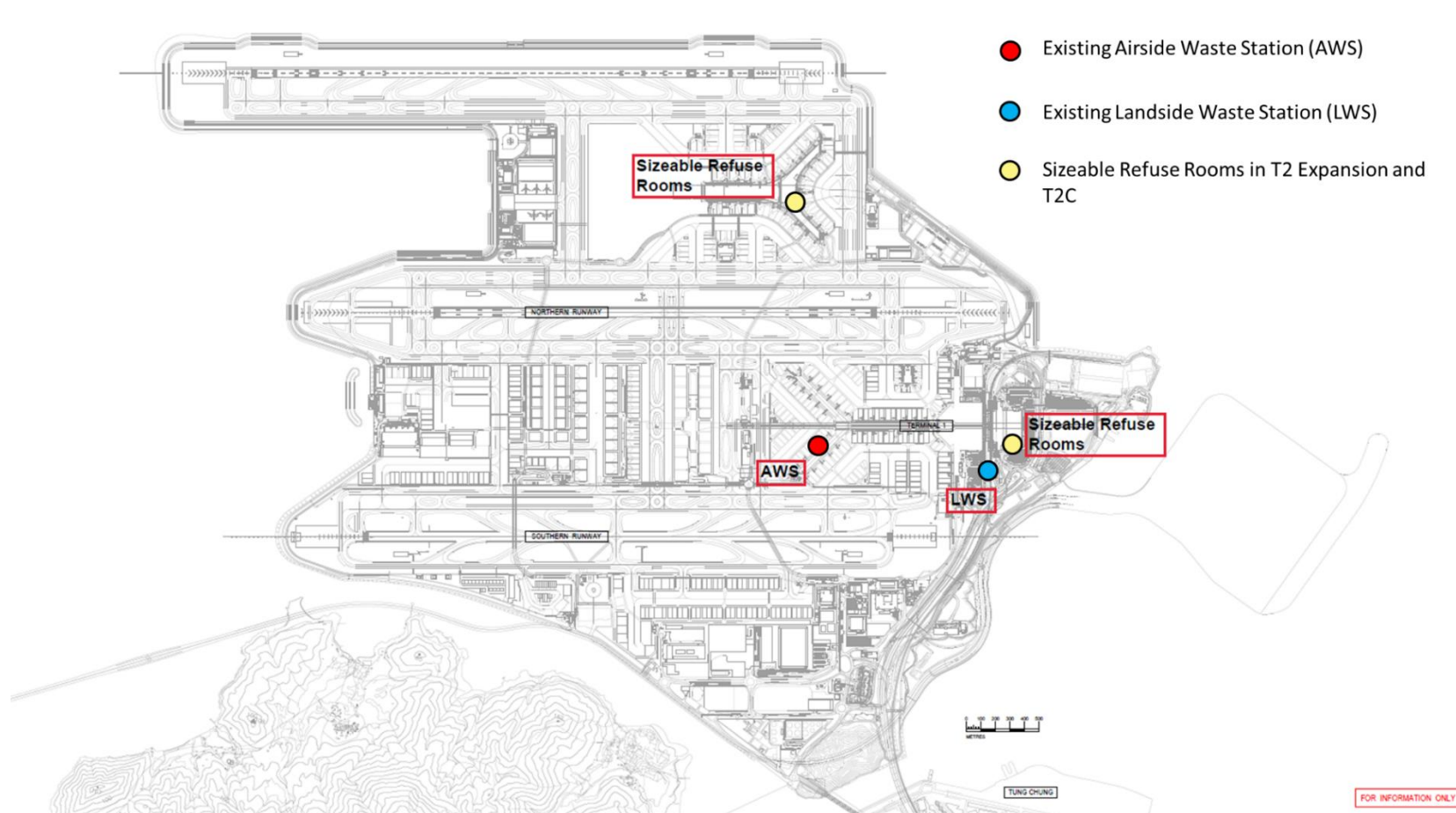


Figure 5.2 *Indicative Locations of the AAHK Waste Management Facilities*



5.2 **PROPOSED WASTE MANAGEMENT ARRANGEMENTS**

5.2.1 **General Refuse (including Food Waste)**

General refuse will be generated from passengers during the operation of the Project. It is anticipated that waste will be coming from the following waste streams.

- F&B establishments (such as restaurants, food court and lounges);
- Public refuse bins;
- Toilets;
- Offices in terminal buildings;
- Retail stores;
- Aircrafts; and
- Apron.

With reference to the historical HKIA waste data, the average proportion of waste from the AAHK premises ⁽¹⁾ is about 64% with waste from aircrafts and apron cleaning in airfield areas is about 36%. It is assumed that approximately the same proportion of waste will be generated during the operation of the expanded HKIA. Overall management process for the waste from the AAHK premises as well as aircrafts and apron are shown in *Figure 5.1*.

Based on the airport waste composition data obtained from AAHK and the residual waste composition data identified in the 2015 AA Waste Study and the assumption of similar waste composition for the Project, it is estimated that about 57% of the overall waste generated from the operation of the Project will potentially be recyclables while about 43% will be non-recyclables. The potential recyclables with immediate market outlets include food waste, metal, paper, plastic and glass.

The handling, storage and disposal arrangements for general refuse are described below. Prioritisation of proposed waste management measures implementation will be based on the waste management hierarchy introduced in *Section 5.1* and takes account of the knowledge and experience gained from many years of implementing existing waste minimisation/ reduction measures at the HKIA.

5.2.1.1 **Avoidance and Reduction**

Waste Charging Scheme

The Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 has been passed by the Legislative Council on 26 August 2021 and the MSW charging scheme for Hong Kong is expected to officially commence within 2023 at the earliest,

¹ Include the T2 expansion and T2C buildings. Exclude franchisee and government buildings on the airport island not under direct control of AAHK.



after an 18-month preparation period. Hence a statutory MSW charging scheme is likely to be in place upon the commencement of operation of the Project. AAHK will implement a waste charging scheme based on the recommendations from the MSW Charging Pilot Scheme Study, with AAHK to adopt the volume-based, designated bag approach for back-charging waste generators. Implementing the scheme at HKIA will require some modifications and additional arrangements for the waste collection systems under the Project (e.g. CCTVs in refuse rooms). Applicable deterrent measures will also be adopted to deter non-compliance acts.

Reducing the Consumption of Single-use Plastic Bottles with the Installation of water Dispensers

Water dispensers and drinking fountains (see *Figure 5.3*) have been installed across the HKIA passenger terminal buildings to provide free drinking water for passengers to reduce the consumption of single-use plastic-bottled water. This reduces consumption of single-use plastic bottles and minimises the generation of plastic and other packaging waste. Currently, over 100 water drinking fountains are in use across the passenger accessible buildings; and around 39 additional water dispensers will also be installed in these buildings by 2022.

Figure 5.3 *Water dispensers and drinking fountains*



Reducing the Use of Paper Towels with the Provision of Hand Dryers

Used hand drying paper towels have no or low recycling value. By reducing the use of paper towels for hand drying in washrooms, a major non-recyclable waste source can be avoided. Around 599 hand dryers have been installed by early 2022 in HKIA toilets under an ongoing toilet revamp programme intended to help reduce the use of





paper towels. The upgraded toilets in T1 Satellite Concourse and the Limousine Lounge feature modernised designs with “one-stop” hand-washing and hand dryers within each basin unit to offer an efficient alternative to paper towels for passengers (see *Figure 5.4*). Hand dryers will be installed in the toilets of the T2 expansion and T2C upon operation of the Project. The reduction in paper towels use for hand drying will simplify washroom management as well as reducing paper towels use and will reduce costs by reducing the collection frequency of waste paper towels.

Figure 5.4 *“One-stop” Hand-washing and Hand-dryer in One Basin*



Setting out Waste Reduction Requirements in AAHK Tenants/Franchisees/Licensees Agreements

The AAHK sets out a series of waste reduction requirements in agreements that require tenants/licensees to take all reasonable steps to minimise waste arising from their activities and operations. For example, reusable tableware should be provided for eat-in customers to replace single-use utensils by F&B outlets. The tenants/franchisees/ licensees are also required to disclose the specific environmental and waste reduction measures they had adopted in the EMPs submitted to AAHK prior to commencing their services at HKIA. The AAHK will regularly review the tenants/franchisees/licensees and contractor’s EMPs and conduct internal audits on the tenant’s and contractor’s environmental performance to ensure the waste management initiatives committed in the EMP are in place.

Use of Reusable Dining Wares

Use of reusable dining wares will also be required for eat-in customers at the catering outlets in the T2 expansion and the T2C as far as practical. In the design of T2 expansion and T2C food court areas, it has been recommended that space should be allocated for designated collection stations (see *Figure 5.5*) used to collect reusable dining wares and trays. Having designated cleaning contractor staff to separate food wastes from other wastes in food court areas and for tray collection will also facilitate food waste separation for recycling (see *Figure 5.6*).





Figure 5.5 *Multi-tier Rack for Meal Tray Collection in the Existing East Hall Food Court*



Figure 5.6 *Separation of Waste and Dining Wares by Cleaning Staff*



The use of reusable dining wares, separation of food waste by cleaning staff and provision of appropriate areas for dish washing are measures to be implemented at the HKIA as part of waste reduction efforts.

5.2.1.2 *Reuse of Materials*

HKIA Food Rescue Programme

The AAHK has launched the HKIA Food Rescue Programme in partnership with a local non-governmental organisation (NGO), Food Angel, since 2013 to collect surplus food from restaurants and caterers in the terminal buildings. A central storage room was subsequently set up in Terminal 1 in 2014 to provide extra space to store surplus food from the catering outlets. In 2020, Food Angel collected around 80 tonnes of surplus food and transformed it into over 130,000 hot meal boxes for distribution to the needy.



5.2.1.3

Recovery and Recycling

Use of Recycling Bin System in Passenger Accessible Area of the Project

A Recycling Bin system (see *Figure 5.7*) consisting of bins for plastic, metal and paper recyclables, as well as residual waste, will be deployed in the passenger accessible area of the Project. Clear signage showing the types of recyclables accepted will be posted on each of the bins to prevent contamination. It is expected that there will be minimal food waste generated by passengers in public areas and hence it is not necessary to provide a separate bin for food waste collection in public areas. General refuse will be collected on daily basis and delivered to the refuse rooms in the passenger terminal buildings for temporary storage using containers with covers (see *Figure 5.7*), which will regularly be cleaned and maintained by the cleaning/ waste management contractor(s) of AAHK.

Figure 5.7 *Recycling Bin System at HKIA Public Areas (left) and General Refuse Containers with Covers at the Refuse Room of the Passenger Terminal Building (right)*



Use of Recycling Facilities in Back-of-House Areas

Recycling facilities (see example in *Figure 5.8*) consisting of bins/cages for food waste, dry recyclables (i.e. plastic, metal, paper, glass bottles, etc.) and residual waste will be deployed within the back-of-house areas of T2 expansion and T2C. The use of the recycling facilities is more user friendly to tenants and airport staff in terms of facilitating segregation of recyclables at source. Clear signage indicating the types of waste and recyclables accepted in each bin will be used along with regular training sessions and provision of waste separation guidelines and posters to tenants, airport staff and cleaning/ waste management contractor(s) to promote waste separation at source and proper recycling practices. Separate collection points and facilities for the collection of wooden materials, computer equipment and rechargeable batteries are also assigned at designated back-of-house areas. F&B tenants in the HKIA are encouraged to recycle their waste cooking oil, which are collected by the licensed contractor(s) and recovered as biodiesel. The recovery and recycling arrangements described above in conjunction with the implementation of mandatory MSW charging



during 2023 are expected to facilitate the achievement of a higher recycling rate for the Project.

Figure 5.8 *Recycling Facilities in Refuse room of the Passenger Terminal Building*



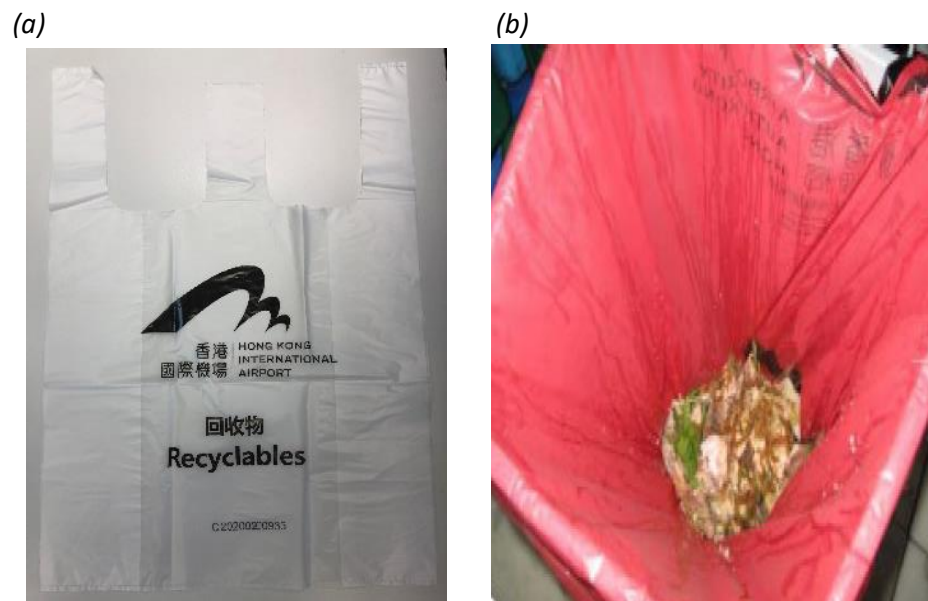
Provision of Free Recycling Bags for Collection of Source Separated Recyclables

Under the AAHK Waste Separation at Source Programme, free recycling bags are provided to AAHK's tenants to encourage them to segregate marketable recyclables at source. Transparent bags are designed for collection of dry recyclables including plastic, paper, metal and glass bottles (see Figure 5.9) whereas red bags are used for collection of food waste. The AAHK's food waste contractor and waste management contractor will collect source-separated food waste and dry recyclables (in recycling bags) from the refuse rooms for further materials recovery and recycling.





Figure 5.9 **Designated Recycling Bags for Storage of Source Separated (a) Dry Recyclables and (b) Food Waste**



Use of A.I. Robotic Sorter System

An A.I. robotic sorter system installed at the T1 MFC Central Refuse Room will be used for sorting and recovering marketable recyclables from targeted waste streams at HKIA (see Figure 5.10). A pilot trial was conducted in 2021 to study the effectiveness, efficiency and limitations of using the A.I. robotic sorter system in sorting targeted recyclables. The sorter has been currently recovering targeted marketable recyclables from targeted waste streams.

Figure 5.10 **The A.I. Robotic Sorter System**



Provision of Sizeable Refuse Rooms and Waste Stations for Waste Management

As part of the infrastructure design of the Project, adequate sizeable refuse rooms will be provided in AAHK premises (including the T2 expansion and the T2C) to facilitate collection of source separated marketable recyclables and residual waste. 20 of the existing refuse rooms in the HKIA are being revamped during 2021. Ventilation or air-conditioning systems, as well as interior finishes will be installed and/or enhanced (see *Figure 5.11*). The existing Landside Waste Station (LWS) (See *Figure 5.2*) will also be expanded to provide additional working space for waste sorting, and recovery and temporary storage of recyclables. The construction work commenced in Q2 2021 with expected completion within 2022.

Figure 5.11 *A Revamped Refuse Room at HKIA with Ventilation and Recycling Facilities*



(a) Management of Dry Recyclables

The dry recyclables collected from recyclables bins and back-of-house recycling facilities in AAHK premises and aircraft waste collection points will be transferred to the LWS and/or the AWS for further sorting and recovery of marketable recyclables (see *Table 5.1*). The recovered recyclables will then be sent to governmental waste handling facilities, or sold to local licensed / reputable recyclers for further processing / conversion to useful materials.



Table 5.1 **Recovery Arrangement of Dry Recyclables**

Dry recyclables	Sorting categories	Recovery Arrangement
Plastic	<ul style="list-style-type: none"> - PET - HDPE - LDPE - Other plastics 	<ul style="list-style-type: none"> - PET and HDPE are expected to be sent to the EcoPark (New Life Plastics) or other licensed recyclers for recycling - LDPE and other plastics: Deliver to the licensed recyclers for further processing and conversion into raw materials and exporting to the mainland / overseas markets
Metal	<ul style="list-style-type: none"> - Ferrous metal - Non-ferrous metal 	<ul style="list-style-type: none"> - Deliver to the licensed recyclers for further processing and exporting to the mainland / Southeast Asia for recycling
Paper	<ul style="list-style-type: none"> - Cardboard - Newspaper & magazines - Office paper - Toilet paper roll 	<ul style="list-style-type: none"> - Deliver to the contractor's recycling plant or external recyclers for further screening, sorting and baling and exporting to the mainland / Southeast Asia for recycling
Glass bottles	<ul style="list-style-type: none"> - Glass bottles 	<ul style="list-style-type: none"> - Deliver to the local licensed glass treatment plant for further processing and recycling and converting it into eco-brick and/or other glass products

(b) Management of Food Waste

The source separated food waste recovered from the “food waste bins” placed in back-of-house areas will be sent to the O-PARK1 at Siu Ho Wan depending on the availability / handling capacity of the O-PARK1, or other licensed food waste recyclers. The O-PARK1 only accepts food waste with non-organic contamination of less than 20%. To ensure that the quality of source separated food waste meets the requirement, training on good practices of food waste segregation will be provided to cleaning staff and F&B tenants. Starting from July 2020, all AAHK collected food waste has been sent to the O-PARK1 for converting into biogas for electricity generation.



(c) Management of Other Recyclable Wastes

Recyclables	Sorting categories	Recovery Arrangement
Wooden materials	<ul style="list-style-type: none"> - Wooden pallets - Wooden wine boxes 	<ul style="list-style-type: none"> - Wooden Pallets: Delivery to the local licensed recyclers and/ or licensed recycling facility - Wooden Wines Boxes: Donation to the local schools / NGO (e.g. St. James) for upcycling
Computer equipment	<ul style="list-style-type: none"> - Desktop computers - Laptops - Printers - Monitors - Projectors - Other computer equipment 	<ul style="list-style-type: none"> - Collection on a periodic basis and delivery to the EPD's vendor of Computer and Communication Products Recycling Programme for recycling - Delivery to WEEE· PARK for further recovery
Rechargeable batteries	Rechargeable batteries mainly from: <ul style="list-style-type: none"> - Mobile Phones; - Digital Camera; and - Laptops 	<ul style="list-style-type: none"> - As the participant of the EPD's Rechargeable Battery Recycling Programme, AAHK has set up collection points in the HKIA Tower for recycling
Yard waste	<ul style="list-style-type: none"> - Tree waste (i.e. Christmas Tree and Peach Blossom Tree) 	<ul style="list-style-type: none"> - As the participant of the EPD's Natural Christmas Trees Recycling Programme and Peach Blossom Trees Recycling Programme, AAHK will collect the yard waste in the HKIA and send to Y· PARK for recycling

The waste management contractor will be required to provide all necessary documentation and obtain AAHK's prior written agreement before any recycling contractors are allowed to receive recyclable materials from the waste management contractor.

Liquid Collection Stations

As many of the disposed F&B waste still have significant amount of liquid inside, the excess liquids may significantly increase the weight of the waste and hinder effective recycling of plastic and metal containers. Hence, liquid collection stations (see *Figure 5.12*) will be placed at strategic points within the T2 expansion and T2C (such as entrance of customs / security screening) to make it more convenient for passengers and airport staff to empty their containers before recycling or disposing them. Recycling bins can be placed next to liquid collection stations to facilitate the collection of recyclables. Provision of a separate collection point for liquid both reduces the weight of waste by 20-40%, and also reduces contamination of plastic recyclables and enhances the quality of recycling.



Figure 5.12 *Liquid Collection Station in the Departure Hall at Airport*



Establishment of a Performance-based Contract to Incentivise Waste Recovery

A performance-based contract for waste management was established to incentivise the waste management contractor to enhance collection and sorting of marketable recyclables within the HKIA. A minimum recycling target progressively rises over successive years and is reinforced with financial incentive payments for the contractor, enhancing AAHK's recycling performance.

5.2.1.4 ***Treatment and Disposal***


Non-recyclable wastes, or residual wastes, collected in the HKIA will be compacted and loaded onto the waste collection hook-lift trucks operated by reputable licensed waste management contractor(s) and delivered to the WENT Landfill via Tuen Mun – Chek Lap Kok Link or other licensed waste handling facilities on daily basis.

5.2.2 ***Chemical Waste***

The major types of chemical waste generated includes lubricating oil, spent fuel, non-halogenated solvent, waste batteries etc. from the maintenance, servicing and repairing of various electrical & mechanical (E&M) equipment during operation phase of the Project.

AAHK and/or owners/ operators of the relevant facilities will register with the EPD as chemical waste producer(s) and follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes will be used, and incompatible chemicals will be stored separately. Appropriate labels will be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful,





corrosive, etc. Licensed collector(s) will be deployed to transport and dispose of the chemical wastes at the Chemical Waste Treatment Centre at Tsing Yi or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. A trip-ticket system will be implemented to record the consignment of chemical waste.

5.2.3 Floating Refuse

To avoid the accumulation or trapping of floating refuse, the artificial seawall of the expanded airport island has been designed without any sharp turns or abrupt indentation. Weekly inspection will be carried out by the contractor(s) along the artificial seawall of the expanded airport island to check for any entrapment or accumulation of floating refuse. Where an appreciable amount of floating refuse is found on the artificial seawall during the weekly inspection, the locations of such refuse will be recorded and arrangements with the contractor(s) will immediately be made to collect and clear the refuse from the seawall. Waste collected from the seawall will be sent to the WENT Landfill via Tuen Mun – Chek Lap Kok Link.

5.2.4 Sludge from Proposed Greywater Treatment Plant

Sludge generated from the proposed greywater treatment plant will be mechanically dewatered. To avoid odour emission during the transportation, the dewatered sludge will be stored in tight containers or skips for delivery to the North Lantau Transfer Station via North Lantau Highway, or the WENT Landfill via Tuen Mun – Chek Lap Kok Link for disposal/recycling by reputable licensed waste collector(s). The sludge generated will be carefully handled and properly managed to minimise the adverse impact of odour and potential health risks to the operators by attracting pests and other disease vectors.



This section describes the monitoring procedures to keep track of all waste collected, recycled, treated and disposed and for monitoring the effectiveness of waste reduction measures implemented. This section also sets out the requirements on reporting, regular inspection and audit of the implementation of the operation waste management activities.

6.1

OBJECTIVES OF PERFORMANCE MONITORING AND AUDIT

The objectives of waste management performance monitoring and audit are to ensure the wastes are handled, collected, stored, transferred, treated and disposed of in compliance with the OWMP and relevant regulations and to ensure the OWMP is implemented accordingly and effectively.

6.2

SCOPE OF MONITORING AND AUDIT

AAHK together with the Independent Environmental Checker (IEC) team will commence an inspection exercise at the two runway system interim stage with an aim to complete a final joint inspection / check of new waste management facilities and operational arrangements on commencement of full 3RS operation. AAHK will determine and set waste reduction and recycling performance targets from time to time. Waste management performance monitoring and audit will be conducted by AAHK operation teams at regular intervals and waste management is also covered under AAHK's ISO14001 Environmental Management System. The scope of monitoring and audit will cover aspects of waste handling, storage, segregation, recycling, treatment and disposal. Performance will be assessed to ensure the effectiveness of waste reduction measures implemented and against performance targets set by AAHK. The effectiveness of waste management commitments and requirements in the relevant agreements with the waste management contractor, cleaning contractors, tenants/licensees/franchisees and airlines will also be assessed. Where possible, a performance mechanism and standardised reporting requirements will be included in relevant agreements.

Records identifying the quantities of major types of waste and recyclables will be kept so that the quantity of waste reduced, reused, recycled can be derived. The records will be used for monitoring the effectiveness of waste reduction measures implemented.

In addition to the regular monitoring and audit, the waste management measures would be regularly reviewed to determine the effectiveness of waste reduction measures and waste separation and recycling programmes.





6.3

REPORTING

Findings from the performance monitoring and audit will be documented for internal reference and review. Waste reduction and recycling statistics and performance, where appropriate, will be presented in HKIA's Annual Sustainability Report.





Annex A Food Waste Management Plan





ANNEX A: FOOD WASTE MANAGEMENT PLAN

INTRODUCTION

As recommended by the ACE, the AAHK is required to develop a Waste Management Plan for Food Waste (hereafter “Food Waste Management Plan (FWMP)”) for the Project and the F&B outlets managed by AAHK’s tenants in the HKIA facilities under the operation of the Project.

BACKGROUND

The AAHK has been practicing food waste recycling in the HKIA since 2003 and this initially comprised food wastes being collected from restaurants and lounges at terminals being composted and turned into soil conditioner suitable for landscaping on the airport island.

In 2011, the AAHK expanded the scope of the food waste recycling programme to cover HKIA business partners, including restaurants and lounges operating in terminal buildings, as well as airline catering companies, hotels and cargo terminals. Currently, all collected food wastes are sent to O-Park1. In 2020, over 700 tonnes of food waste was collected from tenants in terminal buildings and from business partners for recycling.

According to the 2015 AA Waste Study, the food waste generated in the premises managed by AAHK contributes to about 22% of the total weight of generated general refuse, this amount comprising 38% of the total marketable recyclables. It is assumed that similar proportion of food waste will be generated during the operation of the expanded HKIA.

OUTLINE OF THIS FWMP

This FWMP outlines practical measures to minimise, segregate, recycle and dispose of food waste generated under the Project.

AVOIDANCE AND MINIMISATION OF FOOD WASTE

Avoidance and minimisation of food waste has always been the priority for reducing food waste.

HKIA Food Rescue Programme

In 2013 AAHK launched the HKIA Food Rescue Programme whereby AAHK financed a local NGO, Food Angel, to collect surplus food from restaurants and F&B outlets in the HKIA Terminal buildings, thereby avoiding food waste generation (see *Figure A.1*).





AAHK sponsored Food Angel via the HKIA Environmental Fund and provided a refrigerated truck plus operational expenses to facilitate Food Angel to collect surplus food from business partners on the airport island. A central storage room was also set up in the terminal building to provide appropriate space for storing food waste from terminal catering outlets. Collected surplus food is used to prepare meals for distributing to the needy in Hong Kong.

In 2020, over 130,000 meal boxes were served using surplus food collected through the HKIA Food Rescue Programme. The programme was formalised as an AAHK service contract in 2018.

Figure A.1 Collection of Surplus Food by Food Angel



SEGREGATION AND COLLECTION OF FOOD WASTE

Provision of Free Recycling Bags for Segregation of Food Waste

Under the AAHK Waste Separation at Source Programme, AAHK provides free designated red recycling bags to tenants to collect / store food wastes generated from daily operations (see Figure A.2). Tenants, including but not limited to F&B outlets, airline lounges and retail stores, are encouraged to separate food wastes from residual wastes generated in order to minimise disposal to landfill. The red recycling bags filled with food wastes are collected and stored in designated “food waste bins” in the back-of-house refuse rooms, with these being regularly transferred by the licensed food waste collection contractor to the O-PARK1 for energy recovery, or to other licensed food waste recyclers. AAHK plans to enhance the promotion of food waste recycling bags with tenants as business operations return to normal after COVID pandemic is over and it is expected that the tenants’ participation rate will increase.



Figure A.2 Segregation of Food Waste with Red Recycling Bags



Setting out Food Waste Reduction Requirements in AAHK Agreements with Tenants/ Franchisees/Licensees

The AAHK sets out food waste management requirements in tenants/ franchisees/licensees agreements requiring tenants/ franchisees/licensees to take all reasonable steps to handle and segregate food wastes arising from their activities and operations. For instance, tenants/ licensees/franchisees are required to separate food waste from general refuse, and to dispose of the food wastes in appropriate recycling containers in designated refuse rooms or other locations as advised by AAHK. The AAHK will regularly review tenants/franchisees/licensees and contractor's EMPs and conduct audits on tenants/franchisees/licensees and contractor's environmental performance to ensure that food waste management initiatives committed in the EMP are in place.

DISPOSAL AND TREATMENT

Disposal and Treatment of food waste at O-PARK1

Source separated food wastes recovered from the "food waste bins" placed in back-of-house areas are sent to the O-PARK1 at Siu Ho Wan by the licensed food waste management contractor, depending on the availability / handling capacity of the O-PARK1, or other licensed food waste recyclers. Starting from July 2020, all collected food waste has been sent to the O-PARK1 for converting into biogas for electricity generation. The O-PARK1 only accept food waste with non-organic contamination of less than 20%. To ensure that the quality of source separated food waste meets the requirement, training on good practices of food waste segregation will be provided to cleaning staff and F&B tenants.





Annex B Updated EM&A Manual – Implementation schedule for Waste Management Implication (Operation phase)

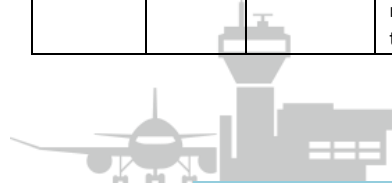




ANNEX B: UPDATED EM&A MANUAL – IMPLEMENTATION SCHEDULE FOR WASTE MANAGEMENT IMPLICATION (OPERATION PHASE)

AAHK together with the IEC team will commence an inspection exercise at the two runway system interim stage with an aim to complete a final joint inspection / check of new waste management facilities and operational arrangements on commencement of full 3RS operation. AAHK will determine and set waste reduction and recycling performance targets from time to time. Waste management performance monitoring and audit will be conducted by AAHK operation teams at regular intervals and waste management is also covered under AAHK's ISO14001 Environmental Management System. The scope of monitoring and audit will cover aspects of waste handling, storage, segregation, recycling, treatment and disposal. Performance will be assessed to ensure the effectiveness of waste reduction measures implemented and against performance targets set by AAHK.

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Description of Implementation Arrangements for the Environmental Protection Measures in this OWMP	Location / Duration of measures Timing of completion of measures	Implementation Agent	Implementation Stage			Mitigation Measures Implemented?	
							Des	C	O	Yes	No
10.5.2.1	7.2	-	General refuse should be temporarily stored in proper container with covers, which should be regularly cleaned and checked for maintenance. General refuse should be collected on daily basis and delivered to the refuse collection point accordingly. A reputable waste collector should be employed to remove the general refuse regularly for off-site disposal at designated landfill sites in order to avoid odour nuisance or pest/vermin problem. The following waste recycling initiatives should be implemented at the expanded airport:	<ul style="list-style-type: none">The proposed waste storage, handling, collection and disposal arrangements for general refuse are described in Sections 5.1.2, 5.1.3, and 5.2.1 of this OWMP in details.AAHK will provide appropriate facilities, including recycling bins with clear signage, refuse rooms with ventilation or air-conditioning systems, and collection bins with covers / cages at the refuse rooms, in the passenger terminal buildings to facilitate the daily segregation, collection and storage of recyclables and residual waste generated by passengers and tenants. All the collection bins / cages are managed by AAHK's cleaning / waste management	Project Site Area / Operation Phase	AAHK			✓		





EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Description of Implementation Arrangements for the Environmental Protection Measures in this OWMP	Location / Duration of measures Timing of completion of measures	Implementation Agent	Implementation Stage			Mitigation Measures Implemented?	
							Des	C	O	Yes	No
			<ul style="list-style-type: none"> Recycling facilities should be provided in prominent areas in passenger terminal buildings to facilitate separation of recyclable waste by passengers; Recycling facilities should also be provided in refuse rooms of the passenger terminal buildings to facilitate separation of recyclable waste by tenants; 	<p>contractors under the respective services contracts to ensure the appropriate cleaning and maintenance.</p> <ul style="list-style-type: none"> Non-recyclable wastes or residual wastes, that are collected at AAHK premises and aircraft, will be transferred to the LWS and/ or the AWS and finally will be delivered to the WENT Landfill via Tuen Mun – Chek Lap Kok Link or other licensed waste handling facilities by a reputable licensed waste management contractor on daily basis with submission of records to AAHK. The recovered recyclables will then be sent to Governmental waste handling facilities, or sold to local licensed / reputable recyclers for further processing / conversion to useful materials. To enhance the upstream recyclables collection and segregation, AAHK will provide free recycling bags to tenants and regular training sessions to the frontline staff. AAHK will also provide financial incentive to the waste management contractor to enhance collection and sorting of marketable recyclables under a performance-based contract. To encourage waste reduction, AAHK will require the F&B outlets to minimise waste arising by using reusable dining wares for eat-in customers as far as practical; and will allocate designated areas at the food courts in passenger terminal buildings to facilitate the collection of reusable dining wares and trays. 							



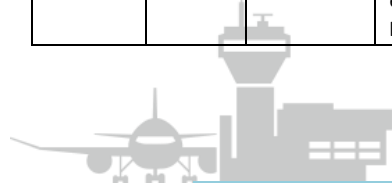


EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Description of Implementation Arrangements for the Environmental Protection Measures in this OWMP	Location / Duration of measures Timing of completion of measures	Implementation Agent	Implementation Stage			Mitigation Measures Implemented?	
							Des	C	O	Yes	No
			<ul style="list-style-type: none"> Food waste recycling programme should be implemented at the airport to collect and recycle food waste; Food waste can be delivered to EPD's Organic Waste Treatment Facilities for recycling as compost; 	<ul style="list-style-type: none"> Provision of free designated recycling bags to F&B outlets, airline lounges and retail stores in AAHK managed facilities for food waste segregation at source. Provision of "food waste bins" with covers at refuse rooms in the passenger terminal buildings for disposal by the cleaning contractors and tenants. Collected food waste will be regularly transfer by a food waste collection contractor to O-Park1 or other licenced food waste recyclers with submission of monthly records to AAHK. Setting out food waste management requirements in tenants/franchisees/licensees agreements requiring tenants/ franchisees/licensees to take all reasonable steps to handle and segregate food wastes arising from their activities and operations, with regular review and audit conducted by AAHK. Designated cleaning contractor staff to separate food waste from other wastes in food court areas in the passenger terminal buildings to facilitate food waste separation for recycling. Provision of regular training to cleaning staff and tenants on good practices of food waste segregation. Implementation of HKIA Food Rescue Programme in partnership with an NGO to collect surplus food from the F&B outlets in the passenger terminal buildings for 							



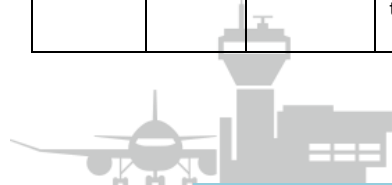


EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Description of Implementation Arrangements for the Environmental Protection Measures in this OWMP	Location / Duration of measures Timing of completion of measures	Implementation Agent	Implementation Stage			Mitigation Measures Implemented?	
							Des	C	O	Yes	No
				production of meal boxes, which will be distributed to the needy in Hong Kong.							
			<ul style="list-style-type: none"> Food & beverage tenants are encouraged to recycle waste cooking oil (e.g., recycling of waste cooking oil to biodiesel); 	<ul style="list-style-type: none"> F&B tenants in AAHK managed facilities are encouraged to recycle their waste cooking oil, which are collected by the licensed contractor(s) and recovered as biodiesel. 							
			<ul style="list-style-type: none"> AAHK has stepped up on-site waste separation and recycling at the Airside Waste Station to raise the amount of recyclable materials recovered from aircraft cabin waste. 	<ul style="list-style-type: none"> Recyclables and wastes from aircrafts and apron areas will be collected and transferred by several ramp handlers or cleaning contractor(s) to the existing AWS for further sorting of marketable recyclables and compaction of residual waste. An A.I. robotic sorter system installed at the T1 MFC Central Refuse Room will be used for sorting and recovering additional marketable recyclables from targeted waste streams collected from aircraft cabins. 							
10.5.2.2	7.2	-	Operators of the relevant facilities should register with EPD as a chemical waste producer and follow the guidelines stated in the "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. Licensed collector should	<p>The proposed arrangements for management of chemical waste are described in Section 5.2.2 of this OWMP. Relevant measures are outlined below.</p> <ul style="list-style-type: none"> AAHK and/or owners/ operators of the relevant facilities in AAHK managed facilities, who generate chemical waste will register with the EPD as chemical waste producer(s) and follow the guidelines stated in the <i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</i>. Good quality containers compatible with the chemical wastes will be used, and incompatible chemicals will be stored separately. 	Project Site Area / Operation Phase	AAHK / Operators			✓		





EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Description of Implementation Arrangements for the Environmental Protection Measures in this OWMP	Location / Duration of measures Timing of completion of measures	Implementation Agent	Implementation Stage			Mitigation Measures Implemented?	
							Des	C	O	Yes	No
			be deployed to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	<ul style="list-style-type: none"> Appropriate labels will be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste. Licensed collector(s) will be deployed to transport and dispose of the chemical wastes at the Chemical Waste Treatment Centre at Tsing Yi or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. A trip-ticket system will be implemented to record the consignment of chemical waste. 							
10.5.2.3 to 10.5.2.5	7.2	-	Regular cleaning and inspection of seawall. If refuse is found during inspection, arrangements should be made to remove the refuse.	<p>The proposed arrangements for management of floating refuse are described in Section 5.2.3 of this OWMP. Relevant measures are outlined below.</p> <ul style="list-style-type: none"> Weekly inspection will be carried out by the contractor(s) along the artificial seawall of the expanded airport island to check for any entrapment or accumulation of floating refuse. Where excessive entrapment of floating refuse is found, the locations of such entrapment will be recorded and the contractor(s) will be arranged immediately for clearance of floating refuse. Floating refuse collected from the seawall will be sent to the WENT Landfill via Tuen Mun – Chek Lap Kok Link. 	Project Site Area / Operation Phase	Contractor			✓		
10.5.2.6	7.2	-	Sludge generated from the proposed greywater treatment plant will be mechanically dewatered,	The proposed arrangements for management of sludge are described in Section 5.2.4 of this OWMP. Relevant measures are outlined below.	Project Site Area /	Contractor			✓		





EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Description of Implementation Arrangements for the Environmental Protection Measures in this OWMP	Location / Duration of measures Timing of completion of measures	Implementation Agent	Implementation Stage			Mitigation Measures Implemented?	
							Des	C	O	Yes	No
			which will then be delivered to the designated landfill sites for final disposal.	<ul style="list-style-type: none">Mechanical dewatering of sludge generated from the proposed greywater treatment plant.Dewatered sludge will be stored in tight containers or skips for delivery to the North Lantau Transfer Station via North Lantau Highway, or the WENT Landfill via Tuen Mun – Chek Lap Kok Link for disposal/recycling by reputable licensed waste collector(s).	Operation Phase						

