BAT ASSESSMENT

Recycling Lives Services Workington, Isabella Road, Workington, Cumbria, CA14 2JS

Recycling Lives Compliance Services Limited

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Version	Issue date	Author	Checked	Description
1.0	02/05/2025	EG	CP	Internal draft
1.1	19/05/2025	EG	CP	Application copy
1.2	23/09/2025	EG	CP	EA comments

CONTENTS

List of Appendices:

Appendix I - Drawings

Drawing No. WORK/3421/03 – Site Layout & Fire Plan

Drawing No. WORK/3421/04 – Sensitive Receptors Plan

Appendix II - Waste Treatment Process Flow Diagram

1 Introduction

1.1 Overview of Site Operations

1.1.1 This document summarises the best available techniques (BAT) specific to operations undertaken by Recycling Lives Compliance Services Limited (the operator) at the site situated at Recycling Lives Services Workington, Isabella Road, Workington, Cumbria, CA14 2JS.

1.1.2 The current Environment Permit (EP) ref. EPR/FB3807SX authorises operations associated with the following:

a) Vehicle storage, depollution and dismantling.
b) Waste electrical and electronic equipment authorised treatment facility.
c) Metal recycling.

1.1.3 This BAT assessment has been prepared to accompany a permit variation application. The changes proposed as part of the variation include the following:

a) Add a new hazardous waste installation activity under section 5.3 Part A(1) (a)(ii) of the Environmental Permitting (England and Wales) Regulations for the physico-chemical treatment involving the mechanical sorting and mechanical treatment of hazardous waste (batteries).
b) Increase the hazardous waste storage capacity to 5,000 tonnes at any one time which will fall under an installation activity in accordance with Schedule 1, Part 2 Section 5.6 Part A(1)(a) – Temporary or underground storage of hazardous waste.

1.1.4 As the operator is looking to treat more than 10 tonnes of hazardous waste per day for a mix of disposal and recovery and store more than 50 tonnes of hazardous waste at any one time, the site will form part of the Industrial Emissions Directive (IED) Regulations which leads to the requirement for this BAT assessment.

1.2 BAT techniques

1.2.1 The following best available techniques BATs have been considered to show how the site addresses the aspects detailed in the aforementioned guidance to include and therefore to ensure protection of the environment and surrounding receptors:

- Pre-acceptance of waste procedures
- Acceptance waste procedures
- Waste storage
- Staff training
- Monitoring procedures
- Accidents and incidents

1.2.2 The primary purpose of this document is to ensure that all waste received is handled and treated in the most environmentally friendly and economical way to reduce fugitive emissions which could cause harm to the environment and human health.

1.3 Guidance

1.3.1 This BAT assessment has been written to demonstrate compliance with the following document:

1.3.2 Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council.

2 BAT compliance

2.1 BAT 1 - Application and implementation of an Environmental Management System

2.1.1 The operator implements the requirements of a comprehensive Environmental Management System (EMS). The EMS has been revised for the purpose of this application and the additional activities / changes proposed. The EMS has been prepared in accordance with the following guidance:

a) The Environmental Permitting (England and Wales) (Amendment) Regulations 2018.
b) The Waste Batteries and Accumulators Regulations 2009.
c) Develop a management system: environmental permits.
d) Technical Guidance WM3: Waste Classification - Guidance on the classification and assessment of waste.
e) The Waste duty of care: code of practice – 2018.
f) Non-hazardous and inert waste: appropriate measures for permitted facilities published 12/07/2021.
g) Chemical waste: appropriate measures for permitted facilities published 18/11/2020.
h) Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities published 13/07/2022.
i) Climate change: risk assessment and adaption planning in your management system.

2.1.2 Therefore, in accordance with the above the implementation of the EMS provides compliance with BAT 1.

2.1.3 A copy of the EMS implemented at the site has been submitted with this application.

2.2 BAT 2 Waste stream management

2.2.1 The EMS implemented by the operator contains site specific procedures and measures. Details of the relevant procedures and measures are summarised below:

a) **Waste Pre acceptance procedures**: All incoming battery waste is subject to a pre-acceptance review prior to arrival. Waste producers complete a waste transfer note detailing battery chemistry, quantity, packaging and physical condition. Further details of waste pre-acceptance are included in the EMS, section 3.1 Preliminary procedures.

b) **Waste acceptance procedures**: The EMS contains waste acceptance procedures which provide detail of the information including details of the waste transfer note that need to be checked before accepting / depositing a load onto the site. If it is suspected that any incoming wastes are not coded correctly the incoming waste will be quarantined pending removal from site for treatment at a suitably permitted facility if necessary. As part of the waste acceptance procedure loads are visually inspected, any discrepancies result in waste being quarantined and investigated before further handling. Additional information of waste acceptance can be found in the EMS, section 3.3

c) **Waste storage**: the EMS contains a waste storage procedure which details the storage locations, types and quantities of waste on site. Each waste type is stored in its own area to ensure segregation and no mixing with other waste. Batteries are sorted and stored by chemistry.

2.2.2 By implementing battery-specific acceptance and storage procedures, the facility fully complies with BAT 2. For specific details of these procedures, please see the full EMS, document reference. WORK-3421-A.

2.3 BAT 3 Reduction of Emissions to Water and Air

2.3.1 There are no wastewater or gas streams produced as part of site operations.

2.4 BAT 4 Reducing Environmental Risk Associated with Storage of Waste

2.4.1 The storage locations of waste on site have been designed and optimised to prevent any unnecessary double handling and transport of wastes around the site. The storage locations and maximum waste storage capacities are clearly established and outlined on the Site Layout Plan, Drawing No. WORK/3421/03 and within the operators EMS and other management systems.

2.4.2 Waste storage areas are continuously monitored to ensure they are not exceeding capacity.

2.4.3 The aim for the operator is to follow a 'first in, first out' principle where incoming waste is sorted and processed on arrival to arrange for its export off site as soon as practicably possible, to minimise over-stocking.

2.4.4 Once processed batteries will be stored by chemistry in appropriate storage containers to eliminate the risk of cross-contamination. Hazardous wastes will be placed into containers in the dedicated storage areas.

2.4.5 The EMS contains a waste storage procedure, including a waste storage table which should be read in conjunction with Drawing No. WORK/3421/03 which provides an illustration of the waste storage areas including types and capacity of waste to be stored.

2.5 BAT 5 Reducing Environmental Risk Associated with Handling and Transfer of Waste

2.5.1 The EMS contains specific procedures relating to the handling and transfer of wastes. Wastes will only be handled and transferred by members of staff who are suitably trained/qualified, see section 3.6 of the EMS. Appropriate training will be provided to all members of staff responsible for handling and transferring of wastes. Training procedures are documented within the EMS.

2.5.2 Measures are taken to prevent spills; however, the EMS contains a spill procedure which outlines details of the remediation and what to do in the event of a spill. Any spillages of fuel/oil will be cleared immediately by depositing sand or absorbents on the affected area. The sand or absorbents will be placed in a container to be taken to a suitably permitted site for disposal. All spillages of waste and potential items of windblown litter will be cleared by the end of the working day on which they occur. All site surfaces will be inspected daily when the site is in operation. Debris will be swept as required and placed in a skip for disposal to a suitably permitted site.

2.6 BAT 6 & 7 – Monitoring Emissions to Water

2.6.1 Surface water from the external yard of the site is captured and contained within an underground tank on site. No surface water will leave or be discharged from the site, therefore it is not considered BAT 6 & 7 are applicable.

2.7 BAT 8 - Monitoring Emissions to Air

2.7.1 There are no channelled emissions to air from site operations and therefore BAT 8 is not considered applicable.

2.8 BAT 9 – Monitoring diffuse emissions of organic compounds

2.8.1 The operator does not propose to undergo physico-chemical treatment of solvents for the recovery of there calorific value and therefore BAT 9 is not considered applicable.

2.9 BAT 10 – Monitoring Odour Emissions

2.9.1 Due to the waste types accepted and processed on site it is not expected odour release and detection off site is not anticipated to be an issue. However, the operator will maintain a complaints procedure as part of the EMS to ensure that should complaints of odour arise, these are fully investigated.

2.10 BAT 11 - Monitoring Annual Consumption of Water, Energy, Raw Materials and Annual Generation of Residues and Waste Water

2.10.1 The operator will maintain records of water, energy, and raw material consumption, in addition to generation of residues and water as specified on the determined EP.

2.11 BAT 12 – Odour Management Plan

2.11.1 As outlined under BAT 10, the waste types accepted are not considered malodourous and therefore an Odour Management Plan is not required and therefore BAT 12 is not applicable.

2.12 BAT 13 – Reducing Odour Emissions

2.12.1 As above odorous waste is not accepted on site and therefore, BAT 13 is not considered applicable.

2.13 BAT 14 – Diffuse Emissions to Air

2.13.1 The operator will implement the requirements of a Dust & Emissions Management Plan on site. A combination of techniques d, e, f and g of BAT 14 are implemented on site via the following:

- An enclosed dust extraction system fitted to the shredding plant.
- Dampening of external site surfaces to prevent the resuspension of dust from vehicle movements.

- Regular maintenance of plant and equipment in accordance with the manufacturer's guidance.
- Cleaning of waste treatment and storage areas on a daily basis.

2.13.2 Further information is provided in the DEMP.

2.14 BAT 15 & 16 – Use of Flaring

2.14.1 No flaring is used on site and therefore BAT 15 is not considered applicable.

2.15 BAT 17 – Noise and Vibration Management Plan

2.15.1 The Environment Agency agreed during pre-application advice that a Noise Impact Assessment / Noise Management Plan would not be required. Therefore BAT 17 is not considered applicable.

2.16 BAT 18 – Noise and Vibration Emissions

2.16.1 The operator has taken noise and vibration emissions into account when planning the appropriate locations of plant and mechanical processing operations. All mechanical processing is undertaken within an enclosed building to use the building structure as noise screens.

2.16.2 All plant and equipment will be appropriately inspected and maintained in accordance with manufacturer recommendations.

2.16.3 Plant and equipment is only permitted to be operated by sufficiently experienced and trained personnel.

2.16.4 Where possible, the activities with potential to produce the most noise i.e shredding will be avoided overnight and during unsociable hours.

2.17 BAT 19 – Water Consumption

2.17.1 No water is used directly as part of operations associated with the mechanical processing of waste. The only water used on site will be for dust suppression purposes which will involve the dampening down of external site surfaces to prevent the resuspension and drying of the surface to produce dust.

2.17.2 The drainage system / infrastructure on site comprises of an entirely sealed system collecting any surface water from the external yard.

2.17.3 Waste stored in the external yard is stored in sealed weatherproof containers, therefore no water will come into direct contact with waste and therefore minimising the volume of contaminated run-off water produced.

2.18 BAT 20 - Reducing Emissions to Water

2.18.1 No surface water is discharged from site, the operator is proposing to install an underground tank to capture and contain any surface water. There is also a three-stage interceptor tank to physically remove any solids, oil and grease from surface water on site.

2.18.2 It is considered the above provides compliance with BAT 2 technique C.

2.19 BAT 21 Preventing or Limiting Environmental Consequences of Accidents and Incidents

2.19.1 The EMS and other management plans implemented contain procedures relating to potential accidents that could occur on site and provides mitigation measures and responses through other related procedures. Some examples of such and how these comply with BAT 21 are provided below:

a) The operator has an accident logbook on site where all accidents and incidents are recorded, this is outlined in the EMS procedures.
b) The EMS has procedures relating to protection measures such as site security to prevent unauthorised access and incidents as a subsequent to this.
c) The EMS contains procedures relating to breakdowns and spillages and what to do in the event of these.
d) The EMS contains an emergency procedures section with procedures accounting for potential events and detailing what to do in those situations.
e) Following an accident or incident the operator will perform an investigation to interpret the cause of the accident / incident and provide additional training to staff if required.

2.20 BAT 22 – Material Efficiency

2.20.1 A list of all the raw materials used on site including their properties will be maintained. The list of raw materials will be reviewed annually, as part of this review it will be considered whether any raw materials can be substituted or changes to alternative materials such as waste or waste-derived products.

2.20.2 At present, the operator uses a limited range of raw materials on site of which includes, diesel, electricity and packaging.

2.21 BAT 23 – Energy Efficiency

2.21.1 The main energy used on site is in the form of electricity and diesel for lighting, processing plant and operating equipment.

2.21.2 The operator records and analyse all energy use and have policies and procedures in place which emphasise the need to avoid unnecessary use and to identify saving efficiencies, meeting the requirements of BAT 23.

2.22 BAT 24 - Reducing Quantity of Waste Sent for Disposal

2.22.1 Ensuring there is no contamination or residues left, and containers are in good condition, containers that mixed waste batteries arrive to site in are re-used for sorted / processed waste.

2.22.2 Any pallets that waste arrives on will also be re-used to store sorted waste on.

2.22.3 By reusing packaging as outlined above the site is compliant with BAT 24.

2.23 BAT 25 – Reducing emissions to air of dust

2.23.1 To reduce the emissions to air of dust and of particulate-bound metals from the shredding of batteries the shredder is fitted with an enclosed dust extraction system fitted with a cyclone which will separate any coarse dust emitted.

2.23.2 A Dust & Emissions Management Plan is implemented on site which provides further details of mitigation measures.

2.24 BAT 26 – Overall Environmental Performance of shredding metal waste

2.24.1 The operator implements detailed waste acceptance and inspection procedures on site to ensure any dangerous items are removed from loads prior to shredding.

2.25 BAT 27 & 28

2.25.1 BAT 27 & 28 are not considered applicable as the operator is not proposing to shred metal waste.

2.26 BAT 29 & 30

2.26.1 BAT 29 & 30 are not considered applicable as batteries proposed to be treated do not contain VFCs and/or VHCs.

2.27 BAT 33 – 35

2.27.1 BAT 33 – 35 are not considered applicable as no biological treatment of waste is undertaken on site.

2.28 BAT 36 -37

2.28.1 BAT 36 & 37 are not considered applicable as no aerobic treatment of waste is undertaken on site.

2.29 BAT 38

2.29.1 BAT 38 is not considered applicable as no anaerobic treatment of waste is undertaken on site.

2.30 BAT 39

2.30.1 BAT 39 is not considered applicable as no mechanical biological treatment of waste is undertaken on site.

2.31 BAT 40 - 41

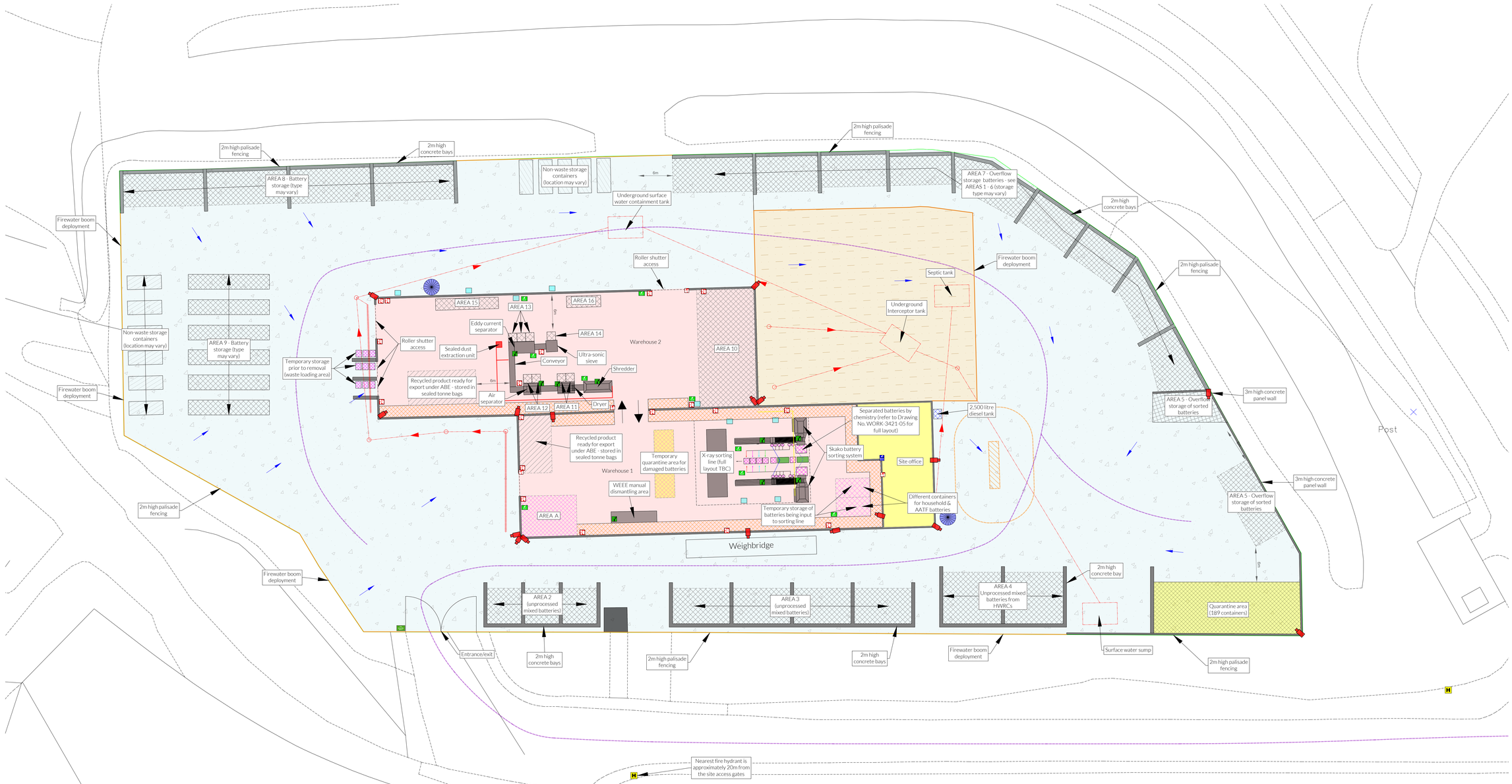
2.31.1 BAT 40 & 41 are not considered applicable as no physico-chemical treatment of waste is undertaken on site.

2.32 **BAT 42 – 44**

2.32.1 BAT 42 – 44 are not considered applicable as no re-refining of waste oil is undertaken on site.

Appendix I

Drawings



Storage Area Details

Plan Ref	Description	Storage type / containment	Max width of pile (m)	Max length of pile (m)	Max height of pile (m)	Approx. area (m2)	Conversion factor used	Approx. volume (m3)	Approx. no. of pallets / containers	Approx. tonnage	Maximum storage duration	Comments
AREA A	Battery checking and inspection area prior to sorting and treatment	Sealed acid-resistant containers (dolav pallet boxes)	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	Maximum 48 containers	38.5 tonnes (800kg per container)	<12 hours	Containers are initially inspected here to check for any non-conforming items prior to storage in the yard before processing. Battery boxes will not be stacked. No waste is stored here outside of operational hours
AREA 2	Unprocessed mixed batteries	Sealed acid-resistant containers (dolav pallet boxes) with weatherproof covering	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	48 containers per bay	38.5 tonnes (800kg per container)	<12 months	Containers are stored within bays stacked two containers high. All containers will be stored so they are accessible from at least one side.
AREA 3	Unprocessed mixed batteries from AATF S	As above	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	48 containers per bay	38.5 tonnes (800kg per container)	<12 months	As above
AREA 4	Unprocessed mixed batteries from HWRCs	As above	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	224 containers	179 tonnes (800kg per container)	<12 months	As above
AREA 5	Overflow storage area for sorted batteries (by chemistry)	Recycled batteries stored in tonne bags on pallets with tarpaulin placed over each pallet	1 (per pallet)	1.2 (per pallet)	1	1.2 (per pallet)	1	1 per pallet	84 pallets (84 bags)	84 tonnes (1 tonne per bag)	<12 months	Batteries stored will have been sorted by chemistry and stored in tonne bags on pallets ready for despatch. Sorted batteries stored in the yard will have tarpaulin placed over them
AREA 6	Overflow storage area for sorted batteries (by chemistry)	Recycled batteries stored in tonne bags on pallets with tarpaulin placed over each pallet	1 (per pallet)	1.2 (per pallet)	1	1.2 (per pallet)	1	1 per pallet	84 pallets (84 bags)	84 tonnes (1 tonne per bag)	<12 months	As above
AREA 7	Overflow storage batteries - see AREAS 1 - 6 (storage type may vary)	As above	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	150 containers	100 - 120 tonnes 800kg per container)	<12 months	As above
AREA 8	Battery storage (storage type may vary)	Depending on the battery type unprocessed batteries will be stored in either dolav boxes, barrels or tonne bags.	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	72 pallets (648 barrels or 72 containers)	24.6 – 72 tonnes (342kg per pallet of barrels or 800kg per container)	<12 months	Batteries will either have been sorted by chemistry or unsorted and awaiting processing.
AREA 9	Battery storage (storage type may vary)	As above	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	48 pallets per row (432 barrels or 48 containers)	16.4 – 48 tonnes per row (342kg per pallet of barrels or 800kg per container)	<12 months	As above
AREA 10	Processed / sorted batteries for shredding (sorted by chemistry)	Sorted batteries stored in pallet boxes awaiting shredding	1 (per container)	1.2 (per container)	1.7 (0.85m per container)	1.2 (per container)	1	1 per container	170 containers	136 tonnes (800kg per container)	<12 months	Batteries will have been sorted by chemistry and are awaiting further processing via shredding
AREA 11	Electrolyte & volatiles	Sealed IBC bulk containers	1 (per container)	1.2 (per container)	1	1.2 (per container)	1	1.2 (per container)	2 containers	1 tonne per container	<12 months	Container moved to AREA 14 when at capacity and replenished with empty container
AREA 12	Paper & plastic	Sealed IBC bulk containers	1 (per container)	1.2 (per container)	1	1.2 (per container)	1	1.2 (per container)	2 containers	1 tonne per container	<12 months	As above
AREA 13	Ferrous metal, aluminium, copper	Sealed IBC bulk containers	1 (per container)	1.2 (per container)	1	1.2 (per container)	1	1.2 (per container)	3 containers	1 tonne per container	<12 months	As above
AREA 14	Zinc / Manganese powder (black mass)	Sealed IBC bulk containers	1 (per container)	1.2 (per container)	1	1.2 (per container)	1	1.2 (per container)	1 container	1 tonne per container	<12 months	As above
AREA 15	Dismantled WEEE	Sealed IBC bulk containers	1 (per container)	1.2 (per container)	1	1.2 (per container)	1	1.2 (per container)	5 containers	1 tonne per container	<12 months	Containers replenished with empty ones when full / removed
AREA 16	Overflow storage from shredding line (contents may vary)	Sealed IBC bulk containers	1 (per container)	1.2 (per container)	1	1.2 (per container)	1	1.2 (per container)	5 - 10 containers	1 tonne per container	<12 months	Containers replenished with empty ones when full / removed

NOTES

Drawing for indication only. All dimensions in millimetres (mm) unless otherwise specified. This drawing is copyright and property of Oaktree Environmental Ltd.

REVISION HISTORY

Rev:	Date:	Init:	Description:
-	01.04.25	JH	Initial drawing
A	23.04.25	JH/CP	Client comments
B	25.04.25	EG	Client comments
C	19.05.25	EG	Waste storage table amendments
D	13.06.25	EG	Application copy
E	23.09.25	EG	EA comments

KEY:

- Permit boundary
- Waste storage areas
- Non-waste storage areas
- Temporary storage/sorting areas
- Non-waste fuel, fluids
- Pedestrian walkway
- Impermeable surfaced areas
- Hardstanding areas
- Waste recycling/ storage buildings (impermeable surfaced floor)
- Office/welfare
- Out of hours plant storage
- 300mm thick solid concrete wall
- 600mm thick interlocking concrete lego block
- Quarantine area
- Firefighting equipment/extinguishers (indicative locations)
- Saltwater solution drum for lithium batteries
- Fire alarms (indicative locations)
- Spill kits (indicative locations)
- Plant shut off
- Mains Water
- Access route for emergency services
- Fire hydrant
- Fire assembly points
- Pan,tilt & zone cameras with 360 50cm coverage
- Surface water fall direction
- Underground contaminated (potentially contaminated surface water
- ACO surface drain
- Treated (clean) surface water
- Manholes (clean/contaminated)
- Location of penstock valve to shut off drainage system
- Water storage tanks (indicative locations)
- Firewater polyboom deployment

N

Scale Bar 0 2 4 6 8 10m

TITLE: SITE LAYOUT & FIRE PLAN

CLIENT: Recycling Lives Compliance Services Limited

PROJECT/SITE: Recycling Lives Services Workington, Isabella Road, Workington, Cumbria, CA14 2JS

SCALE @ A0:	CLIENT NO:	JOB NO:
1:250	3421	002
DRAWING NO:	REV:	STATUS:
WORK-3421-03	E	Issued
DATE:	DRAWN:	CHECKED:
23.09.25	JH/CP/EG	RL

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Appendix II

Waste Treatment Process Flow Diagram

Hazardous Battery Waste Treatment Process Flow Diagram - Drawing No. WORK/3421/05