



TEES VALLEY ENERGY RECOVERY FACILITY



**CONSTRUCTION ENVIRONMENTAL
MANAGEMENT PLAN – ANNEX 1**

SITE WASTE MANAGEMENT PLAN

**GRANGETOWN PRARIE, GRANGETOWN,
REDCAR, TS6 6TY.**

**ECL Ref: ECL. 007.04.01/CEMP-ANNEX.1
March 2023
Version: Issue 2**

TABLE OF CONTENTS

1. INTRODUCTION	1
1.1. Overview	1
1.2. Project Information	1
1.3. Management	1
1.4. Distribution	2
1.5. Instruction and Training	2
1.6. Toolbox Talks	2
2. RELATED DOCUMENTS	4
2.1. Overview	4
3. WASTE ARISING	5
3.1. Waste Types	5
3.2. Estimated Waste Arisings	6
4. MANAGEMENT OF WASTES	7
4.1. Introduction	7
4.2. Waste Hierarchy	7
4.3. Storage of Waste	9
4.4. Waste Carrier	10
5. ROLES AND RESPONSIBILITIES	11
5.1. Hitachi Zosen Inova	11
5.2. Contractors	11
6. MONITORING	12
6.1. Inspections and Audits	12
6.2. Reporting and Records	12
6.3. Key Performance Indicators	12
7. LESSONS LEARNED	13
7.1. Overview	13

LIST OF TABLES

Table 1: Individuals tasked with Management of the WMP	2
Table 2: Related Documents	4
Table 3: General Construction Wastes	5
Table 4: Construction Wastes and Planned Management Processes	8

LIST OF FIGURES

Figure 1: The Waste Hierarchy	7
--------------------------------------	----------

ACRONYMS/TERMS USED IN THIS REPORT

CEMP	Construction Environmental Management Plan
CPP	Construction Phase Plan
EFW	Energy from Waste
ERF	Energy Recovery Facility
EWC	European Waste Catalogue
FCC	FCC Waste Services (UK) Limited
HSE	Health, Safety, and Environment
HZI	Hitachi Zosen Inova
SWMP	Site Waste Management Plan
WEEE	Waste Electrical and Electronic Equipment

REVISION HISTORY

Issue Number	Sections Affected	Changes by	Reviewed by	Date
1	ALL	ECL	FCC	23.08.2021
2	1.1, 2.1	ECL	FCC	01.03.2023

1. INTRODUCTION

1.1. Overview

- 1.1.1. Condition 4 of the outline planning permission (Reference No: R/2019/0767/OOM) requires a Construction Environmental Management Plan (“CEMP”) to be prepared to support the delivery of the development proposals.
- 1.1.2. To support the CEMP (Document Reference, 5014216_1.0) and associated Construction Phase Plan (“CPP”) (Document Reference, 50134151_1.0), this document shall detail the methods to be used to manage waste generated on the Development Site.
- 1.1.3. A copy of this Site Waste Management Plan (“SWMP”) shall be provided to all contractor and subcontractor representatives who are subsequently required to plan and execute their work in line with the requirements and measures outlined in the document.
- 1.1.4. This SWMP should be read in accordance with the CEMP which gives further general details about the Project Health, Safety and Environment (“HSE”) Management System.

1.2. Project Information

- 1.2.1. The project concerned is that of the Tees Valley Energy Recovery Facility (“ERF”) located at, Grangetown Prairie, Grangetown, Redcar, TS6 6TY.
- 1.2.2. The nature of the project is the design, building and commissioning of a new Energy Recovery Facility as described in detail in the CEMP.

1.3. Management

- 1.3.1. The Development Site Environmental Manager is the “environmental coordinator” for the project and consequently is responsible for ensuring the instruction of workers, overseeing, and documenting the results required by this SWMP.
- 1.3.2. It shall be the responsibility of the Environmental Manager and Environmental Site Advisor on the Development Site to monitor the effectiveness and accuracy of the documentation.
- 1.3.3. Table 1 below will detail the key individuals involved in overseeing the SWMP for the Development Site once appointed.

Table 1: Individuals Tasked with Management of the SWMP

Position	Name	Contact Details
Client	FCC Waste Services (UK) Limited	TBC
Client Waste Management Representative	TBC	TBC
Project Environmental Coordinator	TBC	TBC
Waste Management Coordinator	TBC	TBC
Document Controller – Site Administrator	TBC	TBC

1.4. Distribution

- 1.4.1. It shall be the responsibility of the Environmental Site Advisor and HSE Site Advisor to ensure the distribution of this SWMP. The SWMP is required to be distributed to:
- FCC Waste Services (UK) Limited (“FCC”);
 - the Development Site Manager; and
 - all subcontractors.

1.5. Instruction and Training

- 1.5.1. A training regime will be implemented to ensure that all relevant members of the construction team, including Contractors' personnel, are competent with respect to waste management as follows. Further details regarding the Development Site HSE induction and training and the records required is outlined in the CEMP.
- 1.5.2. It is the responsibility of the contractor to provide on-site instruction of appropriate handling, recycling, reuse, and return methods to be used by all parties at all stages of the project.
- 1.5.3. All subcontractors will be required to attend monthly meetings on waste issues.
- 1.5.4. The Development Site induction will address the SWMP, ensuring that all personnel on the Development Site are aware of and shall adhere to the procedures detailed.

1.6. Toolbox Talks

- 1.6.1. Toolbox talks will be given to contractor teams as work proceeds and will cover the types of wastes produced at each key build stage, and relevant controls and shall be carried out to ensure full compliance with the requirements of this SWMP.

1.6.2. Contractors shall generally provide their own toolbox talks specific to the task, however, the following Central HSE Toolbox Templates are available for adaptation to the Development Site:

- waste hierarchy
- segregation of waste
- storage of waste; and
- hazardous waste.

2. RELATED DOCUMENTS

2.1. Overview

2.1.1. Table 2 provides further documents which will be prepared and should then be read in conjunction with this SWMP.

Table 2: Related Documents

Document Reference	Document Title
50134216_1.0	Construction Environmental Management Plan
50134151_1.0	Construction Phase Plan
	Site Infrastructure Plan
	Site Materials Management Plan
	Site Environmental Awareness Training
All to be prepared prior to the commencement of construction on site	Kickoff Meeting on Site Procedure
	Monthly HSE Reporting Form
	Environmental Inspection Template
	Environmental Aspects and Impacts Register
	Waste Duty of Care Audit
	Central HSE Toolbox Templates

3. WASTE ARISING

3.1. Waste Types

3.1.1. The key waste streams produced on the Development Site during the construction and commissioning phases can be described as:

- inert – wastes which will cause no adverse effects to the environment when disposed of, alternatively, if they do not decompose, they will have no potentially hazardous content when placed in landfill;
- non-hazardous – wastes which will decompose on burial resulting in the generation of methane and carbon dioxide; and
- hazardous wastes which are harmful to human health or the environment if they are not contained, treated, or disposed of correctly. Hazardous wastes may have one or a combination of the following properties:
 - explosive;
 - corrosive;
 - flammable;
 - highly flammable;
 - infectious;
 - oxidising; and
 - sensitising.

3.1.2. A list of general waste categories expected to be generated from construction is provided in Table 3 below.

Table 3: General Construction Wastes

Code	Description
15	WASTE PACKAGING, ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	Packaging (including separately collected municipal packaging waste)
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 03	Wooden packaging
17	CONSTRUCTION AND DEMOLITION WASTES
17 01	Concrete, bricks, tiles, and ceramics
17 01 01	Concrete, Tarmac
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 06*	Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	Wood, Glass and Plastic
17 02 01	Wood
17 02 02	Glass
17 02 03	Plastic
17 02 04	Glass, plastic, and wood containing or contaminated with dangerous substances
17 03	Bituminous mixtures, coal tar, and tarred products
17 03 01	Bituminous mixtures containing coal tar
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01
17 03 03*	Coal tar and tarred products

Table 3: General Construction Wastes (Cont.)

Code	Description
17 04	Metals (including their alloys)
17 04 01	Copper, bronze brass
17 04 02	Aluminium
17 04 03	Lead
17 04 04	Zinc
17 04 05	Iron and steel
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	Subsoils (inert)
17 05 03	Subsoils (inert)
17 06	Insulation material and asbestos containing construction material
17 06 05	Construction materials containing asbestos
17 08	Gypsum based construction material
17 08 02	Gypsum based construction materials other than those mentioned in 17 08 01
17 09	Other construction and demolition wastes
17 09 04	Mixed construction wastes other than those mentioned in 17 09 09 17 09 02 and 17 09 03

Notes to Table 3 - Waste types generated may not be restricted to this list.

- 3.1.3. The European Waste Catalogue (“EWC”) code for each waste type will be provided on the waste transfer notes/consignment notes accompanying all movements of waste from the Development Site.

3.2. Estimated Waste Arisings

- 3.2.1. Waste estimates will be made prior to the start of the Project in the Site Infrastructure List, where the amount (and types of skips) required during the project will be estimated. The list will be updated as the project progresses as follows:
- as Contractors are mobilised on the Development Site, they are requested to estimate waste volumes and to alert Hitachi Zosen Inova (“HZI”) of any significant new waste streams during the Kickoff Meeting; and
 - during the Annual Environmental Aspects and Impacts Workshop, waste is discussed, including any new waste streams and any opportunities for improvement in waste recycling.
- 3.2.2. The wastes being generated on the Development Site shall be reviewed regularly by the Development Site HSE Manager to ensure waste provision is adequate, and as new waste streams are anticipated, new waste skips shall be ordered.

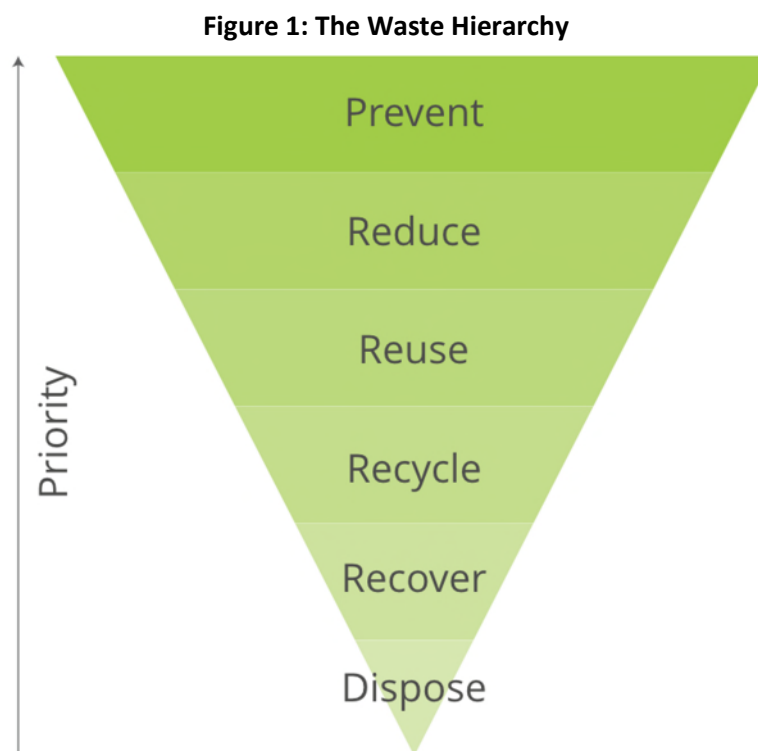
4. MANAGEMENT OF WASTES

4.1. Introduction

4.1.1. The section below details key mitigations relating to waste and incorporates the measures to comply with national and local legislation, as well as the requirements from the HZI Management of Construction Waste Procedure.

4.2. Waste Hierarchy

4.2.1. Construction waste generated will be managed according to the principles of the waste hierarchy. As shown in Figure 1, the waste hierarchy places a higher priority on the prevention and reduction of waste generation than recovery and disposal. The waste hierarchy is a key element of sustainable waste management and is a legal requirement of the revised EU Waste Framework Directive¹.



4.2.2. Table 4 below shows the main types of construction wastes and the planned management processes.

¹ Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste, available online at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0851&from=EN>. Accessed June 2021.

Table 4: Construction Wastes and Planned Management Processes

Waste Type	Main Management Process
Soil arisings	Reuse on Development Site where appropriate Remediate where necessary
Concrete, masonry, and aggregates	Investigate potential for off site reuse
Steel and metals	Segregate and recycle via appropriate waste carrier
Wood	Segregate and recycle via appropriate waste carrier
Paper and cardboard	Segregate and recycle via appropriate waste carrier
Sanitary waste	Removed by specialist waste contractor
Plastics and glass	Segregate and recycle via appropriate waste carrier

Prevention

- 4.2.3. HZI have, from a very early stage, considered how waste volumes can be minimised.
- 4.2.4. Contractors, the Design Team and Suppliers are encouraged to consider ways to minimise the amount of waste produced. This includes the following:
- wash-down points for the concrete wagons are placed in a suitable location so that the washed out aggregates form part of the fill;
 - substructure - when concrete bases are being poured, HZI have other bases excavated so that any surplus concrete can be utilised as blinding;
 - materials, which arrive on pallets, are unloaded and pallets are stored and removed from the Development Site once the numbers are sufficient to make collection economical;
 - plasterboard sheets are made to standard sizes to suit wall heights and to reduce off cuts; where this is not practical, a dedicated Plaster/Gypsum Skip is provided for recovery of the waste material by specialist contractor;
 - pre-fabricated materials are used for on-site assembly;
 - suitable and secure storage for materials is provided to prevent damage by weather, where 'just-in-time' deliveries cannot be set up;
 - mechanical systems and machinery are considered for moving materials to reduce the risk of damage;
 - change of Development Site layout to enable reuse of tarmac road to construction site car park for operations phase footpath;
 - use of recycled aggregate in concrete;
 - use of recycled materials (e.g, Drizit Absorbant); and
 - programming and monitoring of construction activities to avoid overlap of incompatible trades working in the same area and to reduce the potential for waste to be generated from replacing damaged work.
- 4.2.5. The above acts to reduce the amount of waste and surplus materials, which traditionally would be sent to landfill.

Re-use

- 4.2.6. The re-use of materials, that would otherwise be disposed of as waste on the Development Site is preferential to recycling or disposal. Examples of this may include:
- reuse of excavated soils onsite for backfill and landscaping;
 - use of metal containers as workplace bins;
 - use of surplus wood to fabricate site storage boxes and protection of permanent works; and
 - reuse of (1 tonne) plastic bags for litter collection.

Recycling

- 4.2.7. Wastes generated during the construction process will be segregated into waste types to facilitate off-site recycling. Layout of the Development Site compound will be considered to allow sufficient space for separate containers of key waste materials to be stored. These containers will be clearly labelled, and construction staff will be given training on waste segregation (see Section 4.3).
- 4.2.8. The use of recycled materials will be considered where possible, subject to client approval, cost and availability (for example, recycled aggregate and secondary aggregates).

Energy Recovery and Disposal

- 4.2.9. All waste which cannot be reused, recycled, or recovered shall be collected by the licenced waste management contractor. If possible, the material shall be incinerated at Energy from Waste (“EfW”) Plants to produce energy. If this is not practicable, waste shall be sent to landfill.
- 4.2.10. Fly-tipping, and burning of any project wastes, or land spreading of any waste, is strictly prohibited.

4.3. Storage of Waste

Construction Area

- 4.3.1. Waste shall be segregated to the extent practicable, and under no circumstances shall hazardous and non-hazardous wastes be mixed. The storage area shall:
- be marked on the Development Site plan for communication purposes;
 - be located on hard standing and in a secure designated area;
 - be situated away from surface drains and watercourses;
 - contain enclosed skips / containers to prevent the spread of wind-blown wastes;
 - segregated by type of waste;
 - have skips clearly labelled with their intended contents; and
 - be checked regularly to ensure that containers are not corroded, worn out or damaged.
- 4.3.2. In addition, liquid wastes shall have a bund and drip tray and be sheltered from the rain. All solid hazardous wastes shall be kept in enclosed containers preventing ingress from rain.

- 4.3.3. The current streams collected in the Construction Area are as follows:
- wood (general);
 - undamaged Europallets;
 - plastic;
 - metal;
 - special (hazardous) waste (general); and
 - non-hazardous (general).
- 4.3.4. As works progress and other trades come to the Development Site, other skips will be placed to enable certain waste to be removed from the Development Site. This is likely to include:
- plasterboard;
 - paper and cardboard (bagged); and
 - insulation cladding (aluminium).
- 4.3.5. Towards the end of the project, inert solid concrete materials recovered from decommissioning of construction site infrastructure should be subject to on-site size reduction where possible and cleaning (metals recovery etc.) prior to storage as segregated graded stockpiles stored on hard paved areas where possible with provision for interception of run-off water for solids and oils, in advance of final re- use or disposal.

Welfare Compound

- 4.3.6. The same requirements for waste storage shall apply to the welfare compound as for the construction area described in Section 4.3.1:
- food waste (by canteen);
 - mixed office waste (by canteen);
 - battery storage (Administrator Office); and
 - Waste Electrical and Electronic Equipment (“WEEE”) (Administrator Office).
- 4.3.7. Wastes related to the maintenance of the welfare compound that are not classified as mixed office waste e.g. lightbulbs, smoke alarms shall be taken off site by the cabin provider and lighting contractor and disposed of at their depots in accordance with legal requirements.

4.4. Waste Carrier

- 4.4.1. HZI will select a registered waste carrier to carry and handle all project wastes on behalf of HZI.
- 4.4.2. A Waste Duty of Care Audit shall be undertaken and details of licences and disposal routes shall be checked. Follow up audits shall be conducted as required on a risk basis.
- 4.4.3. Waste shall be transported in suitable and secure containers and vehicles that prevent waste from being spilled. Any loose materials will be covered or netted to prevent them being blown out of the vehicle prior to leaving site.

5. ROLES AND RESPONSIBILITIES

5.1. Hitachi Zosen Inova

- 5.1.1. The Development Site Environmental Advisor shall monitor implementation of this SWMP, assisted by the Development Site HSE Advisors and Development Site Operatives. The Development Site HSE Manager shall ensure this plan is reviewed and updated regularly (no less than every six months) and any updates communicated to Contractors and other HZI staff.
- 5.1.2. The Development Site Manager shall ensure that accurate and correct documentation is collected and retained for all waste leaving site and shall detail monthly waste returns in the Site Monthly Progress Report. All waste records (e.g. transfer and consignment notes) shall be kept for a minimum of 5 years.
- 5.1.3. HZI Development Site Supervisors shall ensure the Contractors in their control comply with this SWMP.

5.2. Contractors

- 5.2.4. Contractors shall:
- ensure that they minimise waste in accordance with the waste hierarchy and the requirements of this SWMP.
 - note any wastes requiring special treatment/ handling on the task Risk Assessment Method Statements;
 - provide contractor employees with any training they need to comply with this SWMP, and
 - remove all waste from the site on decommissioning including footings and foundations of their facilities, unless agreed otherwise with HZI.

6. MONITORING

6.1. Inspections and Audits

- 6.1.1. During construction, the Site HSE Team shall carry out periodic site inspections as detailed in the CEMP. A more formal inspection and review schedule by both the Central HSE Team and the Development Site Team shall be in place as detailed in the CEMP. A component of these audits and inspections shall be checking waste management is as per this SWMP.
- 6.1.2. Waste audits shall be undertaken annually as a minimum. Following a waste audit, a waste review shall be undertaken by the Environmental Manager and the Development Site Manager. In the waste review the suitability of the management strategies shall be verified and potential for improvement shall be identified.
- 6.1.3. Any environmental incidents or deviations from this plan, shall be recorded, along with the corrective actions. Corrective actions should be logged and tracked through to completion.

6.2. Reporting and Records

- 6.2.1. Statistics of waste generated monthly shall be completed by the Development Site Manager or delegate (e.g. Environmental Site Advisor) as per Monthly HSE Reporting Form and distributed to the Development Project Management and Central HSE Team.
- 6.2.2. Records of the types and quantities of waste taken off site (e.g. Waste Transfer Notes) shall be retained on site, together with a copy of relevant Waste Carrier Licences and Environmental Permits for that type of waste. Records shall be retained for a minimum of 5 years.

6.3. Key Performance Indicators

- 6.3.1. HZI is committed through its Environmental Policy to reducing waste and minimising the consumption of resources in all areas of their business.
- 6.3.2. Waste on the Development Site shall therefore be managed to ensure:
 - a) in excess of 95% weight of non-hazardous project waste shall be reused, recycled or recovered, and therefore diverted from landfill; and
 - b) materials used for construction should have a minimum 15% recycled content.
- 6.3.3. The HZI Central HSE Team shall be responsible for calculating target a above using the Site Monthly Waste report.
- 6.3.4. The Development Site Manager shall be responsible for calculating target b above.

7. LESSONS LEARNED

7.1. Overview

- 7.1.1. With the assistance of the Central HSE Team, the Development Site HSE Team shall ensure that lessons learned, and best practice are shared with other HZI sites.