

Site Waste Management Plan

Sandvik Osprey

Land of J38 of the M4 Margam



October 2021

Sandvik Osprey – Site Waste Management Plan

Document control

Document:	Site Waste Management Plan
Project:	Land off J38 of the M4 Margam
Client:	Sandvik Osprey
Job Number:	784-B032061
File Origin:	\\southampton14\Data\Projects\Sandvik Osprey\784-B032061 (Metal Processing Facility)\

Revision:	V1		
Date:	October 2021		
Prepared by: Chris Muir	Checked by:	Approved By: Michael Jones	
Description of revision:			

Contents

1.0	Introduction.....	1
1.1	Legal Requirements.....	2
1.2	Project Details	3
2.0	Waste Policy and Strategy.....	4
2.1	National Policy.....	4
2.2	Local Policy	6
3.0	Construction Waste Materials and Management Options	8
3.1	Identification of Waste Types	8
3.2	Waste Management Options.....	13
3.3	Duty of Care Requirements	16
4.0	Construction Waste Storage, Handling and Segregation	17
4.1	Storage	17
4.2	Handling.....	18
4.3	Segregation.....	18
5.0	Operational Waste Management	20
6.0	Summary and Conclusions	21

Drawings

Appendices

Appendix A: Waste Data Sheet

1.0 Introduction

- 1.0.1 This Site Waste Management Plan relates to the proposed development at Land off Junction 38 of the M4, in Margam in South Wales sets out the applicant's intentions in terms of the management of waste generated from the proposed site preparation and construction works. The applicant is Sandvik Osprey. The purpose of this document is to satisfy the Local Planning Authority (LPA) at Neath Port Talbot Council (NPTC) that waste arising from the development will be managed sustainably and responsibly in accordance with waste legislation, the Waste Hierarchy and national and local waste policy.
- 1.0.2 This Site Waste Management Plan has been prepared to support a planning application for:-
- “Detailed planning application for the erection of a metal processing facility totalling 25,899 sq. m of floorspace comprising a Powder Processing Plant (17,255 sq. m), warehouse and storage facility (5,400 sq. m), office building (1,965 sq. m), amenity building (729 sq. m), laboratory (200 sq. m), service building (450 sq.m), landscaping and car parking spaces on-site with vehicular access from a private road which links to the A48 / A4241 roundabout.”*
- 1.0.3 This report has been written in accordance with NPTC's Local Development Plan (LDP) Policy W3: 'Waste Management in New Development'.
- 1.0.4 This document sets out the responsibilities of the generic roles within a site management team and those of a Principal Contractor and its sub-contractors in relation to the management of waste. To ensure procedures are being followed and the desired results are being achieved, waste management training and communications between Sandvik Osprey as the applicant and its appointed Principal Contractor and sub-contractors would be carried out using the most appropriate means. Furthermore, waste monitoring procedures would be put in place by the appointed Principal Contractor and formally reviewed at the end of the construction phase.
- 1.0.5 The plan encourages the minimisation of construction waste as far as is practicable. However, where the generation of construction waste is unavoidable, waste will be appropriately managed in the most sustainable manner available. A key objective of this document is that all waste will be managed sustainably and responsibly in accordance with waste legislation, the Waste Hierarchy and national and local waste policy.
- 1.0.6 This report also addresses the sustainable management of the operational waste including the correct storage, collection and management of all waste streams.

1.1 Legal Requirements

- 1.1.1 Compliance with environmental and waste legislation is a minimum requirement when managing waste and will be a primary objective of the development. There is substantial regulation of waste in the United Kingdom that is applicable to all wastes generated by the construction and operation of the proposed development.
- 1.1.2 The key (waste related) legislation of relevance to this project is the Environmental Protection Act 1990, Environment Act 1995, The Controlled Waste (England and Wales) Regulations 2012 (as amended), Revised Waste Framework Directive 2008/98/EC, The Waste (England and Wales) Regulations 2011 (as amended), Control of Pollution (Amendment) Act 1989 and The Hazardous Waste (England and Wales) Regulations 2005 (as amended).
- 1.1.3 The key waste management compliance issues from this report are listed below:-
- Waste categories are identified and coded as per the European Waste Catalogue;
 - Waste is segregated appropriately;
 - Waste is handled and stored safely;
 - Waste is transported appropriately and safely;
 - Waste is minimised and reused or recycled wherever possible;
 - Waste is disposed of responsibly;
 - Waste data is recorded, collated and monitored regularly; and
 - Waste carrier and contractor performance is monitored regularly.
- 1.1.4 The site preparation and construction phases as well as the post construction phase of the development have the potential to generate a range of waste materials including some hazardous wastes, such as solvents and paint from the construction and machining coolant and oily rags from the operation. Although some of the quantities may be small, the environmental impact can be significant if the wastes are not handled correctly, as are the legal penalties.
- 1.1.5 Correct environmental management of waste is a key objective of this report. In addition, Sandvik Osprey and the Principal Contractor for this development will have a legal duty of care to ensure safe and proper management of all waste materials, including on-site contractors' wastes. Both the applicant and the Principal Contractor would therefore ensure that all wastes are handled and disposed of in accordance with current legislation and best practice from the time waste is generated, through to its final treatment or disposal.

1.2 Project Details

- 1.2.1 The metal processing site would be over a total footprint of 6 hectares (ha) and the proposed layout is shown below.

Figure 1 - Masterplan



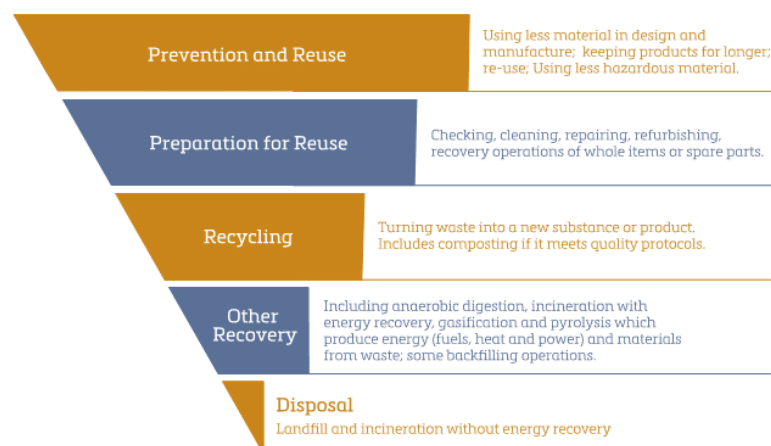
2.0 Waste Policy and Strategy

2.1 National Policy

- 2.1.1 Future Wales: The National Plan 2040¹ was published in February 2021. The document is a spatial plan, prepared with the intention of setting the direction for development in Wales from 2020 to 2040.
- 2.1.2 There are no specific waste policies included in the document, although Policy 19 – ‘Strategic Policies for Regional Planning’ requires that: *‘Strategic Development Plans should embed placemaking as an overarching principle and should establish for the region (and where required constituent Local Development Plans)... a co-ordinated framework for minerals extraction and the circular economy, including waste treatment and disposal.’*
- 2.1.3 Planning Policy Wales: Edition 11 (2021)² (PPW) sets out the land use planning policies of the Welsh Government.
- 2.1.4 Paragraph 3.61 in PPW states that sustainable waste management is crucial for economic, social and environmental sustainability. Paragraph 5.12.9 of PPW states: *‘Adequate facilities and space for the collection, composting and recycling of waste materials should be incorporated into the design and, where appropriate, layout of any development as well as waste prevention measures at the design, construction and demolition stage.’*
- 2.1.5 A chapter (5.13) on Sustainable Waste Management Facilities is included in PPW and explains the concept of the Waste Hierarchy as shown in Figure 2 below.

Figure 1: Waste Hierarchy (PPW Extract)

Figure 11: Waste Hierarchy



[1 Future Wales- The National Place 2040: Welsh Government 2021](#)

[2 Planning Policy Wales- Edition 11: Welsh Government 2021](#)

- 2.1.6 Waste arising from the development would be managed in accordance with the Waste Hierarchy using the most appropriate waste management options. The principal objective of the Waste Hierarchy is to minimise the amount of waste produced by ensuring economy and efficiency in raw materials usage. Where this is not possible, the aim is to deal with the waste produced in a reasonable and sustainable way, with the least preferred option being disposal to landfill. The overall objective being to minimise the environmental impact both in the short term via prevention of pollution and in the long term, in terms of resource and land usage.
- 2.1.7 The 'Towards Zero Waste One Wales: One Planet'³ (TZW) is the overarching waste strategy document for Wales. The document sets out a long-term framework for waste management and resource efficiency to 2050. The document identifies WG aspirations, sets high level targets and provides a general approach of delivering these targets as well as other key actions. The key aim of the strategy document is to recycle 70% of all waste by 2025 with an aim of zero waste to landfill or recovery facilities by 2050. The document includes targets including:-
- reusing, recycling, composting (green waste) or anaerobically digesting (food waste) any waste that is produced;
 - reducing waste by around 1.5% (of the 2007 baseline level) each year across all sectors; and
 - all sectors recycling at least 70% of their waste and minimising residual waste to less than 30% by 2025.
- 2.1.8 Page 45 of the TZW document states: *'2025 target is an intermediate step on the way towards 'zero waste', which we (the WG) define as an aspirational end point where all waste that is produced is reused or recycled as a resource, without the need for any landfill or energy recovery... This will mean that we maximise recycling and minimise the amount of residual waste produced, and eliminate landfill as far as possible.'*
- 2.1.9 The TZW document includes targets to reduce waste year on year to 2050. For household and commercial waste there is 1.2% annual reduction target and for construction and demolition (C&D) waste the annual reduction target is 1.4%. The ambition, as set out in the strategy document, is to have phased out residual waste through actions on waste prevention and sustainable consumption by 2050
- 2.1.10 The proposals are for a metal recycling facility and therefore would help increase recycling rates, which will help support the aspirations of TZW.

[3 Towards Zero Waste One Wales- One Planet: Welsh Assembly Government 2010](#)

- 2.1.11 National policy is supplemented by a series of Technical Advice Notes (TANs). Technical Advice Note 21: Waste (2014)⁴ sets out detailed guidance on specific waste related planning considerations that developers will be required to meet to satisfy waste management Local Development Plan policies.
- 2.1.12 TAN 21 focuses on sustainable waste management, recognising that waste is a resource. Paragraph 1.10, titled 'Sustainable Waste Management', states that sustainable development is a key functioning principle of the WG. Section 2.7.1 on the prevention of waste states: *'planning authorities could help raise awareness, either at the pre-application stage or through supplementary planning guidance, by encouraging developers to think about how they may reduce waste at both the construction and operational stages of development. This could mean taking into account the potential to use excavated waste material on site... and whilst not strictly a prevention measure, by encouraging the provision of space for facilities to manage waste sustainably as part of development schemes.'*
- 2.1.13 TAN 12: 'Design' (2016)⁵ includes guidance on the design of developments and this includes waste management. Page 23 of the TAN lists the following as a design solution: *'the way in which waste will be dealt with during and after construction (re-use and disposal), including the provision of appropriate facilities for sorting, storing and recycling of waste in buildings and across the site.'* Page 33 provides further text on this and states: *'facilities for good at source segregation of wastes need to be integrated sensitively – separating those wastes for reuse and recycling on site from those wastes to be removed from the site and provisions for the reuse and recycling of wastes remaining on site for the lifetime of the development'*. The Design TAN also includes guidance on construction processes and states: *'sustainable construction processes which avoid or reduce waste and other environmental, health, or social effects during construction'*.

2.2 Local Policy

- 2.2.1 The Development Plan for Neath Port Talbot Council (NPTC) with respect to waste comprises the Neath Port Talbot Local Development Plan (LDP)⁶, which was adopted in January 2016. The LDP includes Strategic Policy SP19: 'Waste Management', which shows how provision will be made for an integrated network of waste management facilities. The LDP also includes three policies (W1, W2 & W3) relating to waste management. Policies W1 and W3 are relevant to this proposal. Policy W1: 'In-Building Waste Treatment Facilities' provides criteria for proposals for treatment and processing facilities, which include reflecting the waste hierarchy, being carried out in a purpose-

⁴ [Technical Advice Note 21: Waste: Welsh Assembly Government 2014](#)

⁵ [Technical Advice Note 12: Design: Welsh Assembly Government 2016](#)

⁶ [Local Development Plan \(2011-2026\): Neath Port Talbot County Borough Council 2016](#)

built building and demonstrating the proposals can be achieved in an acceptable manner (highways & amenity).

- 2.2.2 The LDP Adopted Plan Interactive Map shows that the site 'Junction 38 (M4) Margam' is allocated as both a preferred In-Building Waste Treatment Facility: 'W1/1 (b)' and a Strategic Employment Site: 'EC1/2'.
- 2.2.3 Policy W3: 'Waste Management in New Development' requires proposals to demonstrate design, layout, storage and management of waste is provided in the construction and occupation of a development. The policy also shows that a Site Waste Management Plan will be required in a development that would generate in excess of 1,000 tonnes of waste per year or if it would generate hazardous waste. This proposal would generate considerably less waste than 1,000 tonnes per year, although around 15 tonnes (3% of the overall waste stream) would be hazardous.
- 2.2.4 The LDP is supported by a range of Supplementary Planning Guidance (SPG) documents, including Design (2017)⁷ and Pollution (2016)⁸. The Design SPG (paragraph 4.3.8) states: *'Where it is appropriate or realistically possible any existing materials on site should be re-used, and waste minimised... all new built development is required to demonstrate that provision has been made for the management of waste both during the construction and the occupation phases, and larger proposals will be required to produce a Site Waste Management Plan.'*
- 2.2.5 The SPG for pollution includes a section on dust and the storage of materials. Paragraph 3.3.7 states: *'Loose materials and stockpiled soils or sand etc can be liable to create dust, and the ways in which materials are transported and handled can exacerbate this.'* Mitigation measures are included in this Site Waste Management Plan and explain how construction and waste materials can be stored, handled, and managed to reduce impacts.
- 2.2.6 The principal aim of this document is to minimise waste and maximise recycling relating to the construction and operational phases of development.
- 2.2.7 Waste arising from the development would be managed in accordance with the Waste Hierarchy using the most appropriate waste management options. This will help achieve higher recycling rates and produce lower quantities of residual waste, which will help towards both the developer and the Planning Authority meeting their respective targets.

⁵ [Design- Supplementary Planning Guidance: Neath Port Talbot County Borough Council 2017](#)

⁶ [Pollution- Supplementary Planning Guidance: Neath Port Talbot County Borough Council 2016](#)

3.0 Construction Waste Materials and Management Options

3.1 Identification of Waste Types

- 3.1.1 The identification of the likely key construction activities and the associated waste types produced from these activities is detailed in Appendix A – Waste Data Sheet. The Waste Data Sheet includes the best practice management options that are currently available for each waste stream produced i.e. prepare for reuse, recycle and disposal, etc.

Excavation Wastes

- 3.1.2 The site preparation phase is likely to involve initial cut and fill works with site levelling as well as excavating for foundations, services and other infrastructure. This phase of the project will produce quantities of inert excavation waste, the majority of which will comprise soils which are suitable for re-use. It is not currently possible to calculate the quantity of excavation waste that will arise. However, the majority of the soils and excavations materials will be managed on the development site to balance level changes and to facilitate landscaping. There is therefore unlikely to be a requirement for large quantities of this material to be taken off site for further management.
- 3.1.3 Quantities of organic (green) waste will arise from site and vegetation clearance works. This waste will require removal off site. It will be sent for composting at an appropriately permitted composting facility or sent for energy recovery. No organic waste will be treated on site by burning.
- 3.1.4 The types of waste predicted to arise from the site preparation and excavation works are shown in Table 1 below.

Table 1: Predicted Excavation Waste Types

Waste Type	EWC Codes
Gravel and crushed rocks other than those mentioned in 01 04 07	01 04 08
Waste sands and clays	01 04 09
Concrete	17 01 01
Soils and stones including chalk other than those mentioned in 17 05 03	17 05 04
Soils and stones	20 02 02
Biodegradable waste	20 02 01

Construction Waste

- 3.1.5 The site is currently in agricultural use and there will not be any requirement to demolish buildings and structures. Consequently, there will not be any demolition wastes arising from the proposed development. However, quantities of organic green waste will arise from vegetation clearance and site preparation works, as discussed in Section 3.1.3.
- 3.1.6 The use of off-site manufacturing and pre-fabrication will ensure that the quantities of waste arising from the construction of the building superstructures, external fabric and internal fit-out will be minimised as far as possible. The types of waste predicted to arise from the construction works are shown in Table 2 below. Hazardous waste types are marked with an asterisk.

Table 2: Predicted Construction Waste Types

Waste Type	EWC Codes	Typically Produced From
Waste paint and varnish containing organic solvents or other dangerous substances	08 01 11*	Construction (fit out).
Waste paint and varnish other than those mentioned in 08 01 11	08 01 12	Construction (fit out).
Paper and cardboard packaging	15 01 01	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Plastic packaging	15 01 02	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Wooden packaging	15 01 03	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Metallic packaging	15 01 04	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Composite packaging	15 01 05	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Mixed packaging	15 01 06	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	15 02 03	Construction (all stages) but particularly fit out (decoration) and installation of plant and equipment.
Concrete	17 01 01	Construction (foundations, building fabric) (excess or damaged).
Bricks	17 01 02	Construction (excess or damaged).
Tiles and ceramics	17 01 03	Construction (excess or damaged).
Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07	Construction (excess or damaged)
Wood	17 02 01	Construction (excess or damaged).
Glass	17 02 02	Construction (excess or damaged).
Plastic	17 02 03	Construction (excess or damaged).

Waste Type	EWC Codes	Typically Produced From
Copper, bronze, brass	17 04 01	Construction (excess or damaged).
Aluminium	17 04 02	Construction (excess or damaged).
Iron and steel	17 04 05	Construction (excess or damaged).
Mixed metals	17 04 07	Construction (excess or damaged).
Cables other than those mentioned in 17 04 10	17 04 11	Construction, fit out (excess).
Soil and stones other than those mentioned in 17 05 03	17 05 04	Construction (excess).
Insulation materials other than those mentioned in 17 06 01 and 17 06 03.	17 06 04	Construction (damaged, excess/off-cuts). Flooring, walls, loft spaces.
Gypsum based construction materials other than those mentioned in 17 08 01	17 08 02	Construction (excess or damaged). Plasterboard.
Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04	Construction (excess or damaged).
Paper and cardboard	20 01 01	Construction (deliveries, site office).
Glass	20 01 02	Construction (excess or damaged). Glazing.
Biodegradable kitchen and canteen waste	20 01 08	Small quantities from construction workers within site accommodation.
Textiles	20 01 11	Small quantities, i.e. floor coverings.
Biodegradable waste	20 02 01	Site clearance (vegetation removal), tree pruning, landscaping etc.
Solvents	20 01 13*	Construction/fit out (excess, spillages).
Detergents other than those mentioned in 20 01 29	20 01 30	Construction/fit out (excess, spillages).
Plastics	20 01 39	Fit out/site office
Mixed municipal waste	20 03 01	Site office / ad-hoc waste
Street cleaning residues	20 03 03	General site housekeeping

- 3.1.7 As detailed in the table a limited number of hazardous waste types, such as paint and varnish and solvents would likely be used in the construction of the site. Hazardous waste types such as these would only be used where there is not a reasonable alternative non-hazardous product. Extra care would be taken when ordering any hazardous products to ensure that a surplus is avoided or kept to a minimum. Due to the nature of these products and how they are stored, for example, in resealable tins, it is considered likely that any excess of these products could be retained by the contractor to use in future development sites. It is therefore considered that only small quantities of hazardous waste would be generated in the construction of the development, if any at all.

- 3.1.8 It is possible to estimate the quantities of waste which are likely to be produced based on waste benchmark data issued by Building Research Establishment (BRE) (June 2012)⁷. The proposed floorspace figures and calculated waste tonnage estimate is set out in Table 3 below. The calculations are based on the benchmark figures for 'industrial Buildings' with the exception of the office building, where the figure for 'commercial offices' has been used.

Table 3: Estimated construction waste quantities

Building	Total Floor Area (GEA) sqm	Tonnes per 100m ² (BRE)	Estimated Waste Quantities (tonnes, total)	Estimated Waste Quantities (tpa) *
Processing Plant	17,255m ²	14	2415.7	603.925
Warehouse and Storage Facility	5,400m ²	14	756	189
Office Building	1,965m ²	23.8	467.67	116.9175
Amenity Building	729m ²	14	102.06	25.515
Service Building	450m ²	14	63	15.75
Laboratory	200m ²	14	28	7
Total	25,999m²		3,832.43	958.1075

**based off four-year construction period (Spring 2022 – Spring 2026)*

- 3.1.9 The BRE waste benchmark figures have been used for the proposed development, using the relevant BRE category (see Table 3 above). It is calculated that a total of approximately 3,800 tonnes of waste will be produced from the proposed built development. However, this does not include waste arising from hard and soft landscaping or the development of car parking spaces, infrastructure, services etc.
- 3.1.10 The following template (Table 4) can be used to undertake a more detailed estimate of the waste quantities associated with the construction phase once a detailed scheme and the bill of quantities have been prepared. However, the appointed contractor may have its own method of calculating and recording such data which could also be used.

⁷ [SmartWaste BRE Waste Benchmark Data: Building Research Establishment 2012](#)

Table 4 - Estimated Waste Arisings by Activity and Waste Type
(example of pro forma which could be used by Contractor)

Waste Category & Type	Site Preparation & Enabling Working		Construction Works: Building Fabric		Construction Works: Fit-out Finishes & Building Services	
	Tick	Est. Quantity (m³)	Tick	Est. Quantity (m³)	Tick	Est. Quantity (m³)
Inert Waste						
Sand						
Gravel						
Bulk Excavated						
Aggregate						
Concrete						
Brick / Block						
Top-soil / Sub-soil (uncontaminated)						
Glass / ceramics						
Mixed inerts						
Other [detail]						
Sub-total						
Active Waste						
Plasterboard / Gypsum						
Timber						
Cardboard						
Paper						
Plastic						
Vegetation						
Mixed packaging						
Other [detail]						
Sub-total						
Metal Waste						
Ferrous (i.e. steel)						
Non-ferrous (i.e. lead, zinc copper)						
Other [detail]						
Sub-total						
Hazardous Waste						
Top-soil / Sub-soil (contaminated)						
Batteries						
Asbestos						
Paints / Solvents / Binders						
Asphalt & Tar						
Other [detail]						
Sub-total						
TOTAL						

3.2 Waste Management Options

Waste Prevention and Reduction

3.2.1 All teams involved in the project will prioritise waste prevention and reduction. This will reduce the quantity of waste which needs to be managed and will reduce costs. The opportunities for reducing waste on the site include:-

- Steel portal building frames will be pre-fabricated off site with minimal on-site construction (i.e. assembly only);
- Pre-fabrication of structures and fixtures where possible, such as roof structures, windows and door frames, rainwater disposal systems, facias, internal steelwork etc will be specified, where possible, to reduce the quantity of on-site waste;
- Structural repetition will be included within the design, where possible, which will reduce the amount of waste produced;
- Sustainable procurement of building materials resulting in the minimisation of waste by selecting products and materials with reduced levels of packaging, reusable rather than single-use products and specifying durable and long-life construction materials;
- Implementation of 'just in time' deliveries which minimises the potential for damage to stockpiled materials from adverse weather or physical damage from mobile plant etc. Good on-site housekeeping measures will also reduce the potential for construction materials to become damaged;
- Monitoring 'over-supply' of materials particularly where this results in wastage. Reviews of 'over-supply' should inform future procurement decisions;
- Use of supplier take-back schemes, particularly with respect to packaging waste (e.g. crates, pallets). Where possible, outer and inner packaging and timber pallets will be returned to a supplier by prior arrangement. This may require stockpiling and bulking the pallets until sufficient numbers are available to make collection economical; and
- All buildings will be constructed to Building Research Establishment's Environmental Assessment Method (BREEAM) excellent standard;

Reuse and Preparation for Re-use

3.2.2 In order to manage waste in accordance with the Waste Hierarchy, the re-use rates of generated wastes will be maximised as far as is practicable and economically viable. This will necessitate an understanding of how the materials may be re-used and segregating the materials in such a way whereby they may be reused with only minimal preparation and without further processing. For example, timber will be segregated at an early stage before it is placed in mixed waste containers, which will minimise the potential for damage and increase the likelihood that the timber will be reused (either on-site or off-site).

- 3.2.3 There are a number of wastes likely to arise from the construction phases of the scheme which can be reused or prepared for re-use, either on the construction site or off-site. These are typically anticipated to be materials in good condition and may include those set out within Table 5 below.

Table 5: Materials With Potential For Reuse

Materials	Comments
Inerts - soil, sand, cement, hardcore, concrete	Use to raise levels or as fill or sub-base for areas of hardstanding or paving
Paving, stone, brick	Use in hard landscaping or use damaged materials as fill or sub-base.
Timber	Use as new flooring, cladding, or for low grade uses such as temporary shuttering, hoardings and battening. The proportion of timber which can be reused will be dependent on its quality.
Plasterboard	Re-use of plasterboard off-cuts in areas where smaller or non-standard sized boards are required. To facilitate this, plasterboard off-cuts will be stored separately from other waste and will be protected from damage (particularly water damage).
Insulation (loft insulation, vinyl, carpets etc)	Good quality insulation materials can be used on a 'like for like' basis. Carpet reuse schemes are increasingly common and will typically collect from site.
Plastic pipe	Good quality pipework can be used on a 'like for like' basis.
Paint	Excess paint can be sent to community reuse schemes for reuse on charity and community projects within the local area.
Fencing (metal, timber)	Good quality fencing can be reused either on site or off-site.
Off-cuts (all materials)	Provide a dedicated storage area for material off-cuts. Remind construction staff to consider the use of off-cuts in preferences to using new materials (subject to them meeting required specifications etc).

- 3.2.4 Schemes exist within the construction and demolition sectors which facilitate material reuse and exchange. These material exchange schemes are typically advertised online and provide national or local services to match donor and receptor projects, thereby enabling waste construction and demolition materials to be matched according to location, material type and quantity. It is considered that the use of exchange programmes will look to be used where possible to increase the proportion of construction and demolition materials that are reused.

Recycle

- 3.2.5 Where the re-use of waste is not practicable it will most likely be sent for recycling or energy recovery, thereby avoiding the need for landfill disposal. In order to ensure that waste recovery is maximised, the Principal Contractor will only permit waste to be managed by approved waste management sub-contractors who can demonstrate a high level of waste recovery.

- 3.2.6 It is anticipated that the materials arising from the construction works, as identified within Table 6 below, will be recycled.

Table 6: Materials With The Potential To Be Recycled

Materials	Comments
Inerts – hardcore, stone, brick, concrete	Recycle if damaged. Will typically require crushing at an aggregate treatment facility.
Timber (e.g. flooring, roofing, skirting, door frames, doors etc)	Higher prices may be paid for timber if segregated from other waste streams (depending on current markets).
Plastic (e.g. pipework, window frames)	Recycle if damaged.
Insulation (e.g. carpets, loft insulation etc)	Specialist reprocessors exist which can recycle materials such as carpet and insulation.
Metal (e.g. fencing, portal building frames, industrial doors, pipework etc)	Recycle via scrap metal reprocessors.
Glass (e.g. windows, door panels)	Recycle damaged glazing.

- 3.2.7 As far as possible, the recyclable materials, which cannot be recycled for reuse at the site, will be segregated on site and sent to specialist reprocessors where the materials will be recycled in dedicated facilities. For materials which are more difficult to segregate, mixed recyclable wastes will be stored on site in appropriate containers until sufficient quantities have been produced. They will then be collected and taken to Waste Transfer Stations or Material Recycling Facilities where they will be sorted prior to being transported to specialist reprocessors for recycling.

Energy Recovery and Landfill disposal

- 3.2.8 For residual wastes (i.e. those which cannot be recycled), energy recovery will avoid the need for waste to be sent for landfill disposal. However due to the typical nature of construction wastes with most materials being recyclable, it is anticipated that the fraction of this waste stream which is suitable for energy recovery will be relatively small.
- 3.2.9 Disposal to landfill is the least preferred option in terms of the Waste Hierarchy and will only be considered as a waste management method when all other options have been explored. A key aim of this Site Waste Management Plan is that no construction waste will be sent to landfill. However, landfill is currently the accepted management method for certain hazardous wastes.
- 3.2.10 It is considered that only a small amount of material, if any, would be required to be managed through energy recovery or landfill.

- 3.2.11 A key objective of this Site Waste Management Plan is that no construction waste will be sent to landfill unless all other management options have been explored and proven to be unfeasible due to technical or economic reasons.

3.3 Duty of Care Requirements

- 3.3.1 All excavation and construction waste leaving the site will be handled and transported by a registered waste carrier in full compliance with the Duty of Care requirements and all other relevant environmental legislation (see Section 1.1.1). All waste leaving the site will be taken to appropriately permitted waste management facilities in compliance with the Environmental Permitting Regulations (England and Wales) Regulations 2010 (as amended). This requirement is absolute, regardless of whether the waste management site is being used to transfer the waste to an onward destination or the site is a final destination for waste treatment, recycling, recovery or disposal.
- 3.3.2 During the construction phase, the Principal Contractor and any waste sub-contractors used will ensure that where possible and/or practicable, legally compliant local waste reprocessing, treatment or disposal sites are used in order to minimise the potential for adverse effects associated with transporting waste materials long distances on the public highway.
- 3.3.3 Duty of Care documentation (e.g. Waste Transfer Notes and Consignment Notes) for all waste collections from the construction site will be checked by the Site Manager and a copy retained by the Environmental Manager. Waste Transfer Notes for non-hazardous waste will be retained for a minimum period of two years. Consignment Notes for hazardous waste will be retained for a minimum period of three years.
- 3.3.4 It is also a requirement for a declaration to be signed on the Waste Transfer Note to confirm that the waste has been managed in accordance with the Waste Hierarchy (as required by Regulation 12 of the Waste (England and Wales) Regulations 2011).

4.0 Construction Waste Storage, Handling and Segregation

4.0.1 This Section describes the requirements for construction waste storage, handling and segregation in order to demonstrate that throughout the construction phase of the development, waste will be stored, handled and segregated safely and in full accordance with legislation and industry best practice.

4.0.2 Step 8 – ‘Site Design and Training’ of the Waste & Resources Action (WRAP) Programme guidance ‘Achieving Good Practice Waste Minimisation and Management’ (2007) sets out a number of important operational considerations in order to maximise waste recovery:-

- Skip layout and location should be considered at the design / planning stage;
- Provision of separate containers for hazardous waste;
- Containers optimised for segregation with clear labels and signs;
- Segregated containers provided at workplace;
- Use of compacters, balers to minimise waste volume and reduce transportation costs;
- Provision of clearly located and defined storage areas for materials; and
- Just in time delivery, secure storage areas, no double handling.

4.0.3 These issues are considered further within the following sections.

4.1 Storage

4.1.1 All construction materials that are brought onto the site will be allocated sufficient space so they may be properly stored on an even surface and protected from adverse weather conditions. Stored construction materials will be located in a dedicated storage area that is routinely kept clean and tidy in line with good housekeeping measures (thereby preventing slips and trips from poorly stored materials). Where possible ‘just in time’ delivery measures will be implemented on site in order to prevent damage from poor storage and over handling of materials.

4.1.2 Any hazardous materials will be kept safe and secure in dedicated (United Nations approved) storage receptacles of an appropriate design. Natural Resources Wales will be consulted where queries exist regarding the legal or regulatory requirements for the storage of hazardous construction materials.

4.1.3 All skips and waste containers will be provided by and managed by the waste management contractor. The number of skips provided will depend on the space available within the designated ‘waste compound’. However, all skips will be labelled (according to waste type) and if possible, colour coded in order to aid waste segregation. Waste stream colour coding has been identified by the construction industry as an integral part in raising waste awareness, separating waste at source,

reducing the amount of construction waste sent to landfill and providing cost savings to construction companies.

4.1.4 The accepted colour coding scheme is as follows:-

- Gypsum - White;
- Inert – Grey;
- Mixed – Black;
- Metal – Blue;
- Wood – Green;
- Asbestos – Red;
- Packaging – Brown; and
- Hazardous – Orange.

4.1.5 A waste compound will be identified and retained for that use throughout the construction works. The waste compound will provide secure and dedicated workspace for separate containers and skips, although smaller (portable) waste containers may be additionally provided at the work face. All waste containers will be stored in designated areas and away from thoroughfares and surface water drains.

4.1.6 Each trade contractor will be responsible for maintaining a clean and tidy work area with the prompt removal of waste and other debris.

4.2 Handling

4.2.1 Manual handling of wastes will be minimised as far as is practicable. The manual sorting of waste containers or the movement of waste from one container to another will be actively discouraged unless the appropriate Personal Protective Equipment (PPE) is used.

4.3 Segregation

4.3.1 In general terms, segregation aids and improves recovery rates. In practical terms, the level of recovery varies between projects and is dependent on waste that is:-

- Produced in sufficient quantities to make the operating costs of the recovery practice economically attractive;
- Easily segregated on site;
- Significantly higher in value as a segregated waste than as a mixed waste; and
- Produced on a site where local reprocessing options for those waste streams are readily available.

- 4.3.2 The dedicated waste compound will accommodate a number of skips or waste containers for the key waste streams. If space allows, containers will be provided for all of the waste streams set out within Section 4.1.4. However, the appointed waste management contractor will advise on the most appropriate number and labelling of the containers which will be dependent on the available space, the arrangements for collection and the destinations for each waste stream.
- 4.3.3 In arranging waste containers and determining segregation arrangements, the waste management contractor will ensure the following:-
- Any mixed waste containers are sorted for recycling at a waste facility (although the mixing of waste streams will be actively discouraged);
 - Smaller, portable bins are used at the workface in addition to the containers provided in the main waste compound;
 - Waste containers are emptied on a regular basis to prevent overfilling, a lack of space and/or possible contamination of waste streams; and
 - Colour coded waste containers (see section 4.1.4) are provided on site which are clearly labelled to illustrate the requirements for waste segregation.
- 4.3.4 Discussions will be held at an early stage with the appointed waste management contractor regarding their requirements for waste segregation. This will establish how the waste will be sorted, stored and collected from site. Once this has been established, the labels and/or colour will be assigned to each waste container to ensure the correct material is placed inside.
- 4.3.5 The location of skips is known to influence the participation of staff in the segregation of different materials. Containers will be located within safe and easy access of work areas and it will be ensured that operatives do not have to walk long distances to the skips/containers.
- 4.3.6 The full compliance of all site operatives with the rules for segregating wastes prevents the risk of cross contamination between waste streams. The agreed segregation scheme will therefore be enforced using appropriate personnel and monitoring. For example, this may involve a designated member of staff (such as a 'Waste Champion' or the Site Manager) auditing skips and other segregation containers on a regular basis to assess and monitor whether segregation is occurring and whether or not sub-contractors are co-operating. This will identify if problems exist.

5.0 Operational Waste Management

- 5.0.1 The operation of the metal processing facility would produce a range of commercial and industrial waste types. The proposed processes comprise the melting and atomising of raw materials to manufacture metal powder for use in other industry.
- 5.0.2 This proposal is for a replacement site and the same waste contractor, Forward Waste, would be responsible for the management of operational waste. The process would be exactly the same and the administrative and amenity areas would be a similar size to the current site that is being replaced. A similar number of employees are also anticipated.
- 5.0.3 The current and proposed waste types, waste quantities and method of management are explained below: -
- General Waste: 32.1 Tonnes. This is sent off site for hand sorting. It is then either recycled or sent to an energy from waste facility. No waste is sent to landfill;
 - Refractory Waste: 247 Tonnes. This is sent for recycling (crushing) to be used as sub-base infill for road construction;
 - Metal waste: 117.2 Tonnes. Fully recycled;
 - Wood: 36.9 Tonnes. This is currently fully recycled. At the new site, this will be sent to the adjacent biomass power station as fuel;
 - Card: 5.66 Tonnes. Fully recycled;
 - Paper: 2.82 Tonnes. Fully recycled;
 - Clear plastic: 2.14 Tonnes. Fully recycled; and
 - Hazardous waste: 15.17 tonnes comprising WEEE, Machining coolant, Filter media (cartridges), oily rags and Empty paint/aerosol containers.
- 5.0.4 As described above Forward Waste would be contracted to manage the operational waste. Forward Waste are a specialist waste management company within the manufacturing sector. The company promote waste segregation in order to increase rates of recovery. Their objective is to manage all wastes to the highest possible level required by the Waste Framework Directive. Waste would be managed in accordance with the Waste Hierarchy where it would be reused or recycled in preference to energy recovery or disposal.
- 5.0.5 It is therefore considered that the operational waste would be managed sustainably and in accordance with the waste hierarchy.

6.0 Summary and Conclusions

- 6.0.1 Waste from the proposed development will be generated from all phases of the project (site preparation, construction, fit-out works and operation). There is a legal requirement to manage this waste sustainably in accordance with the Waste Hierarchy and the Duty of Care.
- 6.0.2 This Site Waste Management Plan aims to demonstrate to the Local Planning Authority at Neath Port Talbot Council, as well as other key stakeholders, how waste arising from the proposed development, during the construction phase, will be managed. A primary objective of this Site Waste Management Plan is to ensure that all parties involved in the development of the site will manage construction waste in accordance with legislation and the sustainable waste management requirements of the waste planning authority.
- 6.0.3 This Site Waste Management Plan demonstrates how construction waste will be minimised and managed in accordance with the waste hierarchy through the implementation of the practices outlined in chapters 3 and 4.
- 5.0.6 This document has explained the proposed arrangements in regards to operational waste in chapter 5. Forward Waste are a specialist waste management company within the manufacturing sector. The company promote waste segregation in order to increase rates of recovery. Their objective is to manage all wastes to the highest possible level required by the Waste Framework Directive. Forward Waste would ensure waste would be managed in accordance with the Waste Hierarchy where it would be reused or recycled in preference to energy recovery or disposal.
- 6.0.4 The sustainable management of waste has been given a high priority within the design of the development.

Appendices

Appendix A – Waste Data Sheet

Activity and Waste Types	Waste Management Option				
	Reuse (on-site or off-site)	Recycle	Recovery of value (e.g. energy)	Disposal to Environmental Permit exempt site	Disposal to landfill
Site Preparation Phase					
Non-hazardous soil	✓			✓	
Inert waste/rubble	✓	✓			
Organic waste		Compost	✓		
Concrete kerbing	✓	✓ (if damaged)			
Concrete paving	✓	✓ (if damaged)			
Metal (fencing, lighting columns, etc)	✓	✓ (if damaged)			
Electrical cabling		✓			
Drainage					
Plastic (pipes)		✓			
Metal (pipes)		✓			
Concrete (manholes)		✓			
Metal (Manhole covers)		✓			
Construction Phase					
Concrete (washout)	✓				
Concrete (excess)	✓				
Concrete (hardened)		✓			
Metal (rebar)		✓			
Blocks (excess)	✓				
Blocks (damaged)		✓			
Timber (shuttering)	✓	✓	✓ (biomass)		

Activity and Waste Types	Waste Management Option				
	Reuse (on-site or off-site)	Recycle	Recovery of value (e.g. energy)	Disposal to Environmental Permit exempt site	Disposal to landfill
Timber (off cuts)		✓	✓ (biomass)		
Timber (pallets)		Return to supplier			
Cement		✓			
Plaster/cement		✓			
Insulation		✓			
Cement (cement board)		✓			
Metal (ferrous off-cuts)		✓			
Metal (non-ferrous off-cuts)		✓			
Inert (stone)	✓				
Glass (damaged glazing)		✓			
Fit Out					
Timber	✓	✓	✓		
Plastics (general)		✓	✓		
Plastic (ducting)		✓	✓		
Plastic (vinyl)		✓	✓		
Hazardous (paints, mastic etc)		✓	✓		
Hazardous (solvents)		✓			
Metal		✓			
Ceramic (tiles)	✓				
Inert (stone)	✓				
Plasterboard		Return to supplier			
Insulation (carpet)	✓	✓			
General					

Activity and Waste Types	Waste Management Option				
	Reuse (on-site or off-site)	Recycle	Recovery of value (e.g. energy)	Disposal to Environmental Permit exempt site	Disposal to landfill
Road sweepings		✓	✓		
Hazardous (used spill kits, asbestos)			✓		✓
Hazardous (oily water)		✓	✓		
Timber (pallets)		Return to supplier			
Site office / welfare					
Paper /cardboard	✓	✓			
Plastic (cups)		✓			
Cans/glass bottles		✓			
Printer cartridges/toner	✓	✓			
Food waste (i.e. from canteen)			✓		
Electrical/electronic equipment	✓	✓			
Bulky waste (e.g. furniture)	✓	✓			

