

Viking CCS Pipeline

**Environmental
Statement Volume IV –
Appendix 18-1: Outline
Site Waste Management
Plan**

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1 Introduction

1.1 Background

- 1.1.1 This Outline Site Waste Management Plan (OSWMP, hereafter referred to as the “Plan”) has been prepared by AECOM on behalf of Chrysaor Production (U.K.) Limited (the ‘Applicant’), a Harbour Energy group company, which intends to transport compressed and conditioned Carbon Dioxide (CO₂) from the delivery point at Immingham to storage in depleted gas reservoirs in the Southern North Sea. This overall project is called the Viking Carbon Capture Storage Project (Viking CCS Project), however this document refers to the Viking CCS Pipeline part of the overall Project (hereafter, the Proposed Development).
- 1.1.2 This document forms an appendix to Chapter 18: Materials and Waste of the Environmental Statement (ES) (*ES Volume II (Application Document 6.2.18)*). The Proposed Development is located in the administrative boundaries of North Lincolnshire Council, East Lindsey Council, West Lindsey District Council and Lincolnshire County Council.
- 1.1.3 The principal aim of this Plan is to demonstrate how sustainable methods for managing construction, demolition and excavation (CD&E) waste will be taken into account during the CD&E phases of the Proposed Development. Furthermore, with regards to managing CD&E waste associated with the Proposed Development, this Plan has the following aims:
- to contribute towards achieving emerging, current and long term, project, national (England) and local targets for waste minimisation, recycling and reuse of CD&E waste arisings;
 - to provide a summary of the CD&E works to provide context of anticipated waste arisings and management;
 - to facilitate the Principal Contractor(s) contractor to comply with all applicable legal requirements for handling CD&E waste; and
 - to facilitate the Principal Contractor(s) contractor to achieve high standards of waste management performance.
- 1.1.4 The Plan provides a review of the requirements placed upon the Proposed Development under waste management legislation and policy at all levels of government (i.e. national (England) and local).
- 1.1.5 For the purpose of this Plan, waste is defined as per the Waste Framework Directive (Waste FD) (2008/98/EC) as “any substance or object which the holder discards or intends or is required to discard” (Ref 1).
- 1.1.6 Once appointed, the Principal Contractor shall use this Plan to develop a Site Waste Management Plan (SWMP) and thereafter manage waste generated by the Proposed Development in accordance with that SWMP. Production of the Principal Contractor SWMP and adherence to waste and resource targets would be secured through the DCO application.

1.2 Requirements of a SWMP

Whilst the SWMP Regulations (2008) (Ref 2) were revoked in December 2013 (Ref 3), the production of a SWMP for developments is regarded as best practice.

- 1.2.1 This OSWMP Plan has been developed to act as a guide to those involved in the construction of the Proposed Development on how to manage resources and waste, in accordance with best practice requirements. The Principal Contractor(s) Principal Contractor shall use this OSWMP Plan as a framework for producing their own SWMP for use throughout the duration of construction.

2 Waste Management Legislation

- 2.1.1 This section summarises the key legal requirements with regards to waste management and control within England.

2.2 Definition of Waste

- 2.2.1 Waste is defined by Article 1(a) of the Waste FD (Ref 1) as “any substance or object (in the categories set out in Annex I) which the holder discards or intends to discard or is required to discard”.
- 2.2.2 The legal definition of waste also covers substances or objects, which fall outside of the commercial cycle or out of the chain of utility. Most items that are sold or taken off-site for recycling are wastes, as they require treatment before they can be resold or reused.
- 2.2.3 In practical terms, wastes include surplus earthworks materials and soil, scrap, unwanted surplus materials, packaging, recovered spills, office waste, and damaged, worn-out, contaminated or otherwise spoiled plant, equipment and materials.

2.3 Duty of Care

- 2.3.1 The duty of care for waste management is set out under section 34 of the Environmental Protection Act 1990 (Ref 4) and the Waste (England and Wales) Regulations 2011 (SI 2011 No. 988) (as amended) (Ref 5). It requires anyone who produces, imports, keeps, stores, transports, treats or disposes of waste to take all reasonable steps to ensure that the waste is managed properly. Anyone in possession of waste must take all reasonable steps to:
- prevent unauthorised or harmful deposit, treatment or disposal of waste;
 - prevent a breach (failure) by any other person to meet the requirement to have an environmental permit, or a breach of a permit condition;
 - prevent the escape of waste;
 - ensure that waste is transferred to an authorised person; and
 - provide an accurate description of the waste when it is transferred to another person, by using a compulsory system of Waste Transfer Notes (WTN) that control the transfer of waste between parties.
- 2.3.2 The Waste Duty of Care Code of Practice (Ref 6) sets out practical guidance on how to meet waste duty of care requirements. Failure to comply with the duty of care requirements is a criminal offence and could lead to prosecution.

2.4 Apply the Waste Hierarchy

2.4.1 The Waste (England and Wales) Regulations 2011 (as amended) (Ref 5) transpose the requirements of the Waste FD (Ref 1), and require:

- Those undertaking waste management activities, such as the import, production, collection, transportation, recovery and/or disposal of waste, to take all reasonable measures to apply the waste hierarchy (**Figure 1**), in priority order, as follows:
 - prevention;
 - preparation for reuse;
 - recycling;
 - other recovery, such as energy recovery; and
 - disposal.
- Those producing waste to confirm that they have applied the waste hierarchy when transferring waste and to include a declaration on their WTN or consignment note.

2.5 Registration of Waste Carriers

2.5.1 Under the Control of Pollution (Amendment) Act 1989 (Ref 7) it is a criminal offence for anyone not registered as a waste carrier to transport controlled waste. The Waste (England and Wales) Regulations 2011 (as amended) (Ref 5) updated the system for the registration of waste carriers, including brokers and dealers:

- Anyone undertaking any of the following activities as part of their business must register as a waste carrier, broker or dealer;
- transporting their own waste;
- transporting waste for someone else;
- buying or selling waste; and
- acting as a waste broker (arranging for someone to handle waste produced by someone else).

2.5.2 Details of all appointed waste carriers, brokers and contractors shall be included in the contactors SWMP, including copies of appropriate waste carrier licences/registrations. The register of waste carriers, brokers and dealers can be checked using the Environment Agency's Public Registers.

2.6 Environmental Permits and Exemptions

2.6.1 The Environmental Permitting (England and Wales) Regulations 2016 (as amended) (Ref 8) require sites where waste is processed, treated or disposed of to hold a valid environmental permit issued by the Environment Agency. The Regulations also include a schedule of activities that are exempt from the requirements of permitting. However, to comply with the Regulations, an exempt activity must generally be registered with the Environment Agency before commencing.

2.6.2 A permit is not usually required where waste is temporarily stored on the site where it is produced prior to management or disposal. Depending upon the types and quantities of waste to be stored, the duration and place of storage and compliance with other defined conditions:

- A non-Waste FD exemption may apply, which does not need to be registered; and

- An exemption may need to be registered with the Environment Agency.

2.6.3 Information on the limits and conditions for storing waste exemptions and non-waste framework directive exemptions are available online from the Government website (<https://www.gov.uk/guidance/check-if-you-need-an-environmental-permit>, Guidance, 'Check if you need an environmental permit', accessed 22 May 2023).

2.6.4 The Principal Contractor shall be responsible for obtaining the necessary permits and exemptions, where required.

3 Details of Proposed Development

3.1 Proposed Development Details

3.1.1 The Principal Contractor shall complete **Table 1** below prior to commencement of construction of the Proposed Development.

Table 1: Proposed Development Details (to be completed prior to construction)

| Title | Viking CCS Pipeline | | | | |
|---------------------------------|---------------------|--|-------|--------|------|
| Location | | | | | |
| | | | | | |
| | | | | | |
| Client (Harbour Energy) | | | | | |
| | | | | | |
| | | | | Email | |
| | | | | Mobile | |
| Principal Contractor | | | | | |
| | | | | | |
| | | | | Email | |
| | | | | Mobile | |
| SWMP Drafter | | | | | |
| | | | | | |
| | | | | Email | |
| | | | | Fax | |
| Construction programme: | | | | | |
| Start date | Day | | Month | | Year |
| Completion date | | | | | Year |
| Waste Management Champion | | | | | |
| Person responsible for SWMP | | | | | |
| Document Controller / Secretary | | | | | |
| Location of SWMP | | | | | |

3.2 Description of the Proposed Development

3.2.1 The details of the Proposed Development are outlined in *ES Volume II Chapter 3: Description of the Proposed Development (Application Document 6.2.3)*.

4 Estimate of waste arisings

4.1 Introduction

4.1.1 This Plan provides estimates of the types and quantities of waste arising during construction of the Proposed Development and the likely management route and potential recovery rates.

4.1.2 The Principal Contractor shall review, update and monitor these estimates throughout the design and construction of the Proposed Development, and incorporate these updates in the SWMP to ensure delivery of the Proposed Development’s Key Performance Indicators (KPIs).

4.2 Waste

4.2.1 The main types and quantities of waste expected to arise during all phases have been estimated. Full details of how waste has been estimated is outlined in *ES Volume II Chapter 18: Materials and Waste (Application Document 6.2.18)*. Total construction waste is estimated at 371 m³ (1,700 tonnes). Excavated material is estimated at approximately 2,200 m³. Demolition works are not anticipated. The former Theddlethorpe Gas Terminal (TGT) site is already fully demolished (Theddlethorpe Facility Option 1) and other land required for the Proposed Development is brownfield (Immingham Facility and Theddlethorpe Facility Option 2, respectively) or greenfield. Quantities of waste generated during any clearance are anticipated to be small. Large quantities of hazardous waste are not anticipated.

4.2.2 Standard, good and best practice recovery rates by material are provided by Waste & Resources Action Programme (WRAP) (Ref 9). Recovery rates for key construction materials and other construction wastes relevant to the Proposed Development’s construction phase are provided in **Table 2**.

Table 2: Standard, Good and Best Practice Recovery Rates by Material

| Material | Standard Practice Recovery (%) | Good Practice Quick Win (%) | Best Practice Recovery (%) |
|------------------------------------|--------------------------------|-----------------------------|----------------------------|
| Timber | 57 | 90 | 95 |
| Metals | 95 | 100 | 100 |
| Plasterboard (excludes demolition) | 30 | 90 | 95 |
| Packaging | 60 | 85 | 95 |
| Ceramics/masonry | 75 | 85 | 100 |
| Concrete | 75 | 95 | 100 |
| Inert | 75 | 95 | 100 |
| Plastics | 60 | 80 | 95 |
| Miscellaneous | 12 | 50 | 75 |

| Material | Standard Practice Recovery (%) | Good Practice Quick Win (%) | Best Practice Recovery (%) |
|----------------------|--------------------------------|--|----------------------------|
| Electrical equipment | Limited information | 70* | 95 |
| Furniture | 0-15 | 25 | 50 |
| Insulation | 12 | 50 | 75 |
| Cement | Limited information | 75 | 95 |
| Liquids and oils | 100 | 100 | 100 |
| Hazardous | 50 | Limited information, this cannot be 100% as much hazardous waste (e.g. asbestos) must be landfilled. | |

* This is a required recovery target for the type of Waste Electrical and Electronic Equipment (WEEE) likely to be produced from construction sites, e.g. lighting (WEEE Regulations, 2013 (Ref 10)).

5 Design Decisions

5.1.1 Decisions made during the design stages (pre-application and post consent) of the Proposed Development will impact on the quantity and types of materials used and waste arising and the management of waste.

5.1.2 This section describes the design decisions made to date, sets out the design considerations for detailed design and provides a table (**Table 3**) which should be completed by the Principal Contractor to document further opportunities for waste prevention and decisions taken regarding material resource use and waste management. In general, the following good practice measures would be implemented during the design and construction phases of the Proposed Development, where practicable:

- manage waste in accordance with the waste hierarchy;
- design-out and prevent waste arising;
- reuse excavated earthworks materials within the Proposed Development;
- divert waste from landfill through off-site recycling and recovery; and
- use recycled and secondary materials in the construction of the Proposed Development.

5.1.3 At all stages of design and construction, the Principal Contractor shall record the following in the SWMP (**Table 3**):

- all opportunities for waste prevention; and
- decisions taken regarding material resource use and waste management.

Table 3: Waste Prevention Opportunities and Decisions (to be completed by contractor)

| Material / Waste | Estimated reduction in waste arising | | Approach by which reduction achieved | Are any additional consents/permits/licences required for the change? | Estimate cost saving | Persons responsible for completing action |
|------------------|--------------------------------------|--------|--------------------------------------|---|----------------------|---|
| | m ³ | tonnes | | | | |
| | | | | | | |

6 Management Responsibilities

6.1 Roles and Responsibilities

6.1.1 The main contract personnel responsible for producing the SWMP are shown in **Table 4**.

Table 4: Responsibilities for Producing the SWMP

| Position | SWMP Responsibility | Contact Details |
|--|---|-----------------------------------|
| Main Contract Personnel | | |
| The Client Project Manager | Monitors the Principal Contractor's performance against the contract, including any environmental commitments and targets agreed for the Proposed Development. | To be completed by the contractor |
| Project Manager (Principal Contractor) | Approves the SWMP for the relevant phase of works. Ensures that all controls specified within the SWMP are implemented by employees and sub-contractors. | To be completed by the contractor |
| Environment Manager /Environmental Clerk of Works (Principal Contractor) | Undertakes site inspections to monitor compliance with the environmental licences/consents for the works and the measures within the SWMP. Ensures that the Proposed Development complies with all environmental legislation, consents, objectives, targets and other environmental commitments, including those arising from the Environmental Statement throughout the relevant project phase. | To be completed by the contractor |
| Site Materials and Waste Manager (Principal Contractor) | Prepares the SWMP. Implements the SWMP throughout the construction of the Proposed Development and ensures that waste is disposed of legally, economically and safely in line with the SWMP and all relevant legislation. Provides appropriate professional and practical advice to Principal Contractor, consultants and project team members associated with materials and waste issues. | To be completed by the contractor |

| Position | SWMP Responsibility | Contact Details |
|--|--|-----------------------------------|
| Sub-contractor Details | | |
| Individual Sub-contractor(s), as appointed | <p>Reads through, familiarises and understands the requirements of the SWMP.</p> <p>Produces waste documentation and complies with the requirements set out in the SWMP.</p> | To be completed by the contractor |

6.2 Key Performance Indicators

- 6.2.1 The national target for recovery of C&D waste is 70% by weight, as set out in the Waste FD and the Waste Management Plan for England (Ref 11). The target specifically excludes naturally occurring materials with European Waste Catalogue (EWC) Code 17 05 04 (soil and stones other than those mentioned in 17 05 03* (soils and stones containing dangerous substances)). Recovery is deemed to include reuse, recycling and other recovery e.g. energy recovery.
- 6.2.2 A good practice landfill diversion target of 90% has been achieved and exceeded by major UK developments as outlined in the Institute of Environmental Management and Assessment (IEMA) Guidance. In 2018, the UK generated 67.8 million tonnes of non-hazardous C&D waste, of which 62.6 million tonnes was recovered. This represents a recovery rate of 92.3% (Ref 12).
- 6.2.3 Project targets for materials and waste are:
- at least 90% (by weight) recovery of non-hazardous construction and demolition waste. The target specifically excludes naturally occurring materials with EWC Code 17 05 04 (17 05 04 soil and stones other than those mentioned in 17 05 03* (soils and stone containing dangerous substances)). Recovery is deemed to include reuse, recycling and other recovery e.g. energy recovery; and
 - at least 25% (by weight) of materials imported to site for use within the Proposed Development will comprise alternative (reused, recycled or secondary) content, for those applications where it is technically and economically feasible to substitute these alternatives to primary materials.

7 Materials and Waste Management On-site

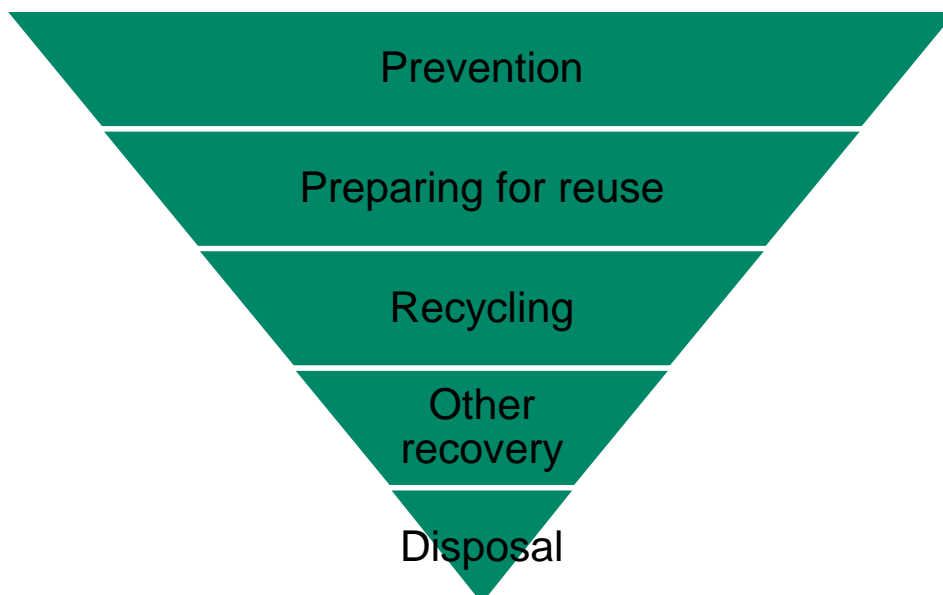
- 7.1.1 This section of the Plan details the likely waste management measures and procedures to be implemented on-site during the CD&E phases. Detailed information will be provided in the SWMP prepared by the Principal Contractor, once details and methods associated with the CD&E activities are known.
- 7.1.2 All waste management methods to be implemented on-site shall be in accordance with the waste hierarchy, discussed below.

7.2 Waste Hierarchy

- 7.2.1 Those generating waste have a legal duty of care to comply with the waste hierarchy. The waste hierarchy is a concept that encourages the management and reduction of waste material. The aim is to recover the maximum value from projects/developments by reducing financial losses through material loss during the CD&E phases.

7.2.2 The waste hierarchy is a complex process influenced by the optimal management of any given product/waste material. A basic representation of the waste hierarchy is provided in **Figure 1** and the Principal Contractor shall use the hierarchy as a guide to encourage the prevention of waste, followed by reuse and recycling.

Figure 1: The Waste Hierarchy, from Defra's Guidance on Applying the Waste Hierarchy (Ref 13), recreated by AECOM



7.2.3 When considering waste management options for the Proposed Development, the Principal Contractor shall take account of the site's location, natural environment and available infrastructure. The Principal Contractor shall consider the options in Section 7.3 when determining the preferred waste management option for each waste stream.

7.3 Waste Management Routes

Preparing for Reuse

7.3.1 The aim is to provide design features on the Proposed Development to use site-won materials in their current state and form. Reuse can be undertaken either on-site or off-site.

7.3.2 Where possible, excavated earthworks materials and soils arising from the Proposed Development will be stockpiled on-site and reused within the Proposed Development.

Recycling

7.3.3 The aim is to reuse site-won materials by recycling them into an alternative form that can be used for construction purposes (for example crushing concrete, brick or other inert wastes to produce aggregate material). By recycling on-site, as far as practicable, the quantity of waste requiring off-site management is reduced and carbon emissions associated with transportation are eliminated.

7.3.4 Recycling may also be achieved by utilising materials with a recycled content, such as recycled aggregates produced off-site.

Recovery

7.3.5 This generally aims to recover energy from waste which cannot otherwise be reused or recycled. This may include waste materials such as hazardous liquids or solids that can be sent to energy from waste facilities.

7.3.6 Recovery may also include the beneficial use of materials on land for restoration (e.g. deposit for recovery).

Disposal

- 7.3.7 The least preferred option in the waste hierarchy is a final disposal route such as landfill or incineration without energy recovery. Some waste streams would inevitably end up with such a solution.
- 7.3.8 When placing waste disposal contracts, the Principal Contractor shall consider the implications of long distance travel in terms of health and safety risk, commercial terms and increased emissions from vehicles.
- 7.3.9 The Principal Contractor shall ensure the pre-treatment of all hazardous and non-hazardous wastes prior to disposal to landfill. The methods of pre-treatment would enable the waste to meet the 'three-point test':
- it must be a physical, thermal, chemical or biological process including sorting;
 - it must change the characteristics of the waste; and
 - it must do so in order to:
 - reduce its volume; or
 - reduce its hazardous nature; or
 - facilitate its handling; or
 - enhance its recovery.
- 7.3.10 Source segregation can be seen as a pre-treatment option and as such can be applied to waste generation on site including general waste and arisings, and would take place on the Proposed Development.
- 7.3.11 The Principal Contractor shall ensure that a declaration stating the pre-treatment method applied to the waste is appended to any WTN for non-hazardous waste being sent for disposal.

Site Waste Management Measures

- 7.3.12 Where it is necessary to transport waste to and from the site, this will be undertaken in compliance with the Waste (England and Wales) Regulations 2011 (as amended) (Ref 5) including: transporting waste via registered carrier, disposal to appropriately licensed sites and maintenance of appropriate waste transfer documentation. All contractors will be required to apply the principles of the waste hierarchy and investigate opportunities to minimise waste generation.
- 7.3.13 The disposal of all waste or other materials removed from the site would be undertaken in accordance with legal requirements. Any waste effluent (including to be discharged into the local sewerage network) would be tested and where necessary treated and disposed of at an appropriately licensed facility by a licensed specialist contractor.
- 7.3.14 The risk of infestation by pests or vermin on-site would be minimised by making adequate arrangements for the disposal of food and other material potentially attracting pests. Where there is a local infestation, the relevant local authorities would be consulted.
- 7.3.15 The Principal Contractor shall adopt best practice measures set out in construction industry guidance to reduce the potential impacts from material resources and waste. This may include, for example, guidance from the Considerate Constructors Scheme, WRAP and the Construction Industry Research and Information Association (CIRIA). Recommended on-site waste management measures to adhere to the waste hierarchy, and best practice which should be employed on-site, are presented in **Table 5**: and **Table 6**: respectively.

Table 5: Recommended On-site Waste Management Measures to Adhere to the Waste Hierarchy

| Site Waste Management Measure | Waste Hierarchy Principle | Phase | Waste Stream | Description |
|--|---------------------------|-----------------------------|------------------------|--|
| Supplier take-back | Reduce/prevention | Construction | Construction Materials | Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme. The Principal Contractor could set up a take-back arrangement with suppliers in order to prevent packets and packaging being broken up and placed in skips. |
| Just in time deliveries | Reduce/prevention | Construction | Construction Materials | The Principal Contractor should implement a just-in-time delivery system in order to try and avoid the over-ordering of materials and stockpiling. This will prevent surplus materials from risk of damage and disposal as waste. |
| Standardisation | Reduce/prevention | Construction | Construction Materials | Use of standard size components in design to eliminate waste at source where possible to do so. The Principal Contractor should implement standard sizes for most items ordered in order to avoid cutting on-site; materials are to be ordered in size in order to allow for minimum waste production. |
| Pre-assembly and pre-fabrication | Reduce/prevention | Demolition and construction | Construction Materials | Throughout the design and construction phases of the Proposed Development, emphasis should be on pre-assembly and pre-fabrication of elements wherever practicable to minimise on-site waste generation and packaging waste. |
| Reuse of materials on-site wherever feasible | Reuse | Demolition and construction | Multiple | For example, the Government has set broad targets for the use of recycled and secondary aggregates, and in keeping with best practice, Principal Contractor will be required to maximise the proportion of materials recycled. |
| Concrete crushing | Reuse | Demolition and construction | Concrete and brick | In keeping with guidelines set out by the Government for reclaiming aggregates, deconstructed concrete (if appropriate) will be taken off-site for crushing and reuse. Where practicable, all concrete and brick elements will pass through crushing machines and the residual material will be recycled for use on-site in line with best practice. |
| Wheel washers and rainwater | Reuse | All | Liquids | The use of recycling water systems such as wheel washers and rainwater harvesting systems for use in equipment and vehicle washing will be |

| Site Waste Management Measure | Waste Hierarchy Principle | Phase | Waste Stream | Description |
|---|---------------------------|-------|--------------|---|
| harvesting systems | | | | investigated in order to maximise reuse and to reduce energy consumption. |
| Reuse and recycling of materials off-site | Reuse | All | All | Where reuse on-site is not practical (for example through use of an off-site waste segregation facility and re-sale for direct reuse or reprocessing). |
| Segregation of waste at source | Recycling | All | All | Waste segregation strategies will be developed and implemented in-line with the overarching plan for logistics for the site. Substances hazardous to health, for example gypsum/plasterboard and liquid waste will be segregated. |
| Colour coding and signage | Recycling | All | All | Skips to be colour coded and signposted to reduce risk of cross contamination and covered to prevent dust and debris blowing around the site, these will be cleared on a regular basis. |
| Staff training | All | All | n/a | All staff on-site will be appropriately trained on how to reuse materials, prevent and recycle waste. |

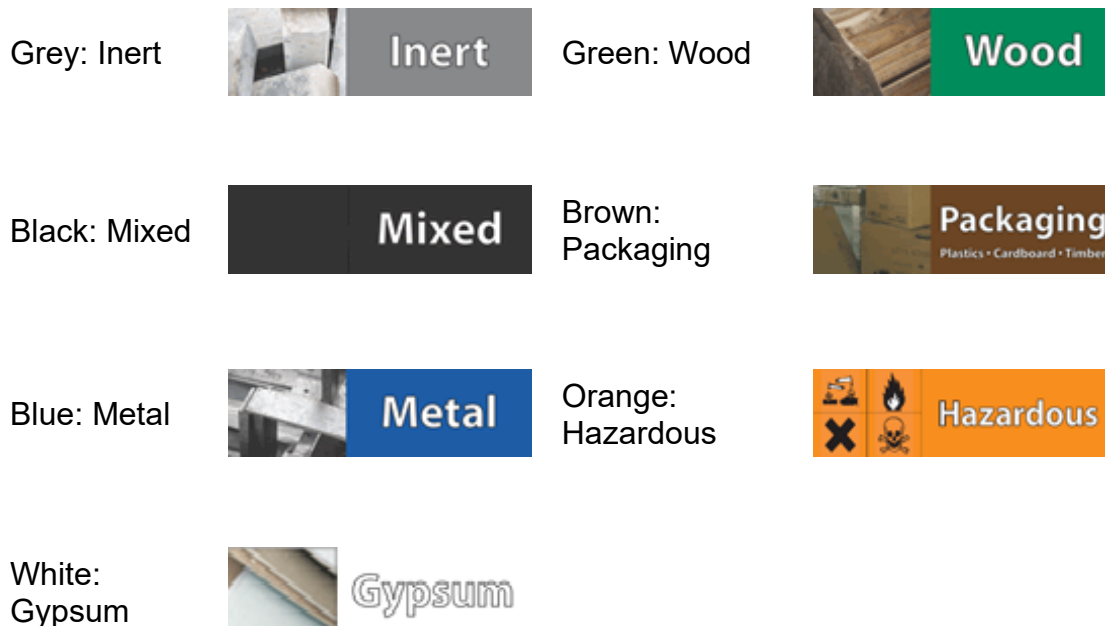
Table 6: Best Practice On-site

| Waste Management Measures | Waste Stream | Description |
|--|-------------------------------|--|
| Appropriate concrete storage used to minimise dust and reduce vehicle movement | Concrete | Any processed concrete material should be stockpiled, and any dust generated shall be controlled with covers or dampened with water. |
| Surface drainage, ground waste seepage and dewatering of the Site | Liquid waste | Surface drainage, ground waste seepage and dewatering of the Site. |
| Liquid disposal | Liquid waste | The Principal Contractor will check that any water, which may have come into contact with contaminated materials will be disposed of in accordance with the Water Resources Act 1991 (Ref 14), and to the satisfaction of the Environment Agency or the local sewerage company. |
| Clearing of Asbestos Containing Materials (ACMs) | Asbestos Containing Materials | In line with the Control of Asbestos Regulations 2012 (Ref 15), Asbestos Containing Materials (ACMs) present on-site will be appropriately removed and disposed of prior to the start of the demolition by a suitable qualified contractor. |
| Sealing of containers | All hazardous materials | All hazardous materials including chemicals, cleaning agents, solvents and solvent containing products will be properly sealed in containers (of 110% volume of the materials stored) at the end of each day prior to storage in appropriately protected and bunded storage areas. |
| Classification and management of potentially contaminated materials | All hazardous materials | Should any potentially contaminated materials be identified for disposal during the construction phases, this waste will be classified in accordance with the Waste Classification Technical Guidance (WM3) (Ref 16). |
| Audit trail: Transportation and disposal | All waste streams | The Principal Contractor will dispose of all waste or other materials removed from the Site in accordance with regulatory requirements and provide evidence that all waste has been deposited or transferred to the correct place and by appropriately licensed contractors (i.e. an audit trail). WTNs will be used to document waste production within the confines of the site and movement to external facilities. These WTNs will detail the type of waste, waste volume, waste classification, contractor, ultimate disposal route and other necessary information. Records will be updated documenting that all waste transferred or disposed of has been correctly processed with evidence of signed WTNs that will be kept on-site for inspection whenever requested by the Environment Agency. |

| Waste Management Measures | Waste Stream | Description |
|------------------------------------|-------------------|---|
| Storage | All waste streams | The storage of potentially polluting plant and materials will be limited as far as possible. For example, the plant could be refuelled from visiting fuel trucks rather than from on-site fuel bowzers. All spoil will also be stored on impermeable surface areas, with bunding, in order to prevent potential contaminated material coming into contact with flora or fauna. The bunded areas will also prevent contact with water, which could allow contaminants to seep into the local drainage network, or leach to groundwater, and have damaging effects on both humans and wildlife. |
| Dampening down of surfaces | All waste streams | Dampening down of surfaces during spells of dry weather and brushing/water spraying of heavily used hard surfaces/access points across the site as required. |
| Provision of on-site waste burning | All waste streams | Burning of waste or unwanted materials will not be permitted on-site. |
| Instruction and training | All waste streams | The Principal Contractor will incorporate the SWMP requirements into the site induction and the Principal Contractor shall provide on-site instruction of appropriate separation, handling, recycling, reuse and return methods to be used by all parties at all appropriate stages of the Proposed Development. |

7.3.16 In addition to the above measures, the Principal Contractor shall implement the following waste management procedures:

- All waste containers shall be secure and ensure that no waste is allowed to escape;
- All waste containers shall be clearly labelled using a colour coding system so that users know what wastes can be placed in each container. Waste containers shall be appropriately colour coded using generic colour codes. An example is shown below:



- Lockable storage would be provided for all hazardous waste;
- All waste containers shall be sited at least 10m away from watercourses, ditches and other areas of environmental sensitivity;
- Liquid wastes shall be stored in enclosed/lidded containers and stored within a suitable bunded area, or otherwise provided with secondary containment;
- Separate containers shall be provided for each type of hazardous waste;
- Sewage from the site offices/compounds would drain to septic tank and be collected by a suitable specialist waste contractor; and
- Portable toilet facilities on-site (Portaloos etc.) shall be emptied by the facility provider as per their service agreement.

7.4 Waste Carriers and Facilities

7.4.1 The Principal Contractor shall manage all waste generated on the Proposed Development in accordance with legal requirements. The Principal Contractor shall record details of the proposed waste carrier for each waste stream in the registration table, with registered waste carrier details appended to the SWMP. An example table for demonstrating waste carrier registration is available in **Annex A**.

7.4.2 The Principal Contractor shall ensure that the following information is recorded for all waste facilities used:

- Contractor's name;
- date(s) of waste removal;

- type(s) of waste removed (i.e. non-hazardous waste, hazardous waste, inert (specify));
- method of treatment, recovery or disposal (i.e. reuse, recycling, incineration, landfill etc.);
- volume or weight of waste removed;
- recovery rate achieved; and
- costs associated with waste removal, transport and treatment, including Landfill Tax charges where applicable.

7.5 Waste Documentation

7.5.1 All waste documentation will be retained at the main site compound and, following completion of construction works, at the Principal Contractor Head Office. This includes:

- SWMP (to be retained for two years after completion of the relevant construction works);
- Waste transfer documentation (to be retained for two years for WTNs and three years for Hazardous Waste Consignment Notes (HWCNs);
- Copies of any exemptions or permits; and
- Copies of any waste carrier and disposal site licenses.

Waste Transfer Notes (WTN)

7.5.2 The Principal Contractor shall ensure that all movements of waste from site are accompanied by a WTN, which will detail specific information. The Principal Contractor's Site Materials and Waste Manager or other competent person shall check that each WTN contains the following:

- the name of the person receiving the waste and what they are authorised to do with that waste (e.g. a Registered Waste Carrier can only transport waste);
- type of waste;
- the Standard Industrial Classification (SIC) code;
- the six-digit European Waste Catalogue (EWC) code;
- address of the producing site and details of the waste producer;
- waste carrier's details including registration number;
- quantity of waste;
- how it is contained (e.g. 8 cubic yard skip);
- address of the receiving site (e.g. landfill) and the environmental permit or exemption no. associated with the receiving site;
- the date to which the WTN applies;
- if the material is non-hazardous waste and it is destined for disposal directly to landfill, pre-treatment must have been applied and a declaration detailing the treatment applied appended to the WTN; and
- a declaration that the waste has been treated in line with the requirements of the waste hierarchy.

7.5.3 The site representative signing the WTN shall ensure all WTNs are kept for a minimum period of two years (for non-hazardous waste).

- 7.5.4 By signing a WTN, the site representative is confirming that all the details are correct and that the material is to be sent by a registered waste carrier to a suitably licensed receiving site, permitted to receive that type of waste. The signature is binding of this fact and completes the WTN as a legal document.
- 7.5.5 The Site Materials and Waste Manager or other competent person signing the WTN shall additionally ensure that the registered waste carrier is using a suitable vehicle with adequate, covered containment for the waste.

Hazardous Waste Consignment Notes (HWCN)

- 7.5.6 The Principal Contractor shall ensure that a HWCN is completed for every movement of hazardous waste. Prior to signing, the Site Materials and Waste Manager or another competent person shall ensure that the HWCN includes:
- HWCN code;
 - SIC Code;
 - name and address of the site from which the waste is being moved;
 - date of removal;
 - type of waste produced, including the quantity and the EWC code;
 - the name of the person who is receiving the waste and what they are authorised to do with that waste e.g. Registered Waste Carrier can only transport waste;
 - the final disposal site that is authorised to accept the waste; and
 - retention period for hazardous waste.
- 7.5.7 The Principal Contractor shall retain a copy of the HWCN for a minimum of three years.

7.6 Fly-tipping

- 7.6.1 Fly-tipping of waste on or adjacent to ongoing construction projects can be a significant issue.
- 7.6.2 Should waste be fly-tipped on the site, the Principal Contractor shall have a duty of care to ensure it is dealt with safely and disposed of correctly, even though not the producer of the waste. The Principal Contractor shall report any instance of fly-tipping to the relevant authorities.

7.7 Reporting and Auditing

- 7.7.1 The effectiveness of the SWMP will depend upon the enforcement of its requirements on-site by the nominated Site Materials and Waste Manager and Project Manager. Responsibility for the formal recording of waste movements lies with the Site Materials and Waste Manager or Project Manager.
- 7.7.2 The Principal Contractor shall maintain a record of all materials that come on to site. The quantity of reused, recycled and secondary aggregate shall be recorded, alongside details of the supplier, the producing facility and records that demonstrate that the material meets all relevant technical and regulatory requirements. An example table for recording materials imported to site is available in **Annex B**.
- 7.7.3 The Principal Contractor shall maintain a record of all wastes that are removed from the site and their management route. Each waste management contractor shall provide details of the types and quantities of waste removed from the site, the receiving waste management facility and the associated recycling, recovery and disposal rates for each waste stream. An example table for recording waste management is available in **Annex C**.

- 7.7.4 The Principal Contractor shall monitor, and record details of the wastes placed in all waste receptacles to ensure that contamination has not occurred.
- 7.7.5 The Principal Contractor shall continually review the types of surplus materials and waste being produced and change the site set up to minimise wastage rates and maximise reuse or recycling.
- 7.7.6 The Client or its representatives may carry out 'spot checks' in relation to the completeness of any WTNs and any HWCNs.
- 7.7.7 If any problems are identified during the construction of the Proposed Development in relation to exceeding the expected SWMP waste stream quantities, failure to meet stated KPI targets, or issues relating to the cost effective and legal transfer of waste, then the Principal Contractor site representative shall escalate these to the Project Manager for further discussion on the best solution. This may trigger a review of the SWMP.

7.8 Review of SWMP

- 7.8.1 The Principal Contractor shall review the SWMP at least monthly during the construction of the Proposed Development to ensure that KPI targets are being achieved and that realistic solutions are provided for unplanned events or abnormal wastes. The Principal Contractor shall also review the SWMP if there is any significant change in the Proposed Development. These reviews will involve the completion and submission of a monitoring report to the Client (or its representative) in an agreed format.

7.9 Additional Duty of Care Checks

- 7.9.1 The Principal Contractor shall periodically, at intervals to be determined, follow waste loads to confirm that the waste has been transferred to the place stated on the WTN, with any irregularities investigated immediately, and reported as an environmental incident. Action may involve termination of contract and/or notification to the Environment Agency.

7.10 Site Inspections

- 7.10.1 The Site Manager or nominated deputy shall undertake a daily inspection of the construction areas including all areas used for waste management. Any issues shall be recorded in the daily log along with any corrective action taken.

7.11 Closure Reporting

- 7.11.1 Within three months of the completion of works under a contract, the Principal Contractor shall submit a Waste Management Closure Report to the Client (or their representative) to demonstrate the effective implementation, management and monitoring of construction materials and waste during the construction lifetime of the Proposed Development.

Annex B - Construction Materials Imported to Site

This would be completed by the chosen construction contractors.

| | | |
|------------------------------|--|---|
| Client Name: | | Key Performance Indicator: Achieving at least 25% (by weight) of materials imported to site for use within the Project will comprise alternative (reused, recycled or secondary) content, for those applications where it is technically and economically feasible to substitute these alternatives to primary materials. |
| Project | | |
| Principal Contractor: | | |

| Material / aggregate | Material density (tonnes/m ³) | Quantity required for construction | Quantity to be imported to site (tonnes) | Supplier | Supplier facility | Facility permit / licence / exemption number | Evidence of compliance with specification/protocol | Recycled content (% by weight) |
|--|---|------------------------------------|--|----------|-------------------|--|--|--------------------------------|
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| | | | | | | | | |
| Overall proportion of reused, recycled and secondary content (% (by weight)) | | | | | | | | |

Annex C - Waste Management

This would be completed by the chosen construction contractors.

| | | |
|------------------------------|--|--|
| Client name | | <p><u>Key Performance Indicators:</u> Achieving at least 90% (by weight) recovery of non-hazardous construction and demolition waste. The target specifically excludes naturally occurring materials with EWC Code 17 05 04 (17 05 04 soil and stones other than those mentioned in 17 05 03* (soils and stone containing dangerous substances)). Recovery is deemed to include reuse, recycling and other recovery e.g. energy recovery.</p> |
| Project: | | |
| Principal Contractor: | | |

| Waste type | EWC Code | Quantity (tonnes) | On-site | | Off-site | | | Waste carrier | Off-site waste management facility |
|------------|----------|-------------------|----------------|------------------|-----------------|-------------------|--------------------|---------------|------------------------------------|
| | | | Reused on-site | Recycled on-site | Reused off-site | Recycled off-site | Recovered off-site | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| | |
|---|---------------|
| Non-hazardous construction and demolition waste recovered | % (by weight) |
|---|---------------|

References

- Ref 1** European Union, (2008), Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste and Repealing Certain Directives.
- Ref 2** His Majesty's Stationary Office (HMSO), (2008) The Site Waste Management Plans Regulations 2008.
- Ref 3** HMSO, (2013). The Environmental Noise, Site Waste Management Plans and Spreadable Fats etc. (Revocations and Amendments) Regulations 2013 (S.I. 2013/2854), regs. 1, 2(c).
- Ref 4** HMSO, (1990); Environmental Protection Act 1990 as amended.
- Ref 5** HMSO, (2011), Waste (England and Wales) Regulations 2011 as amended.
- Ref 6** Defra, (2018) Waste Duty of Care Code of Practice.
- Ref 7** Control of Pollution (Amendment) Act 1989
- Ref 8** HMSO, (2016), The Environmental Permitting (England and Wales) Regulations 2016.
- Ref 9** WRAP, (2007), Waste Recovery Quick Wins. Improving Recovery Rates without Increasing Costs.
- Ref 10** HMSO, (2013), WEEE Regulations 2013.
- Ref 11** Department for Environment, Food & Rural Affairs, (2021), The Waste Management Plan for England.
- Ref 12** IEMA, (2020), Guide to: Materials and Waste in Environment Impact Assessment, Guidance for a Proportionate Approach.
- Ref 13** Department for Environment, Food & Rural Affairs, (2011), Guidance on Applying the Waste Hierarchy.
- Ref 14** HMSO, (1991); Water Resources Act 1991.
- Ref 15** HMSO, (2012); Control of Asbestos Regulations 2012.
- Ref 16** Environment Agency, Scottish Environment Protection Agency, Natural Resources Wales, (2021); Guidance of the Classification and Assessment of Waste (1st Edition v1.2 GB) Technical Guidance (WM3).

