
EAST YORKSHIRE SOLAR FARM

East Yorkshire Solar Farm
EN010143

Environmental Statement

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Executive Summary

- ES1 This Framework Site Waste Management Plan (SWMP) sets out the standard good practice measures that will be implemented by the Principal Contractor to manage waste generated by the construction of East Yorkshire Solar Farm (the Scheme).
- ES2 This Framework SWMP has been developed to act as a guide for site staff on how to manage material (construction materials) and waste, in accordance with both legal and best practice requirements. The Principal Contractor will use this Framework SWMP as a basis for producing the SWMP which will operate throughout the duration of the Scheme's construction phase, as secured through a requirement of the DCO.

1. Introduction

1.1 Overview

1.1.1 This Framework Site Waste Management Plan (SWMP) sets out the standard good practice measures that will be implemented by the Principal Contractor to manage waste generated by the construction of East Yorkshire Solar Farm (hereafter referred to as the Scheme).

1.1.2 This Framework SWMP will be updated by the Principal Contractor into a Principal Contractor Site Waste Management Plan (SWMP) prior to commencement of works, as secured through a requirement of the Development Consent Order (DCO) before it is to be delivered as part of the Construction Environmental Management Plan (CEMP).

1.1.3 Key terminology in relation to this Framework SWMP is detailed in **Table 1-1**.

Table 1-1. Key terminology

Terminology	Definition
The Considerate Constructors Scheme (CCS)	The CCS – a non-profit making, independent organisation founded in 1997 by the construction industry to raise standards in the construction industry.
C&D waste	Construction and demolition waste
CD&E waste	Construction, demolition and excavation waste
CIRIA	Construction Industry Research and Information Association – a member-based research and information organisation dedicated to improvement in all aspects of the construction industry.
Controlled waste	Household, industrial and commercial waste (not agricultural waste, waste from mines or quarries and most radioactive waste).
DMRB	Design Manual for Roads and Bridges. Contains information about current standards relating to the design, assessment and operation of motorway and all-purpose trunk roads in the United Kingdom
Duty of Care	Legal responsibility for 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.
Duty of Care checks	Checks to ensure that only authorised persons transfer waste, and that the waste is managed legitimately, including checks on: <ul style="list-style-type: none"> • The waste carrier’s registration certificate. • The waste broker’s registration certificate (if used). • The Environmental Permits for waste management facilities or proof of exemptions from permitting.

Terminology	Definition
Environment Agency (EA)	The main environmental regulatory body in England.
European Waste Catalogue (EWC) code	A six-digit number used to classify a particular waste stream.
Exempt activities	Activities not requiring an Environmental Permit (an exemption will require registration).
Flood Zone 3	The area of the floodplain where there is a high probability of flooding, having a 1 in 100 or greater annual probability of river flooding.
Hazardous Waste Consignment Note (HWCN)	A document that accompanies the movement of any hazardous waste from production (cradle) to disposal (grave).
Hazardous waste	Waste with any hazardous properties as listed in Annex III of The Hazardous Waste (England and Wales) Regulations 2005 (as amended).
Non-hazardous waste	Waste which does not display any of the hazardous properties listed in Annex III of The Hazardous Waste (England and Wales) Regulations 2005 (as amended).
Principal Contractor (PC)	Contractor appointed to coordinate the construction phase of a project where it involves more than one contractor.
Registered Waste Carrier	A person who holds a registration certificate from the Environment Agency (EA) to transport waste.
Site Waste Management Plan (SWMP)	Sets out how material resources and waste will be managed and controlled at all stages during a construction project.

1.2 Purpose and benefits

- 1.2.1 SWMPs are used as a good practice measure on construction projects and to support planning and consenting applications.
- 1.2.2 This Framework SWMP has been developed to act as a guide for site staff on how to manage material assets (construction materials) and waste, in accordance with both legal and best practice requirements. The Principal Contractor will use this Framework SWMP as a basis for producing the SWMP for use throughout the duration of the Scheme's construction phase, as secured through a requirement of the DCO.
- 1.2.3 The Principal Contractor will take all reasonable steps to ensure that:
- a. All waste from the site is dealt with in accordance with the waste duty of care (defined in section 34 of the Environmental Protection Act 1990 (Ref. 1) and The Waste (England and Wales) Regulations 2011 (as amended) (Ref. 2); and
 - b. Materials are handled efficiently, and waste managed appropriately.

1.3 Scope

- 1.3.1 This Framework SWMP includes:
- a. An overview of applicable legislation;
 - b. Details of the Scheme;
 - c. Management arrangements, including roles and responsibilities, training, key performance indicators (KPIs) and best practice measures;
 - d. Estimates of construction material use and waste arising and how they will be managed;
 - e. Design decisions;
 - f. Materials and waste management on-site; and
 - g. Opportunities for waste minimisation, reuse, recycling and recovery in line with the requirements of the waste hierarchy.

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 The EU Waste Framework Directive (Directive 2008/98/EC), as amended by Directive (EU) 2018/851 (Waste FD) (Ref. 3) sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling and recovery.
- 2.2.2 Waste is defined by Article 3(1) of the Waste FD as “any substance or object which the holder discards or intends or is required to discard”.
- 2.2.3 The legal definition of waste also covers substances or objects, which fall outside of the commercial cycle or out of the chain of utility. In particular, most items that are sold or taken off-site for recycling are wastes, as they require treatment before they can be resold or reused.
- 2.2.4 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. 1) and The Waste (England and Wales) Regulations 2011 (as amended) (Ref. 2). 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:

- a. Prevent unauthorised or harmful deposit, treatment or disposal of waste;
- b. Prevent a breach (failure) by any other person to meet the requirement to have an environmental permit, or a breach of a permit condition;
- c. Prevent the escape of waste;
- d. Ensure that waste is transferred to an authorised person; and
- e. Provide an accurate description of the waste when it is transferred to another person, by using a compulsory system of Waste Transfer Notes (WTNs) that control the transfer of waste between parties.

2.3.2 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. 2) transpose the requirements of the Waste FD (Ref. 3), and require:

- a. 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, in priority order, as follows:
 - i. Prevention;
 - ii. Preparation for reuse;
 - iii. Recycling;
 - iv. Other recovery (such as energy recovery); and
 - v. Disposal.
- b. 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 Hazardous waste

2.5.1 The Hazardous Waste (England and Wales) Regulations 2005 (as amended) (Ref. 4) require that a consignment note be used to document the transfer and management of all hazardous waste.

2.6 Registration of waste carriers

2.6.1 Under the Control of Pollution (Amendment) Act 1989 (Ref. 5) 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. 2) updated the system for the registration of waste carriers, including brokers and dealers.

- 2.6.2 Anyone undertaking any of the following activities as part of their business must register as a waste carrier, broker or dealer:
- a. Transporting their own waste;
 - b. Transporting waste for someone else;
 - c. Buying or selling waste; or
 - d. Acting as a waste broker (arranging for someone to handle waste produced by someone else).
- 2.6.3 Details of all appointed waste carriers, brokers and contractors must be included in the Principal Contractor SWMP, including copies of appropriate waste carrier licences/registrations. The Register of Waste Carriers, Brokers and Dealers can be checked using the EA's online portal of Public Registers (Ref. 13).

2.7 Environmental permits and exemptions

- 2.7.1 The Environmental Permitting (England and Wales) Regulations 2016 (as amended) (Ref. 6) require sites where waste is processed, treated or disposed of to hold a valid Environmental Permit issued by the EA.
- 2.7.2 The Regulations also include a schedule of activities that are exempt from the requirements of permitting. However, to comply with these Regulations, an exempt activity must generally be registered with the EA before commencing.
- 2.7.3 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. A non-waste framework directive exemption may apply, which does not need to be registered; and
 - b. An exemption may need to be registered with the EA.
- 2.7.4 The Principal Contractor will be responsible for obtaining the necessary permits and exemptions, where required.

3. Details of the Scheme

- 3.1.1 The Principal Contractor will complete **Table 3-1** prior to commencement of construction.

Table 3-1. Details of the scheme

Project title	East Yorkshire Solar Farm
Project location	Address
	Town
	Postcode
Client	Name
	Address

Project title	East Yorkshire Solar Farm		
	Contact	Email	
	Phone	Mobile	
Principal Contractor	Name		
	Address		
	Contact	Email	
	Phone	Mobile	
SWMP Drafter	Name		
	Address		
	Contact	Email	
	Phone	Fax	
Construction cost (estimated)			
Site area (gross area)			
Construction programme:			
Start date	Day	Month	Year
Completion date	Day	Month	Year
Waste Management Champion			
Person responsible for SWMP			
Document Controller/ Secretary			
Location of SWMP			

3.2 Description of the Scheme

3.2.1 A full description of the Scheme is presented in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**.

3.3 Roles and responsibilities

3.3.1 The main contract personnel responsible for producing the Principal Contractor SWMP are shown in **Table 3-2**. The Principal Contractor will complete **Table 3-2** prior to the commencement of the construction phase.

Table 3-2. Roles and responsibilities

Position	Name	Contact details	SWMP responsibility
<i>Main Contract personnel</i>			
Client Project Manager			Monitor the Principal Contractor's performance against the contract, including any environmental commitments and targets agreed for the Scheme.
Project Manager (Principal Contractor (PC PM))			Approval of the SWMP for the relevant phase of works. Ensure that all controls specified within the SWMP are implemented by employees and sub-contractors.
Environment Manager (Principal Contractor PC EM))			Undertake site inspections to monitor compliance with the environmental licences/consents for the works and the measures within the SWMP. Ensure that the Scheme complies with all environmental legislation, consents, objectives, targets and other environmental commitments, including those arising from the ES throughout the relevant project phase.
Site Materials and Waste Manager (Principal Contractor)			Prepare the SWMP. Implement the SWMP throughout the construction of the Scheme and ensure that waste is disposed of legally, economically and safely in line with the SWMP and all relevant legislation. Provide appropriate professional and practical advice to contractors, consultants and project team members associated with materials and waste issues.
<i>Sub-contractor details</i>			
Individual Sub-contractor(s), as appointed			Read through, familiarise and understand the requirements of the SWMP. Produce waste documentation and a Management Plan. Comply with the requirements set out in the SWMP.

3.4 Instruction and training

- 3.4.1 The Principal Contractor will incorporate the Principal Contractor SWMP requirements into the site induction and training procedures and must provide on-site instruction of appropriate construction materials and waste separation, handling, recycling, reuse and return methods to be used by all parties at all appropriate stages during the construction of the Scheme.
- 3.4.2 The Principal Contractor must ensure that all personnel working on the site, including sub-contractors, are inducted and appropriately trained.

3.5 Key performance indicators (KPIs)

- 3.5.1 The national target for recovery of construction and demolition (C&D) waste is 70% by weight, as set out in the Waste FD (Ref. 3) and the Waste Management Plan for England (Ref. 10). 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.
- 3.5.2 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 (Ref. 11). In 2020, the UK generated 59.1 million tonnes of non-hazardous C&D waste, of which 54.8 million tonnes was recovered. This represents a recovery rate of 92.6% (Ref. 12).
- 3.5.3 Targets for materials and waste will be included in the Principal Contractor SWMP and could include, for example:
- a. Achieving a set percentage (by weight) for recovery of non-hazardous C&D waste. Such a target would specifically exclude naturally occurring materials with 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; and
 - b. Achieving a set percentage (by weight) of materials imported to site for use within the Project containing alternative (reused, recycled or secondary) content, for those applications where it is technically and economically feasible to substitute these alternatives to primary materials.

3.6 Best practice measures

- 3.6.1 To reduce the potential impacts from materials and waste, and to achieve high levels of sustainability in the Scheme as a whole, the Principal Contractor will apply the principles of the waste hierarchy and adopt best practice measures (BPM) which go beyond statutory compliance.
- 3.6.2 This may include BPMs set out in construction industry guidance for example, guidance from the Considerate Constructors Scheme (CCS), Waste & Resources Action Programme (WRAP) and CIRIA.

- 3.6.3 The following approaches will be implemented, where practicable, to minimise the quantity of waste arising and requiring disposal:
- a. Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme;
 - b. Implementation of a 'just-in-time' material delivery system where possible to avoid materials being stockpiled, which can increase the risk of damage and subsequent disposal as waste;
 - c. Attention to material quantity requirements to avoid over-ordering and the generation of waste materials due to surplus;
 - d. Reuse of materials on-site wherever feasible, e.g. reuse of excavated soil for landscaping, recycling of demolition materials into aggregates;
 - e. Off-site prefabrication, where practical, including the use of prefabricated structural elements;
 - f. Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and
 - g. Off-site reuse, recycling and recovery of materials and waste where reuse on-site is not practical, e.g. Through use of an off-site waste segregation or treatment facility or for direct reuse or reprocessing off-site.
- 3.6.4 The Principal Contractor will implement the following waste management measures, where practicable, in order to minimise the likelihood of any localised impacts from pollution or nuisance from waste on the surrounding environment:
- a. Damping down of surfaces during spells of dry weather and brushing/water spraying of heavily used hard surfaces/access points across the site as required;
 - b. Burning of waste or unwanted materials will not be permitted on-site;
 - c. All hazardous materials including fuels, chemicals, cleaning agents, solvents and solvent containing products to be properly sealed in containers at the end of each day prior to storage in appropriately protected and bunded storage areas;
 - d. All demolition and construction workers will be required to use appropriate personal protective equipment whilst performing activities on-site;
 - e. Any waste effluent will be tested and, where necessary, disposed of at a correctly licensed facility by a licensed specialist contractor/s; and
 - f. Materials requiring removal from the site will be transported using licensed carriers and records will be kept detailing the types and quantities of waste moved, and the destinations of this waste, in accordance with the relevant regulations.

4. Estimate of waste arisings

- 4.1.1 **Table 4-1** summarises the anticipated waste streams from construction, this information is based upon other similar solar schemes (which are also

classified as Nationally Significant Infrastructure Projects (NSIP)) and wastage from construction materials.

Table 4-1. Estimated Construction Waste

Waste Type	Estimated Waste Quantity (tonnes)	Estimated Waste Quantity (m3)	Recyclable / Recoverable
General waste from site offices and welfare facilities	Minimal		Yes
Waste from the maintenance of construction vehicles	Minimal		Yes
Hazardous waste (e.g. chemicals, batteries, solvents, oils, aerosols etc.)	Minimal		Yes
Paperboard (packaging)	4,430	21,094	Yes
Wood (pallets, cable drums)	5,344	28,125	Yes
Plastic (packaging)	394	2,813	Yes
Construction material wastage (assumed a 5% wastage rate for non-assembled components, including concrete, aggregates, aluminium, and plastic from cables)	752	362	Yes
Total construction waste	10,919	52,394	

- 4.1.2 Excavated material is not included in the construction waste estimates or when calculating the overall waste recovery rate, since where possible the material would be reused on-site and hence will not be categorised as a waste. Waste recovery targets do not include excavated material (uncontaminated excavated soil and stones, EWC code 17 05 04). This approach is consistent with the waste hierarchy and the objectives of minimising waste generation and reusing materials.
- 4.1.3 As the Solar Photovoltaic (PV) Site is relatively flat, large-scale earthworks are not expected to be required and therefore there is not expected to be either a large surplus or shortfall of fill material requiring either export or import from the Solar PV Site. It is expected that all materials removed by cable trenching operations or in the creation of working or laydown/compound areas will be reinstated again with no import or export of materials being required. At this stage the potential for generation of some surplus excavated material cannot be ruled out, but the quantities involved would be very small in the context of regional landfill capacity, and would

only be disposed of to landfill as a last resort, with reuse or deposit for recovery being preferred options.

- 4.1.4 Full details of the methodology for estimating types and quantities of construction materials and waste are described in section 16.7 of **Chapter 16: Other Environmental Topics, ES Volume 1 [EN010143/APP/6.1]**.
- 4.1.5 The Principal Contractor will review, update and monitor these estimates throughout the design and construction of the Scheme, and incorporate these updates in the Principal Contractor SWMP to ensure delivery of the Scheme KPIs.

5. Design decisions

- 5.1.1 Decisions made at the detailed design stage of the Scheme will impact on the quantity and types of materials used, the quantity and types of waste arising and the management of materials and waste.
- 5.1.2 The Scheme design development will apply the principles of Designing out Waste (DoW) (Ref. 7), which include:
 - a. Design for Reuse and Recovery;
 - b. Design for Off Site Construction;
 - c. Design for Materials Optimisation;
 - d. Design for Waste Efficient Procurement; and
 - e. Design for Deconstruction and Flexibility.
- 5.1.3 In general, the following measures will be implemented during the design and construction phases of the Scheme, where technically, economically and environmentally practicable:
 - a. Manage waste in accordance with the waste hierarchy;
 - b. Design-out and prevent waste arising;
 - c. Reuse excavated earthworks materials within the Scheme;
 - d. Recycle demolition materials arising from proposed development within the construction of the Scheme;
 - e. Divert waste from landfill through off-site recycling and recovery; and
 - f. Use recycled and secondary aggregates (alternative materials) in the construction of the Scheme.
- 5.1.4 Prior to construction, the Principal Contractor must record, in the Principal Contractor SWMP, all actions to be implemented to reduce waste or material use on the Scheme, and the resulting benefits. Embedded measures considered in the preliminary design in relation to waste are included in section 16.7 of **Chapter 16: Other Environmental Topics, ES Volume 1 [EN010143/APP/6.1]**. **Table 5-1** will be populated by the Principal Contractor during the detailed design of the Scheme.

Table 5-1. Waste minimisation actions

Material / waste	Estimated reduction in waste arising		Approach by which reduction achieved	Will additional planning permissions/ authorisations be required?	Estimated cost saving (£)	Persons responsible for completing action
	tonnes	m ³				

6. Construction and materials and waste management on-site

6.1 Waste management routes

6.1.1 The waste hierarchy sets out the priority order that should be considered when managing wastes. A basic representation of the waste hierarchy is provided in **Plate 6-1** below.

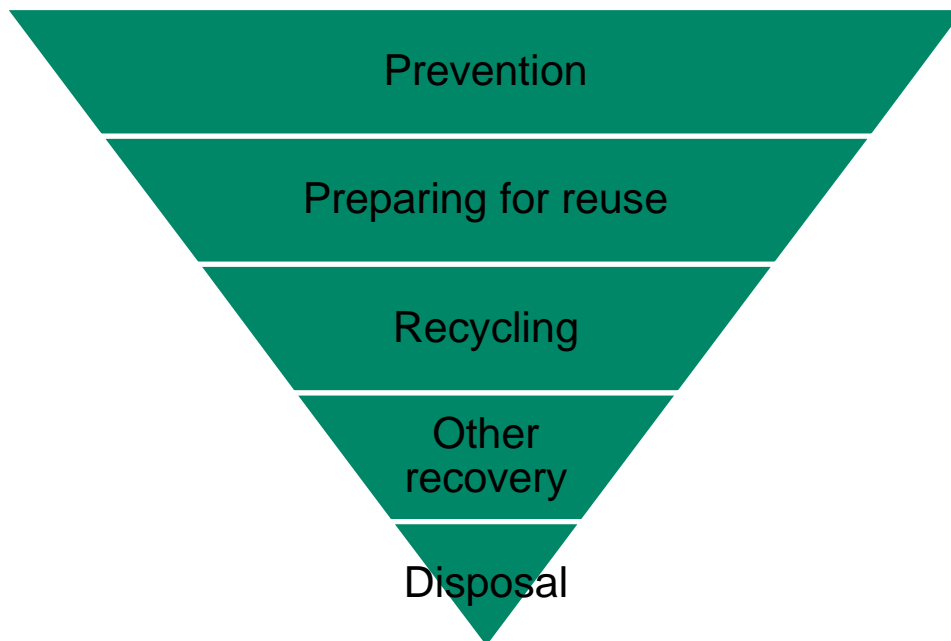


Plate 6-1. Waste Hierarchy (Ref. 8)

6.1.2 To reduce the potential impacts from materials and waste and achieve high levels of sustainability, the Principal Contractor will apply the principles of the Waste Hierarchy and adopt best practice measures (BPMs) which go beyond statutory compliance.

6.1.3 When considering waste management options for the Scheme, the Principal Contractor will take into consideration the site’s location, natural environment, and available infrastructure. The Principal Contractor will consider the following options when determining the preferred waste management option for each waste stream.

6.2 Prevention and Preparing for Reuse

6.2.1 The Principal Contractor will engage with the team or individuals tasked with procurement of materials and services to ensure best practice procedures are employed to prevent residual resources at the site. A range of good practice measures may include the following:

- a. Select procurement routes to minimise unnecessary packaging – for example applying ‘Just-in-Time’ (JIT) delivery processes to minimise material spoilage;
- b. Use of ‘consolidation centres’ to support JIT delivery – these are strategically-located storage and distribution facilities where materials can be stored prior to JIT delivery to sites;
- c. Implement ordering procedures and supply chain systems that avoid waste, i.e., no over-ordering, use of take-back schemes for packaging, material surplus and offcuts;
- d. Select procurement routes that minimise unnecessary packaging; and
- e. Plan the work sequence to reduce the potential for on-site residual resource generation.

6.2.2 The following approaches will be implemented, where practicable, to further minimise the quantity of waste arising and requiring disposal:

- a. Reuse of materials on-site wherever feasible, e.g., reuse of excavated soil for landscaping, recycling of demolition materials into aggregates;
- b. Off-site prefabrication, where practical, including the use of prefabricated elements;
- c. Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and
- d. Off-site reuse, recycling and recovery of materials and waste where reuse on-site is not practical, e.g., through use of an off-site waste segregation or treatment facility or for direct reuse or reprocessing off-site.

6.3 Recycling

6.3.1 Where site-won materials are generated – likely to be restricted to the demolition/restoration works at the operations and maintenance hub at Johnson’s Farm - the aim is to use these 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.

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

6.4 Recovery

- 6.4.1 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.
- 6.4.2 Recovery may also include the beneficial use of materials on land for restoration (backfilling operations).

6.5 Disposal

- 6.5.1 The least preferred option in the waste hierarchy is a final disposal route such as landfill. Some waste streams will inevitably end up with such a solution.
- 6.5.2 When placing waste disposal contracts, the Principal Contractor will consider the implications of long-distance travel in terms of health and safety risk, commercial terms and increased emissions from vehicles.
- 6.5.3 The Principal Contractor will ensure the pre-treatment of all hazardous and non-hazardous wastes prior to disposal to landfill. The methods of pre-treatment will enable the waste to meet the 'three-point test':
- a. It must be a physical, thermal, chemical or biological process including sorting;
 - b. It must change the characteristics of the waste;
 - c. It must do so in order to:
 - i. Reduce its volume;
 - ii. Reduce its hazardous nature;
 - iii. Facilitate its handling; and
 - iv. Enhance its recovery
- 6.5.4 Source segregation can be a pre-treatment option and as such can be applied to waste generation on-site including general waste and arisings and will take place on Site.
- 6.5.5 The Principal Contractor will ensure that a declaration stating the pre-treatment method applied to the waste is appended to any WTNs for non-hazardous waste being sent for disposal.

6.6 Materials and waste storage and segregation options

- 6.6.1 The Principal Contractor will store excavated soils and earthworks materials on-site in stockpiles until required for use. See also the **Framework Soil Management Plan [EN010143/APP/7.10]**.
- 6.6.2 Demolition materials that are to be recycled for use on-site must be separated at source and stored separately both before and after the treatment process.
- 6.6.3 Construction materials that are stored on-site must be in designated areas that are flat, accessible and secure in order to avoid damage or loss (which could render the materials unusable (waste) and require replacement material to be purchased). Materials must be stored in appropriate conditions

to avoid damage through, for example, water ingress or vermin. Materials must be retained in their original packaging to protect them from damage.

- 6.6.4 The Principal Contractor must ensure that the construction site incorporates designated waste storage areas for skips or similar suitable waste receptacles.
- 6.6.5 At the waste storage areas, the Principal Contractor must segregate waste into the following types as a minimum: inert; wood; metals; packaging; general waste; hazardous solid wastes; hazardous liquid wastes.
- 6.6.6 The Principal Contractor will implement the following waste management procedures where practicable:
- a. All waste containers must be secure and ensure that no waste is allowed to escape;
 - b. All waste containers must be clearly labelled using a colour coding system so that users know what wastes can be placed in each container. Waste containers must be appropriately colour coded using generic colour codes, an example is shown in **Plate 6-2** below;
 - c. Lockable storage will be provided for all hazardous waste;
 - d. All waste containers must be sited at least 10m away from watercourses, ditches, and other areas of environmental sensitivity;
 - e. Liquid wastes must be stored in enclosed/ lidded containers and stored within a suitable bunded area, or otherwise provided with secondary containment;
 - f. Separate containers must be provided for each type of hazardous waste;
 - g. Each type of hazardous waste must not be mixed with any other hazardous or non-hazardous waste;
 - h. Sewage from the site offices/ compounds will drain to septic tank and be collected by a suitable specialist waste contractor; and
 - i. Portable toilet facilities on-site (portaloos, etc.) must be emptied by the facility provider as per their service agreement.

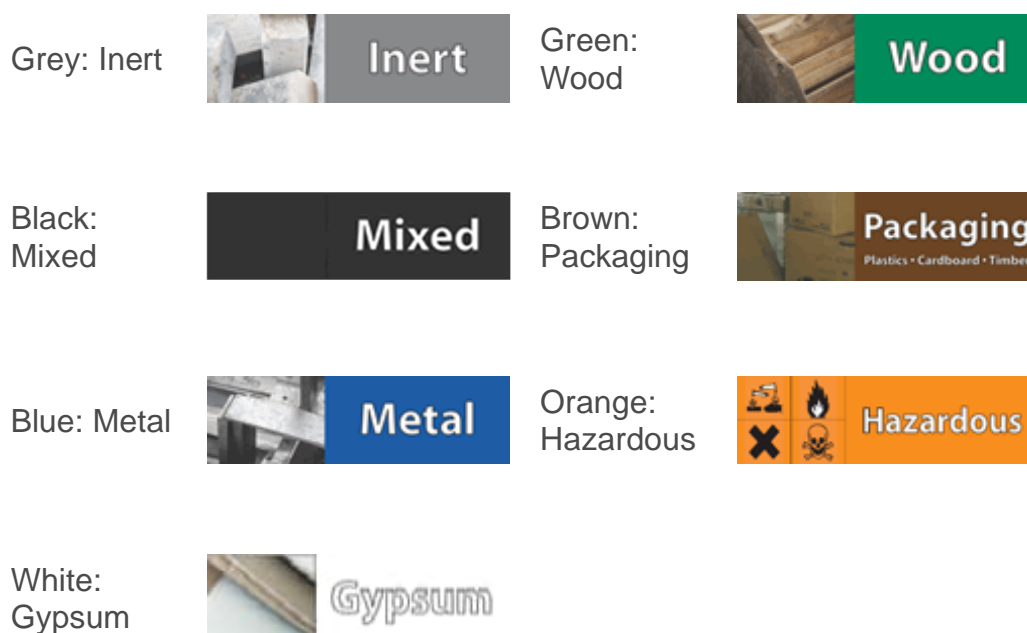


Plate 6-2. Waste Container Colour Codes

6.7 Waste carriers and facilities

- 6.7.1 The Principal Contractor will manage all waste generated by the Scheme in accordance with legal requirements. The Principal Contractor must record details of the proposed waste carrier for each waste stream in the registration table (Annex 1: Waste Carriers), with Waste Carriers Licence details appended to the Principal Contractor SWMP.
- 6.7.2 The Principal Contractor will ensure that the following information is recorded for all waste facilities used (where required and relevant):
- 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.

6.8 Waste Transfer Notes (WTNs)

- 6.8.1 The Principal Contractor must 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 will check that each WTN contains the following (where required and relevant):

- a. The name of the person receiving the waste and what they are authorised to do with that waste as a Registered Waste Carrier can only transport waste;
- b. Type of waste;
- c. The Standard Industrial Classification (SIC) code;
- d. The six-digit EWC code;
- e. Address of the producing site and details of the waste producer;
- f. Waste carrier's details including registration number;
- g. Quantity of waste;
- h. How it is contained (e.g. 8 cubic yard skip);
- i. Address of the receiving site (e.g. landfill) and the Environmental Permit or Exemption No. associated with the receiving site;
- j. The date to which the WTN applies;
- k. 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
- l. A declaration that the waste has been treated in line with the requirements of the waste hierarchy.

6.8.2 The site representative signing the WTN must ensure all WTNs are placed in the Site Waste Management File and kept for a minimum period of two years for non-hazardous waste.

6.8.3 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 licensed waste carrier to a suitably licensed receiving site, permitted to receive that type of waste. The signature completes the WTN as a legal document.

6.8.4 The Site Materials and Waste Manager or other competent person signing the WTN must additionally ensure that the Waste Carrier is using a suitable vehicle with adequate, covered containment for the waste.

6.9 Waste Consignment Notes (Hazardous Waste)

6.9.1 The Principal Contractor must ensure that a Hazardous Waste Consignment Note (HWCN) is completed for every movement of hazardous waste. The HWCN must be prepared before the waste is moved. Prior to signing, the Site Materials and Waste Manager or another competent person must ensure that the HWCN includes:

- a. Hazardous Waste Premises Code;
- b. Consignment note code;
- c. SIC Code;
- d. Name and address of the site from which the waste is being moved;
- e. Date of removal;

- f. Type of waste produced, including the quantity and the EWC code;
- g. 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);
- h. The final disposal site that is authorised to accept the waste; and
- i. Retention period for hazardous waste.

6.9.2 The Principal Contractor must retain a copy of the HWCN for a minimum of three years.

6.10 Waste documentation

- 6.10.1 The Principal Contractor must retain all waste documentation at the main site compound and, following completion of the Scheme construction, at the Principal Contractor 's head office. This includes:
- a. The SWMP (two years after end of construction of the Scheme);
 - b. Waste transfer documentation (two years for WTNs and three years for HWCNs);
 - c. Copies of any exemptions or permits; and
 - d. Copies of waste carrier and treatment/disposal site licences or permits.

6.11 Fly-tipping

- 6.11.1 Fly-tipping of waste on or adjacent to ongoing construction projects can be a significant issue.
- 6.11.2 A site assessment of pre-existing fly tipping hotspots must be undertaken and, where appropriate, security measures to prevent access to such areas will be implemented.
- 6.11.3 If waste is fly-tipped on the site, the Principal Contractor will have a duty of care to ensure it is dealt with safely and disposed of correctly, even if not the producer of the waste.
- 6.11.4 Any instance of fly-tipping on the site must be reported by the Principal Contractor to the local authority, regardless of whether or not the Principal Contractor has fulfilled its obligations under 6.11.3.

6.12 Fuels, oils and Control of Substances Hazardous to Health (COSHH) materials

- 6.12.1 The Principal Contractor must establish appropriate control and management measures for the storage, dispensing, containment and use of all fuels, oils and COSHH materials and wastes that will be required during construction.
- 6.12.2 The storage, dispensing, containment and use of fuels, oils and COSHH materials have the potential to cause significant damage to the environment. Causes of environmental incidents linked to fuel, oil and COSHH materials on construction sites include:
- a. Delivery and use of materials;
 - b. Overfilling of storage containers;

- c. Plant or equipment failure;
 - d. Containment failure;
 - e. Accidents and vandalism; and
 - f. Mixing of inappropriate materials and wastes.
- 6.12.3 Environmental incidents could affect:
- a. Drainage systems, surface waters, groundwater and soil;
 - b. Air quality, by producing fumes, vapours and airborne pollutants; and
 - c. Land quality by contamination through spillages.
- 6.12.4 The storage, dispensing, containment and use of all fuels, oils and COSHH materials and wastes shall be undertaken in accordance with regulatory and good practice guidance, the key points of which are set out below.
- 6.12.5 For COSHH materials and waste, relevant control and management measures may include:
- a. Storage must be in a secure, bunded and sheltered area;
 - b. Waste must be segregated;
 - c. COSHH liquids must not be stored in areas within Flood Zone 3;
 - d. Areas must be supervised, and records of materials and waste stored and removed from the area recorded; and
 - e. The handling, storage and disposal must be undertaken as described in the COSHH Assessment and any Material Safety Data Sheet (MSDS).
- 6.12.6 Fuel and oil (including mould oil) shall be stored in accordance with The Control of Pollution (Oil Storage) (England) Regulations 2001 (Ref. 9), with fuels and oil handled in such a way that risk of pollution is minimised, specifically:
- a. Fuel and oil storage tanks must comply with The Control of Pollution (Oil Storage) (England) Regulations 2001 (Ref. 9) and must be locked outside working hours;
 - b. Storage areas must not be located within 20 m of watercourses, ponds, site drainage or within any areas of Flood Zone 3 or on a gradient;
 - c. Refuelling must not be permitted within 20 m of a watercourse/pond, within 20 m of a highway drainage gully/site drainage, or within areas of Flood Zone 3;
 - d. Mobile bowsers must be bunded/double skinned and must comply with The Control of Pollution (Oil Storage) (England) Regulations (Ref. 9) and must be secured outside working hours;
 - e. Trained operatives must carry out refuelling of plant and equipment;
 - f. Plant nappies must be used during refuelling;
 - g. Storage tanks and drums must be maintained in a good condition, fitted with lids, and labelled to indicate the contents;
 - h. Static combustion engine plant (e.g. compressors, lighting sets) must be integrally bunded or placed on plant nappies;

- i. Bunds, tanks pipework and plant must be regularly checked for signs of damage or leaks and must be regularly maintained;
- j. Spill kits must be provided within close proximity to fuel and oil storage areas, with plant that is operating in isolated areas, and in welfare facilities. Drivers, operators and stores personnel will be trained in security and the use and safe disposal of spill kits; and
- k. Drums must be stored in bunded areas with a minimum capacity of 25% of the total volume contained within the bund, or 110% of the largest container, whichever is the greater. Where possible, these bunds will be fitted with roofs to prevent the collection of rainwater. Individual drums in use must be stored on a drip tray sufficient to contain 25% of the full capacity of the drum.

6.13 Key responsibilities

Reporting and auditing

- 6.13.1 The effectiveness of the Principal Contractor SWMP will depend upon the enforcement of its requirements on-site by the nominated Site Materials and Waste Manager (or similar) and Site Manager. Responsibility for the formal recording of waste movements lies with the Site Materials and Waste Manager or Project Manager.
- 6.13.2 The Principal Contractor must maintain a record of all materials that come on to site. The quantity of reused, recycled and secondary aggregate must be recorded, alongside details of the supplier, the producing facility and records that demonstrate that the material meets all relevant technical and regulatory requirements (Annex 2: Aggregates Imported to Site).
- 6.13.3 The Principal Contractor must maintain a record of all wastes that are removed from the site and their management route. Each waste management contractor must 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 (

6.13.5 Annex 3: Waste Management).

6.13.6 The Principal Contractor must monitor, and record details of the wastes placed in all waste receptacles to ensure that contamination has not occurred.

6.13.7 The Principal Contractor must 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.

6.13.8 The client or its representatives may carry out 'spot checks' in relation to the completeness of any WTNs and HWCNs.

Review of the Site Waste Management Plan

6.13.9 The Principal Contractor must review the Principal Contractor SWMP at least once every six months during the construction of the Scheme to ensure that targets are being achieved and that realistic solutions are provided for unplanned events or abnormal wastes. The Principal Contractor must also review the SWMP if there is any significant change to the Scheme. These reviews will involve the completion and submission of a monitoring report to the Applicant (or its representative) in an agreed format.

Additional duty of care checks

6.13.10 The Principal Contractor must 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 EA.

Site inspections

6.13.11 The Site Manager or nominated deputy must 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.

Closure reporting

6.13.12 Within three months of the completion of works under a contract, the Principal Contractor must submit a Waste Management Closure Report to The Applicant (or its representative) to demonstrate the effective implementation, management and monitoring of construction materials and waste during the construction lifetime of the Scheme.

7. References

- Ref. 1 Defra (1990). *Environmental Protection Act 1990*. Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents> [Accessed 11 September 2023]
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- Ref. 4 The Stationery Office (2005). *Hazardous Waste (England and Wales) Regulations 2005*. Available at: <http://www.legislation.gov.uk/ukxi/2005/894/contents> [Accessed 11 September 2023]
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- Ref. 6 The Stationery Office (2016). *Environmental Permitting (England and Wales) Regulations 2016*. Available at: <http://www.legislation.gov.uk/ukxi/2016/1154/contents> [Accessed 11 September 2023]
- Ref. 7 Waste & Resources Action Programme (WRAP) (2010). *Designing out Waste: A design team guide for civil engineering*. Available at: <https://www.ciria.org/Resources/REK/Guidance/Designing%20out%20waste%20guidance%20a%20design%20team%20guide.aspx> [Accessed 11 September 2023]
- Ref. 8 Defra (2011). *Guidance on Applying the Waste Hierarchy, 2011*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69403/pb13530-waste-hierarchy-guidance.pdf [Accessed 11 September 2023]
- Ref. 9 The Stationery Office (2001). *The Control of Pollution (Oil Storage) Regulations 2001*. Available at: <https://www.legislation.gov.uk/ukxi/2001/2954/contents/made> [Accessed 11 September 2023]
- Ref. 10 Defra (2021). *Waste Management Plan for England*. Available at: <https://www.gov.uk/government/publications/waste-management-plan-for-england-2021> [Accessed 11 September 2023]
- Ref. 11 Institute of Environmental Management and Assessment (IEMA) (2020). *IEMA Guide to Materials and Waste in Environmental Impact Assessment*. Available at: <https://www.iema.net/resources/reading-room/2020/03/30/materials-and-waste-in-environmental-impact-assessment> [Accessed 11 September 2023]

- Ref. 12 Defra (2023). UK statistics on waste. Available at: <https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#key-points> [Accessed 11 September 2023]
- Ref. 13 Defra (2022). *Register of Waste Carriers, Brokers and Dealers*. Available at: <https://environment.data.gov.uk/public-register/view/search-waste-carriers-brokers> [Accessed 06 October 2023]

Annex 2: Aggregates Imported to Site

Client Name:

Project:

Contractor:

KPI:

At least [% to be confirmed by contractor] (by weight) of aggregates imported to site for use within the proposed development that shall comprise alternative (reused, recycled or secondary) aggregates. This applies for those applications where it is technically and economically feasible to substitute these alternatives to primary aggregates. Where primary aggregate materials are mandated within DMRB they are excluded from the target.

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

