One Earth Solar Farm

Volume 7.0: Other Documents [EN010159]

Outline Site Waste Management Plan

~~February~~ December 2025

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Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Reg 5 (2) (q)

Contents

Glossary

Term	Meaning
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.
Client	A commercial client is anyone (individual, partnership or organisation) who has construction work carried out for them that is done in connection with a business, whether the business operates for profit or not. In this case, the applicant is the client.
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).
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: > 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.
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)[1].

[1] Hazardous Waste (England and Wales) Regulations 2005. Available at: http://www.legislation.gov.uk/uksi/2005/894/contents [Accessed 30 October 2024].

Term	Meaning
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)**Error! Bookmark not defined.**.
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 EA to transport waste.
Site Waste Management Plan (SWMP)	The document provided as part of this ES is the Outline SWMP. This will be developed into a SWMP prior to commencement of works which will set out how material resources and waste will be managed and controlled at all stages during a construction project.

1. Introduction

1.1 Overview

1.1.1 This Outline Site Waste Management Plan (OSWMP) sets out the standard good practice measures that will be implemented by the Principal Contractor to manage waste generated by the construction of One Earth Solar Farm (hereafter referred to as 'the Proposed Development'). The terminology used in this document is defined in the **Glossary of Terms and Abbreviations [EN010159/APP/7.17]**

1.1.2 The document references have not been updated from the original submission. Please refer to the **Guide to the Application [EN010159/APP/1.3.4]** for the list of current versions of documents.

~~1.1.2~~1.1.3 As outlined in NPS EN-1 paragaph 5.15.8[2] "The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a report that sets out the sustainable management of waste and use of resources throughout any relevant demolition, excavation and construction activities." This OSWMP covers this requirement. This OSWMP will be updated by the Principal Contractor into a Site Waste Management Plan (SWMP) prior to commencement of works, as secured through a requirement of the Development Consent Order (DCO).

~~1.1.3~~1.1.4 The type of waste generated during construction is likely to comprise:

- General waste from site offices and welfare facilities;
- Small quantities of waste from the maintenance of construction vehicles;
- Packaging waste from incoming materials e.g. cardboard, wood and plastic); and
- Other waste from construction of fencing, internal tracks, substations and field stations, construction compounds and other supporting infrastructure.

~~1.1.4~~1.1.5 The solar panels, mounting structures, inverters, transformers, switchgear and other supporting equipment will be manufactured off-site to the specified sizes, and therefore wastage during installation is expected to be minimal.

~~1.1.5~~1.1.6 Operational and decomissioning wastes are covered in the **Outline Operational Environmental Management Plan [EN010159/APP/7.5]** and **Outline Decommissioning Environmental Management Plan**

[2] [2] Department for Energy Security & Net Zero (2023), Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/media/65bbfbdc709fe1000f637052/overarching-nps-for-energy-en1.pdf

[EN010159/APP/7.6]. These plans will be updated by the Principal Contractor into a an Operational Environmental Management Plan and Decommissioning Environmental Management Plan prior to commencement of operation and decomissioning, as secured through a requirement of the Development Consent Order (DCO).

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 OSWMP 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 OSWMP as a basis for producing the SWMP for use throughout the duration of the Proposed Development'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:

- All waste from the Proposed Development is dealt with in accordance with the waste duty of care (defined in section 34 of the Environmental Protection Act 19903 and The Waste (England and Wales) Regulations 2011 (as amended)4; and
- Materials are handled efficiently, and waste managed appropriately.

1.3 Scope

1.3.1 This OSWMP includes:

- An overview of applicable legislation;
- Details of the Proposed Development;
- Management arrangements, including roles and responsibilities, training, targets and best practice measures;
- Estimates of construction material use and waste arising and how they will be managed;
- Design decisions;
- Materials and waste management on-site; and
- Opportunities for waste minimisation, reuse, recycling and recovery in line with the requirements of the waste hierarchy.

[3] Defra (Department for Environment, Food & Rural Affairs). 1990. Environmental Protection Act. Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents [Accessed 30 October 2024].

[4] The Waste (England and Wales) Regulations 2011. Available at: http://www.legislation.gov.uk/uksi/2011/988 [Accessed 30 October 2024].

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 European Union (EU) Waste Framework Directive (Directive 2008/98/EC), as amended by Directive (EU) 2018/851 (Waste Framework Directive)[5] 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 Framework Directive 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[3] and The Waste (England and Wales) Regulations 2011 (as amended)[4]. 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;

[5] European Union (EU). 2008. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain directives. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20180705 [Accessed 30 October 2024].

- 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 (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)[4] transpose the requirements of the Waste Framework Directive[5], 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, 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 Hazardous waste

2.5.1 The Hazardous Waste (England and Wales) Regulations 2005 (as amended)[6] 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[7] it is a criminal offence for anyone not registered as a waste carrier to transport controlled waste. The

[6] Hazardous Waste (England and Wales) Regulations 2005. Available at: http://www.legislation.gov.uk/uksi/2005/894/contents [Accessed 30 October 2024].

[7] Control of Pollution (Amendment) Act 1989. Available at: https://www.legislation.gov.uk/ukpga/1989/14/contents [Accessed 30 October 2024].

Waste (England and Wales) Regulations 2011 (as amended)[4] 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:

- Transporting their own waste;
- Transporting waste for someone else;
- Buying or selling waste; or
- 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 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 (EA) online portal of Public Registers[8].

2.7 Environmental permits and exemptions

2.7.1 The Environmental Permitting (England and Wales) Regulations 2016 (as amended)[9] 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. However, depending on the types and quantities of waste to be stored, the duration and place of storage and compliance with other defined conditions the following exemptions may be required:

- A non-waste framework directive exemption may apply, which does not need to be registered; and
- An exemption may need to be registered with the EA.

[8] Defra. 2022. Register of Waste Carriers, Brokers and Dealers. Available at: https://environment.data.gov.uk/public-register/view/search-waste-carriers-brokers [Accessed 30 October 2024].

[9] Environmental Permitting (England and Wales) Regulations 2016. Available at: http://www.legislation.gov.uk/uksi/2016/1154/contents [Accessed 30 October 2024].

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

3. Details of the Proposed Development

3.1.1 The Principal Contractor will complete **Table 3.1** prior to commencement of construction.

Table 3.1: Details of the Proposed Development

Project title	**One Earth Solar Farm**		
Project location	Address		
	Town		
	Postcode		
Client (Applicant)	Name		
	Address		
	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 Proposed Development

3.2.1 A full description of the Proposed Development is presented in **ES Volume 2, Chapter 5: Description of the Proposed Development [EN010159/APP/6.5]**.

3.3 Roles and responsibilities

3.3.1 The main contract personnel responsible for producing the 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
Main Contract personnel			
Client (Applicant) Project Manager			Monitor the Principal Contractor's performance against the contract, including any environmental commitments and targets agreed for the Proposed Development.
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 Proposed Development complies with all environmental legislation, consents, objectives, targets and other environmental commitments secured through the Construction Environmental Management Plan and OSWMP throughout the relevant project phase.

Position	Name	Contact details	SWMP responsibility
Site Materials and Waste Manager/Waste Champion (Principal Contractor)			Prepare the SWMP. Implement the SWMP throughout the construction of the Proposed Development 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.
Sub-contractor details			
Individual Sub-contractor(s), as appointed			Read through, familiarise and understand the requirements of the SWMP. Produce waste documentation. Comply with the requirements set out in the SWMP.

3.4 Instruction and training

3.4.1 The Principal Contractor will incorporate the 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 Proposed Development.

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 Targets

3.5.1 The Applicant has commited to achieving 100% reuse and recycling of solar panels.

3.5.2 Whilst no demolition is proposed, the national target for recovery of construction and demolition (C&D) waste is 70% by weight, as set out in the Waste Framework Directive[5] and the Waste Management Plan for England[10]. The target specifically excludes naturally occurring materials with European Waste Catalogue ("EWC") Code 17 05 04 (soil and stones other than those mentioned

[10] Defra. 2021. Waste Management Plan for England. Available at: https://www.gov.uk/government/publications/waste-management-plan-for-england-2021 [Accessed 30 October 2024].

in 17 05 03* (soils and stones containing dangerous substances)). Recovery is deemed to include reuse, recycling and other recovery, e.g. energy recovery.

3.5.3 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[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%[12].

3.5.4 Targets for materials and waste will be included in the SWMP and could include, for example:

- 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
- Achieving a set percentage (by weight) of materials imported to site for use within the Proposed Development 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 Proposed Development as a whole, the Principal Contractor will apply the principles of the waste hierarchy and adopt best practice measures (BPMs) 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:

[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 30 October 2024].

[12] Defra. 2024. UK statistics on waste. Available at: https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#key-points [Accessed 30 October 2024].

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme.
- Implementation of a 'just-in-time' (JIT) material delivery system where possible to avoid materials being stockpiled, which can increase the risk of damage and subsequent disposal as waste;
- Attention to material quantity requirements to avoid over-ordering and the generation of waste materials due to surplus;
- Reuse of materials on-site wherever feasible, e.g. reuse of excavated soil for landscaping;
- Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and
- 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 (which are included in the **Outline Construction Environmental Management Plan [EN010159/APP/7.4]**) where practicable, in order to minimise the likelihood of any localised impacts from pollution or nuisance from waste on the surrounding environment:

- 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;
- Burning of waste or unwanted materials will not be permitted on-site;
- 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;
- All construction workers will be required to use appropriate personal protective equipment whilst performing activities on-site;
- Any waste effluent will be tested and, where necessary, disposed of at a correctly licensed facility by a licensed specialist contractor/s; and
- 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 NSIP schemes application documents[13] (500 MW) extrapolated up to 740MW for wood, plastic and paper.

4.1.2 This table will be updated by the Principal Contractor during the development of the SWMP.

4.1.3 The solar panels, mounting structures, inverters, transformers, switchgear and other supporting equipment will be manufactured off-site to the specified sizes, and therefore wastage during installation is expected to be minimal.

Table 4.1: Estimated Construction Waste

Waste type	Estimated Waste Quantity	Recyclable / Recoverable
General waste from site offices and welfare facilities	Minimal (e.g. <100 tonnes)	Yes
Waste from the maintenance of construction vehicles	Minimal	Yes
Hazardous waste (e.g. chemicals, batteries, solvents, oils, aerosols etc.)	Minimal	Yes
Paperboard (packaging)	41,625 m^3	Yes
Wood (pallets, cable drums)	4,163 m^3	Yes
Plastic (packaging)	31,219 m^3	Yes
Construction material wastage	Assumed as a 5% wastage rate for non-assembled components including concrete, aggregates, and steel. Construction materials required to construct the Proposed Development are not yet confirmed, but based on the construction material quantities for other, similar developments they are unlikely to be required in large quantities.	Yes

[13] Sunnica Energy Farm, 2022. Environmental Statement Chapter 16: Other Environmental Topics. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004253-6.1%20Chapter%2016%20Other%20Environmental%20Topics.pdf. [Accessed 13 November 2024].

Waste type	Estimated Waste Quantity	Recyclable / Recoverable
Solar panel wastage	Assumed 0.05% failure rate of panels during construction, 90 m^3 (based on 1.6 million panels, a panel weight of 33.6kg and a density of 0.31 tonnes/m^3 (based on panel dimensions).	Yes

4.1.4 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.

4.1.5 As the 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 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.

4.1.6 Full details of the methodology for estimating types and quantities of construction materials and waste are described in **ES Volume 3, Appendix 2.3: Materials and Waste Impact Assessment [EN010159/APP/6.21]**.

4.1.7 The Principal Contractor will 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 targets.

5. Design decisions

5.1.1 Decisions made at the detailed design stage of the Proposed Development 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 Proposed Development design development has applied, and will continue to apply, the principles of Designing out Waste (DoW)[14], which include:

- Design for Reuse and Recovery;
- Design for Off Site Construction;
- Design for Materials Optimisation;
- Design for Waste Efficient Procurement; and
- Design for Deconstruction and Flexibility.

5.1.3 In general, the following measures will be implemented during the design and construction phases of the Proposed Development, where technically, economically and environmentally 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 aggregates (alternative materials) in the construction of the Proposed Development.

5.1.4 Prior to construction, the Principal Contractor must record, in the SWMP, all actions to be implemented to reduce waste or material use on the Proposed Development, and the resulting benefits. Embedded measures considered in the preliminary design in relation to waste are included in **ES Volume 3, Appendix 2.3: Materials and Waste [EN01059/APP/6.21]**. **Table 5.1** will be populated by the Principal Contractor during the detailed design of the Proposed Development.

[14] 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 30 October 2024].

Table 5.1. Waste Minimisation Actions

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

6. Construction 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 **Figure 6.1** below.

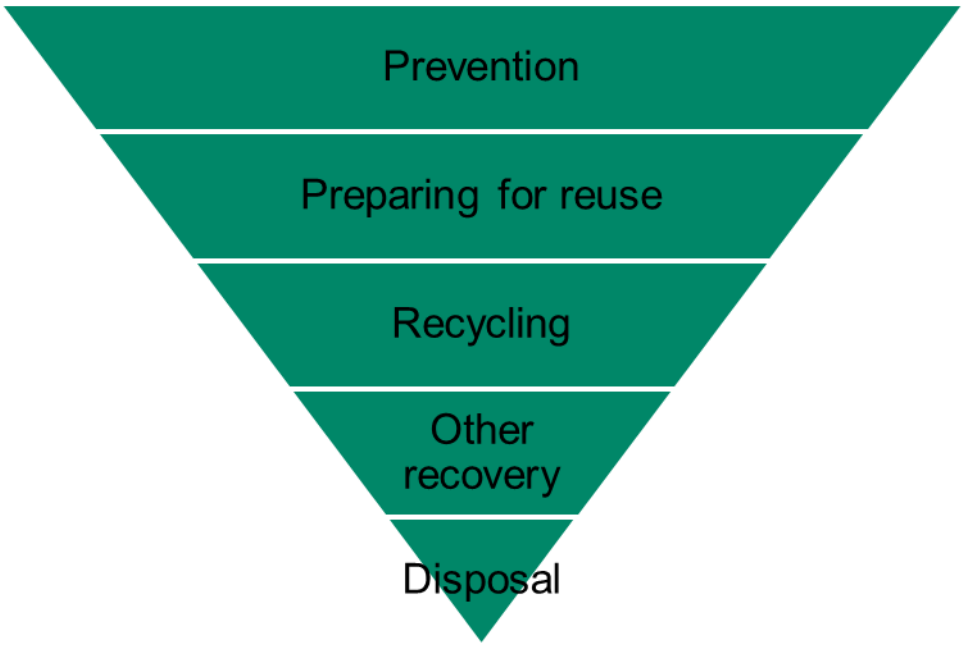

Figure 6.1. Waste Hierarchy

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 Proposed Development, the Principal Contractor will take into consideration Site 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:

- Select procurement routes to minimise unnecessary packaging – for example applying JIT delivery processes to minimise material spoilage;
- 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;
- 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;
- Select procurement routes that minimise unnecessary packaging; and
- 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:

- Reuse of materials on-site wherever feasible, e.g. reuse of excavated soil for landscaping;
- Off-site prefabrication, where practical, including the use of prefabricated elements;
- Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and
- 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 By recycling off-site, as far as practicable, the quantity of waste requiring disposal to landfill is reduced. 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':

- It must be a physical, thermal, chemical or biological process including sorting;
- It must change the characteristics of the waste;
- It must do so in order to:
- Reduce its volume;
- Reduce its hazardous nature;
- Facilitate its handling; and
- 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 **Outline Soil Management Plan [EN010159/APP/7.10]**. Excavated material reuse would be via a Materials Management Plan in accordance with the Contaminated Land: Applications in eal

Environments (CL:AIRE) Definition of Waste: Development Industry Code of Practice (DoW CoP)[15], exemption or environmental permit.

6.6.2 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.

6.6.3 The Principal Contractor must ensure that the construction site incorporates designated waste storage areas for skips or similar suitable waste receptacles.

6.6.4 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.

6.6.5 The Principal Contractor will implement the following waste management procedures where practicable:

- All waste containers must be secure and ensure that no waste is allowed to escape;
- 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 Figure 6.2 below;
- Lockable storage will be provided for all hazardous waste;
- All waste containers must be sited at least 10 m away from watercourses, ditches, and other areas of environmental sensitivity;
- Liquid wastes must be stored in enclosed/lidded containers and stored within a suitable bunded area, or otherwise provided with secondary containment;
- Separate containers must be provided for each type of hazardous waste;
- Each type of hazardous waste must not be mixed with any other hazardous or non-hazardous waste;
- Sewage from the site offices/ compounds will drain to septic tank and be collected by a suitable specialist waste contractor; and

[15] Contaminated Land: Applications in Real Environments (CL:AIRE). 2011. Definition of Waste: Development Industry Code of Practice (DoW CoP). Available at: https://www.claire.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/111-dow-cop-main-document [Accessed 14 November 2024].

Portable toilet facilities on-site (portaloos, etc.) must be emptied by the facility provider as per their service agreement.

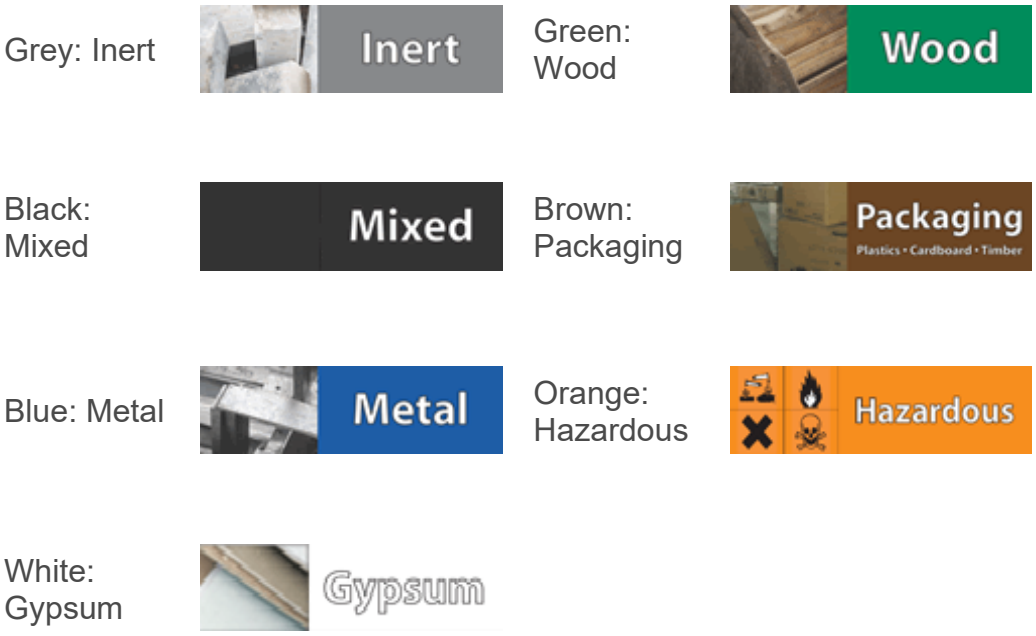

Figure 6.2. Waste Container Colour Codes

6.7 Waste carriers and facilities

6.7.1 The Principal Contractor will manage all waste generated by the Proposed Development in accordance with legal requirements. The Principal Contractor must record details of the proposed waste carrier for each waste stream in the registration table (**Appendix A – Waste Carriers**), with Waste Carriers' Licence details appended to the 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):

- 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;
- Type of waste;
- The Standard Industrial Classification (SIC) code;
- The six-digit 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.

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:

- Hazardous Waste Premises Code;
- Consignment note 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.

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 Proposed Development construction, at the Principal Contractor's head office. This includes:

- The SWMP (two years after end of construction of the Proposed Development);
- Waste transfer documentation (two years for WTNs and three years for HWCNs);
- Copies of any exemptions or permits; and
- 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 Regardless of whether the Principal Contractor has fulfilled the obligation in the sentence above, any instance of fly-tipping on the Site must be reported by the Principal Contractor to the local authority.

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:

- Delivery and use of materials;
- Overfilling of storage containers;
- Plant or equipment failure;
- Containment failure;
- Accidents and vandalism; and
- Mixing of inappropriate materials and wastes.

6.12.3 Environmental incidents could affect:

- Drainage systems, surface waters, groundwater and soil;
- Air quality, by producing fumes, vapours and airborne pollutants; and
- 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:

- Storage must be in a secure, bunded and sheltered area;
- Waste must be segregated;
- COSHH liquids must not be stored in areas within Flood Zone 3;
- Areas must be supervised, and records of materials and waste stored and removed from the area recorded; and
- 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[16], with fuels and oil handled in such a way that risk of pollution is minimised, specifically:

- Fuel and oil storage tanks must comply with The Control of Pollution (Oil Storage) (England) Regulations 200116 and must be locked outside working hours;
- Storage areas must not be located within 20 metres (m) of watercourses, ponds, site drainage or within any areas of Flood Zone 3 or on a gradient;
- 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;
- Mobile bowsers must be bunded/double skinned and must comply with The Control of Pollution (Oil Storage) (England) Regulations16 and must be secured outside working hours;
- Trained operatives must carry out refuelling of plant and equipment;
- Plant nappies must be used during refuelling;
- Storage tanks and drums must be maintained in a good condition, fitted with lids, and labelled to indicate the contents;
- Static combustion engine plant (e.g. compressors, lighting sets) must be integrally bunded or placed on plant nappies;
- Bunds, tanks pipework and plant must be regularly checked for signs of damage or leaks and must be regularly maintained;

[16] The Control of Pollution (Oil Storage) Regulations 2001. Available at: https://www.legislation.gov.uk/uksi/2001/2954/contents/made [Accessed 30 October 2024].

- 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
- 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 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 (**Appendix B – 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 (**Appendix C – Waste Management**).

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

6.13.5 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.

6.13.6 The Applicant 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

6.13.7 The Principal Contractor must review the SWMP at least once every two months during the construction of the Proposed Development 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 final SWMP if there is any significant change to the Proposed Development. 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

6.13.8 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

6.13.9 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

6.13.10 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 Proposed Development.

Appendix A Waste Carriers

Waste type(s)	EWC code	Waste carrier name	Contact details	Waste carrier's registration number	Expiry date (dd/mm/yyyy)	Date checked with Environment Agency (dd/mm/yyyy)

Appendix B Aggregates Imported to Site

Client Name:

Project:

Contractor:

Suggested Target:

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.

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

Appendix C Waste Management

Client Name:

Project:

Contractor:

Suggested Target:

Recover (through reuse, recycling or recovery) at least [% to be confirmed by the contractor] (by weight) of non-hazardous construction waste (excluding naturally occurring materials with European Waste Catalogue Code 17 05 04), with the aim to achieve recovery of [% to be confirmed] (by weight).

Waste type and quantity			**Management route (% or quantity)**						**Waste carrier**	**Off-site waste management facility**
Waste type	EWC code	Quantity (tonnes)	On-site		Off-site					
			Reused on-site	Recycled for use on-site	Reused off-site	Recycled off-site	Recovered off-site	Disposal		

one earth

solar farm