The Sizewell C Project

6.3 Volume 2 Main Development Site

Chapter 8 Conventional Waste and Material Resources

Appendix 8A Waste Management Strategy

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Sizewell C Waste Management Strategy

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Sizewell C Waste Management Strategy

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Glossary

Abbreviation	Description
AD	Anaerobic Digestion
AILs	Abnormal Indivisible Loads
BREEAM	Building Research Establishment Environmental Assessment Method
C&D	Construction and Demolition
C&I	Commercial and Industrial
CD&E	Construction, Demolition and Excavation
CL:AIRE	Contaminated Land Applications in Real Environments
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DPDs	Development Plan Documents
EfW	Energy from Waste
EPA	Environmental Protection Act
EPR	Evolutionary Power Reactor
FMT	Facilities Management Team
GDA	Generic Design Assessment
HGVs	Heavy Goods Vehicles
HPC	Hinkley Point C
IVC	In-vessel composting
L	Litre
LDS	Local Development Scheme
MRF	Materials Recycling Facility
MRS	Metal Recycling Site
MW	Megawatts
NGL	Nuclear Generation Limited
NISP	National Industrial Symbiosis Programme
NPPF	National Planning Policy Framework
RoRo	Roll-on-roll-off
SCC	Suffolk County Council
SCDC	Suffolk Coastal District Council
SCI	Statement of Community Involvement
SFM	Sports Facilities Manager
SOPs	Standard Operating Procedures

Abbreviation	Description
SSSI	Site of Special Scientific Interest
SWMP	Site Waste Management Plan
SWP	Suffolk Waste Partnership
SZC	Sizewell C
tpa	Tonnes Per Annum
WC	Water Closet
WCA	Waste Collection Authority
WCS	Waste Core Strategy
WEEE	Waste Electric and Electronic Equipment
WFD	Waste Framework Directive
WMS	Waste Management Strategy

1 Introduction

1.1 Introduction

This document is submitted as part of the application for development consent for a new nuclear power station at Sizewell (Sizewell C), including the main development site and the associated developments (collectively referred to as 'the Development'). It serves as a waste management strategy for non-radioactive waste which will be produced during the construction phases, operational phases and where relevant, the removal and reinstatement phases for the various elements of the Development.

This strategy only considers the management of non-radioactive waste streams. It does not relate to spent fuel or radioactive waste which should arise during the operation and decommissioning of Sizewell C (SZC). The strategy does not consider the management of the conventional waste arising in the future decommissioning of the nuclear power station as this would be managed under a separate consent, supported by a separate waste management strategy.

Where waste is unavoidably generated, it will be dealt with in a way that follows the waste hierarchy (see Figure 1). These principles form the basis of this Waste Management Strategy (WMS) document. If waste is not managed properly during its handling, storage, transport, treatment and disposal, this can result in pollution of the environment and can impact upon human health. This document aims to ensure that all waste management measures that are employed protect both the environment and people and comply with UK legislation (see Section 2).

Waste is defined as any substance or object which the holder discards, intends to discard or is required to discard[1]. Waste can be subdivided into three broad categories, namely inert, non-hazardous and hazardous, as described below:

- inert waste[2] does not undergo any significant physical, chemical or biological transformations (e.g. brick, concrete and glass), does not dissolve, burn or otherwise physically or chemically react, biodegrade or its pollutant content and ecotoxicity of any leachate is insignificant and does not adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution, endanger the quality of surface water or groundwater or harm to human health;
- non-hazardous waste[3] is essentially waste that can be reactive but does not display hazardous properties that would be considered to be harmful to human health and/or the environment (e.g. organic matter in household waste); and
- hazardous waste[4] is waste that displays one or more hazardous properties as listed within Annex III of the Waste Framework Directive[1]. These are properties that are considered to be harmful to human health and/or the environment (e.g. some remedial waste, batteries and fluorescent tubes).

The waste hierarchy requires prevention of waste generation in the first instance and reducing, as far as possible, the volume requiring disposal once the waste has been produced. The waste hierarchy gives an order of preference for waste management options to minimise the volume for disposal, as illustrated in Figure 1.

In conjunction with the waste hierarchy, the proximity principle is considered throughout this document. The proximity principle, encourages the management of waste close to its place of generation, thus reducing the

[1] Article 3 (1) of the Waste Framework Directive (Directive 2008/98/EC)

[2] Article 7 (4) of the Landfill (England and Wales) Regulations 2002 (as amended)

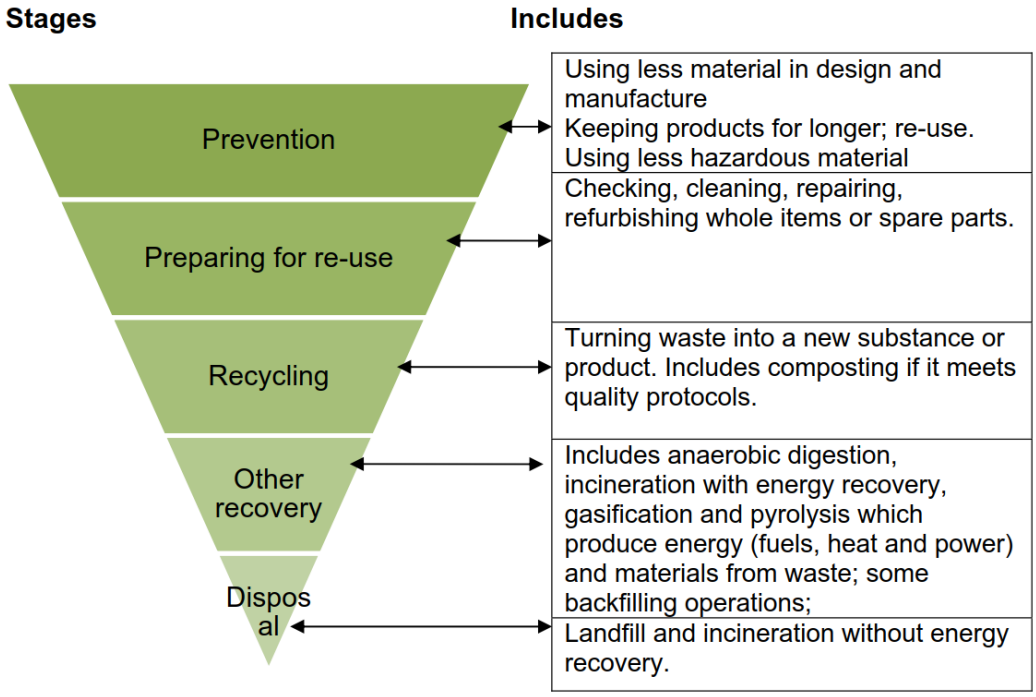
[3] Article 7 (3) of the Waste Framework Directive (Directive 2008/98/EC) and Article 7 (3) of the Landfill (England and Wales) Regulations 2002 (as amended)

[4] Article 3 (2) of the Waste Framework Directive (Directive 2008/98/EC)

impacts of transporting waste over long distances and promoting management of the waste within its region of origin.

Through the consideration of the principles set out in this strategy document, it should be possible to achieve a level of waste re-use/disposal that is in line with current waste best practice.

Figure 1: Waste Hierarchy



Source: National Waste Management Plan for England 2013

1.2 Objectives

EDF Energy's aim for the development is to achieve a level of waste management performance that is in line with or exceeds current best practice. The aim is to:

- ensure waste minimisation through prevention, and where waste is produced, that it is re-used, recycled, recovered or disposed of in the most sustainable manner; and
- provide measures to improve sustainability and minimise vehicle movements where possible.

To meet these aims, the following objectives are to be adopted:

- prevent and reduce the volumes of waste produced through the application of the waste hierarchy;
- maximise re-use and recycling; and
- minimise the impact upon the existing waste management infrastructure.

The above objectives will be achieved by ensuring that, where possible, wastes are minimised at source. Any waste arisings will be managed in a responsible manner throughout all phases of the development.

1.3 Scope

This WMS comprises the following:

- a detailed review of relevant UK, national, regional and local waste policies, legislation and guidance, and EDF Energy's vision for waste management (Section 2);
- the scope of works for each of the developments (Section 3);
- an assessment of the earthworks/construction phase related waste, including analysis of the cut and fill volumes and the construction techniques/materials. This will enable a detailed calculation of the volume of waste to be produced for each development (Section 4.1);
- determination of the precise type, nature and predicted volumes of operational (Section 4.2) and removal and reinstatement/decommissioning wastes (Section 4.3);
- a description of the waste storage infrastructure and an assessment of the anticipated waste storage provisions for the construction, operational and removal and reinstatement phases (Section 5);
- an overview of the waste handling, transfer and collection strategy during the various phases of construction, operation and removal and reinstatement including the responsibilities of the different stakeholders involved. A summary of the waste collection infrastructure options is also considered (Section 6);
- a schedule of waste production for the construction of the SZC power station and the construction, operation and post-operation of the main development site and associated developments (Section 7);
- assessment of local and regional waste facilities, including current and future capabilities and capacities (Section 8);
- a review of waste contractors operating locally, including waste management site operators (Section 9);
- a waste options appraisal, to be undertaken in liaison with relevant stakeholders, considering the capabilities and sustainability of various waste facilities in the surrounding area (Section 10);
- a summary of recommended waste minimisation and reuse initiatives for different facilities in the Development (Section 11);
- a summary of EDF Energy's Key Performance Indicators through which the performance of the Waste Plan will be measured (Section 12); and
- a summary of the key elements and recommendations of the strategy (Section 13).

Furthermore, this document seeks to address and incorporate comments received during the pre-application consultation.

1.4 Methodology

The construction areas are:

- the main development site, comprising the power station, the temporary construction area, including the accommodation campus, and the land east of Eastlands Industrial Estate (LEEIE); and
- the associated developments, comprising park and ride facilities, freight management facility and rail and road infrastructure.

Activities with the potential to generate waste at the main development site and the associated developments were considered. The main types of wastes to be produced at each phase of the Development are as follows:

- excavated materials and construction wastes (e.g. demolition wastes of any pre-existing developments, old formwork, cuttings of rebar/steel structures and from new infrastructure, buildings and fit-out);
- operational wastes (e.g. maintenance of pipes, equipment and control rooms at SZC Power Station, any refurbishment waste and general waste produced from the workers at the accommodation campus and associated facilities); and
- post-operational waste – where applicable (e.g. demolition waste from facilities that are removed to reinstate existing agricultural use).

In order to calculate the anticipated waste volumes for the construction of the main development site, reference has been made to the construction of the Hinkley Point C (HPC) nuclear power station in Somerset, England. This is considered to be an appropriate reference as it used similar construction techniques and is likely to produce comparable waste types and quantities.

Waste quantities have been derived and are provided in Section 4.1.2. These are generally based on HPC since, like HPC, SZC is to have two UK EPR units. The operational waste arisings generated at the SZC Power Station were based on the annual arisings estimates given in EDF Energy and Areva's 'Generic Design Assessment (GDA) UK EPR – Integrated Waste Strategy Document'[5] for EPRs.

The anticipated construction waste volumes arising from the park and ride facilities for SZC have been based on figures for similar facilities at HPC and adjusted according to the number of parking spaces. The construction waste arisings for the freight management facility and LEEIE vehicle parking facilities were based on those estimated for the northern park and ride facility at Darsham and adjusted according to floor area. The construction waste arisings from the rail and road infrastructure were based on BRE Smartwaste's waste benchmark data[6].

The operational waste volumes estimated for the accommodation campus were based upon the Department for Environment, Food and Rural Affairs' (Defra) local authority collected waste generation statistics from April 2018 to March 2019 for Suffolk County and Suffolk Coastal District Councils (SCDC)[7]. Furthermore, consideration was taken of British Standard 5906[8], which provides estimates of operational waste generation for various developments, in addition to other data sources. The operational waste volumes were derived from experience of similarly scaled projects and professional judgement. A conservative approach to calculating estimated waste volumes has been assumed, based upon the maximum likely waste volumes.

The waste volume estimates for the removal of the temporary construction area, park and ride sites, freight management facilities, LEEIE caravan park, LEEIE Heavy Goods Vehicles (HGVs) and bus management area, and green rail route and the reinstatement of agricultural land were based on relevant HPC figures.

Information regarding existing waste infrastructure in the vicinity was gathered primarily from the Suffolk Waste Study Final Report (April 2018)[9], Suffolk County Council's (SCC) planning portal and the Environment Agency's Public Register, in addition to other local sources of information. This provided detailed information on the current and future permitted capacities of the facilities, as well as further details on the nature of waste accepted and processes involved. To assist in the analysis of local and regional waste facilities and enable more detailed information on facilities to be obtained, meetings are planned to be held with SCC, Suffolk Waste Partnership (SWP) and the Environment Agency.

Following calculation of the predicted waste volumes and analysis of available waste facilities, a Waste Options Appraisal was undertaken. This considered the capacities of various waste facilities in the surrounding area.

5 EDF Energy and Areva, 2012 - GDA UK EPR – Integrated Waste Strategy Document. Available online at http://www.epr-reactor.co.uk/ssmod/liblocal/docs/Supporting%20Documents/Integrated%20Waste%20Strategy%20Document.pdf

6 Bre Smartwaste, September 2009 – Waste Benchmark Data. Available online at http://www.smartwaste.co.uk/filelibrary/benchmarks%20data/Waste_Benchmarks_for_new_build_projects_by_project_type_31_August_09.pdf

7 Department for Environment, Food and Rural Affairs – Local authority collected waste generation from April 2000 to March 2019 (England and regions) and local authority data April 2018 to March 2019. Available at https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables

8 British Standard BS 5906:2005 – Waste management in buildings – Code of practice. Available online at https://www.rbkc.gov.uk/pdf/BS5906-2005.pdf

9 Suffolk County Council, April 2018 – Suffolk Minerals and Waste Local Plan – Suffolk Waste Study. Available online at https://www.suffolk.gov.uk/assets/planning-waste-and-environment/Minerals-and-Waste-Policy/2018-04-05-Suffolk-Waste-Study-Update.pdf

2 Waste Policy

2.1 Introduction

This section outlines the key international, UK, national, regional, and local wastes policies, legislation and guidance to which this waste strategy will adhere to, as outlined below:

2.2 Legislative considerations

2.2.1 Waste Framework Directive (2008/98/EC)[10]

Waste Framework Directive (WFD) sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery. It defines when waste ceases to be waste and becomes a secondary raw material (so called end-of-waste criteria), and how to distinguish between waste and by-products. The Directive lays down some basic waste management principles: it requires that waste be managed without endangering human health and harming the environment, and in particular, without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.

The WFD has set out a five-step waste hierarchy as to how waste should be managed as an important requirement which applies to anyone who produces or manages waste. The waste hierarchy ensures that waste is dealt with in a priority order (see Figure 1).

The following considerations must be taken into account:

- The general environmental protection principles of precaution and sustainability;
- Technical feasibility and economic viability;
- Protection of resources; and,
- The overall environmental, human health, economic and social impacts.

2.2.2 Landfill Directive (1999/31/EC)[11]

This directive aims to prevent, or reduce as far as possible, negative effects on the environment from the landfilling of waste and was implemented by Member States in 2001.

2.2.3 Hazardous Waste Directive (91/689/EEC)[12]

This directive lays down strict controls and requirements for controlling hazardous wastes. Hazardous waste is any waste with hazardous properties that may make it harmful to human health and the environment and is defined by the European Waste Catalogue.

2.3 National Legislation

The Environment Agency and local authorities are responsible for the enforcement of waste management controls in England and Wales, while Defra is responsible for recycling policy and waste regulations. Relevant UK and national waste legislation are outlined below:

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10 European Commission – Waste Framework Directive (2008/98/EC). Available online at http://ec.europa.eu/environment/waste/framework/

11 European Commission – Landfill Directive (1999/31/EC). Available online at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31999L0031

12 European Commission – Hazardous Waste Directive 1991/689/EC). Available online at: http://ec.europa.eu/environment/waste/hazardous_index.htm

2.3.1 The Environmental Protection Act 1990[13]

The Environmental Protection Act (EPA) defines the fundamental structure and authority for waste management and control of emissions to the environment. It outlines:

- The definition of controlled waste;
- The requirements of the duty of care with respect to waste and transfer of waste; and
- Waste collection and waste disposal authorities and their roles.

Waste Management issues are considered under Part II of the EPA. Controlled waste includes commercial, industrial (including agricultural waste from 2006) and household waste. Under the Act, the deposition of waste to land without a licence or breaching licence is an offence. The Act is also designed to prevent environmental pollution or harm to human health by prohibiting treatment, storage and disposal of controlled wastes without a licence or in breach of a licence.

Under Section 45, Waste Collection Authorities have a general duty to collect residential waste within their area without charge. Additionally, they have a duty to collect commercial waste within their area where requested and can levy a charge for such services.

Under Section 46 in respect of residential waste, the Local Authority may require:

- Waste of certain types to be stored separately so that it can be recycled;
- Occupiers of dwellings to provide bins of a specified type for storage of wastes;
- Additional bins to be provided for separate storage of recyclable waste; and
- Locations of bins for emptying.

Section 47 states that Local Authorities may require the same provisions in Section 46, but in respect of commercial and industrial wastes.

2.3.2 The Waste (England and Wales) Regulations 2011 (2011/988)[14]

The Waste (England and Wales) Regulations 2011 implements parts of the revised WFD, particularly the principles of the Waste Hierarchy. These regulations will require businesses to confirm that they have applied the waste management hierarchy when transferring waste and include a declaration on their waste transfer note or consignment note.

These Regulations have replaced the Environmental Protection (Duty of Care) Regulations SI 1991/2839, which stated that any organisation disposing of waste should be able to account for all of its waste and demonstrate that it was done legally.

2.3.3 Environmental Permitting (England and Wales) Regulations 2016 (2016/1154)[15]

The Environmental Permitting (England and Wales) Regulations 2016 replaces the Environmental Permitting (England and Wales) Regulations 2010. These regulations introduce a streamlined system of environmental permitting in England and Wales for certain installations, waste operations and mobile plants. They transpose provisions of fifteen EU Directives which impose obligations requiring delivery through permits or which are capable of being delivered through permits.

Activities under these regimes will be covered by a single form of environmental permit governed by one set of regulations. This provides a system for environmental permits and exemptions for industrial activities,

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13 Environmental Protection Act, 1990. Available online at http://www.legislation.gov.uk/ukpga/1990/43/contents

14 UK Government - Waste (England and Wales) Regulations 2011, as amended. Available online at http://www.legislation.gov.uk/ukdsi/2011/9780111506462/contents

15 UK Government - The Environmental Permitting (England and Wales) Regulations 2016. Available online at https://www.legislation.gov.uk/uksi/2016/1154/contents/made

mobile plant, waste operations, mining waste operations, water discharge activities, groundwater activities and radioactive substances. It also sets out the powers, functions and duties of the regulators. Notably, the requirements of the Landfill Directive and Waste Management Licensing are applied under these regulations.

2.3.4 Controlled Waste Regulations 2012[16]

The Controlled Waste Regulations 2012 came into force in April 2012, replacing the Controlled Waste Regulations 1992. They define household, industrial and commercial waste for waste management licensing purposes.

The regulations replaced Schedule 1 of the 1992 regulations with an updated schedule defining household waste, still by reference to its origin, but introducing some exceptions.

The regulations also specify that waste from construction or demolition works, including preparatory works should be “treated as household waste for the purposes of section 34(2) and (2A) of the EPA 1990 only (disapplication of Section 34(1) and duty on the occupier of domestic property to transfer household waste only to an authorised person or for authorised transport purposes)”.

2.3.5 Hazardous Waste (England and Wales) Regulations 2005

These regulations aim to track and control hazardous waste movements. A consignment note is required prior to the removal of any waste. Hazardous wastes are wastes that exhibit certain properties (for example, they are potentially flammable, toxic or carcinogenic) such that they are or may (at or above certain concentrations) be detrimental to human health or the environment. Strict regulatory controls have been placed over the handling, storage, transportation, and disposal of hazardous wastes on account of the considerable risks they pose to human health and the environment.

Changes have been made to the Hazardous Waste (England and Wales) Regulations in the amendments in 2009 and 2016[17]. The key changes are as follows:

- The 2009 regulations made it a legal requirement to declare on the waste transfer note, or consignment note for hazardous waste, that the waste management hierarchy has been applied to the waste.
- In addition, there was a change in the exemptions to apply as a hazardous waste producer, which only applied if the premises produce less than 500kg of hazardous waste a year.
- The 2016 regulations states that hazardous waste producers will no longer need to notify their premises with the Environment Agency; and
- In addition, there is a change in the unique consignment note code which appears on every consignment note.

2.3.6 Waste Electrical and Electronic Equipment (WEEE) Regulations 2013[18]

The Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 became law in the UK on 1 January 2014 and replaced the 2006 Regulations. The UK Waste Electrical and Electronic Equipment Regulations 2013 (2013 WEEE Regulations) transpose the requirements of the EU WEEE Directive (2012/19/EU) (the WEEE Directive). This legislation seeks to increase levels of separately collected WEEE and reduce the amount of WEEE going to landfill. It introduces the concept of "Producer Responsibility" in

[16] UK Government - Controlled Waste Regulations 2012. Available online at http://www.legislation.gov.uk/uksi/2012/811/contents/made

[17] UK Government - Hazardous Waste (England and Wales) (Amendment) Regulations SI 2016/336. Available online at http://www.legislation.gov.uk/uksi/2016/336/contents/made

[18] UK Government - Waste Electric and Electronic Equipment (WEEE) Regulations 2013. Available online at http://www.legislation.gov.uk/uksi/2013/3113/contents/made

which producers of Electrical and Electronic Equipment (EEE) are required to finance the cost of collection, treatment, reuse/recycling and recovery when that equipment becomes waste.

2.3.7 Waste Batteries and Accumulators Regulations 2009 (SI 2009/1890)[19]

These regulations set out requirements for waste battery collection, treatment, recycling and disposal for all battery types.

2.3.8 Control of Pollution (Oil Storage) (England) Regulations 2001 (SI 2005/2954)[20]

These regulations impose general requirements for preventing the pollution of controlled waters from oil storage, in particular from fixed tanks or mobile bowsers.

2.4 National Policies and Strategies

2.4.1 Overarching National Policy Statement for Energy (EN-1)[21]

The Overarching National Policy Statement for Energy (EN-1) (Ref. 6D.4) sets out the Government's policy for delivering major energy infrastructure. It outlines the high-level objectives, policy and regulatory framework for new nationally significant infrastructure projects (NSIPs) that are covered by the suite of energy National Policy Statements (NPSs) and any associated development (referred to as energy NSIPs). Electricity generating stations, which generate more than 50 megawatts onshore and 100 megawatts offshore, such as SZC, are considered as NSIPs by the Planning Act 2008, and therefore the requirements of EN-1 should be adhered to. For such applications this NPS, in combination with the technology-specific energy NPSs, provides the primary basis for decisions by the Planning Inspectorate.

EN-1 states that the waste hierarchy should be applied in order for sustainable waste management to be applied. Disposal of waste should only be considered where other waste management options are not available or where it is the best overall environmental outcome.

EN-1 specifies the following requirements in relation to waste management:

- The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a Site Waste Management Plan;
- The applicant should include information on the proposed waste recovery and disposal system for all waste generated by the development, and an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation; and
- The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.

In their assessment of the applicant's proposal, the Planning Inspectorate should consider the following:

  - The extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction, operation and decommissioning of the proposed development, including whether such waste will be properly managed, both on-site and off-site;
  - The extent to which waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse

[19] UK Government - Waste Batteries and Accumulators Regulations 2009 (SI 2009/1890). Available online at http://www.legislation.gov.uk/uksi/2009/890/contents/made

[20] UK Government - Control of Pollution (Oil Storage) (England) Regulations 2001 (SI 2005/2954). Available online at http://www.legislation.gov.uk/uksi/2001/2954/contents/made

[21] Department of Energy and Climate Change, July 2011 - Overarching National Policy Statement for Energy (EN-1). Available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and

– Adequate steps have been taken to reduce the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where that is the best overall environmental outcome.

2.4.2 National Policy Statement for Nuclear Power Generation (EN-6)[22]

The NPS for Nuclear Power Generation (EN-6) (Ref. 6D.5) forms part of the suite of five technology-specific NPSs that have been produced for the energy sector. This NPS is the primary decision-making document when considering development consent applications for the construction of new nuclear power stations with a capacity of more than 50 megawatts on sites in England and Wales that are listed within the NPS. EN-6 sets out policy for the Planning Inspectorate when assessing potential impacts and siting considerations of new nuclear power stations. There are no specific requirements in NPS EN-6 in relation to the topic of conventional waste management. Radioactive waste is dealt with in Volume 2, Chapter 7.

2.4.3 National Planning Policy Framework (NPPF)

The NPPF, first published in March 2012 and revised in July 2018 and February 2019, sets out the government's planning policies for England and how these are expected to be applied. It does not contain specific waste policies. In terms of achieving sustainable development, the NPPF identifies that minimising waste and pollution is a fundamental part of the environmental role of the planning system.

The NPPF encourages planning authorities to prepare local plans that, before considering extraction of primary materials and, so far as practicable, take account of the contribution of alternative, secondary and/or recycled materials and minerals waste and their beneficial impact on the supply of materials (Paragraph 204).

2.4.4 National Planning Policy for Waste 2014[23]

The Government published the National Planning Policy for Waste for England in 2014, as a replacement of Planning Policy Statement 10 (Planning for Sustainable Waste Management – 2011). The updated policy maintains a continued focus of moving waste up the waste hierarchy.

The document sets out detailed waste planning policies to facilitate a more sustainable and efficient approach to resource use and management. This could be undertaken, for example, by ensuring the design and layout of new residential and commercial developments and other infrastructure complement sustainable waste management, including the provision of appropriate storage and segregation facilities to facilitate high quality collections of waste.

When determining planning applications for non-waste developments, the policy requires that local planning authorities should, to the extent appropriate to their responsibilities, ensure that:

- The likely impact of proposed, non-waste related development on existing waste management facilities, and on sites and areas allocated for waste management, is acceptable and does not prejudice the efficient operation of waste management facilities;
- New, non-waste development makes sufficient provision for waste management and promotes good design to secure the integration of waste management facilities with the rest of the Development and, in less developed areas, with the local landscape. This includes providing adequate storage facilities at

[22] Department of Energy and Climate Change, July 2011 - National Policy Statement for Nuclear Power Generation (EN-6). Volume 1 of 2 available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47859/2009-nps-for-nuclear-volumeI.pdf

[23] Department for Communities and Local Government (2014). National Planning Policy Framework for Waste 2014. Available online at https://www.gov.uk/government/publications/national-planning-policy-for-waste

residential premises, for example by ensuring that there is sufficient and discrete provision for bins, to facilitate a high quality, comprehensive and frequent residential collection service; and

- The handling of waste arising from the operation of developments maximises reuse/recovery opportunities and minimises off-site disposal.

2.4.5 National Waste Management Plan for England, 2013[24]

Defra published the National Waste Management Plan England in December 2013. The plan uses the 'waste hierarchy' as a guide to sustainable waste management.

The Waste Management Plan for England evaluated how it would support the implementation of the objectives and provisions of the WFD.

The WFD established the principle of 'proximity'. This is within the context of the requirement on Member States to establish an integrated and adequate network of waste disposal facilities for recovery of mixed municipal waste collected from private properties. The requirement included where such collection also covers waste from other producers.

The plan identifies the measures to be taken to ensure that by 2020 at least 50% by weight of waste from properties is prepared for re-use or recycling and at least 70% by weight of construction and demolition (C&D) waste is subjected to material recovery.

Key objectives of the plan were stated as follows:

- decoupling waste growth from economic growth with more emphasis on waste prevention and re-use;
- meeting and exceeding the Landfill Directive diversion targets for biodegradable municipal waste;
- increasing diversion from landfill and securing better integration of treatment for municipal and non-municipal waste;
- securing the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste; and
- getting the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residential waste using a mix of technologies.

2.4.6 The Waste Prevention Programme for England, 2013[25]

The development of a Waste Prevention Programme is a requirement of the revised Waste Framework Directive (2008/98/EC) and takes forward a commitment in the Government Review of Waste Policy in England, 2011. The programme sets a number of objectives to help people and organisations make the most of opportunities to save money by reducing waste.

2.4.7 Government Construction Strategy, 2016-2020[26]

The Government Construction Strategy sets out a new plan to increase productivity in government construction to deliver £1.7 billion efficiencies and support 20,000 apprenticeships over the course of this parliament.

The strategy sets out ambitions for smarter procurement, fairer payment, improving digital skills, reducing carbon emissions, and increasing client capability. These themes are consistent with the wider ambitions for

[24] Department for Environment, Food & Rural Affairs – National Waste Management Plan for England, 2013. Available online at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265810/pb14100-waste-management-plan-20131213.pdf

[25] Department for Environment, Food & Rural Affairs. The Waste Prevention Programme for England (2013). Available online at https://www.gov.uk/government/publications/waste-prevention-programme-for-england

[26] The Infrastructure and Projects Authority, March 2016 – Government Construction Strategy 2016-2020. Available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510354/Government_Construction_Strategy_2016-20.pdf

industry in Construction 2025 delivered by industry and government through the Construction Leadership Council.

2.4.8 Construction 2025 – Industrial Strategy for Construction – Government and Industry in Partnership, 2013[27]

The joint strategy from government and industry for the future of the UK construction industry forms part of the government's industrial strategy. It sets out a vision and a plan for long-term strategic action by government and industry to continue to work together to promote the success of the UK construction sector.

It focuses on key growth markets in:

- smart technologies;
- green construction; and
- overseas trade.

2.5 Regional Policy

2.5.1 Suffolk Minerals and Waste Local Plan

Following the Planning and Compensation Act of 2004, SCC produced the following minerals and waste DPDs:

- Suffolk Minerals Core Strategy (adopted 2008);
- Suffolk Minerals Site Specific Allocations (adopted 2009); and
- Suffolk Waste Core Strategy (adopted 2011).

A single Suffolk Minerals and Waste Local Plan (the "Plan") is currently being developed to replace all three of the existing DPDs. On 24 May 2018, SCC agreed to consult on the new draft Minerals and Waste Local plan from 11 June to 23 July 2018**.** The Plan was submitted to the Planning Inspectorate on 21 December 2018 in preparation for the Examination in Public hearing, which was held in June 2019. The Suffolk Minerals and Waste Development Scheme 2018 states that the Plan was expected to be adopted by the end of 2019, but at the time of writing this report, this has not yet taken place. The Plan will make provision for minerals and waste development until 2036 within the context of Town and Country Planning Act and relevant guidance, and in co-operation with surrounding local authorities including through the East of England Aggregates Working Party and the East of England Waste Technical Advisory Body.

In terms of waste, this means planning for the provision of waste facilities equivalent to the amount of waste arising within the administrative boundary of SCC.

2.6 Local Policy

2.6.1 Suffolk Coastal District Local Plan - Core Strategy & Development Management Policies, 2013[28]

The Suffolk Coastal Core Strategy (Ref. 6D.5) is a DPD which forms part of the Suffolk Coastal District Local Plan, covering the period 2010 to 2027. A wide range of issues are examined, but none relating to waste, for which separate DPDs are produced by SCC, as outlined in Section 1.1.1. The following policies are of relevance to the assessment of waste and material resource use:

[27] UK Government, July 2013 - Construction 2025 – Industrial Strategy for Construction – Government and Industry in Partnership, 2013. Available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/210099/bis-13-955-construction-2025-industrial-strategy.pdf

[28] Suffolk Coastal District Local Plan - Core Strategy & Development Management Policies, 2013. Available online at http://www.eastsuffolk.gov.uk/assets/Planning/Suffolk-Coastal-Local-Plan/Core-Strategy-and-DMP/SCDC-Local-Plan-July-2013.pdf

- Strategic Policy SP12 – Climate Change which states that SCDC will expect for developments to minimise the use of natural resources by utilising recycled materials where appropriate, minimise greenhouse gas emissions, incorporate energy efficiency, encourages the use of public transport, help to reduce waste and minimise the risk of pollution; and
- Development Management Policy DM22 – Design: Function which states that new developments should make provision to enable access, turning and manoeuvring for emergency vehicles and the collection of waste.

2.6.2 Suffolk Coastal District Council Final Draft Local Plan[29]

The following policies included in the SCDC Final Draft Local Plan are of relevance to the assessment of waste and material resource use:

- Policy SCLP3.5 Infrastructure Provision states that to support the provision of waste management infrastructure, where the size of the development allows for it, 'bring sites' should be included in the design and layout of developments to encourage recycling measures and to reduce the demand on Household Waste Recycling Centres.
- Policy SCLP9.2 Sustainable Construction states that development proposals are encouraged to set out measures for minimising waste arising from the construction process; and
- Policy SCLP11.1 Design Quality states that development proposals should ensure that the layout and design incorporates adequate provision for the storage and collection of waste and recycling bins in a way which does not detract from the appearance of the development.

2.7 Standards and Industry Guidance

2.7.1 Contaminated Land Applications in Real Environments (CL:AIRE)

CL:AIRE is an independent, non-profit organisation that aims to encourage the sustainable remediation of contaminated land and groundwater throughout the UK, for effective social and economic use. This is achieved by increasing awareness and confidence in practical, sustainable remedial solutions.

2.7.2 Site Waste Management Plans (SWMP)

Site Waste Management Plans (SWMPs) are no longer mandatory for projects commencing after 1 December 2013. They are, however, recommended, and the principles behind them remain best practice. A SWMP will be adopted and will include details of the amount and types of waste that would be produced on site and how it would then be reduced, re-used and disposed of, by whom and where. An outline SWMP has been produced for the Development (see Annex G of this report) and the appointed contractor will develop the SWMP and adopt the waste hierarchy for the disposal management of waste in line with the outline SWMP.

2.7.3 Government Review of Waste Policy in England, 2011[30]

This guidance document, published by Defra, includes actions and commitments for reducing waste, with a steer towards a zero-waste economy. Of note, the review states that Defra plans to expand the capacity to treat C&D waste through improved information on waste supply and composition and develop further the supply chains for recyclates and solid recovered fuel.

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[29] Suffolk Coastal District Council – Final Draft Plan, January 2019. Available online at https://www.eastsuffolk.gov.uk/assets/Planning/Suffolk-Coastal-Local-Plan/Final-Draft-Local-Plan/Final-Draft-Local-Plan.pdf.

[30] Defra, 2011 – Government Review of Waste Policy in England 2011. Available online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69401/pb13540-waste-policy-review110614.pdf

2.7.4 The Building Regulations H6 – solid waste storage (2015 Edition)

The 2015 version of H6 reiterates the requirement for developers to meet the Environmental Protection Act 1990, by providing adequate provision for storage and access of storage waste. Solid waste storage requirements for domestic and non-domestic buildings are described in Appendix A.1.

2.7.5 BS 5906:2005 – Waste management in buildings - code of practice[31]

BS 5906:2005 is a code of practice for methods of storage, collection, segregation for recycling and recovery, and on-site treatment of waste from residential and non-residential buildings. BS 5906 applies to new buildings, refurbishments and conversions of residential and non-residential buildings. Specific requirements of the standard are stated in Appendix A.2.

2.8 EDF Energy Vision for Waste Management

EDF Energy's waste management vision is 'to safely and consistently manage the production, treatment and disposal of waste in compliance with all relevant waste legislation, taking into account external and internal policy drivers, environmental and waste management principles, best practice and using innovative technologies where practicable and applicable to actively minimise impact on the environment and to protect workers and the public'.

The delivery of the vision will be ensured through the implementation of integrated waste management principles and detailed site waste management planning, which in turn will be underpinned by appropriate operating procedures and instructions throughout the supply chain.

[31] British Standard BS 5906:2005 – Waste management in buildings - code of practice. Available online at https://www.rbkc.gov.uk/pdf/BS5906-2005.pdf

3 The proposed development

3.1 Construction scope for the Project

The following sub-sections provide an overview of the key elements of the Project:

3.1.1 Main development site

The main development site covers the total area required for the construction and operation of Sizewell C power station. It comprises five components, which are as follows:

- Main platform, comprising land that would become the Sizewell C power station;
- Sizewell B relocated facilities and National Grid land, including the area that certain Sizewell B facilities would be moved to in order to release other land for the proposed development and land required for the National Grid infrastructure;
- Off-shore works area, comprising the area where off-shore cooling water infrastructure and other marine works would be located;
- Temporary construction area, located primarily to the north and west of the Site of Special Scientific Interest (SSSI) crossing, which would be used to support construction activity on the main platform, including an accommodation campus for construction workers; and
- LEEIE, the area adjacent to Sizewell Halt and the land directly north of King George's Avenue, which would be used to support construction on the main platform and temporary construction area.

Development at the main development site is expected to include the following building, engineering or other operations elements:

- Nuclear power station, including two UK EPR™ reactor units capable of exporting a total of approximately 3,340 Megawatts (MW) to the National Grid;
- Associated buildings, plant and infrastructure within the power station perimeter, including overhead power lines and pylons;
- Associated buildings, plant and infrastructure outside of the power station perimeter, including a training building, beach landing facility and flood defences;
- Marine works and associated infrastructure, including a cooling water system and combined drainage outfall in the North Sea;
- A temporary accommodation campus for up to 2,400 construction workers and associated facilities, buildings and infrastructure, located east of Eastbridge Road;
- National Grid 400 Kilovolts (kV) substation and associated relocation of an existing pylon and power line south of Sizewell C;
- Relocation of certain Sizewell B supporting buildings, plant and infrastructure south of Sizewell C;
- Vehicular and pedestrian crossing over the Sizewell Marshes SSSI south of Goose Hill;
- Power station access road, linking the SSSI crossing with a new roundabout onto Abbey Road (B1122);
- Public access works including permanent and temporary closures and diversions of public rights of way;
- Diversion and installation of utilities and services;
- Temporary construction compounds, parking, laydown areas and working areas, plus related works and structures;
- Temporary spoil management areas, including borrow pits and stockpiles;
- Temporary rail infrastructure associated with the green rail route; and

- Landscape restoration works and planting.

Development at the LEEIE is expected to comprise the following building, engineering or other operations. All development in this location would be temporary unless otherwise stated:

- Construction compounds, laydown areas and working areas, plus related works and structures;
- Spoil management areas, including borrow pits and stockpiles;
- Accommodation for approximately 400 caravans and associated welfare and parking;
- HGV and bus management area;
- Park and ride facility;
- Construction of a temporary single railway track with railway sidings and a passing loop for the locomotive;
- Landscape restoration works and planting (permanent).

3.1.2 Associated developments

The associated developments include the following:

- Park and ride facilities, including the northern park and ride at Darsham and southern park and ride at Wickham Market;
- Freight management facility at Seven Hills;
- Road infrastructure, including the two village bypass, Sizewell link road, a new roundabout at Yoxford and other highway improvements; and
- Rail infrastructure, including a new green rail route and improvements to the existing Saxmundham to Leiston branch line.

Chapter 2 of Volumes 3 to 9 of the Environmental Statement provide further information on the associated developments.

3.1.2.1 Park and ride facilities

Park and ride facilities have an instrumental role to play in minimising additional traffic by the construction workforce on local roads and through local villages. Two off-site park and ride facilities are proposed: one for construction workers approaching Sizewell from the north on the A12 (Darsham) and the other for those entering from the south on the A12 (Wickham). As mentioned previously, there is also expected to be a park and ride facility situated on the main development site at the LEEIE.

The northern park and ride facility (Darsham) is envisaged to comprise:

- car parking areas for up to 1,250 spaces (of which 40 would be accessible spaces and up to 12 would be pick-up only spaces);
- up to 10 spaces for minibuses/buses/vans;
- up to 80 motorcycle parking spaces;
- secure cycle parking for up to 20 bikes;
- bus terminus area, including shelters;
- security fencing and lighting;
- an amenity and welfare building comprising toilets and a staff room;
- a security building, security booth, bus shelters and other ancillary development;
- two landscape bunds and additional planting; and

- external areas including roadways, footways, landscaping, surface water management areas and drainage infrastructure.

The southern park and ride facility (Wickham Market) is envisaged to comprise the same elements identified for the northern park and ride facility, in addition to a postal consolidation facility and a Traffic Incident Management Area (TIMA) to enable HGVs to be held in the event of an emergency.

3.1.2.2 Rail infrastructure

A temporary rail extension, referred to as the 'green rail route', has been proposed which would provide a new rail route from Saxmundham Road up to the main development site. In addition to this, permanent infrastructure upgrades and changes to level crossings would be required to the Saxmundham to Leiston branch line to accommodate the additional freight trains once the green rail route is operational.

The green rail route would include a 4.5km rail extension from the existing Saxmundham–Leiston branch line, running from west to east to the main development site. Following the completion of the construction of the Sizewell C Project, the green rail route, including the track bed and level crossings, would be removed and returned to its original topography.

The green rail route would be a temporary rail extension of approximately 4.5km from the existing Saxmundham–Leiston branch line, running from west to east in three main parts as follows:

- Saxmundham Road to Buckleswood Road;
- Buckleswood Road to B1122 (Abbey Road); and
- B1122 (Abbey Road) to Sizewell C power station site.

The proposed green rail route also comprises:

- The provision of an automated level crossing on Buckleswood Road and the B1122 (Abbey Road);
- Diversion of footpaths;
- Permanent relocation of the B1122 (Abbey Road) and Lover's Lane junction;
- Sustainable urban drainage, including swales alongside the track with the potential for a larger infiltration pond at low points or adjacent to the cuttings, if required.
- Landscaping including the provision of landscape bunds, grassed areas and other areas of proposed planting.

The proposed track replacement on the Saxmundham to Leiston branch line comprises the renewal of the entire length of track using new ballast, flat bottom continuously welded rail on concrete sleepers. The proposed upgrades would ensure that the existing track would meet Network Rail standards for freight transport.

Upgrades would also be required up to eight operational level crossings on the Saxmundham to Leiston branch line between the Saxmundham junction and Sizewell Halt. This is to enable safe use of the Saxmundham to Leiston branch line for freight deliveries as part of the construction of the Sizewell C main development site. These are located at:

- Bratts Black House;
- Knodishall;
- West House;
- Snowdens;
- Saxmundham Road;
- Buckles Wood;

- Summerhill;
- Leiston.

3.1.2.3 Freight management facility

The freight management facility would assist in allowing a controlled pattern of deliveries to the Sizewell C main development site with reduced movements during peak or sensitive hours on the network. The facility would provide buildings and external areas where paperwork and goods could be checked prior to delivery to the Sizewell C main development site. It would also be a location where HGVs could be held while they wait to enter the main development site or in the event of an accident on the local road network which prevented access to the main development site. The freight management facility would provide space for up to 154 HGVs, up to 12 car parking spaces, up to one accessible spaces, up to ten spaces for minibuses/vans, up to ten bus spaces, up to four motorcycle parking spaces, covered and secure cycle parking for up to ten bicycles and up to six dedicated HGV spaces for HGV search and screen activities. In addition, other associated infrastructure and ancillary development, such as access and circulation roads, a ghost island junction on Felixstowe Road, fencing, lighting, drainage and landscaping, would be provided. Once the need for the facility has ceased, the buildings and associated infrastructure would be removed in accordance with a removal and reinstatement plan, which would maximise the potential for re-use of building, modules and materials. When the site has been cleared, the area would be returned to agricultural use.

3.1.2.4 Road infrastructure

EDF has identified a number of road improvements which form part of their proposals for their transport strategy. These improvements are focussed on mitigating the impact of increased traffic on the local road and highway networks, and include the following:

- Sizewell Link Road would comprise a new, permanent, 6.8km single carriageway road, with a design speed of 60 miles per hour (mph), which begins at the A12 south of Yoxford, bypasses Middleton Moor and Theberton before joining the B1122. It would be used by EDF Energy during the construction phase of the main development site to transport construction workers arriving by car, buses from both northern (which would only use the Sizewell link road east of the Middleton Moor link) and southern park and ride sites, and goods vehicles (both light and heavy) delivering freight to the main development site. It would also be open to the public.
- Two village bypass, would comprise a new, permanent, 2.4 km single carriageway road, with a design speed of 60 mph, that would depart from the A12 to the south-west of Stratford St. Andrew before re-joining the A12 to the east of Farnham. The two village bypass would effectively create a new route around the south of Stratford St. Andrew and Farnham, thus bypassing the two villages. Once operational, the two village bypass is proposed to be a permanent bypass that would form a new section of the A12. The existing section of the A12 through the villages would be retained.
- Construction of a roundabout east of Yoxford to improve the junction of the A12 with the B1122; and
- A series of highways improvements to mitigate the impact of Sizewell C construction traffic on the local highway and transport network:
  - A1094/B1069 junction south of Knodishall – improvements of visibility splays and provision of signage and road markings.
  - A12/A144 junction south of Bramfield – provision of central reservation island and waiting area.
  - A12/B1119 junction at Saxmundham – improvements of visibility splays and provision of signage and road markings.

All of the proposed road infrastructure works listed above would form part of the permanent development and would be retained following the construction of the main development site.

4 Waste generation

4.1 Earthworks, construction and demolition phase wastes

4.1.1 Material types

This chapter determines the material types and waste volumes that will arise from the earthworks and construction phase of the main development site and the associated developments.

The main type of earthworks material/waste would be excavated soils as part of site preparation activities. Typically, this would include:

- vegetation;
- topsoil;
- subsoil;
- natural ground; and
- made ground.

At the main development site and most of the associated developments, the majority of excavated materials created to facilitate construction would be retained on-site for re-use as backfill and landscaping during the operational phase. This would significantly reduce the amount of material to be classified as waste, which would otherwise require removal from site for re-use, recycling, recovery or disposal and is considered to be a sustainable approach as it prevents/minimises waste production.

Contributing factors to the generation of construction waste include over-procurement, a high finishing standard requirement as this can lead to a greater than normal rejection rate for constructed items, and a lack of space for storage of unused materials.

Furthermore, poor segregation of waste can lead to a reduction in re-use and recycling rates.

The majority of construction waste, from SZC power station, will be produced from the power station fit-out, typically through off-cuts of materials and damage. Delivery of materials cut to the required specification and quantity and delivered on a just-in-time basis will assist in reducing such wastes. Waste will also be produced from the packaging of construction materials, which can be managed through engaging with suppliers offering a take-back scheme, and the operation of maintenance facilities.

Other than excavated materials, the construction phase of the main development site and the associated developments is likely to generate the following main waste streams:

- aggregate;
- cement;
- concrete;
- formwork;
- prefabricated parts;
- reinforcing steel;
- sand;
- pipe work; and
- structural steelwork.

In addition, the following waste materials will be produced, but in smaller quantities:

- asphalt;
- brick;
- cardboard;
- ceramic/bricks;
- general waste;
- glass;
- hazardous;
- insulation;
- masonry;
- metals;
- packaging waste;
- paint cans;
- plaster;
- plastics;
- roof materials;
- scrap metal;
- timber;
- vinyl; and
- wiring.

General waste would also be produced during the construction phase from the construction workers. Typical wastes would include:

- cardboard;
- food;
- fluorescent bulbs;
- glass;
- paper;
- plastic;
- printer cartridges;
- sewage; and
- wood.

Typically, construction waste falls into three classifications: inert, non-hazardous and hazardous wastes.

Hazardous wastes would include some remedial wastes, chemicals and minor oil and hydrocarbon spillages. Only small volumes of hazardous waste are anticipated.

4.1.2 Material quantities

In line with the **Materials Management Strategy** (**Volume 2, Appendix 3B**), a neutral cut and fill balance is targeted for the main development site, with any surplus excavated material to be retained on-site for re-use in landscaping. This would significantly minimise the amount of material classified as waste during the earthworks phase of construction. In addition, a slurry treatment plant would be provided on-site to enable the treatment and re-use of tunnel boring arisings within landscaping. However, it is accepted that small unknown volumes of material may be required to be taken off-site, if the material is unsuitable for use in landscaping.

For the proposed roads and road improvements, and rail infrastructure included within the proposals, it is likely that any excavated material would be used in the cut and fill balance required along the road and rail alignments and will need to be managed as waste. The construction of the new roads may encounter localised hot spots of contamination (such as small isolated and unregulated landfills) and therefore, small unknown volumes of hazardous waste are also likely to be encountered.

Whilst it is not possible at this stage to fully determine the precise quantities of excavated material that would be deemed to be unacceptable for re-use on-site, it is expected that these would be minimal.

Table 1 outlines the predicted waste volumes during the construction phase of the main development site and the associated developments. Table 1 also provides a breakdown of the overall waste in terms of type (e.g. inert, non-hazardous and hazardous). As a conservative measure, to allow for the fact that the volumes have not been confirmed at this stage, an additional 10% contingency has been assigned to the power station development figures and the rail and road improvement works. A 20% contingency has been applied to the other figures determined.

Table 1: Total construction waste quantity estimates

Construction Waste (tonnes)	Inert	Non-hazardous	Hazardous	Total (without contingency)	Total (with contingency)
Main development site					
SZC power station and temporary construction area	150,000	68,000	2,000	220,000	242,000
SZC accommodation campus	8,315	2,216	555	11,087	13,304
LEEIE park and ride facility	125	33	8	166	200
LEEIE HGV and bus management areas	100	27	7	133	160
LEEIE caravan park	461	123	31	615	738
Associated developments					
Northern park and ride (Darsham)	1,982	528	132	2,643	3,172
Southern park and ride (Wickham Market)	1,784	476	119	2,379	2,854
Freight management facility	780	208	52	1,040	1,248
Rail infrastructure	22,997	6,133	1,533	30,663	33,729
Highways infrastructure	110,630	29,501	7,375	147,507	162,258
Total	297,175	107,245	11,813	416,233	459,663

The estimated construction waste arisings are based on figures that were forecasted for HPC and adjusted according to number of workers accommodated. Since the SZC accommodation campus is estimated to be able to accommodate approximately five times as many workers as the HPC accommodation campus, the HPC campus construction waste arisings figure has been multiplied by this order of magnitude to estimate the SZC campus' construction waste arisings.

The construction waste arisings of the associated developments have been assumed to comprise 75% inert, 20% non-hazardous and 5% hazardous materials, as was done for HPC.

The rail infrastructure construction waste arisings were determined using BRE Smartwaste's waste benchmark data[32]. The data indicates that on average 28.1m^3/100m^2 of construction waste is generated for civil engineering projects. The indicative land-take of construction activities for the rail infrastructure is

[32] Bre Smartwaste, September 2009 – Waste Benchmark Data. Available online at http://www.smartwaste.co.uk/filelibrary/benchmarks%20data/Waste_Benchmarks_for_new_build_projects_by_project_type_31_August_09.pdf

approximately 33.8ha. Assuming a density of 0.32 tonnes/m^3 for mixed construction waste according to WRAP, the construction waste arisings for the rail infrastructure have been calculated to be as follows:

$$28.1m^3 * (341{,}000m^2 / 100m^2) * 0.32 \text{ tonnes}/m^3 * (100\% + 10\%) = 33{,}729 \text{ tonnes}$$

The same relative proportions that were assigned to the different associated development waste types for HPC were used for the rail and road infrastructure construction waste arisings.

The construction waste arisings for the park and ride facilities were based on the forecast for HPC's Junction 24 park and ride facility but adjusted according to the number of parking spaces.

The construction waste arisings for the freight management facility and LEEIE vehicle parking facilities have been based on the forecasts for the northern park and ride facility at Darsham but adjusted according to the area. The area of the HGV and bus management areas and the freight management facility has been assumed to be approximately 12.5 hectares. Therefore, since the freight management facility is expected to have an area approximately 2.5 times smaller than that of the northern park and ride facility at Darsham, construction waste arisings of the latter were divided by that order of magnitude to estimate those for the freight management facility.

The construction waste generation for the various road infrastructure elements was determined in the same manner as was done for the rail infrastructure, using BRE Smartwaste's waste benchmark data. This information is presented in Table 2, along with the areas, which were obtained through Geographic Information System (GIS).

The typical management of earthworks is discussed in Section 4.1.3. For linear schemes a zero net balance is assumed.

Table 2: Construction waste generation for road infrastructure elements

Highways element	Area (m^2)	Construction waste generation (tonnes)
Two Village Bypass	548,178	49,292
Sizewell Link Road	1,009,799	90,801
Yoxford roundabout	28,930	2,601
A12/B1119 Saxmundham	9,238	831
B1078/B1079 East of Easton	5,368	483
A140/B1078 West of Coddenham	11,407	1,026
A12/A144 South of Bramfield	12,159	1,093
A1094/B1069 South of Knodishall	15,345	1,380
Total	1,640,424	147,507

4.1.3 Management of earthworks and construction waste

This section describes the various types and volumes of waste that will be produced as part of the earthworks and construction phase at the main development site and associated developments. In addition, the proposed management of these wastes in terms of the waste hierarchy is given.

4.1.3.1 SZC Power Station

The proposed earthworks strategy provides cut and fill volumes for excavated material (e.g. topsoil, subsoil, rock, etc) at the main development site. Topsoil and subsoil will be stripped, and it is the intention that these materials will be re-used on-site for landscaping.

Table 1 displays the total quantity of waste to be produced from the construction of the SZC power station. Table 3 summarises the management of the main construction waste streams in relation to the waste

hierarchy (see Figure 1). It is intended to re-use suitable materials either on or off-site including soils, any stripped vegetation and timber.

Table 3: Management of main waste streams at the SZC power station

Phase	Prevent/Reduce	Re-Use	Recycle/Recover
Earthworks	• Design of earthwork excavations and storage methods to prevent material being sent off-site.	• Storage of topsoil and subsoil on-site pending future use, either for reinstatement during the site preparation phase or restoration post-decommissioning. • Stripped vegetation to be re-used onsite where possible (e.g. for landscaping purposes)	• Any stripped vegetation that is not reused on-site could be recovered off-site at an appropriate facility (e.g. anaerobic digestor/composting).
Construction	• Careful design, appropriate ordering of materials and use of best practice. For example, careful ordering of materials will reduce the amount of unwanted material, such as aggregate, being brought to site.	• Sell direct to the local market for re-use or send material to a treatment centre for later re-use in line with the WRAP Waste Aggregate Protocol. This will also reduce vehicle movements and adheres to the proximity principle.	• Send off-site to a Material Recycling Facility (MRF).
Decommissioning	• Design (e.g. low cobalt steels and optimisation of neutron shielding) to reduce decommissioning wastes.	• Sell direct to the local market for re-use (e.g. whole units or fabrics/components/materials), although dependent on changing construction standards over time.	• Send off-site to a MRF.

4.1.3.2 SZC Accommodation Campus

During the early construction phase, after the site preparation works have been completed, the SZC accommodation campus will be constructed. Excavated material, such as topsoil and subsoil would be stored on-site for re-use during removal and restoration of the land.

The living accommodation is proposed to be of a modular construction and therefore will produce minimal waste, with the units likely to be prefabricated, hence reducing construction off-cuts. This will maximise the potential for re-use following the operational phase, with complete units, components and building fabrics suitable for re-use/recycling following their removal from site, although this is market dependent.

The accommodation campus would be progressively dismantled as the number of workers on site reduces. It is proposed that components/materials (e.g. cladding) would be made available for agreed legacy projects or removed for reuse elsewhere. Site roads and utilities would be removed, and the area cleared and landscaped.

The volumes of waste to be produced from the earthworks and construction phases of the accommodation campus are displayed in Table 1. Table 4 summarises the management of waste streams, in terms of the waste hierarchy.

Table 4: Management of Main Waste Streams at the SZC Accommodation Campus

Phase	Prevent/Reduce	Re-Use	Recycle/Recover
Earthworks	• Design of earthwork excavations and storage methods (e.g. purposeful bunds) to prevent material being sent off-site.	• Storage of topsoil and subsoil on-site as landscaped bunds. • Stripped vegetation to be re-used on-site (e.g. landscaping)	• Any stripped vegetation not re-used on-site could be sent to an anaerobic digester plant/composting facility.

Phase	Prevent/Reduce	Re-Use	Recycle/Recover
Construction	• Careful design and appropriate ordering of materials. This will reduce the amount of unwanted material brought to site. • Use of best practice techniques will reduce the amount of resultant waste (e.g. off-cuts). • Modular units will be prefabricated, therefore reducing the amount of offcuts.	• Sell direct to the local market for re-use or send material to a treatment centre for later re-use.	• Send off-site to a MRF
Removal and reinstatement	• Use of modular units. where practicable	• Sell direct to the local market for re-use (e.g. whole units or fabrics/components/materials), although dependent on changing construction standards over time and the design life of the units.	• Send off-site to a MRF.

It is possible that a small fraction of the excavated materials at SZC would be contaminated, particularly in the area of Coronation Wood, due to previous land uses, and therefore, a percentage of this material will become waste. Most of the main development site and the sites for associated development have no history of previous development and no significant contamination is expected.

4.1.3.3 Temporary construction area, park and ride, LEEIE vehicle parking and freight management facilities

These facilities would include some small single-storey buildings, including security and welfare facilities as well as areas of hard standing for parking, all of which would be removed once Sizewell C has been built. The volumes of waste to be produced from the earthworks and construction phases of the temporary construction area, northern and southern park and ride facilities, freight management facility and LEEIE vehicle parking facilities are displayed in Table 1. Table 5 details the management of the waste streams at the park and ride and freight management facilities in terms of the waste hierarchy. It is expected for excavated material, such as topsoil and subsoil, to be stored on-site for re-use during removal and restoration of the land.

Table 5: Management of main waste streams at the park and ride facilities

Phase	Prevent/Reduce	Re-Use	Recycle/Recover
Earthworks	• Design of earthwork excavations and storage methods (e.g. purposeful bunds) to prevent material being sent off-site.	• Storage of surplus soils as bund for re-use during restoration. • Stripped vegetation to be re-used on-site (e.g. landscaping)	• Any stripped vegetation not re-used on-site could be sent to an anaerobic digester plant/composting facility.
Construction	• Careful design and appropriate ordering of materials. This will reduce the amount of unwanted material brought to site. • Use of best practice techniques will reduce	• Sell direct to the local market for re-use or send material to a treatment centre for later re-use.	• Send off-site to a MRF

Phase	Prevent/Reduce	Re-Use	Recycle/Recover
	the amount of resultant waste (e.g. off-cuts).		
Removal and reinstatement	• Design of buildings to reduce removal and reinstatement wastes.	• Sell direct to local market for re-use of components /materials (e.g. cladding) from the framed units, although depends on demand.	• Send off-site to a MRF.

4.1.4 Demolition waste from Sizewell B relocated facilities

The expected types of construction, demolition and excavation (CD&E) wastes generated as a direct result of the demolition of the existing buildings, the excavations required and the wastes generated during construction of the new buildings are expected to include the following:

Table 6: Anticipated CD&E wastes by type

Waste / Material	Classification	Potential sources
Metals	Non-hazardous	Sheet piles, machinery, rods, pipes, frames, nails, empty gas cylinders, empty aerosols and cans, signs, cables, drums, PPE
Concrete	Inert	Buildings, pavement, bank works
Excavated material (non-contaminated)	Inert	Foundation works
Excavated material (contaminated)	Hazardous	Foundation works
Wood	Non-hazardous	Pallets, frames, structural support
Plastic	Non-hazardous	Containers, packaging, site facilities, cables, electrical insulation, PPE
Glass	Non-hazardous	Containers, packaging, buildings, bulbs
Bricks	Inert	Buildings
Tiles	Inert	Buildings
Vegetation	Green	Site clearance, structural growth
Fabric	Non-hazardous	Buildings, PPE
Tarmac	Inert	Pavement, final site layer
Asbestos	Hazardous	Old structures being demolished
Organic / Food	Organic	Generated by workers on-site, dead flora, dead fauna
Oils / Lubricants	Hazardous	Machinery, equipment, moving parts
Paper and Card	Non-hazardous	Containers, packaging, administration
Fuel	Hazardous	Machinery, on-site powered equipment
Batteries	Hazardous	Machinery, on-site powered equipment

Source: Mott MacDonald

Throughout the duration of the works it is expected that over 1,400 truckloads of waste are going to be sent to off-site waste management facilities for appropriate repurposing. It is assumed that 8-wheeled rigid tipper trucks with a capacity of 13.5m^3 will be used to transport the waste.

The demolition waste volumes of the various relocated facilities are shown in Table 7.

Table 7: Sizewell B demolition waste quantities of relocated facilities

Proposed development activity	Waste arisings from the proposed development	Quantities of waste arisings	Additional information on waste arisings
Phase 1 Demolition			
Visitors Centre	Steel	1t	Waste on site would be appropriately stored/stockpiled in accordance with best practice to ensure that waste stays in a suitable condition to be reused onsite or transported off site. Any contaminated waste would be handled, stored, and disposed of in accordance with the contractor's SWMP. Waste would be minimised as far as possible through re-use on-site. If properly managed the construction phase has the potential to produce minimal waste.
	Concrete	270t	
	Timber	20t	
	Brickwork / Blockwork	10t	
Operations Training Centre	Steel	130t	
	Concrete	1,200t	
	Timber	2t	
	Brickwork / Blockwork	20t	
Outage Store	Steel	170t	
	Concrete	1,600t	
	Timber	20t	
Northern Compound	Steel	5t	
	Concrete	100t	
	Timber	2t	
	Brickwork / Blockwork	5t	
Phase 2 Demolition			
Technical Training Centre	Steel	7t	
	Concrete	150t	
	Timber	5t	
	Brickwork / Blockwork	20t	
Proposed developments Office	Steel	6t	
	Concrete	450t	
	Timber	10t	
Outage Office	Steel	50t	
	Concrete	130t	
	Timber	20t	
	Brickwork / Blockwork	580t	
Base Area Facility	Steel	1t	
	Concrete	50t	
	Timber	5t	

Source: NNB Generation Company, March 2019: Sizewell B Relocated Facilities Outline Waste Management Strategy Table 8 (N.B. values for the individual waste streams are rounded up).

4.2 Operational wastes

4.2.1 Operational waste at SZC Power Station

The SZC Power Station is proposed to be in operation for 60 years and non-radioactive waste will be continually produced during this period. The anticipated activities during the operational phase of the power station is described below in terms of likely waste production, with total numbers displayed in Table 8 below.

Table 8: Total operational phase waste quantity estimates at SZC Power Station

Operational Waste (tonnes)	Total (tonnes per annum)	Total (over lifetime of development)
SZC Power Station (Non-Radioactive Waste)	1,140	68,400 (60 years)

Source: EDF Energy and Area, 2012 - GDA UK EPR – Integrated Waste Strategy Document[33]

Operational waste arisings from the power station will include waste that is generated during the operation and maintenance of the process plant (e.g. maintenance of pipes and equipment), and as a result of a number of regular activities (e.g. removal of algae from the water abstraction structure, maintenance of control rooms equipment, activities in the workshops, waste from office work, packaging and from the canteen). The non-radioactive wastes comprise industrial waste (chemical and material additives, effluents, materials), inert waste (rubble, glass) and commercial waste (canteen, office waste).

Some of the waste, primarily from the workshops and maintenance activities, will be classed as hazardous. It is expected that conventional hazardous waste in the power station will include solids (batteries, aerosol spray cans, electrical equipment), liquids (solvents, oils) and sludges (paint residues, decontamination products).

During maintenance outages, the number of people present on the site will increase and the amount of work will increase. These outage periods will generate a higher quantity of waste than periods of normal operation.

The estimate of operational waste arisings generated at the new power station have been based on the annual arisings estimates given in EDF Energy and Areva's GDA UK EPR – Integrated Waste Strategy Document[33] for a single EPR. The total was thus multiplied by two to produce the final waste generation figures.

It is forecast that 1,140 tonnes of non-radioactive waste will be produced each operational year, as shown in Table 9. Of this, approximately 940 tonnes would be expected to be inert and commercial wastes, and the remaining 200 tonnes would be expected to be hazardous.

Table 9: Non-radioactive operational waste per annum at SZC (based on two EPR units)

Waste Type	Tonnes per Annum
Inert and Commercial Waste	940
Hazardous Waste	200
Total	1,140

Source: EDF Energy and Area, 2012 - GDA UK EPR – Integrated Waste Strategy Document

4.2.2 Operational waste during the construction phase

4.2.2.1 SZC Accommodation Campus

Residential

Operational waste produced at the campus would comprise general domestic waste, including food waste, paper/card, plastic bottles, clinical waste, sanitary and gardening wastes. However, as there would be a canteen on site, cooking facilities in the rooms would be limited, which in turn would limit the production of food waste.

48,359 tonnes of local authority collected household waste were collected within the Suffolk Coastal District Council boundary during 2018/2019[7], while 344,827 tonnes were collected within the whole of Suffolk during

[33] EDF Energy and Area, 2012 - GDA UK EPR – Integrated Waste Strategy Document. Available online at http://www.epr-reactor.co.uk/ssmod/liblocal/docs/Supporting%20Documents/Integrated%20Waste%20Strategy%20Document.pdf

the same period. Of this, approximately 50.1% was recycled, composted or reused in Suffolk Coastal while 49.9% was not, in comparison to respective figures of 47.1% and 52.9% for Suffolk as a whole.

It is estimated that Suffolk Coastal residents generated approximately 370kg per head for collection in 2018/2019, while Suffolk residents generated 453kg per head per annum. A conservative approach has been adopted and therefore the Suffolk figures have been used for the determination of the operational waste arisings.

However, based on the assumption above, it would be reasonable to assume that the wastes generated per worker at the campuses are unlikely to exceed 250kg per annum. To allow a margin for peaks and some uncertainty it appears reasonable to assume that each worker will generate approximately 375kg of wastes for collection per annum. Assuming that 50.1% of the waste is recycled, reused or composted, as is the case in Suffolk Coastal, then the breakdown of this figure would be as follows:

- Residual waste per person per year: 187kg.
- Recyclable waste per person per year: 188kg.

In addition, it should be expected that recycling will increase over the current tonnages and percentages recycled. The Suffolk Waste Study 2018 has assumed, in its municipal waste arisings forecasts, that a 65% recycling and composting rate will be achieved by 2030, based on the Circular Economy Package's targets; therefore, sufficient storage space to accommodate this level of recyclable and organic waste should be provided. At the same time, to accommodate waste growth, no deductions have been made to the storage requirements for residual wastes.

It is likely that the campus' residential waste composition will be similar to that of a hotel, since it is expected that minimal cooking facilities will be available in rooms and workers are likely to have their meals at the canteen most of the time. Therefore, waste generation figures for hotels were also taken into consideration. A document produced by the European Commission[34] states that on average, across different groups and types of hotels, 3kg per guest is generated per night in hotels. The hotels at the lower end of the waste generation scale were estimated to generate approximately 0.5 to 1.5 kg per guest-night however; these figures are of a similar order to those estimated using residential waste generation figures.

4.2.2.2 Offices

It is anticipated that the main site offices and induction centre will be located within the entrance hub area. The close proximity is provided as the site office workforce will be required to interface with site construction activities on a frequent basis. In addition, the induction centre would enable all site workers to be taken through their induction process close to their place of work. It is expected that the combined office/induction centre building would be required to accommodate 700 to 800 desk spaces. It is assumed that the site administration office and additional temporary 'workface' office space at the main power station platform would require 200 additional desk spaces, bringing the total number of office desk spaces up to 1,000.

According to Cundall Johnston and Partners LLP[35], and based on various audits conducted in their offices between 2010 and 2013, the waste generation per person in offices was found to be 130kg per year on average (with a range of 100 to 170kg).

[34] European Commission, 2013 - Best Environmental Management Practice in the Tourism Sector: Learning from – Section 6 Waste and Waste Water Management in Tourist Accommodation. Available online at https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/best-environmental-management-practice-tourism-sector

[35] Cundall Johnston and Partners LLP – Information paper 6 – CO_2e emissions due to office waste. Available online at https://cundall.com/Cundall/fckeditor/editor/images/UserFilesUpload/file/WCIYB/IP-6%20-%20CO2e%20emissions%20due%20to%20office%20waste.pdf

The West Suffolk Waste Planning Guidance[36] recommends the following weekly waste storage capacity for office space:

- 2,600 litres per 1,000m^2 gross floor space.

This guidance recommends saving a minimum of one third of the waste storage space for recyclables. However, this figure is deemed to be insufficient particularly in light of increasing environmental awareness and more ambitious waste targets should be accommodated.

The Suffolk Waste Study 2018 has assumed, in its municipal waste arisings forecasts, that a 65% recycling and composting rate will be achieved by 2030, based on the Circular Economy Package's targets. Therefore, it is recommended that this requirement for recycling or composting 65% of household waste by 2030 is followed for office waste too, especially since most of the waste is likely to comprise paper and card, and to a lesser extent, food waste.

The office waste generation has been determined using the information obtained from Cundall's office audits and assuming there will be 1,000 office desk spaces in total, and the waste generation per person is 130kg per year, then it is estimated that 130 tonnes of waste will be generated from the offices per year.

4.2.2.3 Retail and hospitality

The retail activities are expected to include a general retail store, while the activities of hospitality spaces are expected to include the following:

- Canteens in the accommodation campus and entrance hub area; and
- Bar in the campus.

Canteens

The West Suffolk Waste Planning Guidance states that 1.5m^3 of waste storage per 20 dining spaces would be required for restaurants/food outlets. It is assumed that there will be sufficient dining space to cater for 7,900 construction workers and 500 staff at peak. Therefore, the total estimated weekly waste storage provision required at the canteens is as follows:

$$1.5m^3 \times ((7{,}900 \text{ workers} + 500 \text{ staff}) / 20 \text{ dining spaces}) = 630m^3$$

This value is likely to be significantly higher than would be expected for workers at this facility as this is a canteen rather than a restaurant. The manner in which food is served at a canteen means that there is typically less wastage compared to a restaurant or fast food outlet. Observations were undertaken at several canteens, which indicated that approximately a third of the waste storage provision requirements, outlined in the West Suffolk Guidance, was allocated for the storage of waste in the canteens visited. Therefore, this figure has been revised to 210m^3, based instead on providing approximately 0.5m^3 storage provision per 20 dining spaces.

The West Suffolk guidance recommends that at least one third of the waste storage capacity should be retained for storage of separated waste for recycling. However, as for the office buildings, this figure is assumed to be insufficient and thus it is recommended that at least 65% additional waste storage capacity for recyclable or compostable waste will be provided instead.

[36] West Suffolk District Council, January 2014 - Waste Planning Guidance. Available online https://www.westsuffolk.gov.uk/planning/planning_applications/upload/WastePlanningGuidance.pdf

Other

It is not possible to estimate the waste arisings from the bar and shop since the gross floor areas for these facilities is not yet available. Therefore, the assessment of the waste storage provision for these facilities has been based on previous experience; this information is presented in Appendix B.3.1.4.

4.2.2.4 Sports facilities

The Development will comprise indoor and outdoor sports facilities as part of the accommodation campus.

The waste generation rate for the indoor sports facilities is based on British Standard BS 5906:2005[8] for leisure centres. In Table 1 of the British Standard it is stated that 100L of waste per m^2 floor area per week is generated in leisure centres, however the example calculation that is undertaken in the same Table is on the basis of it being 5L per m^2 floor area per week instead. This latter figure is considered a more reasonable quantity and has therefore been used when assessing the waste storage requirements in Appendix B.3.1.5.

A figure of 1,000m^2 has been assumed for the purposes of estimating the waste storage provision, which is based on the area of an indoor sports facility from a similarly scaled project, combined with professional judgement. Based on this floor area, the total weekly waste generation for the indoor facility has been estimated to be 15m^3.

The storage provision for the outdoor pitches was also determined using professional judgment; this information is provided in Appendix B.3.1.5.

4.2.2.5 Caravan park

As identified in Section 3.1.1, the LEEIE is expected to include an accommodation area for caravans. The current land area set aside for caravans would allow for a maximum of 400 pitches and EDF estimates that approximately 600 workers would be accommodated in this area (based on approximately 1.5 workers per caravan).

The expected waste generation rate of the workers living in the caravans has been assumed to be the same as that for workers staying in the accommodation campus (see Section 4.2.2.1), equivalent, therefore, to 375kg/person/year.

4.2.2.6 Vehicle parking

Due to a lack of available information from UK sources, waste generation rates recommended by Randwick City Council[37], Sydney, were used to determine waste generation in the vehicle parking areas, including the two off-site park and ride facilities, the freight management facility and the LEEIE vehicle parking facilities (excluding the caravan park). The waste generation rates are recommended to be 2L per 100m^2 of gross floor area per day. This waste generation rate is considered to be excessive for the vehicle parking areas based on the expected vehicle turnover per day. Thus, a revised waste generation rate of 2L per 100m^2 of gross floor area per week was used in the calculations instead.

The areas and expected operational waste arisings for the various vehicle parking facilities are shown in Table 10. The areas were primarily determined through GIS.

[37] Randwick City Council – Appendix A: Waste generation rates. Available online at https://www.randwick.nsw.gov.au/__data/assets/pdf_file/0008/38249/Waste-Management-Appendices-A-K.pdf

Table 10: Waste generation in vehicle parking areas

Facility	Area (m^2)	Weekly residual waste generation (m^3)	Weekly dry recyclable waste generation (m^3)	Total weekly waste generation (m^3)
Vehicle parking – entrance hub area	51,000	1.02	1.02	2.04
Vehicle parking – accommodation campus	16,600	0.33	0.33	0.66
Northern park and ride facility (Darsham)	279,429	5.59	5.59	11.18
Southern park and ride facility (Wickham market)	263,919	5.28	5.28	10.56
Freight management facility	109,928	2.20	2.20	4.40
LEEIE Park and ride facility	17,600	0.35	0.35	0.70
LEEIE HGV area	12,400	0.25	0.25	0.50
LEEIE Bus management area	1,700	0.03	0.03	0.07
Total	**752,576**	**15.05**	**15.05**	**30.10**

4.2.2.7 Other

No references have been identified that would allow for the waste generation of the following facilities to be determined:

- Launderette;
- Postal consolidation facility;
- Welfare buildings; and
- Security entrance huts.

Therefore, several assumptions were made in Appendix B.3.1.8 in order to estimate the required waste storage provision for these areas.

4.3 Removal and reinstatement/Decommissioning wastes

4.3.1 Material quantities

The accommodation campus, LEEIE facilities and all associated development sites except the road infrastructure and improvements to the Saxmundham to Leiston branch line would be removed once the SZC power station has been constructed. The power station will require decommissioning once electricity generation has ceased. The decommissioning of the power station would be consented through the applicable procedures at that time including the relevant EIA Regulations and relevant waste requirements. This strategy details the various removal and reinstatement/decommissioning phase waste streams which will be produced, as summarised in Table 11, and in order to produce a conservative assessment sets out the worst-case scenarios in terms of waste production. An additional 10% contingency has been assigned to the power station development figures and the green rail route. A 20% contingency has been applied to the other figures determined. Careful design of the various developments will maximise re-use and recycling of these waste streams.

Table 11: Total Removal and Reinstatement/ Decommissioning Phase Waste Quantity Estimates

Construction Waste (tonnes)	Inert (79%)	Non-hazardous (20%)	Hazardous (1%)	Total	TOTAL (Contingency = 10% SZC Power Station, 20% ADs)
Main development site					
SZC power station	115,100	26,140	1,457	145,697	160,267
SZC accommodation campus and temporary construction area	139,807	35,393	1,769	176,969	212,363
LEEIE park and ride facility	321	81	4	406	487
LEEIE HGV and bus management areas	257	65	3	325	390
LEEIE caravan park	1,185	299	15	1,499	1,799
Associated developments					
Northern park and ride facility (Darsham)	5,094	1,288	63	6,444	7,733
Southern park and ride facility (Wickham market)	4,584	1,159	56	5,799	6,959
Freight management facility	15,281	3,863	188	19,331	23,198
Green rail route	14,697	3,919	980	19,596	21,556
Total	**296,326**	**72,206**	**4,534**	**376,067**	**434,751**

The removal and reinstatement/decommissioning waste arisings have been based on predicted HPC figures. The arisings for the park and ride facilities are based on HPC's forecasts for the Williton Park and Ride facility, which has capacity for 160 car parking spaces, but have been adjusted according to the number of car parking spaces of both facilities.

The removal and reinstatement waste arisings for the LEEIE park and ride facility, LEEIE HGV and bus management areas and LEEIE caravan park have been based on those predicted for the northern park and ride facility at Darsham but have been adjusted according to floor areas.

The removal and reinstatement waste arisings for the SZC accommodation campus have been determined by multiplying those forecasted for the HPC accommodation campus by approximately five, since the SZC campus will accommodate approximately five times as many workers as the HPC campus. The total removal and reinstatement waste arisings for the campus includes those for the temporary construction area.

The removal and reinstatement waste arisings for the rail infrastructure have been assumed to be the same as the construction waste arisings for the rail infrastructure.

4.3.2 Management of removal and reinstatement wastes

4.3.2.1 Accommodation campus

The accommodation campus would be entirely removed at the end of Sizewell C construction and the land restored. This would include removal of all infrastructure and excavation of footings. As the living accommodation will probably comprise prefabricated modular units, there is the potential that entire units, components and building fabrics could be re-used following their removal from site, although it is recognised that this is market dependent. There is also a potential that the suppliers could enter a contract to buy back parts or all of the units (e.g. frames, fabrics, timber cladding). It is EDF Energy's intention to re-use the modular units, where practical, although factors such as construction standards over time (e.g. insulation) would need to be considered. EDF Energy will explore the options for re-use at a later date. The amenity building is less likely to be of modular construction and the potential for re-use of materials would be

reduced, although it may be possible to re-use some components. The estimated waste volumes to be generated during the post-operational phase of the accommodation campus are displayed in Table 11.

4.3.2.2 Temporary construction area, park and ride, LEEIE vehicle parking and freight management facilities

Once Sizewell C has been built, the buildings and associated infrastructure including hard-standing and drainage, would be removed in accordance with a demolition plan, which would maximise the potential for re-use of buildings and materials.

When the sites have been cleared, the areas would be returned to their existing agricultural uses. Waste would be generated during the earthworks/construction, operational and removal and reinstatement phases of the proposed developments.

4.3.3 Management of decommissioning wastes from SZC Power Station

The decommissioning process for Sizewell C is likely to take up to 20 years to complete. Waste would be created during the site decommissioning from removing plant equipment, structures, buildings and facilities. The greatest proportion of waste would be non-radioactive and would be suitable for re-use or recycling. Waste would be segregated and stored temporarily on-site, prior to re-use or being sent to a MRF.

5 Waste storage

5.1 Waste storage infrastructure

5.1.1 Waste consolidation centres

Two waste consolidation centres are likely to be required to allow for the storage of waste arising from the construction phases: one for construction waste arising from the power station and another to deal with construction waste arising from the main development site (excluding the LEEIE facilities). The latter will then house the operational waste arisings from the main development site (excluding the LEEIE facilities). It should be possible to reduce the size of this consolidation centre, if required, during the operational phase.

5.1.2 Excavated material management zones

The construction of Sizewell C would require deep excavations on the main platform as well as the raising of land levels, to achieve the permanent platform height. This would generate significant quantities of excavated materials, as well as a need to import backfill material. There are several potential areas identified as main stockpile areas. A range of bulk and excavated materials will be stockpiled at various periods throughout the construction phase at these locations, and these will require management on-site.

Excavated materials will be segregated and kept separate from any imported materials.

5.2 Earthworks, demolition and construction phases

5.2.1.1 Excavated materials

The excavated materials would be stored in stockpiles in the main stockpile areas on site, before being re-used within the site works.

5.2.1.2 Construction and demolition waste

Waste that is generated from the C&D phases (see Section 4.1.1) of the main development site (excluding the LEEIE facilities) will be deposited in stockpiles close to the point of generation, before being transported to a waste consolidation centre. The waste will be held at this location for short-term periods before either being re-used on-site or transported to a waste transfer, recovery, treatment or disposal facility.

C&D waste arising from the LEEIE facilities and associated developments (excluding road and rail infrastructure) will be managed separately on a site-by-site basis by (an) appropriate contractor(s).

Significant quantities of mixed dry recyclable material would be segregated into their primary waste streams (e.g. metal, concrete, wood, brick, plasterboard and hazardous waste) before being delivered to a waste facility. These waste materials will be stored in separate containers and will be baled where possible (e.g. carboard packaging) in order to minimise waste volumes and therefore vehicle movements.

Hazardous waste would also be separated and stored safely on-site, prior to being removed from site for treatment or disposal at a specialist hazardous waste facility. Tanks containing hydrocarbon fuels and other chemicals would have their contents emptied and removed from site by a specialist contractor.

Waste collection containers

Due to the quantity of construction waste which would be generated, it is likely that 40 cubic yard RoRo containers/skips would be used for the storage of all non-compactable construction and demolition waste

streams, while compaction containers are used for the storage of compactable waste streams such as packaging and insulation. Examples of both containers types are shown in Figure 2 and Figure 3.

Figure 2: 40 cubic yard RoRo container

Source: Viridor

Figure 3: 40 cubic yard compaction container

Source: Viridor

RoRo containers are recommended when storing larger quantities of waste and are positioned on site by being rolled on or off the back of a standard hooklift truck. Once placed on site, these containers are not usually moved until collected by the licensed waste disposal contractor.

Materials stored in open, uncovered RoRo containers are vulnerable to contamination and water damage, which is a particularly important factor to take into account when considering the recyclability of more sensitive materials, such as plasterboard and cardboard/paper. Therefore, it is recommended to procure containers with secure coverings, such as ones with a rolling roof system.

5.2.2 Assessment of waste storage provisions

5.2.2.1 Construction waste

Large dump trucks would transport construction waste from stockpile areas to the waste consolidation centre, where different waste streams would be placed into 40 cubic yard skips or containers.

In order to assess the waste storage provision for different C&D waste material streams, WRAP's report[38] was utilised to estimate the composition of construction waste that would be generated on-site. The figures for each waste stream are presented as a modal range in the WRAP report; a conservative approach has been taken and thus the average of this range has been used in the determination of the storage provision for individual waste streams. This information is presented in Table 12.

Table 12: Composition of construction waste

Materials	Modal range %	Median value used
Packaging Incl. wood pallets, plastics, cardboard, tins	25–35%	30.0%

[38] WRAP, 2009 - Collection Techniques for Construction, Demolition and Excavation Wastes – Appendix A. Table A.1. Available online at http://www.wrap.org.uk/sites/files/wrap/MRF107%20Collection%20Containers%20Research%20report%20approved%20%2007_05_10%20PUBLISH1.pdf

Materials	Modal range %	Median value used
Plasterboard	5–36%	20.5%
Rubble (broken bricks, blocks, tiles etc)	25-40%	32.5%
Timber (excl. pallets)	15-25%	20.0%
Cement and plasters	10-17%	13.5%
Insulation	6-15%	10.5%
Metal	3-9%	6.0%
Dry concrete products (blocks, slabs etc)	2-12%	7.0%
Plaster products (excl. packaging)	1-11%	6.0%
Ceramic materials	1-8%	4.5%

Source: WRAP, 2009 - Collection Techniques for Construction, Demolition and Excavation Wastes – Appendix A. Table A.1.

The construction programme, shown in Volume 2, Chapter 3, indicates that the construction of the power station will be undertaken between years 3 to 12 of the construction phase. The accommodation campus, LEEIE facilities and associated developments are expected to be built in years 1 to 3 of the construction programme.

It is assumed that rubble and ceramic materials will be deposited in the same containers, as will cement, plaster and plaster products (excluding packaging).

Density conversion factors obtained from WRAP[39] were used to estimate the densities for the various waste streams. These were then used in conjunction with the waste generation figures for the different facilities and the construction programme to estimate the total uncompacted waste volumes projected to be generated, based on the conservative composition figures utilised for individual waste streams. This information is presented in Table 13.

[39] WRAP, July 2014 – Construction, demolition and excavation waste volume to mass conversion factors and List of Waste codes used in WRAP's tools. Available online at www.wrap.org.uk/content/waste-conversion-factors-wrap-construction-tools

Table 13: Construction waste volumes (excluding road and rail infrastructure)

Materials	Modal range of composition	Median composition	Density (t/m^3)	Construction waste volumes (m^3)*	Construction waste volumes (m^3)			
					Year 1	Year 2	Year 3	Years 4-11
Packaging Incl. wood pallets, plastics, cardboard, tins	25–35%	30.0%	0.21	376,680	5,980	24,986	20,336	325,378
Plasterboard	5–36%	20.5%	0.32	168,917	2,682	11,205	9,119	145,912
Rubble (broken bricks, blocks, tiles etc) and ceramic materials	26-48%	37.0%	1.24	78,678	1,249	5,219	4,248	67,962
Timber (excl. pallets)	15-25%	20.0%	0.34	155,104	2,462	10,288	8,374	133,979
Cement, plasters and plaster products (excl. packaging)	11-28%	19.5%	0.44	116,856	1,855	7,751	6,309	100,941
Insulation	6-15%	10.5%	0.25	110,744	1,758	7,346	5,979	95,661
Metal	3-9%	6.0%	0.42	37,668	598	2,499	2,034	32,538
Dry concrete products (blocks, slabs etc)	2-12%	7.0%	1.27	14,533	231	964	785	12,554
Total		**150.50%**		**1,059,180**	**16,814**	**70,258**	**57,183**	**914,925**

* N.B. It should be noted that the actual waste generation would be significantly lower than these figures, as these are based on the very conservative median composition values used (which add up to 150% total).

Given the quantities of construction waste produced, and the onerous spatial requirements this would place on the waste consolidation centre, it is recommended that sufficient storage space be provided in the consolidation centres and associated developments for at least one days' worth of construction waste. The total number of 40 cubic yard containers that would be required assuming different collection frequencies up to four days was determined, the results of which are shown in Table 32 in Appendix B.2.1. Compaction has been assumed for the packaging and insulation waste streams.

5.2.2.2 Demolition waste

It is anticipated that the demolition of the Sizewell B relocated facilities will be undertaken over two periods totalling one year. The Sizewell B works schedule has not yet been confirmed, although it is currently anticipated for the demolition of the buildings to commence two years prior to the start of Sizewell C's construction programme. The total demolition waste volume likely to be generated is shown in Table 14 broken down into individual waste streams.

The maximum number of 40 cubic yard containers required for storage of the various demolition waste streams based on weekly collection is shown in Table 14. Densities for individual waste streams obtained from WRAP[39] were used to convert the tonnages into volumes.

Table 14: Demolition waste storage provision based on weekly collection

Waste stream	Density (t/m^3)	Waste volume (m^3)	No of 40 cubic yard containers required
Steel	0.41	17.3	1
Concrete	1.27	59.6	2
Brickwork & Blockwork	1.2	10.1	1
Timber	0.34	4.7	1
Total		**91.8**	**5**

Due to the smaller quantities of waste generated, it is recommended that consideration is given to collecting waste streams such as timber and potentially brickwork and blockwork less frequently than the other waste streams.

5.2.3 Sizing of construction waste consolidation centres

The areas of the construction waste consolidation centres were determined for two different skip arrangements, the methodology of which is described in Appendix B.2.2.

For storage of construction waste from the power station in the consolidation centre for less than 24 hours the scenario 1 arrangement is recommended, while the scenario 2 arrangement is preferable for storage of construction waste for 24 hours or longer. The preferred container arrangement is obviously dependent on the dimensions of the area of land that will be available to house the waste consolidation centre, however.

Economies of scale can be realised from the storage of construction wastes from the campus for up to five days assuming the scenario 2 arrangement, since a minimum area of 899m^2 will be required due to spatial constraints outlined in Appendix B.2.2. For storage of these wastes for 1.5 days or less, then the scenario 1 arrangement is recommended.

5.3 Operational phase

5.3.1 Layouts of waste storage areas

Layouts of waste storage areas with swept paths for waste collection vehicles are currently not available as this will be carried out at the detailed design stage. However, waste will typically be moved from the point of generation to a storage point outside the building for onward collection.

The siting and layout of the waste storage points is an important aspect to consider. They should be easy and safe to access for both the user and waste collection crews.

5.3.2 Assessment of waste storage provisions

Appendix B.3 describes the methodology used to determine the indicative operational waste storage provision required in relevant facilities. This information is based on composition assumptions stated for each facility and generation data previously discussed in Section 4.

It is recommended that operational waste arisings from the various campus facilities are stored in bins in temporary storage areas close to individual facilities, before being transferred to the waste consolidation centre. The number of bins that would be required for up to two weeks' storage of the operational waste from the campus facilities is shown in Table 15. Table 16 identifies the number of RoRo skips required in the waste consolidation centre.

The following tables are provided as an illustration of the storage requirements as, in reality, wastes would be moved to the consolidation centre and therefore the number of skips required will actually depend on the frequency of movements.

It is recommended that wastes are moved at the end of every day. The contents of the bins would be emptied into 40 cubic yard RoRo skips.

Table 17 provides an indication of the overall weekly bin storage provision required during the operational phase of the campus, LEEIE and associated development facilities (excluding road and rail infrastructure).

The total recommended bin storage requirements during the operational phase of these developments is as follows:

- 135m^3 for dry recyclables;
- 125m^3 for residual wastes; and
- 131m^3 for organic waste.

Table 15: Total operational waste bin storage requirements for all campus facilities up to 14 days' storage

Number of days' storage required	Bin storage requirements									
	Number of 1,100L bins required				Number of 660L bins required		Number of 360L bins required		Number of 180L bins required	
	Dry recyclables	Residual waste	Organic waste	Glass	Dry recyclables	Residual waste	Dry recyclables	Residual waste	Residual waste	Dry recyclables
1	18	18	20	1	1	1	0	0	0	0
2	31	29	35	1	1	1	0	0	0	0
3	45	40	50	1	1	1	0	0	0	0
4	59	54	66	1	1	1	0	0	0	0
5	72	65	81	1	1	1	0	0	0	0
6	86	77	96	1	1	1	0	0	0	0
7	99	89	112	1	1	1	0	0	0	0
8	116	105	129	2	1	1	0	0	0	0
9	129	116	144	2	1	1	0	0	0	0
10	142	128	161	2	1	1	0	0	0	0
11	157	140	176	2	1	1	0	0	0	0
12	169	153	191	2	1	1	0	0	0	0
13	183	165	206	2	1	1	0	0	0	0
14	196	176	222	2	2	2	0	0	0	0

Table 16: Total operational waste skip storage requirements for all campus facilities up to 14 days' storage

Number of days' storage required	Number of 40 cubic yard skips required		
	Dry recyclables	Organic waste	Residual waste
1	1	1	1
2	2	2	1
3	2	2	2
4	3	3	2
5	3	3	3
6	4	4	3
7	4	4	4
8	5	5	4
9	5	6	5
10	6	6	5
11	6	7	5
12	7	7	6
13	7	8	6
14	8	8	7

Table 17: Overall weekly bin storage requirements during operational phase of associated developments (excluding road and rail infrastructure)

Facility	Bin storage requirements									
	Number of 1,100l bins required				Number of 660l bins required		Number of 360l bins required		Number of 180l bins required	
	Dry recyclables	Residual waste	Organic waste	Glass	Dry recyclables	Residual waste	Dry recyclables	Residual waste	Residual waste	Dry recyclables
Accommodation campus facilities	99	89	113	1	2	2				
Accommodation campus	22	38	22							
Offices	7	2	3							
Canteens	63	44	84							
Bar	2	1	1	1						
Shop	1	1	1							
Indoor sports facility	3	2	1							
Vehicle parking - entrance hub area	1	1								
Vehicle parking - accommodation campus					1	1				
Outdoor sports pitches			1		1	1				
Associated developments	13	13	1		1	1	3	3	2	2
Northern park and ride facility (Darsham)	6	6								
Southern park and ride facility (Wickham market)	5	5								
Freight management facility	2	2								
Postal consolidation facility							1	1		
Two security huts									2	2
Two welfare buildings							2	2		
LEEIE facilities	6	8	6		1	1	1	1	1	1
LEEIE park and ride facility					1	1				
LEEIE HGV area							1	1		
LEEIE bus management area									1	1
LEEIE caravan park	6	8	6							
Total no. of bins required	118	110	120	1	4	4	4	4	3	3

5.3.3 Sizing of operational waste consolidation centre

Operational waste from the campus facilities will be stored in the same waste consolidation centre used to store the construction waste arisings from the same facilities (see Appendix B.2.2.2).

As indicated in Appendix B.2.2.2, the operational waste arisings from the campus facilities will need to be stored in a waste consolidation centre with a minimum area of approximately 900m^2. It is clear from Table 51 therefore, from the calculations undertaken, that the maximum indicative number of days that operational waste can be stored in the waste consolidation centre, assuming the scenario 1 container arrangement, is six days. If the scenario 2 arrangement is assumed, then the consolidation centre's size will be more than sufficient to subsequently accommodate operational wastes for approximately 12 days. In reality, it is expected that operational waste arisings will be collected at least once a week.

6 Waste handling, transfer and collection

6.1 Earthworks, construction and demolition phase

6.1.1 Waste collection infrastructure

6.1.1.1 Waste collection vehicle specification

A typical RoRo truck has the following indicative specifications:

- Maximum gross vehicle weight of 32 tonnes;
- Length of 9.2m;
- Pick up length of 15.6m;
- Width of 2.4-2.5m;
- Operating height of 5m; and
- Wall to wall turning circle of 22m.

Sufficient clear space around the vehicle needs to be provided to allow for efficient operation. For example, a minimum working area of 20m in width and 20m in length should be sufficient where the emptying of containers takes place.

While BS5906: 2005 requires a minimum of 5m street width for waste vehicles, there may be instances where a lesser width may be appropriate providing vehicle tracking is undertaken and it can be demonstrated that the waste collection vehicle to be employed can pass through narrower street widths.

The appropriateness for function of carriageway width must be checked by plotting vehicle tracking paths. BS5906: 2005 states that routes should permit waste collection vehicles to continue mainly in a forward direction and should not require vehicles to reverse more than 12m. Where this distance is exceeded turning heads must be provided in accordance with the principles of vehicle tracking.

6.1.2 Waste handling, transfer and collection strategy

At the time of waste generation EDF Energy will appoint a contractor who will consider all types of waste facilities and transport options. All proposals will be approved by East Suffolk Council (ESC) and the EA. EDF Energy proposes to employ a contractor to take responsibility for all waste management activities. By centralising the management of waste through the employment of a competent and qualified contractor, it is anticipated that compliance with waste legislation (e.g. Duty of Care) will be relatively straight forward. The waste management contractor will maintain two waste consolidation centres during the construction phase where wastes will be segregated. EDF Energy will ensure that the contractor complies with all sustainability objectives.

Mixing of wastes stored in temporary stockpiles should be avoided, as this will complicate efforts to later segregate the waste streams. Materials such as wooden pallets should be properly stacked where possible to maximise the ability to reuse them and minimise safety hazards. Hazardous wastes which are generated, which may include asphalt and tar, oils, chemicals and asbestos, should be stored in properly labelled leak-proof containers and include hazard signage.

The hazardous waste containers should be placed on an impermeable surface such as concrete hard standing and stored away from sources of ignition as well as protected from rainfall.

Large dump trucks will transfer segregated C&D waste streams stockpiled near their point of generation to individual 40 cubic yard containers housed in the waste consolidation centres.

Following segregation, waste generated on-site would be sent to third party waste management facilities. The treatment or recovery of wastes will not take place on the site itself, due to the lack of available space. If it is not feasible to directly re-use soils either on the site of origin or off-site, then these will be transported off-site to a MRF, or if contaminated, sent to an appropriate soil treatment facility.

Where practicable, stripped vegetation from the main development site and the associated developments which cannot be re-used on-site during restoration, will be sent to a composting facility or anaerobic digestion plant, and it is anticipated that food waste would be sent to these facilities also.

The disposal of waste to landfill would only be considered as an option of last resort. The waste producer would ensure that all waste is being disposed of in a safe manner. All waste carriers and waste management sites used for the recovery/disposal of waste from the subject sites must be appropriately licensed.

Where necessary, it is proposed for sewage at the associated developments to be collected and sent to a foul sewer. At SZC, it is expected that sewage will be tertiary treated prior to being discharged via the construction outfall to the sea.

6.2 Operational phase

6.2.1 Waste collection infrastructure

The proposed strategy for the collection of waste from the accommodation campus is described below:

- Operational waste is stored temporarily in bins, before being transferred to the operational waste consolidation centre at the end of every day, where the contents of the bins would be emptied using bin lifts into 40 cubic yard RoRo skips housed in a waste consolidation centre, prior to being collected by RoRo trucks.

The collection strategy would involve the use of bin lifts to empty the contents of the bins into the appropriate skip contained in the waste consolidation centre. An example of a bin lift system capable of handling 1,100L and 660L bin sizes is shown in Figure 4.

A description of the waste consolidation centre, waste collection containers and vehicles that would be utilised if this collection strategy was implemented for operational waste, is provided in Sections 5.2.1.2 and 6.1.1.

Figure 4: Example of a bin lift system

Source: Kenburn. Brochure available online at http://www.kenburn.co.uk/wp-content/uploads/2014/03/Brochure-Bin-Lift-Tipping-Device-HKV_1750.pdf

6.2.1.1 Waste collection vehicle specifications

The specifications for RoRo trucks are outlined in Section 6.1.1.1.

If RCVs are used to collect operational waste from the campus, then a typical RCV has the following indicative specifications:

- 26 tonnes gross vehicle weight;
- Length of 11m;
- Width of 2.4m;
- Operating height of 4m; and
- Wall to wall turning circle of 21.9m.

Sufficient clear space around the vehicle needs to be provided to allow for efficient operation. For example, a minimum working area of 3.5m width and 4m in length should be sufficient where the emptying of containers takes place.

The street and carriageway width requirements outlined for RoRo trucks in Section 6.1.1.1 should also be adhered to in this instance.

6.2.2 Waste handling, transfer and collection strategy

6.2.2.1 SZC Power Station

Agreement will be reached with a commercial contractor to collect commercial and inert waste arisings, and with a specialist hazardous waste contractor to collect hazardous waste arising at the power station. The latter may be the same contractor that handles the facility's other waste streams, a separate contractor, or a sub-contractor.

Bins will be placed in different rooms for residual, recyclable and hazardous wastes, the contents of which will be emptied in 1,100L bins contained in the conventional waste storage area by the facilities management team at the end of each day or whenever a bin is filled, whichever is the soonest. It is recommended that operational waste from the power station is collected at least once per week, though there is sufficient space in the conventional waste storage area on site to handle periods of increased waste generation, such as during maintenance outage periods.

On collection day, the power station facilities management team would be responsible for moving the waste bins to the nearby waste collection area, shown in . Adequate space will need to be provided for the waste collection vehicles to execute turning circle manoeuvres; therefore, on collection days it is recommended that bins are placed at street edge to facilitate their collection.

To minimise any odour problems, it is recommended that the waste will not be allowed to remain uncollected from waste storage areas for more than seven days. In addition, all waste rooms will require a water supply and positive drainage to a foul sewer so that they can be washed down periodically. A further specific area will need to be set aside elsewhere in the Development for the washing out of mobile containers.

The facilities management team will be responsible for ensuring appropriate separation of the recyclable element of the wastes and for ensuring that the wastes are appropriately stored ready for collection.

Mobile containers will be provided by the commercial contractor using a different colour for bins containing residual, organic and dry recyclable waste.

6.2.2.2 Accommodation campus

The use of a commercial contractor is considered to be the most suitable option for the collection of wastes from the campus. Contractual conditions relating to security measures will need to be implemented and will require checking of waste management staff and their vehicles prior to being permitted into the compound, including the accommodation campus. Therefore, it is possible that municipal staff would not be permitted to collect the wastes from this facility.

ESC has all of its commercial waste and recycling service operated by Suffolk Coastal Norse (formerly known as Suffolk Coastal Services), which is a subsidiary of Norse Commercial Services, thus it is recommended that agreement is reached either with them or another commercial waste contractor for the collection of waste from all the facilities in the accommodation campus.

The possibility to homogenise the collection contractor and frequency of waste arising from all the facilities on campus in order to reduce the number of collections required should be explored.

Residential areas

If a standard collection system is in place for accommodation campus waste, the day and time of collection should be communicated by the Facilities Manager to the workers. Regardless of the collection strategy in

place, it is recommended that bins or RoRo containers are collected at least once a week by waste collection vehicles. Time slots will be agreed with the commercial waste contractor and any changes to these should be communicated to the campus Facilities Manager and workers.

The facilities management team shall move bins from the accommodation campus storage areas to the waste collection points, where necessary. After the bins are tipped and emptied, the facilities management team shall inspect the bins for damage and cleanliness and move them back to the waste storage area, where required. If waste is deposited in communal areas then it will be necessary for the facilities management team to deal with it swiftly, moving the wastes to the storage area.

Adequate space and turning circles for waste collection vehicles should be provided, such that reversing is minimised. In the waste consolidation centres, at least 20m of clear space should be provided width-and length-wise for the RoRo collection vehicles to execute their turning circle manoeuvres (see Appendix B.2.2).

The location of street furniture and lamp posts should be such that access to containers is not inhibited. Clear restrictions should be placed on vehicles parking in waste collection areas or obstructing access to waste storage areas.

It is recommended that storage space is provided in residential units to safely store and easily access bins.

Workers shall be responsible for transferring their waste from their apartment to the designated waste storage areas. Communal bins in the accommodation campus shall be organised so that a single empty or partially full recyclable and residual waste bins are easy to access. This will help to reduce the potential for residents to deposit waste in the nearest bin and help increase recycling rates.

It is recommended that CCTV is strategically placed in service areas to provide surveillance of communal waste storage areas; this could act as a deterrent to anti-social behaviour and/or monitor and identify illegal waste dumping, whilst providing security to the workers. This should be undertaken only if considered suitable as part of a wider security plan for the site.

Bulky waste

It is unlikely that there will be significant bulky waste generation at the site, as the apartments will be fully furnished. The most likely bulky waste removal will be identified by the facilities management team. However, where the workers need this service, it is recommended that the Facilities Manager engages with them to ensure the following procedure is implemented:

- The worker contacts the Facilities Manager to notify them of the date and time for removal and to ask for assistance to move the waste, if required;
- The Facilities Manager contacts the commercial waste contractor to notify them of the requirement to move bulky waste and arranges for a specific date and time for removal;
- The worker, with assistance from the Facilities Manager if required, transfers the bulky waste to the waste storage area; and
- The Facilities Manager arranges and supervises access for the commercial waste contractor to collect the bulky waste from the waste store.

Where a significant refit is required, special arrangements will need to be agreed as part of the refurbishment contract.

6.2.2.3 Offices, Retail and Hospitality

It is recommended that a single contractor is contracted to deal with all waste types (i.e. residual, food, recyclable) to cover waste arising from all the office, retail and hospitality units.

It is anticipated that the Facilities Management team (FMT) will reach agreement with a commercial waste contractor for the collection of their residual wastes and segregated recyclable wastes arising in the office, retail and hospitality facilities.

The collection frequency will be determined for the collection contract by the Facilities Manager and the collection contractor. It is recommended that all types of waste are collected at a minimum frequency of once per week. More frequent collections should be considered for food waste and waste cooking oil, though this should be considered in discussion with potential fast-food or restaurant outlets to determine how often food bins are likely to fill.

It is recommended that the FMT appoints a cleaning contractor to manage the dry recyclables, organic and residual waste streams from the offices. They shall ensure that waste from litter bins is transferred to the communal waste storage area at the end of a workday or whenever a bin is filled, whichever is the soonest.

Offices

Recyclable, paper and residual waste bins should be placed throughout the offices, at the end of desk-rows, and in common areas. Paper recycling bins should be placed in all printing/copying/shredding areas, while at least one toner/printer cartridge bin should be present on each floor with printing facilities. Food tin/drink can, and plastic bottle recycling bins should be placed in kitchen facilities, while offices with larger kitchens or canteens should consider designated food waste bins. Having a used battery collection point at reception, or in another secured, supervised area is also recommended.

Storage space for recyclable paper should be dry and vermin-proof and paper should not be stored for longer than three weeks.

According to the London Borough of Newham's 'Waste Management Guidelines for Architects and Property Developers'[40], compactors are recommended for all office developments larger than 5,000m^2. For offices over 15,000m^2 in size a rotary compactor is preferable, for those in excess of 20,000m^2 a portable skip compactor or rotary compactor may be used.

It is advised that CCTV is used as a security measure and Radio-Frequency Identification (RFID) tags used on bins in the waste storage area to ensure that only those with specific fobs or cards can gain access and use the bins.

Retail and hospitality

The FMT shall be responsible for the procurement and maintenance of bins in office, kitchen or public areas of retail and hospitality units respectively. Segregation of waste should be based upon the types of waste that are likely to be generated in significant quantities. The FMT shall appoint a cleaning contractor(s) to manage dry recyclables, organic and residual waste generated in the canteens, bar and general retail store.

Communal bin washing shall be undertaken by the FMT. It is recommended that bin washing is undertaken using a mobile bin washer. Appropriate drainage facilities and mains supply should be provided in storage areas.

It is recommended that internal CCTV is used as a security measure and RFID tags used on bins to ensure that only those with specific fobs or cards can gain access and use the bins.

Waste arising from landscaped areas shall be managed by the Facilities Manager or contractor(s). Landscaping waste shall be removed as soon as practicable after landscaping has taken place.

[40] London Borough of Newham - Waste Management Guidelines for Architects and Property Developers (undated). Available online at https://www.newham.gov.uk/Documents/Environment%20and%20planning/WasteManagementGuidelinesArchitectsPropertyDevelopers.pdf

The FMT should consider the use of a compactor and baler at the detailed design stage, which would allow for storage efficiency gains to be made. The use of a baler may necessitate the use of additional equipment such as forklift trucks and pallets, however, and would require additional space to be provided for the storage of the bales. Therefore, the use of an in-situ compactor may be more suitable in this instance. An example of a typical waste baler is provided in Appendix D.

6.2.2.4 Sports facilities

The Sports Facilities Manager (SFM) will reach contractual agreement with Suffolk Coastal Norse or another waste management contractor, for the collection of their residual, recyclable and organic wastes.

The sports facilities will have a primary waste storage area where waste from litter bins will be transferred. Sports facility staff shall transfer bins to a designated vehicle collection area when ready for collection, and then return the bins to the bin storage area once emptied. It is recommended that waste is collected weekly or biweekly, based on the bin storage requirements presented in Table 48.

With regards to the outdoor sports area, green waste arising from the regular maintenance of the sports fields is recommended to be removed by the landscaping team immediately after landscaping activities and taken to a waste composting facility.

Indoor facilities

Dry recyclable and residual waste bins should be provided in the sports halls, gyms, changing rooms and communal areas of the indoor sports facilities. Cleaning staff shall remove bagged waste from these bins and discharge the residual waste and recyclables to respective 1,100L bins in a bin storage area.

If the indoor sports facility is to include a food outlet area, then it is recommended that a 70L food bin is placed in kitchen areas. The kitchen staff shall use paper caddy liners to line the food bin and transfer the bins when full to 1,100L containers in the bin storage area.

Outdoor facilities

Outdoor sporting facilities should employ residual waste and recycling bins at regular space intervals, as well as at strategic points, such as near exits, and food service areas. Bins should be bonded to the ground securely and should be lockable, requiring either a key or tool to access. Apertures should be wide enough to insert drink bottles/other typical wastes, but not bulky objects, and should feature a cover/flap to prevent animal ingress.

Bins shall be emptied either by Suffolk Coastal Norse or other private contractors. Facilities which hold regular events should implement a post event litter picking/cleaning protocol.

6.2.2.5 Other

It is recommended for the collection of waste arising from the vehicle parking areas, postal consolidation centre and laundrette to be homogenised with the collection of waste from other campus facilities. Both recycling and residual litter bins will be strategically placed in the vehicle parking areas, while these will be emptied into 1,100L or 660L containers at the end of each day or whenever a bin is filled, whichever is the soonest.

6.3 Removal and reinstatement/Decommissioning phase

The composition of the waste arising from the removal and reinstatement/decommissioning phase will be similar to those produced from construction. As such, the same procedures outlined for handling construction waste would be applied. Notably, waste arising from the removal and reinstatement/decommissioning phase would not be suitable for re-use on a greenfield site and would therefore be sold direct to market, sent to a

MRF for recycling, or as a last resort, to landfill for disposal. In order to assist with material reclamation (e.g. to sell direct to market), demolition contractors will undertake a 'soft strip' prior to carrying out machine demolition.

Where sites are to be restored to greenfield status, topsoil and subsoil stripped during the initial earthworks and stored on-site, will be available for re-use.

6.4 Other waste handling issues

6.4.1 Fire safety

Fire safety is of paramount importance in the development of a waste strategy. In order to ensure that fire safety is considered, the Suffolk Fire and Rescue Service should be consulted at the design stage, for the individual sections of the Development, and recommendations should be taken into consideration and implemented, where appropriate. This strategy shall be reviewed and amended in conjunction with the findings of the consultation to ensure that fire risk is reduced with regards to temporary and permanent storage of waste in communal areas or areas where a fire has the potential to start (e.g. near to electrical equipment or machinery).

In compliance with the Building Regulations, waste storerooms and other ancillary accommodation should not be located within, or entered from, any protected lobby or protected corridor forming part of the only common escape route from a dwelling on the same storey as that of ancillary accommodation.

The design and construction of the Development shall adhere to the requirements of the BS 9991:2015 standard[41] that state that any wall enclosing a refuse storage chamber should be constructed with a fire resistance of not less than 60 minutes. BS 9991:2015 also recommends providing additional fire safety measures if a stairway or corridor serves an area of increased fire risk such as a refuse room.

According to BS 5906:2005[42], any access lobby to a waste storage room should be of minimum possible size to prevent its use for the storage of waste, and that access is not by way of a dead-end corridor.

Strong consideration should be given to equipping waste storage areas with fast response sprinklers, and hose reels should be located adjacent to waste storage areas.

Protected lobbies and corridors should be permanently ventilated, and smoking shall not be permitted in waste storage areas. Signage should be displayed in visible locations near to communal bins to highlight the requirement to not smoke.

In addition, all staff working in the Development should be made aware of the fire risks surrounding waste storage during health and safety induction training.

6.4.2 Washing of waste containers

To reduce the potential for odours, it is proposed that all bins and waste containers are regularly and thoroughly washed as a part of the maintenance regime. Adequate drainage facilities and a water supply should be provided in waste storage areas to allow for bin washing. Waste containers should have stoppers to prevent leakage when in general use, which can be removed to allow water to drain during cleaning.

If an area cannot be set aside from general access, then workers should be notified prior to bin washing being undertaken and A-frame safety signs should be erected in suitable locations when bin washing takes place.

[41] BS 9991:2015, October 2015 - Fire safety in the design, management and use of residential buildings. Code of Practice.

[42] BS 5906:2005, December 2005 - Waste management in buildings. Code of Practice

6.4.3 General storage provisions

All waste storage areas should have adequate ventilation and lighting and should be sealed to prevent vermin entering. Rubber buffers will be incorporated in all internal waste storage areas, and lifts, used to store or move waste to avoid damaging the walls.

Further requirements for storage provisions, which shall be considered in the development of waste storage areas in accordance with BS5906:2005, are included in Appendix A.2.

7 Schedule of waste production

7.1 Strategic plan

This document assumes that a Development Consent Order (DCO) would be granted by 2022 and EDF Energy's target for the nuclear reactors becoming operational is 2034. The construction programme under the DCO is currently anticipated to commence in 2022; further detail on the construction programme is provided in Volume 3, Chapter 3.

7.2 Schedule of waste production

In total, approximately 1.01 million tonnes of waste are predicted to be produced during the construction, operation and removal and reinstatement/decommissioning phases of the main development site and the associated developments. The main construction waste peak is expected to occur during year 2 of the construction programme since the accommodation campus, LEEIE facilities and associated developments will be under construction. The civil works of the power station is expected to commence in year 3, with construction waste volumes expected to remain relatively constant from years 4 to 11 (inclusive), which coincides with the onset of the operational phases of the accommodation campus, LEEIE facilities and associated developments, when they begin to increase significantly as the removal and reinstatement phases of these facilities commence. A significant peak occurs from years 11 to 12, particularly associated with the removal of the campus, temporary construction area, LEEIE facilities and associated developments.

Following the operational phases and prior to the post-operational phases of the campus, temporary construction area, LEEIE facilities, associated developments and SZC power station (in 60+ years), there will be a review stage, whereby the proposed waste management methods would be reassessed. This would take into account any new management methods or facilities becoming available to the project subsequent to the drafting of this document.

7.3 Worker population – waste implications

It is projected that the peak workforce will total 7,900 in year 3[43] of the construction programme, before gradually falling toward the end of construction of SZC power station. Of these 7,900 workers, it is predicted the accommodation campus will house up to 2,400 workers.

Consequently, there will be an increase in general waste production and the use of existing infrastructure within Suffolk during the construction period, due to the additional people at the temporary accommodation campus. The remaining workers will be housed in accommodation within the local area. Notably, these workers will not exert any undue burden upon the local waste management infrastructure/facilities, as it is already assumed that this accommodation will be occupied.

[43] Based on information obtained from the construction labour demand curve on page 48 of EDF Energy's Stage 3 Volume 1 Consultation Document, in addition to the construction programme

8 Analysis of local and regional waste facilities

8.1 Introduction

Due to the extent of the development and constraints at the main development site and the associated developments (e.g. lack of available space, environmental constraints), it will not be practical to treat waste on-site. As a result, the existing waste infrastructure within the surrounding and wider area of Suffolk would be used to re-use, recycle and recover the waste produced. The proximity principle will be applied, whereby waste facilities located closest to the point of waste production would be preferred over facilities located further away.

This section assesses the existing waste infrastructure within the vicinity of Sizewell C, and its suitability for processing waste produced as a result of the Project. This assessment takes into account the distances of the various waste facilities (e.g. proximity principle), the waste types that they accept, and the volumes (including waste peaks). Notably, a waste options appraisal is given in Section 10. These facilities are discussed in the sequence of the waste hierarchy.

8.2 Local facilities

Given the variety of waste types considered, a broad range of types of local waste facilities has been considered appropriate at this stage. These facilities have been selected as providing treatment, disposal, or management of the wastes produced. This information is inclusive of the following types of facilities:

- Inert Landfills;
- Non-Hazardous Landfills;
- Energy Recovery Incinerators;
- Composting Facilities (Aerobic);
- Household Waste and Recycling Centres;
- Materials Reclamation Facilities;
- Waste Transfer Facilities;
- Secondary Aggregate Facilities;
- Metal Recycling Facilities;
- Anaerobic Digestion Facilities; and
- Quarries.

The documents and databases that have been utilised and identified as pertinent for the categorisation of relevant local waste management sites include:

- Suffolk Waste Core Strategy, March 2011;
- Suffolk Mineral Strategy, September 2008;
- Suffolk County Council's Minerals and Waste Local Plan – Suffolk Waste Study, April 2018;
- Suffolk County Council's Minerals and Waste Local Plan – Suffolk Waste Study, September 2017;
- Environment Agency Public Register;
- Suffolk Waste Sustainability Appraisal;
- Joint Municipal Waste Management Strategy for Suffolk 2003 – 2020;
- Joint Municipal Waste Management Strategy for Suffolk 2003 – 2020 Addendum 2013;
- Suffolk Waste Partnership Annual Report of the Joint Municipal Waste Management Strategy;

- Environment Agency (2019), Waste Data Interrogator 2018;
- Environment Agency (2019), Remaining Landfill Capacity 2018;
- Environment Agency (2019), Environmental Permitting Regulations – Waste Operations;
- Suffolk County Council Online Planning Application Database; and
- Suffolk Waste Local Plan Baseline Reports.

8.2.1 Preparation for re-use

EDF commits to ensuring that there is no undue burden upon existing waste infrastructure within Suffolk as a result of the Project. In particular, excavated materials will be re-used on the site of origin during cut and fill operations or reinstatement.

Materials of value, such as pipes and steel and fill materials could be sold directly to the local market. This would need to be done in line with the relevant regulations, including the WRAP Quality Protocols. By selling the material locally, this would have the advantage of reducing vehicle movements on roads further afield. If accommodation campus units are of modular construction type, there would be a potential for contracts such as 'buy-back' to be sought with suppliers, or the direct re-use of materials/components. Due to potential design life issues, it is far more likely that components of structures would be suitable for re-use rather than whole units.

8.2.2 Recycling

Construction and Demolition waste

In Suffolk, there are several medium to large scale MRFs/waste transfer stations and numerous small-scale facilities which can take mixed waste and segregate it for processing.

An assessment of operational MRFs and waste transfer stations within Suffolk that lie within 100km of the site has been undertaken, primarily using information provided in SCC's Minerals and Waste Local Plan – Suffolk Waste Study, April 2018 and the Environment Agency Public Register, as well as documents listed in Section 8.2. The assessment was based on the annual tonnage capacity of each facility, where this information was available, and its distance by road from the main development site, the results of which are presented in Table 18 in order of proximity to the site.

MRFs and waste transfer stations with known capacities less than 4,999tpa have been excluded from consideration.

Table 18: Material Recycling Facilities and Waste Transfer Stations in Suffolk

Site name	Operator name	Facility type	Post code	Licenced capacity	Distance (km)	Size
Leiston Transfer Station	Mrs Tanya Staff & Mrs Trudy Saxby Skipaway	S0801 No 1: 75kte HCI Waste Transfer Station	IP16 4JD	74,999	5.2	Small
Bentwaters Park	Bentwater Parks Ltd	S0811 No 11: Inert & excavation Waste TS + treatment	IP12 2TW	74,999	19.4	Small
Poplar Farm	Lansdowne Paul	S0811 No 11: Inert & excavation Waste TS + treatment	IP13 7LR	74,999	30.6	Small

Site name	Operator name	Facility type	Post code	Licenced capacity	Distance (km)	Size
Tec Energy	Tec Energy UK Ltd VC Cooke	A11: Household, Commercial & Industrial Waste T Stn	NR34 7TQ	25,000	33.5	Small
Anson Way WTS	B&B Skip Hire	A9: Special Waste Transfer Station	NR34 7SP	74,999	34.7	Small
Former Brick & Pipeworks Site	EE Green & Son Ltd	S0811 No 11: Inert & excavation Waste TS + treatment	NR33 8DS	74,999	34.9	Small
Lowestoft	Anti-Waste Ltd	A9: Special Waste Transfer Station	NR33 7NF	150,000	36.0	Large
Former Brick and Pipe Works	EE Green and Son	S0811 No 11: Inert & excavation Waste TS + treatment	NR33 8DR	74,999	36.0	Small
Foxhall Waste Transfer Station	FCC Waste Services (UK) Limited	A11: Household, Commercial & Industrial Waste T Stn	IP10 0HT	74,999	36.6	Medium
Brooke Marine Industrial Estate	East Point Metal Trading Limited	S1514 No 14: 75kte Metal Recycling Site A19: Metal Recycling Site (Vehicle Dismantler)	NR33 9LZ	24999	39.9	Small
Oulton Broad Transfer Station	PW Waters	A1: Household, Commercial & Industrial Waste T Stn	NR32 3LZ	5,000	40.2	Small
FA Edwards And Son Ltd	FA Edwards, D Edwards And J Edwards	A20: Metal Recycling Site (mixed MRS's)	IP21 5EX	25,000	40.3	Small
Unity Street Metal Recycling Facility	Control Trading Ltd	A20: Metal Recycling Site (mixed MRS's)	IP3 0AP	5,000	42.0	Small
S Sacker Claydon Ltd	S Sacker (Claydon) Ltd	A11: Household, Commercial & Industrial Waste T Stn A19: Metal Recycling Site (Vehicle Dismantler)	IP6 0JB	74,999	44.4	Medium
Cook Transfer Station	PC and TN Cook	A11: Household, Commercial & Industrial Waste T Stn	IP3 0ET	24,999	44.5	Small

Site name	Operator name	Facility type	Post code	Licenced capacity	Distance (km)	Size
Barham Quarry	Tarmac Aggregates Ltd	S0803 No 3: 75kte HCI Waste TS + treatment	IP6 0PF	74,999	44.5	Small
Bolton Brothers Recycling Centre (MRF)	Bolton Brothers Ltd	A15: Material Recycling Treatment Facility	IP6 0SL	74,999	44.9	Medium
Shrublands Quarry Recycling Facility	Brett Aggregates Ltd	S0906 No 6: Inert & Excavation WTS with treatment	IP6 9QJ	250,000	45.1	Small
Masons Material Reclamation Facility	Viridor Waste Management Ltd	A15: Material Recycling Treatment Facility	IP6 0NW	150,000	45.2	Large
Masons Quarry Transfer Station	All Waste Solutions Ltd	A11: Household, Commercial & Industrial Waste T Stn	IP6 0JX	74,999	45.3	Medium
Malting Farm	JT Few Plant Hire Limited	S0811 No 11: Inert & excavation Waste TS + treatment	IP6 0LX	74,999	45.9	Small
Blood Hill Quarry	JT Few Plant Hire Ltd	S0811 No 11: Inert & excavation Waste TS + treatment	IP8 4NJ	74,999	46.8	Small
Debtrac Centre	S Sacker (Claydon) Limited	A11: Household, Commercial & Industrial Waste T Stn	IP6 8DJ	74,999	48.0	Medium
Stowmarket Skip Hire Ltd	Stowmarket Skip Hire Ltd	S0803 No 3: 75kte HCI Waste TS + treatment	IP14 2EH	4,999	51.3	Small
V Cracknell And Son Limited	V Cracknell And Son Ltd	A20: Metal Recycling Site (mixed MRS's)	IP14 2AL	17,000	52.1	Small
Folly Farm Waste Management Facility	Shotley Holdings Limited	A1: Co-Disposal Landfill Site A11: Household, Commercial & Industrial Waste T Stn	IP9 2NY	74,999	52.6	Medium
Safety Kleen	Safety Kleen UK	A9: Special Waste Transfer Station	IP30 9HN	24,999	59.0	Small
Elmswell	CG Finch	A20: Metal Recycling Site (mixed MRS's)	IP30 9QR	5,000	59.7	Small

Site name	Operator name	Facility type	Post code	Licenced capacity	Distance (km)	Size
Harpers Hill Farm	TD & AM Bugg	A14: Transfer Station taking Non-Biodegradable Wastes A11: Household, Commercial & Industrial Waste T Stn	CO6 4NU	15,475 (2015 through-put)	69.2	
Troston Estates	Whites Recycling Ltd.	A11: Household, Commercial & Industrial Waste T Stn	IP31 1EW	39,999	69.3	Medium
Miniwaste	Mini Waste Limited	A11: Household, Commercial & Industrial Waste T Stn	CO10 0RE	74,999	71.6	Medium
Barton Road	UK Power Networks (Holdings) Ltd	A9: Special Waste Transfer Station	IP32 7BG	25,000	71.8	Small
Hollow Road Farm	Shotley Holdings	S0807 No 7: 75kte HCl Waste TS + treatment + asbestos	IP31 1SJ	74,999	73.0	Small
Hollow Road Farm	Steve Lumley Planing Limited	S0811 No 11: Inert & excavation Waste TS + treatment	IP31 1SJ	75,000	73.2	Small
Oss Thetford Transfer Station	Orcol Fuels Ltd Oss Group Ltd	A9: Special Waste Transfer Station	IP31 1NQ	5,000	75.0	Small
Balloon Barn Farm	Culford Waste Ltd	A11: Household, Commercial & Industrial Waste T Stn	IP28 6TY	35,000	78.1	Medium
Glemsford Skip Hire	Russell James Hugh	A11: Household, Commercial & Industrial Waste T Stn	CO10 7QU	5,000	80.5	Small
Higham Rail Depot	Tarmac Aggregates Limited	A15: Material Recycling Treatment Facility	CB8 7QT	74,999	87.3	Medium
Glemsford Skip Hire	Russell James Hugh	A11: Household, Commercial & Industrial Waste T Stn	CO10 7QU	5,000	90.9	Small
The Carrops	Scrapco Metal Recycling Ltd	A20: Metal Recycling Site (mixed MRS's)	IP28 8LD	24,999	92.1	Small

Site name	Operator name	Facility type	Post code	Licenced capacity	Distance (km)	Size
HEH Enterprises - Chippenham Transfer Station	HEH Enterprises Ltd	A11: Household, Commercial & Industrial Waste T Stn	CB8 7QJ	25,000	92.3	Small
Red Lodge Transfer Station	Anti - Waste Ltd	A11: Household, Commercial & Industrial Waste T Stn	IP28 8LG	25,000	92.7	Medium
Old Chicory Factory	Murfitts Industries Ltd	A15: Material Recycling Treatment Facility	IP27 9AD	75,000	93.5	Small
The Yard	Medley James	S0801 No 1: 75kte HCI Waste Transfer Station	IP28 8PS	74,999	94.9	Small
Lakenheath Recycling Facility	Sutton Services Limited	S0811 No 11: Inert & excavation Waste TS + treatment	IP27 9BX	75,000	95.7	Small
Lackford Recycling Facility	Tamar Recycling (Suffolk) Limited	S1506 No 6: 75kte HCI Waste TS + treatment	IP28 6HJ	74,999	96.8	Large
Mayer Parry - Snailwell	Mayer Parry Recycling Ltd	A20: Metal Recycling Site (mixed MRS's)	CB8 7ND	75,000	98.5	Large
Haverhill Recycling and Transfer Station	Anti - Waste Ltd	A11: Household, Commercial & Industrial Waste T Stn	CB9 8QP	200,000	99.3	Large
St Edmundsbury Borough Depot	St Edmundsbury Borough Council	S0807 No 7: 75kte HCI Waste TS + treatment + asbestos	CB9 8QP	4,999	99.3	Small

The 2018 Suffolk Waste Study Final Report provides baseline estimates for C&D waste arisings across Suffolk of approximately 460,000 tonnes in 2022 decreasing to 386,000 tonnes in 2031.

It is estimated that approximately 460,000 tonnes of C&D waste will be produced over a period of 11 years from the Project, with 102,000 tonnes generated in year 1 of the construction programme, 115,000 tonnes in year 2, 14,000 tonnes in year 3 and 28,000 tonnes annually between years 4 to 11. This would represent approximately 22%, 26%, 3% and 8% of total Suffolk C&D waste arisings in years 1, 2, 3 and 11 respectively.

It is considered for there to be sufficient capacity in Suffolk to deal with C&D waste arising from the scheme, which will require the use of a network of MRFs within the county.

Composting, anaerobic digestion and landfill facilities with the capacity to accept C&D waste are listed in Table 20, Table 21 and Table 22 respectively.

Inert waste

The 2018 Suffolk Waste Study highlights the following facilities in Table 19, ordered in terms of proximity to the development, as being able to accept inert waste and includes their throughputs for 2018, as indicated in the Waste Data Interrogator.

Table 19: Inert waste transfer and treatment facilities in Suffolk

Site name	Operator name	Facility type	Post code	Licenced capacity (tpa)	Distance (km)	Size	Throughput 2018
Bentwaters Park	Bentwater Parks Ltd	S0811 No 11: Inert & excavation Waste TS + treatment	IP12 2TW	74,999	19.4	Small	10,295
Tippers R Us, Sinks Pit	Nicholls Limited	A16: Physical Treatment Facility	IP5 2PE	250,000	37.3	Medium	243,810
Flixton Park Quarry	Cemex UK Materials Ltd	SR2010 No12: Treatment of waste to produce soil <75,000 tpa A25: Deposit of waste to land as a recovery operation	NR35 1NN	74,999	38.2		0
Waldringfield Recycling Facility	Brett Aggregates Ltd	A16: Physical Treatment Facility	IP10 0BL		40.6		43,537
Shrublands Quarry Recycling Facility	Brett Aggregates Ltd	S0906 No 6: Inert & Excavation WTS with treatment	IP6 9QJ	250,000	45.1	Small	16,028
J T Few Plant Hire Ltd	J T Few Plant Hire Ltd	S0811: Inert & excavation Waste TS + treatment	IP8 4NJ		45.7		25,400
Malting Farm	JT Few Plant Hire Limited	S0811 No 11: Inert & excavation Waste TS + treatment	IP6 0LX	74,999	45.9	Small	24,700
Stowmarket Skip Hire Ltd	Stowmarket Skip Hire Limited	S0803: HCI Waste TS + treatment	IP14 2ED		50.2		21,519

Site name	Operator name	Facility type	Post code	Licenced capacity (tpa)	Distance (km)	Size	Throughput 2018
Folly Farm Waste Management Facility	Shotley Holdings Limited	A1: Co-Disposal Landfill Site A11: Household, Commercial & Industrial Waste T Stn	IP9 2NY	74,999	52.6	Medium	0
Harpers Hill Farm	TD & AM Bugg	A14: Transfer Station taking Non-Biodegradable Wastes A11: Household, Commercial & Industrial Waste T Stn	CO6 4NU		69.2		0
Hollow Road Farm	Steve Lumley Planing Limited	S0811 No 11: Inert & excavation Waste TS + treatment	IP31 1SJ	75,000	73.2	Small	25,729
Balloon Barn Farm	Culford Waste Ltd.	A11: Household, Commercial & Industrial Waste T Stn	IP28 6TY	35,000	78.1	Medium	0
Barrow Heath	Greenways Recycling Limited	Physico-chemical treatment installation	IP28 6RE		84.6		82,120
RG Housden Greenways Recycling	RG Housden	Waste transfer station	IP28 6RE	75,000	88.8	Large	
The Carrops	Scrapco Metal Recycling Ltd	A20: Metal Recycling Site (mixed MRS's)	IP28 8LD	24,999	92.1	Small	0
Worlington Quarry	Frimstone Limited	A25: Deposit of waste to land as a recovery operation	IP28 6BS		95.6	Small	4,604

Site name	Operator name	Facility type	Post code	Licenced capacity (tpa)	Distance (km)	Size	Throughput 2018
Lakenheath Recycling Facility	Sutton Services Ltd	S0811 No 11: Inert & excavation Waste TS + treatment	IP27 9BX	75,000	95.7	Small	0

General waste

The majority of municipal solid waste from the main development site is anticipated to be re-useable, recyclable or recoverable. In Suffolk, residential waste collection is carried out by the Suffolk Waste Partnership (SWP). The SWP is a strategic partnership of the county, district and borough councils, which works together to continuously improve waste management services throughout Suffolk. However, in view of the non-residential amenities at the main development site (e.g. canteens, bar, offices etc) and under Schedule 2 of the Controlled Waste Regulations 2012 (see Section 2.3.4), if the Local Authority were to agree to collect the waste, a charge would be levied for its collection. It may not be feasible to expect the Local Authority to agree to collect waste from the campus; therefore, this strategy recommends that EDF Energy opts for employing a commercial contractor, which has several advantages (see Section 10.3.1.3).

The Suffolk Waste Study 2018 provides baseline estimates for municipal solid waste across Suffolk of approximately 430,000 tonnes in 2024/25 increasing to 455,000 in 2031/32. The average annual domestic type waste arisings from main development site, including the fully occupied campus and caravan park, are estimated to be approximately 5,100 tonnes over an approximate 8-year period (see Sections 4.2.2.1 and 4.2.2.5). This would represent approximately 1.2% and 1.1% of total Suffolk arisings in years 3 and 10 respectively and would not impact significantly upon the existing facilities.

In total, the commercial and industrial (C&I) waste connected with the associated developments (excluding rail and road infrastructure) is estimated to total approximately 4,400 tonnes in years 3-10. C&I waste is likely to include general black bag waste and dry recyclables such as cardboard, paper, green waste and plastics.

The Suffolk Waste Study 2018 provides baseline estimates for commercial and industrial waste arisings across Suffolk of approximately 926,000 tonnes in 2024, assuming high growth, increasing to 1,039,000 in 2031. The average annual commercial and industrial arisings from the associated developments is estimated to be approximately 550 tonnes over an 8-year period. This would represent approximately 0.06% and 0.05% of total Suffolk arisings in years 3 and 10 respectively and would not impact significantly upon the existing facilities.

The largest MRF in Suffolk is Viridor's Masons MRF, which has a licensed capacity of 150,000tpa and lies approximately 45km away from the SZC site. In 2014, Viridor was awarded a 4-and-a-half-year contract plus an option to extend for a further two-year period by the SWP to sort and market mixed recyclable materials arising from households and businesses in the county. Approximately 50,000tpa of recyclates are sorted and marketed at its Masons MRF, collected by the seven local councils in Suffolk.

Food waste could be delivered to composting and anaerobic digestion facilities described in this Section, while non-recyclable residual wastes could potentially be sent to the energy from waste (EfW) facility adjacent to Viridor's Masons Landfill (see Section 8.2.3).

Hazardous waste

The Suffolk Waste Study 2018 provides baseline estimates for hazardous waste arisings across Suffolk of approximately 38,294 tonnes in 2022 decreasing to 31,090 tonnes in 2032. The total hazardous waste arisings from the construction phase is estimated to be 11,800 tonnes, as shown in Table 1; therefore, the average annual hazardous construction was arisings from years 1-12 (inclusive) is estimated to be approximately 1,100 tonnes. The peak annual hazardous construction waste arisings for SZC are estimated as 5,200 tonnes (in year 2) which would represent approximately 14% of total Suffolk arisings in year 2. In years 1, 3 and 11 hazardous construction waste arisings are estimated as 4,600 tonnes, 120 tonnes and 330 tonnes respectively, which would represent 12%, 0.3% and 1.1% of total Suffolk arisings in the same year.

A list of waste facilities in Suffolk and neighbouring counties that accept relevant hazardous wastes has been identified and is shown in Table 55, ordered in terms of proximity. The table contains throughputs for 2018 as

obtained from the Waste Data Interrogator. A list of the hazardous waste types deemed to be pertinent to the Project is provided in Table 54.

The hazardous waste facilities in Suffolk of most interest to the Project are the following:

- Hollywell Waste Oil Facility, which has a permitted capacity of approximately 75,000tpa and is situated approximately 45km away from the SZC site. The site had a throughput of approximately 6,600 tonnes in 2018;
- Folly Farm Waste Management Facility, a hazardous landfill operated by Shotley Holdings Ltd which accepts hazardous construction materials and had a throughput of approximately 129,000 tonnes in 2018.

Hazardous waste facilities located in neighbouring counties are described in Section 8.3.

However, since there are no facilities within Suffolk that are permitted to treat contaminated soils that may arise from the Project, it will be necessary to use regional facilities for this waste stream. A list of facilities in the UK capable of treating contaminated soils is provided in Section 8.3.

Food/Vegetation

There are several composting facilities in Suffolk; these are shown in Table 20 and listed in order of proximity to the Development. Parham Recycling Centre, an in-vessel-composting (IVC) facility, constitutes the most desirable composting option as it lies only 20km away from the Development and has capacity to receive 35,000tpa of composting waste per annum.

Table 20: Composting facilities in Suffolk

Site Name	Post code	Operator	Permitted capacity (tpa)	Throughput 2018 (tpa)	Distance (km)
Parham Recycling Centre	IP13 9AF	Tamar Composting (East Anglia) Limited	35,000	23,642	20.5
Foxhall Composting	IP10 0HT	Viridor Waste Suffolk Ltd	24,999		38.7
Cliff Quay	IP3 0AT	Anglian Water Services		11,828	45.0
Creeting Compost Facility	IP6 8ND	Material Change Creeting Ltd	50,000	23,689	47.5
Lackford Composting Facility	IP28 6HJ	Countrystyle Recycling (Suffolk) Ltd	75,000	66,854	86.4
Red Lodge Compost Facility	IP28 8LG	Anti - Waste Ltd		82,533	95.5

Source: Sacks Consulting, June 2013 - Baseline Report for the Review of the Suffolk Waste Local Plan; Suffolk Waste Study Final Report, April 2018; Waste Data Interrogator 2016; and Environment Agency Public Register

8.2.3 Other recovery

Energy from Waste (EfW)

The closest EfW facility able to accept significant volumes of waste is located opposite to Masons Landfill, approximately 45km away from the SZC site. It was opened in December 2014 by Suez Environment and has the capacity to treat 269,000 tonnes of residual waste per year. The plant has been built as part of a £1

billion, 25-year residual waste management contract signed between SCC and Suez – then SITA UK – in October 2010 – with the facility granted planning permission in July 2011.

There are only two other EfW facilities in Suffolk, the Eye Power Station and Ipswich EfW, however these are unsuitable for SZC's needs since their feedstock material requirements are animal by-products and clinical waste respectively.

Anaerobic digestion

Anaerobic digestion facilities located within Suffolk that are able to accept food or vegetation waste arising from the Development, such as canteen food waste, are listed in Table 21 in order of proximity to the site. Two anaerobic digestion facilities lie within 26km of the Development: Reydon Anaerobic Digestion Facility and Adnams Bio Energy.

Table 21: Anaerobic Digestion Facilities in Suffolk able to accept food or vegetation waste from the Development

Site name	Developer	Postcode	Feedstock	Completion	Distance (km)	Capacity (tpa)
Reydon Anaerobic Digestion Facility	CRS Bio Limited	IP18 6SG	Food waste and mixed municipal waste		22.9	20,000
Adnams Bio Energy	Adnams Bio Energy	IP18 6JW	Food waste & brewery waste	2014	26.1	25,000
Cedars Maltings	Muntons	IP14 2AG	Biowaste	2015	50.9	68,500

8.2.4 Disposal

Landfill

The closest landfills with sufficient capacity remaining at the end of 2018 according to the Environment Agency and which accept C&D waste are Cartwrights Covert Landfill, Masons Landfill and Shrublands Quarry, all of which lie between 42 and 45km road distance from the Sizewell C Project. Masons Landfill and Shrublands Quarry are operated by Viridor and Brett Aggregates respectively and had a remaining capacity at the end of 2018 of approximately 3.3 million m^3 and 0.42 million m^3. Cartwrights Covert Landfill had a remaining capacity of 0.18 million m^3 at the end of 2018 and is operated by Cemex.

There are two other landfills within Suffolk, which would be suitable for disposal of C&D type waste, as listed in Table 22. However, these landfills are less desirable than Masons Landfill as they have lower capacities and are located further away from the SZC site (see Section 10).

Table 22: Landfills located within Suffolk with sufficient remaining capacity

Operator name	Facility name	Facility address	Landfill Site type	Remaining Capacity end 2018 (cubic metres)	Road Distance (km)
Viridor Waste Management Ltd	Masons Landfill	Great Blakenham, Ipswich IP6 0NW	Non-Hazardous Landfill with Stable Non-Reactive Hazardous Waste cell	3,264,778	44.8

Operator name	Facility name	Facility address	Landfill Site type	Remaining Capacity end 2018 (cubic metres)	Road Distance (km)
Aggmax Limited	Lawn Farm Quarry	Lawn Farm Quarry, Old Bury Road, Wetherden, Stowmarket, Suffolk, IP30 9RS,	Inert Landfill	1,330,000	60.2
Shotley Holdings Limited	Folly Farm Landfill	Ipswich IP9 2NY	Non-Hazardous Landfill with Stable Non-Reactive Hazardous Waste cell	574,127	55.5
Brett Aggregates Ltd	Shrublands Quarry	Shrubland Park, Coddenham IP6 9QJ	Inert Landfill	422,700	45.0
Cemex UK Materials Limited	Cartwrights Covert Landfill	Cartwrights Covert Landfill, Flixton Road, Bungay, Suffolk, NR35 1NN,	Inert Landfill	178,000	42.1

8.2.5 Total Capacity

The total indicative permitted capacity in Suffolk of different waste facilities located within 100km of the site is shown in Table 23. It should be noted that capacity information was not available for several sites. The throughputs for the year 2018 are provided for relevant hazardous waste facilities instead, as obtained from the Waste Data Interrogator, while hazardous waste facilities located in neighbouring counties are also included.

Table 23: Summary of available facilities, site types and permitted capacities within 100km of SZC

Type of facility	Number of Facilities					Permitted capacity (tonnes)				
	Within 10km	Within 25km	Within 50km	Within 75km	Within 100km	Within 10km	Within 25km	Within 50km	Within 75km	Within 100km
Landfill	**0**	**0**	**2**	**5**	**5**	**0**	**0**	**3,687,478**	**5,769,605**	**6,819,605**
Non-Hazardous Landfill with Stable Non-Reactive Hazardous Waste cell	0	0	1	2	2	0	0	3,264,778	3,838,905	3,838,905
Inert Landfill	0	0	1	3	3	0	0	422,700	1,930,700	2,980,700
Transfer Stations	**2**	**3**	**22**	**32**	**46**	**99,998**	**174,997**	**1,422,483**	**1,752,477**	**2,252,722**
A9: Special Waste Transfer Station	0	0	2	5	5	0	0	224,999	279,998	279,998
A11: Household, Commercial & Industrial Waste Transfer Station	1	1	11	15	25	24,999	24,999	417,491	562,787	879,986
A14: Transfer Station taking Non-Biodegradable Wastes	0	0	1	1	1	0	0	5,000	5,000	5,000
S0801 No 1: 75kte HCI Waste Transfer Station	1	1	1	1	2	74,999	74,999	74,999	74,999	149,998
S0803 No 3: 75kte HCI Waste Transfer Station + treatment	0	0	1	2	2	0	0	74,999	79,998	79,998
S0807 No 7: 75kte HCI Waste Transfer Station + treatment + asbestos	0	0	0	1	2	0	0	0	50,000	54,999
S0811 No 11: Inert & excavation Waste Transfer Station + treatment	0	1	5	6	8	0	74,999	374,995	449,995	552,743
S0906 No 6: Inert & excavation Waste Transfer Station with treatment	0	0	1	1	1	0	0	250,000	250,000	250,000
Metal Recycling Facilities	**0**	**2**	**10**	**12**	**15**	**0**	**149,998**	**509,991**	**531,991**	**636,990**
SR2010 No12: Treatment of waste to produce soil <75,000 tpa	0	2	6	6	6	0	149,998	449,994	449,994	449,994
A20: Metal Recycling Site (mixed MRS's)	0	0	3	5	8	0	0	34,998	56,998	161,997
S1514 No 14: 75kte Metal Recycling Site	0	0	1	1	1	0	0	24,999	24,999	24,999
Biological treatment	**0**	**4**	**6**	**7**	**10**	**0**	**101,000**	**175,999**	**244,499**	**354,498**
A23: Biological Treatment Facility	0	1	1	1	1	0	20,000	20,000	20,000	20,000
A22: Composting Facility	0	2	4	4	7	0	56,000	130,999	130,999	240,998
Waste Fed Anaerobic Digestion	0	1	1	2	2	0	25,000	25,000	93,500	93,500
Use in construction	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**49,999**	**49,999**	**49,999**
SR2010 No7: Use of waste in construction <50,000 tpa	0	0	1	1	1	0	0	49,999	49,999	49,999
Use/recovery of Inert waste	**0**	**3**	**11**	**13**	**15**	**0**	**114,997**	**797,491**	**1,047,488**	**1,175,392**
S1539 No 39: Use of waste in a deposit for recovery op	0	0	0	1	1	0	0	0	174,998	174,998
A25: Deposit of waste to land as a recovery operation	0	1	4	4	5	0	99,999	272,498	272,498	325,403
SR2010 No12: Treatment of waste to produce soil <75,000 tpa	0	2	7	8	9	0	14,998	524,993	599,992	674,991
Material recycling	**0**	**0**	**2**	**2**	**4**	**0**	**0**	**224,999**	**224,999**	**374,998**
A15: Material Recycling Treatment Facility	0	0	2	2	4	0	0	224,999	224,999	374,998
Physical/Chemical treatment	**0**	**0**	**6**	**9**	**11**	**0**	**0**	**724,996**	**734,994**	**804,994**
A16: Physical Treatment Facility	0	0	4	6	8	0	0	574,998	579,997	649,997
A17: Physico-Chemical Treatment Facility	0	0	2	2	2	0	0	149,998	149,998	149,998
A21: Chemical Treatment Facility	0	0	0	1	1	0	0	0	4,999	4,999
Incineration	**0**	**0**	**2**	**2**	**2**	**0**	**0**	**273,999**	**273,999**	**273,999**
Hazardous waste facilities	**0**	**0**	**8**	**24**	**50**	**0**	**0**	**84,730**	**362,591**	**809,323**

8.3 Regional facilities

The East of England region covers a large geographic area; comprising the counties of Essex, Bedfordshire, Hertfordshire, and the area known as East Anglia; a region defined by the counties of Suffolk, Norfolk, and Cambridgeshire (including Peterborough City).

It is considered that there is sufficient capacity in Suffolk to handle most of the waste streams generated by the Development. However, currently no contaminated soil treatment facilities exist within Suffolk, therefore this waste stream may have to be delivered to specialised sites located in surrounding regions. A list of suitable sites is provided in Table 24 ordered in proximity to the site.

Table 24: Facilities permitted to treat contaminated soils

Site Name	Post Code	County	Feedstock/treatment type	Capacity	Distance (km)
Biogenie, Westmill Soil Treatment Facility, Ware	SG12 0ES	Hertfordshire	Treatment of a wide range of materials including soils, railway ballast, dredgings, treatment plant residues. Suitable contaminants include, TPH, PAH, TCE, PCE, Organohalogenated solvents and Kerosene.		152
Biogenie/ Biffa, Redhill	RH1 4ER	Surrey	Wide range of materials including soils, railway ballast, dredgings, treatment plant residues. Suitable contaminants include, TPH, PAH, TCE, PCE, Organohalogenated solvents and Kerosene.		197
Soil and water solutions, Bell Farm, Wexham Park Lane	SL3 6LX	Buckinghamshire	• Asbestos Remediation & Management • Soil Vapour Extraction • Air Sparging • Bio Venting • Bio Slurping • Pump & Treat • Bioremediation • Oxidation • Waste Management including Haulage & Disposal • Soil Declassification • Off-site Treatment/ Recycling • Invasive weed control and disposal		262
Terramundo, Kingscliffe, Northamptonshire	PE8 6XX	Northamptonshire	Hazardous, non-hazardous soils and dredging waste		284
Dunton Environmental, Wolverhampton	WV1 3DW	Staffordshire	• Hazardous and contaminated non-hazardous soils and other waste materials. • Contaminated soils and sludges • Japanese Knotweed and other invasive weeds • Dredging soils • Effluent sludges and filter cakes • Exploration, mining and quarrying of minerals • Petroleum refining, natural gas purification and pyrolytic treatment coal • Oily wastes and wastes of liquid fuels • Waste management facilities and wastewater treatment plants		297

Site Name	Post Code	County	Feedstock/treatment type	Capacity	Distance (km)
			• Waste not otherwise specified.		
Howley Park Road East Morley, Leeds	LS27 0SW	Yorkshire, West Riding	Materials including soils, railway ballast, dredgings, treatment plant residues. Suitable contaminants include, TPH, PAH, TCE, PCE, Organohalogenated solvents and Kerosene.		337
Acumen's Waste Treatment and Recovery Facility, York	YO19 6ED	Yorkshire, East Riding	Materials, including street-sweeping and road cleaning residues, construction wastes, contaminated soils and by-products from other waste processes.	250,000 tonnes per annum of suitable waste materials	360
BIFFA-Biogenie, Meece, Staffs	ST15 0QN	Staffordshire	Materials including soils, railway ballast, dredgings, treatment plant residues. Suitable contaminants include, TPH, PAH, TCE, PCE, Organohalogenated solvents and Kerosene.		382
Cory Churngold Dudley	BS11 9DQ	Gloucestershire	Contaminations treated: • Asbestos Contamination • Chlorinated Solvents • Heavy Metal Contamination • Hydrocarbon Contamination • Invasive Plants • Persistent Organic Pollutants		402
Towens Weston Super Mare	BS23 3UU	Somerset	Hazardous hydrocarbon (aliphatic and aromatic) impacted soil - oil, diesel, petrol, other fuel. Removal of contaminants (stones, timber, plant tissue etc) from non-hazardous soils.		416
Terramundo (Augean Plc), Port Clarence, Teeside	TS2 1UE	Durham	Hazardous, non-hazardous soils and dredging waste.		428
Neal Soil Suppliers, Cardiff	CF3 2EJ	Monmouthshire	Standalone soil operation which accepts soils from a wide range of construction jobs, screens the material and adds a proportion of compost to produce a range of high-quality soils.		431
UK Remediation, Exeter, Devon	EX5 1DR	Devon	Soils and Stones		465
The Treatment Hub	SA5 4SF	Glamorgan	In addition to full remediation, the Treatment Hub are able to assist in: • Soils testing and laboratory services • Waste classification and assessment • Provide necessary documentation • Onsite excavation and loading • Source delineation • Soils transport to the Treatment hub • Safe knowledge that the soils are fully recycled and brought back into beneficial re-use (often on third party sites) • Supply of fill materials and aggregates		502
Dunton Environmental and Wheal Jane Ltd, Truro	TR3 6EE	Cornwall	Hazardous / Non-hazardous soils and dredging spoil		576

Two Biogenie facilities are considered to be the most desirable options treatment of contaminated soils, in particular the Westmill Soil Treatment Facility, which lies approximately 152km from the site.

Hazardous waste facilities have also been identified in neighbouring counties, in case there is insufficient capacity in Suffolk during any one year.

One of the closest such facilities is the Great Yarmouth WM Resource Centre, which is located in Norfolk, about 41km away from the site, and had a throughput in 2018 of 7,200 tonnes. The site accepts chemicals, oils, paints, WEEE and some hazardous construction waste.

The hazardous waste facilities with the largest identified throughput in 2018, and which lie within 100km from the site, are as follows:

- Folly Farm Landfill, which accepts insulation materials and asbestos-containing construction materials and had a throughput of approximately 129,000 tonnes in 2018; and
- Costessey MRF Transfer Station, situated in Norfolk, which had a throughput of approximately 126,000 tonnes in 2018.

Should there also be a need for additional waste processing capacity outside of Suffolk, then it is recommended that the focus is directed towards Amey Cespa's Waterbeach Waste Management Park in Cambridge, which lies approximately 128km away from the site.

The Waterbeach Waste Management Park constitutes the primary waste management infrastructure in Cambridgeshire and comprises the following waste infrastructure:

- A 200ktpa mechanical biological treatment (MBT) plant, which treats all of Cambridgeshire's residual waste;
- An 86ktpa MRF, constructed in 2012, which contains eleven different types of sorting equipment and machines that are able to separate materials including plastics, metals, cardboard and paper;
- An open windrow composting facility, for garden waste, shrubs and trees only;
- An IVC facility for organic materials that include food waste and mixed garden waste;
- A waste transfer station;
- A landfill - the remaining capacity (end 2015) was 2.7 million m^3 according to the Environment Agency;
- A construction and demolition recycling area;
- An anaerobic digestion plant which incorporates a landfill gas management plant;
- Skip hire services; and
- An asbestos drop-off point.

9 Waste contractors operating locally

9.1 Introduction

There are two main sectors that together cover the range of local waste contractors of interest, notably local waste management site operators and local material transporters. The former is responsible for processing the material, appropriately converting, or disposing of it as a waste. The latter is in charge of ensuring appropriate delivery and handling until fully transferred. There is overlap among these two fields, as site operators sometimes do part or all of the transporting to site.

9.2 Local waste management contractors

Based on the information acquired from the list of local permitted facilities identified (mainly obtained from the Suffolk Waste Study 2018) and information provided by the Suffolk online planning database and EA Public Register, a preliminary list of identified site operators has been developed. This list is provided in Appendix E. Facilities not relevant to the Development, such as household waste amenity sites, vehicle dismantling and end-of-life-vehicle facilities, are not included in the list.

Information on smaller local waste transporters is more difficult to obtain and will be discussed with East Suffolk Council. A meeting with Suffolk Coastal Norse would also be appropriate to discuss any opportunity for the integration of the Project in the council's waste collection plan.

10 Waste options appraisal

10.1 Introduction

This exercise will identify the most competitive and sustainable solution for the preferred facilities and the route for disposal. Typically, distances between the point of waste generation and its final destination are significant factors to be considered when deciding upon which waste management facilities to use. There needs to be a degree of certainty in the availability of disposal routes.

EDF Energy commits to placing no undue burden upon existing waste infrastructure as a result of the proposed Development. In order to minimise off-site movements, excavated soils will be re-used on the site of origin during cut and fill operations or reinstatement. The greatest volumes of waste will arise from the decommissioning of SZC power station (in over 60 years' time) and the removal and reinstatement phase of the campus, temporary construction area, LEEIE and associated development facilities (in years 11 to 12 of the construction programme).

10.2 Waste transportation options

10.2.1 Waste export by road

The road leading out from the main development site is a 'C' road, which links to another 'C' road to the west that traverses the village of Leiston. This is then met by a network of three 'A' roads to the west, north and south of Leiston which all lead to the A12 to the west which links Ipswich and Felixstowe to the south with Lowestoft to the north.

In the early years of construction and until the associated developments, such as the road and rail improvements, are in place, the existing roads will be subject to construction related traffic, including vehicles transporting waste to surrounding MRFs. In this context, wastes produced at the associated development sites should preferably be sent to facilities in close proximity, but not in the direction of the main development site, so as to not further contribute to traffic volumes on existing roads in that area.

Beyond the early years, the development of the two-village bypass around Farnham and Stratford St. Andrew would reduce the impact of vehicle movements through the centre of these villages. The development of the Sizewell Link Road would greatly reduce the impacts of vehicle movements on the village of Theberton.

10.2.2 Rail

The possibility to use rail for freight deliveries during the construction of SZC to reduce the reliance on roads has been explored in depth by EDF Energy.

However, it is expected that no waste will be exported by rail.

10.3 Waste facility options

10.3.1 Preparation for re-use

10.3.1.1 Direct to market

Where possible, materials of value should be sold direct to local market for re-use generally in its original manufactured state (e.g. scrap metal, aggregate). The use of the National Industrial Symbiosis Programme

(NISP) could assist in the identification of companies/sites that may require large quantities of C&D wastes, for example, large scale housing developments.

10.3.1.2 Recycling

There are a few large scale MRFs, the closest one of which is Masons MRF, which may be able to accept C&D waste within Suffolk. There are also numerous small to medium sized waste transfer stations and treatment sites which can accept such wastes and that lie within 100km of the site (see Section 8.2.2).

10.3.1.3 General waste from the accommodation campus and caravan park

As indicated in Section 6.2.2.2, ESC outsources its commercial waste and recycling service to Suffolk Coastal Norse, therefore it is expected that agreement will be reached with Suffolk Coastal Norse or another commercial contractor for the collection of general wastes from the accommodation campus and caravan park. This may place EDF Energy in a better position to gain security clearance for staff as part of a collection contract, than would be the case if the service was to be provided by the local waste collection authority.

Commercial waste collections tend not to be as prescriptive as the local waste collection service as they have to react to a greater range of constraints from customers. For instance, domestic waste is relatively generic and will typically contain a mixture of plastic, paper, food and cardboard, whereas a commercial outlet may predominantly produce specific waste materials such as glass or paper.

Quantities of materials for commercial properties would also vary greatly and there may be the need for larger containers than would typically hold domestic wastes.

10.3.2 Other recovery

10.3.2.1 Energy from waste

A review of existing waste infrastructure in Suffolk has revealed there to be an EfW facility located approximately 45km away from the Development that would potentially be suitable for accepting residual wastes from the Project (see Section 8.2.3).

However, it is unlikely that construction waste produced from the Development will have calorific values great enough to make incineration worthwhile from an energy recovery perspective. General wastes, which have higher calorific values to construction/demolition type wastes, will be dealt with by the contractor employed and depending on their policy and the level of segregation, may involve recovery at local anaerobic digestion facilities.

10.3.2.2 Anaerobic digestion/composting

It is preferential that, where possible, food waste produced during the construction, operational and removal and reinstatement/decommissioning phases are sent to an anaerobic digestion plant or for composting, along with vegetation stripped as part of the site clearance works which cannot be re-used on-site. There are currently two anaerobic digestion facilities within 26km of the Development that may be able to accept such waste (see Section 8.2.3).

In terms of composting facilities, Parham Recycling Centre, an IVC facility, constitutes the most desirable option, as it lies only 20km from the main development site and has a capacity of 35,000tpa.

10.3.3 Disposal

Disposal is considered to be the waste management option of last resort, as reflected in EDF Energy's Key Performance Indicators (Section 12). Wastes which are most likely to be sent to landfill are soils that are

grossly contaminated and not suitable for treatment, and a proportion of general wastes which will be collected from the accommodation campus and caravan park. Based on the proximity principle and permitted tonnage, Masons Landfill is considered to be the most suitable landfill for disposal of wastes from the various developments (see Section 8.2.4).

11 Waste minimisation and reuse

11.1 Sizewell C Development

11.1.1 Power station

Procurement

Consideration will be given to the procurement of materials to minimise over-ordering, thereby reducing waste. Careful procurement will also reduce waste arisings associated with future removal/reinstatement of the facilities.

All the main equipment for the UK EPR reactor units will be constructed off-site and the majority of the accommodation campus buildings will be modular. Consequently, these materials will be delivered as Abnormal Indivisible Loads (AILs)[44] to site, therefore reducing the production of construction waste (e.g. from offcuts).

As the project evolves, further analysis of the potential for efficient use of materials will be undertaken by the waste management contractor.

11.1.2 Accommodation campus

The following waste minimisation and recycling initiatives should be considered by the FMT, prior to and during operation of the accommodation campus:

- Clear signage that indicates the location of the communal waste bins and the type of waste that can be placed in each bin;
- RFID which supports the identification and traceability of the person discharging wastes;
- Active preventative maintenance of communal waste storerooms and bins to keep facilities accessible to workers and seek to prevent contamination (e.g. replacing worn-off signage);
- Services or facilities that enable the deposit or removal of any unwanted items. It is recommended that there is an allocated space in residential waste storage areas for bulky items prior to collection/reuse (e.g. furniture, consumer electronics);
- Working with the commercial contractor to provide the workers with an entry pack containing information on how to manage different fractions of waste, collection frequency and details on how to reduce food and packaging waste in the flats;
- Provide storage receptacles in communal waste storage rooms for batteries, lightbulbs and unused discarded hazardous chemicals (e.g. bleaches, herbicides, varnishes, etc.) and arrange and promote collection and recycling of these wastes using SCDC or commercial services; and
- Use of a community notice board to allow for tenants to advertise obsolete items for reuse by other tenants in the Development.

11.1.3 Retail and Hospitality

Recommendations which could be explored by the FMT to increase waste minimisation and reuse include:

Procurement

[44] AILs are described as follows in EDF's Stage 3 Volume 1 Consultation document: "Large loads to be delivered to the site which by their nature cannot be broken into smaller multiple deliveries. Wherever possible, AILs are to be brought in by sea, with any transport to the site by road delivered on a low loader with a police escort."

- Using resource efficient and sustainable buying mechanisms will provide the FMT with an opportunity to increase efficiency, through the reduction of waste, costs and risk in the supply chain, while increasing resilience and helping corporate sustainability targets to be met;
- Stipulations should be put in contracts with suppliers that packaging should contain recycled content;
- The canteens should consider the possibility of entering a “back-of-store” surplus food partnership with a local charity so that any surplus waste generated could be put to good use. Agreements and procedures could be put in place to allow for daily collection by the charity. If it is not possible for this waste to be redistributed to people, then consideration should be given for its use as an ingredient in animal feed;
- Examining sales patterns to minimise over-ordering;
- Ensuring a returns policy is in place for unsold and damaged goods;
- Sending back reusable items to suppliers where possible. This could include consumer electrics, wooden pallets, clothes hangers and cooking oil for example; and
- Using plastic crates instead of single-use cardboard boxes and self-stacking boxes or crates instead of shrink-wrap.

Staff

- Monitoring whether staff are correctly adhering to quality checking procedures and are not disposing of perfectly good products;
- The identification of a waste champion in the retail and hospitality management teams to lead discussion with the FMT regarding the review of the retail and hospitality site-wide operational waste strategy and to set targets for reduction and recycling of waste through the proposal of waste minimisation and recycling initiatives;
- Ensuring staff are educated and fully aware of the business’ waste policy and procedures;
- Training staff on how to properly handle packaging and avoid contamination in order to allow for reuse; and
- Ensuring staff are trained to serve the correct food portions to minimise food waste.

Store procedures

- Ensuring standard operating procedures (SOPs) that aim to minimise waste generation are established; and
- Tying waste reduction into promotional planning, management and evaluation. The impacts that different promotions have on waste should be regularly examined across all types of promotion and waste should be made a key factor in all stages of promotional management.

11.1.4 Offices

Initiatives which could be explored by the FMT to increase waste minimisation and reuse include:

Awareness raising

- Making waste a performance measure for a senior manager/director in each office;
- Removing bins by each staff desk, thereby raising awareness of the quantities of waste that are being generated and the options for segregating waste streams for recycling;
- Providing regular updates to staff in the form of posters/emails/intranet pages on waste and recovery rates;
- Raising awareness of software options to print more than one page to a side;
- Organising competitions related to waste minimisation between offices or office areas; and
- Holding regular meetings with employees not only to communicate the importance of reducing waste, but also to allow for new ideas to be voiced and for those making stand-out contributions to be rewarded.

Operational measures and processes

- Maximising the use of electronic media for dissemination of information both internally and externally (and considering how these should be designed to facilitate their being read on-screen and avoiding the need for printing);
- Instigating a print release scheme (where the user has to formally 'pull' their printing to a specific printer); this will reduce wastage of printing that is not collected;
- Where vending machines are used for hot drinks, arrange collection for recycling – and provide recycled plastic cups for use with the machine and/or encourage staff to use reusable mugs;
- Avoiding colour printing whenever possible;
- Using single spacing and narrower margins for less important documents;
- Reusing out-of-date headed paper and wasted printouts as scrap/notebooks;
- "Unsubscribing" from senders of junk mail;
- Sending toner cartridges for recycling;
- Investigating composting of waste food; and
- Ring-fencing savings achieved from waste reduction activities to contribute towards staff social activities or charitable donations.

Procurement

- Bulk buying to reduce the amount of packaging;
- Forming relationships with charities/other organisations that may have use for surplus furniture or could recondition it for resale;
- Storing and reusing cardboard shipping boxes;
- Consider renting equipment that is used only occasionally rather than having to store it in the workplace;
- Investing where possible in high-quality equipment that is durable and repairable;
- Ordering lighter weight papers when possible; and
- Sending back reusable items to suppliers where possible;

Staff Training

- Working with in-house catering staff or contractors to identify opportunities (and contractual incentives) to reduce food waste through:
  - control of ordering for working lunches;
  - active management of the quantities cooked in canteens;
  - control of stock ordering; and
  - menus that make use of "leftovers".

Technologies and Products

- Ensuring that printing/copying equipment provides double-sided prints and setting this up as the default option for photocopiers and staff computers;
- Selecting plant landscaping that requires low maintenance and produces less waste;
- Not allowing obsolete equipment to take up space and collect dust. The sooner it is recycled, the quicker that valuable resources will be available for reuse, thus avoiding the processing of more virgin materials.

11.1.5 Other facilities

Waste minimisation and reuse initiatives that could be pursued in other facilities, including the sports facilities, vehicle parking and freight management facilities, include the following:

Bins, signage and notifications

- Bins should be colour coded and have clear and concise signage indicating what can and cannot be disposed of in the bins; and
- Waste and recycling bins should be placed strategically and paired wherever possible. Bins should be placed in locations where they are likely to be needed and should ideally be placed so that one is always in view.

Procurement

- Working with vendors to make sure the packaging and service ware they use is recyclable or compostable in Suffolk and working with the purchasing team to buy paper and other products with recycled content.

Staff Training

- The cleaners should be trained to ensure minimal wastage by using cleaning agents with smaller bins and adopting methods that reuse materials (i.e. using micro fibre cloths and mops); and
- Staff should be educated so as to ensure that incoming packaging is segregated for recycling.

12 Key performance indicators

12.1 Targets

EDF Energy is aiming to achieve zero waste to landfill by 2020, across all of its projects. Hence, through the application of the waste hierarchy it will be possible to strive towards this target.

Consequently, in order to reach this main target, the following objectives are set:

- prevent and reduce the volumes of waste produced through the application of the waste hierarchy;
- maximise re-use and recycling within the wider development;
- maximise re-use and recycling outside of the Project; and
- minimise the impact upon the existing waste management infrastructure.

The main ways to achieve these objectives are to:

- retain excavated materials on site, wherever possible;
- ensure construction methods follow best practice;
- reduce vehicle movements on the road through two-way trips;
- re-use materials in the campus, temporary construction area, LEEIE and associated development facilities during the post-operational phase; and
- encourage re-use of material through a waste inventory.

EDF Energy will enforce mechanisms for monitoring and checking achievement, with an aim of annual improvement. Furthermore, all workers involved with the project will be actively encouraged to recycle and this will be monitored accordingly.

13 Summary

13.1 Introduction

The key principle detailed throughout this strategy is that waste will be managed in accordance with the waste hierarchy. This will be supported by the implementation of the proximity principle, which encourages the management of waste close to its place of generation, thus reducing the impacts of transporting waste over long distances and promoting management of waste within its region of origin.

Essentially, it is intended for the production of waste to be prevented or minimised at its source where possible. For example, during the site preparation phases, this will be achieved through careful design of cut and fill operations to prevent material being sent off-site where possible and the use of best practice construction techniques.

Notably, the aspiration is to achieve a cut and fill balance across the majority of sites. Material will be ordered with care and the use of modular units at some of the sites is proposed, which will reduce the number of off-cuts. Furthermore, following the operational phase, modular units could be sold direct to local market for re-use, although this is dependent upon changing construction standards over time.

It is proposed for there to be no undue burden upon existing waste infrastructure as a result of the proposed developments, which this strategy demonstrates through proposals to prevent and reduce waste production where possible. In addition, an analysis of existing waste facilities in Suffolk shows there to be adequate capacity to deal with the various waste streams, with the exception of contaminated soils, for which options on a regional level have been identified.

13.2 Estimated conventional waste arisings

13.2.1 Excavated materials

Excavated materials, created during the earthworks phase of the Development, would largely be retained on the main development site for re-use as backfill and landscaping. This would significantly minimise the amount of material classified as waste during the enabling works and earthworks phases of construction.

It is possible that a small fraction of the excavated material arisings from the Development would be contaminated, particularly in the area of Coronation Wood, due to previous land use. If this is the case, a percentage of this material may become waste and would require appropriate management. Most of the main development site and associated developments have limited, if any, history of previous development and no significant contamination is expected.

For the new roads, road improvements and rail infrastructure included within the proposals, it is likely that any excavated material would be used in the cut and fill balance required along the road and rail alignments and will need to be managed as waste. The construction of the new roads may encounter localised hot spots of contamination (such as small isolated and unregulated landfills) and so small volumes of hazardous waste are also likely to be encountered.

13.2.2 Construction waste

Construction waste would be generated through off-cuts from fitting materials, breakages and spent materials and would include, but not be limited to, municipal-type wastes, concrete, metal, wood and plastic. Reference to the predicted construction waste arisings for Hinkley Point C suggests that a construction waste total of approximately 460,000 tonnes, requiring off-site management, would be expected at the

Development over the course of the construction period. This total would include arisings from the main development site and associated developments.

Construction waste arisings from the main development site are estimated to be 256,000 tonnes, while from the associated developments these are estimated to be approximately 203,000 tonnes.

The annual construction waste arisings for the Development are anticipated to peak in year 2 of the construction programme and are then estimated to be 115,000 tonnes. The annual construction waste arisings from the Development in years 1, 3 and 11 are estimated to be approximately 102,000, 14,000 and 28,000 tonnes respectively.

The total hazardous waste arisings from the construction phase are estimated to be 11,800 tonnes. This will typically include chemicals and oils used as part of the construction works. The average annual hazardous construction waste arisings are estimated to be 1,070 tonnes. The average annual hazardous construction waste arisings generated by the Development are expected to peak in year 2 of the construction programme and are then estimated to be approximately 5,200 tonnes.

13.2.3 Sizewell B relocated facilities

The removal of approximately eight buildings on the Sizewell B site will be required prior to the construction on the main development site for Sizewell C. Waste from this demolition process will predominantly consist of concrete and metal, with a small quantity of other material types from the internal fittings.

Demolition activities are estimated to generate approximately 5,000 tonnes of construction and demolition waste. It is expected that much of this waste will be retained for use on-site. The remaining waste will require treatment or disposal off-site.

13.2.4 Operational waste during the construction phase

The municipal solid waste associated with the main development site, including the fully occupied accommodation campus and caravan park, is estimated to total approximately 41,000 tonnes from years 3 to 10 with an annual average of approximately 5,100 tonnes. This is likely to include general black bag waste, food waste and dry recyclables such as cardboard, paper and plastics.

The C&I waste generated in the associated developments (excluding road and rail infrastructure) is estimated to total approximately 4,400 tonnes over the same period with an annual average of approximately 550 tonnes. This waste is likely to include general black bag waste and dry recyclables such as cardboard, paper, green waste and plastics.

13.2.5 Operational waste from the Sizewell C Power Station

In total, the C&I waste associated with the power station during operation is estimated to be 68,400 tonnes (over 60 years) with the average annual waste arisings estimated as 1,140 tonnes. Of the average annual arisings, it is expected that around 940 tonnes will be inert/non-hazardous, and 200 tonnes will be hazardous waste. During maintenance outages, these periods will generate a higher quantity of wastes than during periods of normal operation. Outage waste quantities have been included in the annual waste arisings.

13.2.6 Removal and reinstatement wastes

The accommodation campus, temporary construction area, park and ride facilities, freight management facility, LEEIE caravan park, LEEIE HGV and bus management area and the green rail route will be removed at the end of their use, and waste would be generated in the removal process.

The total waste associated with the removal of these developments is estimated to be 275,000 tonnes over a period of up to two years.

The majority of the waste produced during removal of these developments will be considered as C&D waste. The Suffolk Waste Study provides future baseline estimates for C&D waste arisings across Suffolk of 460,000 tonnes in year 1 decreasing to 379,000 tonnes in year 12. The C&D waste arisings from these developments would represent approximately 37% of the total Suffolk C&D waste arisings in year 12.

13.2.7 Decommissioning wastes

The decommissioning of Sizewell C power station would be subject to a separate EIA prior to any decommissioning activities commencing. The development of the conventional waste strategy developed for the construction and operation of the power station summarised here has provided a high-level estimate of 160,000 tonnes of anticipated waste arisings, based on figures obtained from Hinkley Point C, for the decommissioning phase.

13.2.8 Overall waste arisings

In total, approximately 1.01 million tonnes of waste are predicted to be produced on the Project. This includes approximately 460,000 tonnes of construction waste, 5,000 tonnes of demolition waste from Sizewell B relocated facilities, 69,000 tonnes of operational waste from the power station (over 60 years), 45,000 tonnes of operational waste during the construction phase (excluding road and rail infrastructure), 275,000 tonnes of removal and reinstatement waste and 160,000 tonnes of decommissioning waste.

Construction waste arisings are primarily expected to be generated during years 4 to 11, while removal and reinstatement phase waste volumes peak in year 11.

Given the current stage of design, only initial estimates are available relating to the quantity of waste arisings likely to be generated during the construction and operation of the main development site and associated developments and (where relevant) the removal of the campus, temporary construction area, LEEIE and associated development facilities. Where quantities have been used these have been estimated from the available drawings or taken as outputs from similar projects. These figures are likely to change as detailed design evolves and more data becomes available. Therefore, these figures should be considered as indicative and are intended for the purpose of ensuring adequate provision is made for storage and management during the various phases of development. They should be reviewed upon availability of more accurate data as the developments progress. Regardless of this, typically operational waste generation is far less than that produced during construction.

13.3 Estimated storage provision

Waste produced on the main development site during construction may be best managed with the provision of two waste consolidation centres. These will be used for the storage, segregation and treatment of construction waste from the main development site. They will also be used for the storage of construction waste from the campus and then later, operational waste arisings from the various campus facilities.

Storage would allow for the segregation of waste such as metals, wood, soils, inert and residual waste. Processes undertaken at waste facilities in the region would be considered when identifying the level of segregation required at the site. The aim would be to ensure that waste was provided in the most suitable form possible to maximise the potential for recycling and to minimise double handling.

13.3.1 Sizing of waste consolidation centres

The total required waste storage provision for the consolidation centre, intended to store construction waste from the power station, is estimated to be 900m^2 based on a maximum of approximately 58 hours' storage and that, intended to store construction waste from the campus, is estimated to be 900m^2 based on a maximum of approximately 6 days' storage of operational waste from the campus.

13.3.2 Operational waste during the construction phase

When the campus, LEEIE facilities and associated developments (excluding road and rail infrastructure) are operational, storage would be provided to allow for the segregation of dry recyclable waste, organic waste and residual waste, in order to ensure that the waste streams can be easily integrated into the region's waste management systems.

The required operational waste storage provision for these facilities during the construction phase is as follows:

- Campus facilities - 328m^3 and 193m^3 for weekly and four-day storage respectively;
- LEEIE facilities - 22m^3 and 13m^3 for weekly and four-day storage respectively; and
- Associated developments (excluding the road and rail infrastructure) - 29m^3 and 18m^3 for weekly and four-day storage respectively.

Each facility will have its own storage provision, prior to the waste being moved to the consolidation centre or off-site. This will include internal storage within each accommodation block.

13.3.3 Operational waste from the Sizewell C power station

The total required operational waste storage provision at the power station is calculated to be 94m^3 on a weekly basis and 54m^3 on a four-day collection basis. The storage provision allocated for conventional waste at the power station would be sufficient for weekly storage, as indicated in the layout plan shown in Volume 2, Chapter 2.

Appendices

A. Requirements of Policy, Regulation, Standards and Guidance

A.1 The Building Regulations H6 – solid waste storage (2015 Edition)

A.1.1 High-rise domestic developments

For high rise domestic developments:

- Dwellings may either own separate waste bins or share a bin to be located in a community area;
- Storage areas for waste bins and chutes should be sited so that householders are not required to travel further than 30m to dispose of waste and bins should be within 25m of a waste collection point specified by the waste collection authority.
- Steps should be avoided for storage of bins larger than 250L and slopes should not exceed 1:12.
- The collection point should allow for easy access of waste collection vehicles typically used by the waste collection authority.
- Where the location for storage is in a publicly accessible area or in an open area around a building, an enclosure or shelter should be considered.
- Where enclosures, compounds or storage rooms are provided they should allow room for filling and emptying and provide a clear space of 150mm between and around the bins. Enclosures, compounds or storage rooms for communal bins should be a minimum of 2m high.

A.1.2 Non-domestic developments

For non-domestic development it is essential that the waste collection authority is consulted for guidance on resolving the following points:

- The volume and nature of the waste and the storage capacity required, based on the frequency of collection and the size and type of waste bin;
- Any requirements for segregation of waste which can be recycled;
- The method of waste storage, including any on-site treatment proposed, related to the intended layout and building density;
- The location of waste storage areas, waste treatment areas and waste collection points and the access to these locations for operatives and vehicles;
- Hygiene arrangements in the waste storage and waste treatment areas;
- Fire hazards and protection measures.

Recommendations and data on the above items are further outlined in BS 5906:2005 Code of practice for waste management in buildings.

A.2 BS 5906: 2005 Waste management in buildings - code of practice

This section outlines relevant sections of BS5906, which are not covered or superseded by the other guidance highlighted in Appendix A and are/shall be considered in the design of waste storage areas.

A.2.1 Storage

Stored waste and recyclable materials are often the largest single source of combustible material within a building and pose a significant fire hazard (see Table 25). These stored materials should be identified as a

potential hazard in any fire risk assessment. The potential hazard can be reduced with a good design that limits the scope for arson.

The contents of waste containers can include mixtures of paper, textiles, packaging and plastics that produce very toxic gases and smoke during a fire. These products of combustion are often more dangerous than the fire itself, particularly when the smoke escapes into the building and interferes with evacuation.

Residents and staff should be made aware of the fire risk using signage and of the dangers when waste materials are stored carelessly.

Table 25: Maximum output of different waste fire scenarios

Waste container	Contents	Fire Output (kW)
Individual waste container 100L	Mixed household waste	200
Wheeled container 1100L	Card and paper	930

A.2.2 Prevention and control

Where waste storage chambers are used, the amounts of combustible material will be much larger. Ignition sources include static electricity, sparking, spontaneous combustion, carelessness, or arson.

Internal waste storage rooms should be constructed within a fire compartment structure, which is designed to contain a fire. Where risks are greater, for example in multi-storey buildings or in hospitals or hotels, suitably sized manual fire extinguishers should be deployed. For larger risks, a dedicated automatic fire sprinkler or water mist system should be considered.

Care should be taken if uncontrolled sprinkler deluge systems are employed, as the disposal of excess water might be an issue. In keeping with good design practice, the drainage requirements in this situation should be considered.

Standard sprinkler systems operate when a fire becomes established, but a better solution is the prevention of fire using a dedicated system that is designed to detect and extinguish the very early signs of smouldering fires. These systems should be installed within the umbrella of an existing sprinkler system as a first level of defence.

In addition to the proper storage of waste in suitable containers, arrangements should be made to have the containers emptied regularly, to prevent overfilling. Security should limit access to the storage areas to prevent deliberate arson, and smoking should be strictly prohibited.

Consultations with a fire safety officer should be made, to confirm if any active fire protection measures are needed.

Adequate passive ventilation is particularly important in areas where quantities of biodegradable waste accumulate; mechanical ventilation may be necessary to prevent a build-up of odours. Considerable fire risks are involved when large quantities of waste or recycled materials are stored. These risks can be reduced to a certain extent by baling and compaction. Stores should be situated in readily accessible positions and suitable precautions provided, e.g. sprinklers, fire extinguishers and smoke detection equipment.

A.2.3 Waste storage room construction

The walls and roofs of the rooms should be formed of non-combustible, robust, secure and impervious material, and have a minimum fire resistance of one hour when tested in accordance with BS 476-21. The door of the chamber should be made of steel, or have a fire resistance of at least 30 min when tested in accordance with BS 476-22; the door frame may be made of metal, hardwood or metal-clad softwood (for robustness), situated in the external wall and, except where the doors of the chamber communicate directly with outside air, they should be self-closing. The doorframes should be rebated into the reveals of the

opening, and the doors should be provided with a lock to a pattern approved by the local authority. The chamber doors should be hung in such a way that their hinges are not subject to damage by leverage if the door is allowed to swing wide. A self-closing latch would also reduce this risk. The door should be capable of being opened from the inside as well as the outside, for reasons of safety.

The walls should be constructed of, or lined with, hard impervious material with a smooth finish suitable for washing down. The floor should be not less than 100 mm thick, and formed of hard impervious material with a smooth finish, and there should not be steps and projections at the entrance. The junctions of the walls with the floors should be coved, and the coving so formed to prevent damage to walls by containers (see BS 1703).

A.2.4 Ventilation

To vent any odorous or dense flammable gases (portable gas or aerosol containers) that may escape from the waste, permanent ventilators should be provided giving a total ventilation area of not less than 0.2 m^2. The passive ventilators, which should not be louvered doors, and which may need to be fire resistant, should be fly and vermin proof and located as near the ceiling and the floor of the chamber as possible, but away from windows of dwellings.

A.2.5 Lighting

Electrical lighting should be provided within the chamber by means of sealed bulkhead fittings (housings rated to IP65 in BS EN 60529:1992) for the purpose of cleaning down with hoses and inevitable splashing. Luminaires should be low energy light fittings or low energy lamp bulbs should be used. Switching should be either proximity detection or on a time delay button to prevent lights being left on.

B. Waste storage requirements

This Appendix provides indicative information intended to inform the design of waste storage area layouts.

B.1 Construction waste

B.1.1 Assessment of waste storage provision

Table 26: Skip storage provision for construction waste arisings on the main development site

Collection frequency (hour)	Accommodation campus	SZC Power Station
	Year 2	Years 3-11
96	18	19
84	15	16
72	15	15
60	12	13
48	12	12
36	10	10
24	8	8
12	8	8
8	8	8
4	8	8

12 skips would be required for collection of construction waste from the accommodation campus every two days, and 18 skips for collection every four days. It is recommended that construction waste arisings from the power station are collected at least every two days, to minimise the spatial requirements of the waste consolidation centre.

Table 33 shows the recommended skip storage provision required for the LEEIE facilities and associated developments. These figures are based on the assumption that the same skip is used for several waste streams identified in Table 12. It is recommended that the following waste streams are grouped together to minimise the spatial requirements on each site:

- Packaging and timber;
- Rubble, ceramic, cement, dry concrete products, plasters and plaster products; and
- Metal.

Since it is likely that plasterboard and insulation materials would be generated in negligible quantities during construction of the LEEIE, park and ride, and freight management facilities, the volumes of these two waste streams, based on Table 12, have been apportioned to the three primary categories identified above.

Table 27: Skip storage provision for the LEEIE facilities and associated developments

Collection frequency	LEEIE facilities	Northern park and ride facility (Darsham)	Southern park and ride facility (Wickham market)	Freight management facility
Day	**Years 1-2**	**Years 1-2**	**Years 1-2**	**Years 1-2**
14	3	7	7	4
13	3	7	7	4
12	3	7	6	3
11	3	6	5	3
10	3	5	5	3
9	3	5	5	3
8	3	5	5	3
7	3	5	5	3

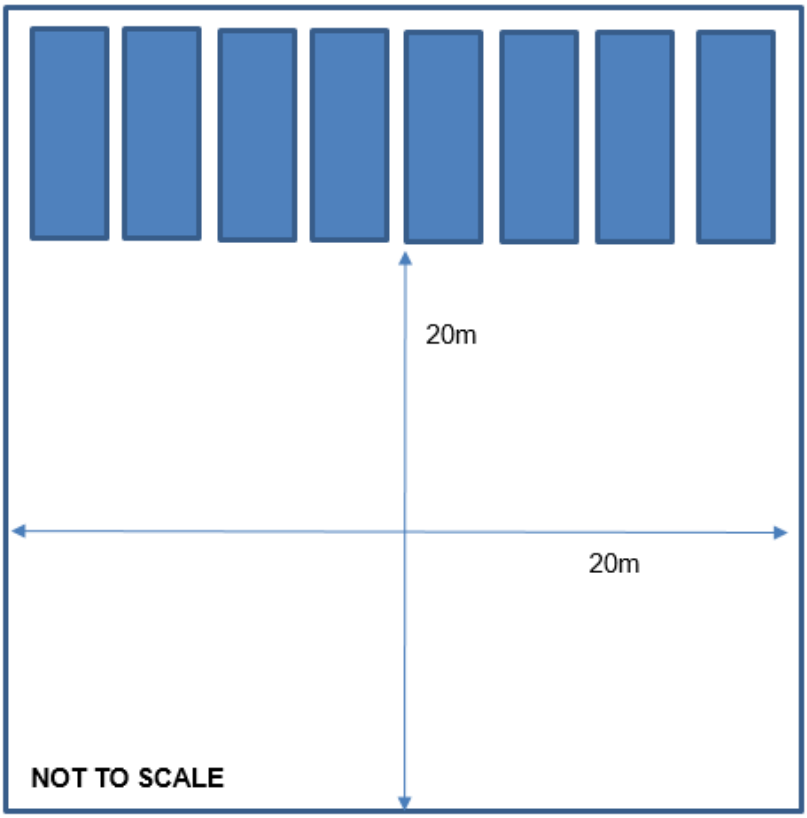
Collection frequency	LEEIE facilities	Northern park and ride facility (Darsham)	Southern park and ride facility (Wickham market)	Freight management facility
6	3	5	4	3
5	3	3	3	3
4	3	3	3	3
3	3	3	3	3
2	3	3	3	3
1	3	3	3	3

B.1.2 Sizing of construction waste consolidation centres

The area of the construction waste consolidation centres was determined for two different skip arrangements, shown in Figure 5 and Figure 6. The arrangement in scenario 1 shows skips aligned in parallel along the full length of the waste consolidation centre, while in scenario 2 they are arranged along the sides too.

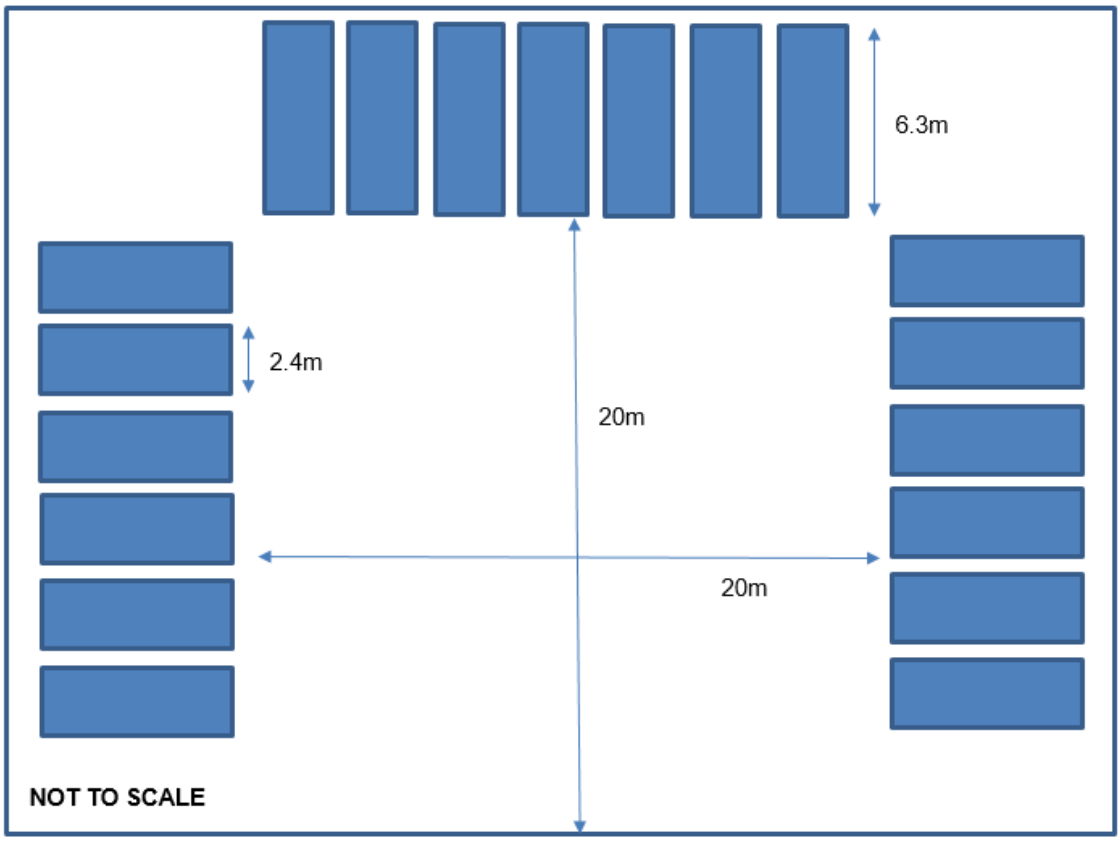
It is recommended that RoRo containers are used to store the construction waste arisings due to their ease of collection. However, for such containers 20m of clear space width-and lengthwise is typically required for the RoRo trucks to be able to perform the necessary turning circle manoeuvres inside the waste consolidation centre without difficulty. Therefore, this spatial constraint has been taken into account when sizing the waste consolidation centres based on different container arrangements, in addition to a recommended allowance of 0.3m space between containers. In order to be conservative, approximately 2m of additional spatial allowance has been included in the calculations.

Figure 5: Skip arrangement scenario 1



Source: Mott MacDonald

Figure 6: Skip arrangement scenario 2



Source: Mott MacDonald

The area of a 40 cubic yard skip is approximately 15.1m^2, based on a width of 2.4m and a length of 6.3m.

B.1.2.1 Construction waste from the power station

For daily storage assuming the Scenario 1 arrangement, the area of the waste consolidation centre anticipated to contain construction waste from the power station was determined as follows:

(20m + 6.3m +(0.3m * 3)) * ((2.4m + 0.3m) * 15 containers + (0.3m * 3)) = 1,126m^2

For scenario 2, the minimum area of the waste consolidation centre to contain the daily construction waste from the power station was calculated as follows:

(((2.4m + 0.3m) * 6 containers) + ((6.3m + (2 * 0.3m)) + (0.3m * 3) + 3m) * ((2.4m + 0.3m) * 5 containers + (2 * (6.3m + 0.3m)) + (0.3m * 3) + 5.7m) = 899m^2

An additional 3m and 5.7m were included in the width and length calculations respectively due to the requirement of leaving 20m of clear space for the RoRo vehicles to execute their turning circle manoeuvres into. This requirement in fact means that the minimum width of the consolidation centre, assuming design Scenario 2 is implemented, should be 6.3m + (0.3m * 2) + 20m = 26.9m, while the minimum length should be (6.3m + 0.3m) * 2 + 20m = 33.2m.

It is not recommended to design the waste consolidation centre storing construction waste from the power station using the scenario 2 arrangement to be able to accommodate any less than 2.5 days' worth of storage, as it is from this point that the benefits of economies of scale can be realised, as can be seen in Table 35. The arrangement of the containers, as shown in Table 35 is such that the spatial requirements are minimised.

For collections of construction waste less frequent than every 24 hours, it would be preferable for the waste consolidation centre to assume the container arrangement in scenario 1, as made clear by the data in Table 34.

Table 28: Spatial requirements for power station construction waste storage based on scenario 1

Collection frequency (hours)	Number of 40 cubic yard skips	Area of waste consolidation centre (m^2)
4	8	612
8	8	612
12	8	612
16	8	612
20	10	759
24	12	906
28	12	906
32	12	906
36	15	1,126
40	15	1,126
44	15	1,126
48	17	1,273
52	18	1,346
56	19	1,420
60	19	1,420

Table 29: Spatial requirements for power station construction waste storage based on scenario 2

Collection frequency (hours)	Number of 40 cubic yard skips	Area of waste consolidation centre (m^2)	Assumed container arrangement (Top, Right, Left)
6	8	899	3,3,2
12	8	899	3,3,2
18	10	899	4,3,3
24	12	899	4,4,4
30	12	899	4,4,4
36	15	899	5,5,5
42	15	899	5,5,5
48	17	899	6,6,5
54	19	899	6,7,6
60	19	899	6,7,6
66	20	899	6,7,7
72	24	1,037	6,9,9

B.1.2.2 Construction waste from accommodation campus

The spatial requirements for the waste consolidation centre intended to store construction waste arising from the accommodation campus are displayed in Table 36 and Table 37 for scenarios 1 and 2 respectively.

Table 30: Spatial requirements for accommodation campus construction waste storage based on scenario 1

Collection frequency (days)	Number of 40 cubic yard skips	Area (m^2)
0.5	8	612
1	8	612
1.5	10	759
2	12	906
2.5	12	906
3	15	1,126
3.5	15	1,126
4	18	1,346
4.5	19	1,420
5	19	1,420
5.5	21	1,567
6	26	1,934
6.5	26	1,934
7	27	2,007

Table 31: Spatial requirements for accommodation campus construction waste storage based on scenario 2

Collection frequency (days)	Number of 40 cubic yard skips	Area (m^2)	Assumed container arrangement (Top, Right, Left)
1	8	899	3,3,2
2	12	899	4,4,4
3	15	899	5,5,5
4	18	899	6,6,6
5	19	899	6,7,6
6	26	1,110	7,10,9
7	27	1,110	7,10,10

B.2 Operational waste

B.2.1 Assessment of waste storage provision

B.2.1.1 Power Station

The waste storage requirements for the power station were determined based on different collection frequencies up to one week; the expected waste volumes generated, and bin storage requirements are presented in Table 38 and Table 39. Section 4.2.1 describes the types of wastes expected to be generated during operation of the power station.

Table 32: Operational waste volumes (m^3) generated at the Power Station

Waste stream	Collection frequency (days)						
	1	2	3	4	5	6	7
Inert and Commercial Waste	12.9	25.8	38.6	51.5	64.4	77.3	90.1
Hazardous Waste	0.6	1.2	1.8	2.4	3.0	3.7	4.3
Total	**13.5**	**27.0**	**40.5**	**53.9**	**67.4**	**80.9**	**94.4**

Table 33: Number of 1,100L bins required for storage of operational wastes at the Power Station

Waste stream	Collection frequency (days)						
	1	2	3	4	5	6	7
Inert and Commercial Waste	12	24	36	47	59	71	82
Hazardous Waste	1	2	2	3	3	4	4
Total	**13**	**26**	**38**	**50**	**62**	**75**	**86**

The indicative storage area allocated for conventional waste is located outside of the cut-off walls. As currently illustrated, the store would have an indicative area of 822m^2 and comprises the grey, shaded area in and .

It is recommended that operational waste arisings from the power station are collected at least once per week; the dimensions of the conventional waste storage area will be more than sufficient to allow for the storage of operational waste for that duration, assuming the bins are placed along each side.

B.2.1.2 SZC Accommodation Campus

Waste storage infrastructure

It is assumed that the accommodation campus will more closely resemble a hotel than residential dwellings for reasons elucidated upon previously.

It is expected for there to be a small area provided for storage of residual, recyclable and organic waste streams on each floor of accommodation blocks. These will then be brought down to the main storage areas for each block by the facilities management team.

Details and specifications of various external waste storage containers, as stated in the West Suffolk guidance, are presented in Appendix C.

It is recommended that similar methodologies in respect of transit of waste should be adopted for the campus and commercial spaces to those outlined for flats/apartments, which are described below.

For flats/apartments, waste is typically moved directly to the collection point comprising a communal storage area. Temporary storage is unlikely to occur immediately outside each flat/apartment.

Ipswich Borough Council states that waste collection operatives should not be required to:

- move wheeled bins (up to 360 litres) more than 15 metres in total;
- carry waste sacks more than 10 metres in total;
- transport a Euro bin (660 and 1100 litres), or similar wheeled waste container, more than 10 metres in total; and
- transport compacted waste or recyclable material along a gradient whether rising or falling.

Where bulk containers are used, direct vehicular access to the containers is necessary. The collectors should not be required to move wheeled storage containers over surfaces that may hinder the smooth passage of the container.

The mode of collection should be based on user convenience and efficiency; health and safety; and environmental risk.

Assessment of waste storage provisions

Residential

The maximum quantity of general waste that would be produced on a yearly, fortnightly and weekly basis from the SZC accommodation campus, based on a peak occupancy of 2,400 workers, is displayed in Table 40.

Table 34: Residential waste generation

	Annual (tonnes)	Fortnightly (tonnes)	Weekly (tonnes)	Four-day basis (tonne)
Total municipal solid waste arisings	900	34.52	17.26	9.86
Residual waste arisings	449	17.23	8.61	4.92
Recycling arisings	451	17.29	8.65	4.94

“Construction, demolition and excavation waste volume to mass conversion factors and List of Waste codes used in WRAP’s tools”, July 2014, WRAP show that for mixed municipal waste (code 20 03 01) a density of 0.21 tonnes/m^3 has been used for WRAP models.

Therefore, the storage volume required to accommodate residual wastes in the campus over a weekly period, based on a peak occupancy of 2,400 workers, is as follows:

8.61 tonnes / 0.21 tonnes/m^3 = 41m^3

It has been assumed that the campus' residential waste composition will be similar to that of a hotel, since it is expected that minimal cooking facilities in rooms will be available and workers are likely to have their meals at the canteen most of the time. WRAP's report[45] provides waste composition data for hotels, based on 35 samples. This information is presented in Table 41.

Table 35: WRAP's composition study in the hospitality industry

Primary category	Secondary category	Hotel
		%
Paper	Newspaper/catalogues	8.90%
	Paper packaging	0.80%
	Non-recyclable paper	8.70%
	Paper subtotal	**18.40%**
Card	Liquid cartons	0.20%
	Board packaging	4.10%
	Card packaging	2.70%
	Other card	0.30%
	Card subtotal	**7.30%**
Dense plastic	PET plastic bottles	0.90%
	HDPE plastic bottles	1.10%
	Other plastic bottles	0.60%
	Other dense plastic packaging	3.00%
	Other dense plastic	1.50%
	Dense plastic subtotal	**7.10%**
Plastic film	Plastic film	5.50%
	Plastic bags	2.10%
	Plastic film subtotal	**7.60%**
Textiles		**1.50%**
Glass	Green glass bottles and jars	2.90%
	Clear glass bottles and jars	5.90%
	Brown glass bottles and jars	0.80%
	Other glass	0.20%
	Glass subtotal	**9.80%**
Miscellaneous combustible		**2.00%**
Miscellaneous non-combustible		**0.70%**
Ferrous metal	Ferrous food and beverage cans	1.10%
	Ferrous aerosols	0.10%
	Other ferrous metal	0.70%
	Ferrous metal subtotal	**1.90%**
Non-ferrous metal	Non-ferrous food & beverage cans	0.20%
	Foil	0.20%
	Non-ferrous aerosols	0.00%

[45] WRAP, 2011 - The Composition of Waste Disposed of by the UK Hospitality Industry. Available online at http://www.wrap.org.uk/sites/files/wrap/The_Composition_of_Waste_Disposed_of_by_the_UK_Hospitality_Industry_FINAL_JULY_2011_GP_EDIT.54efe0c9.11675.pdf

Primary category	Secondary category	Hotel
		%
	Other non-ferrous metal	0.10%
	Non-ferrous metal subtotal	**0.50%**
WEEE		**0.20%**
Hazardous waste		**0.10%**
Garden waste		**3.00%**
Kitchen (food) waste	Packaged avoidable	1.00%
	Packaged unavoidable	0.00%
	Non-packaged avoidable	22.60%
	Non-packaged unavoidable	13.60%
	Kitchen waste subtotal	**37.20%**
Fines (<10mm)		**2.00%**
Liquids		**0.70%**
Total		**100.00%**

Source: WRAP, 2011 - The Composition of Waste Disposed of by the UK Hospitality Industry.

Co-mingled recyclables include paper and card; metal cans, tins and foil; dense plastic bottles and packaging; glass bottles and jars. They are assumed to make up 33.5% of the total waste composition as per the waste composition study. Food and garden waste will be collected separately; this is assumed to comprise 40.2% of the total waste composition. It is assumed that the 'other' card, dense plastic, glass, ferrous and non-ferrous metal sub-categories will be disposed of in residual waste bins.

To convert weight into volume, WRAP's 'Material bulk densities - summary report, 2010'[46] has been used. The densities of each recyclable fraction (plastic bottles, paper, cardboard, mixed cans and glass) have been obtained and a total density calculated. This information is presented in Table 42.

A conservative approach has been taken in converting weight to volume and thus the lower mean densities from the range presented in the report have been used.

Table 36: Densities of recyclable waste stream

Material type	Proportion in total waste stream	Mean density range (kg/m^3)	Mean density used (kg/m^3)	Proportional density (kg/m^3)
Mixed paper, card and drink cartons	16.7%	366	366	171.4
Mixed cans	1.6%	40-63	40	2.6
Mixed plastics (excluding film)	5.6%	18-106	18	3.5
Mixed glass	9.6%	265-694	265	71.5
Total	33.5%	**-**	**-**	**249.1**

Therefore, the storage volume required to accommodate recyclables over a week is as follows:

((0.375 tonnes/population x 2,400 people x 33.5%) / 0.2491 tonnes/m^3 / 365) x 7 days = 23.2m^3.

Organic waste will be collected separately. According to the waste composition study, organic waste comprises 40.2% of the waste stream, 37.2% of which is food waste. The mean density range of food and garden waste in WRAP's 'Material bulk densities - summary report, 2010' being between 157kg/m^3 to 338kg/m^3. However, since the organic waste stream primarily comprises food waste, the density of food

[46] WRAP, 2010 – Summary Report: Material bulk densities. Available online at http://www.wrap.org.uk/sites/files/wrap/Bulk%20Density%20Summary%20Report%20-%20Jan2010.pdf

waste has been used to determine the organic waste storage volume instead. The mean range of uncompressed food waste in WRAP's report is stated as being between 290kg/m^3 to 500kg/m^3. A conservative approach has been taken in converting weight to volume and the lower density of 290kg/m^3 has been used.

Therefore, the storage volume required to accommodate organic wastes over a weekly period is as follows:

(0.375 tonnes/population x 2,400 people x 40.2% / 0.290 tonnes/m^3 / 365) x 7 days = 23.9m^3.

The waste storage provision has been assessed for the campus as a whole, since information relating to the number of residents per accommodation block was not available at this stage. The waste and recycling storage requirements for the accommodation campus have been based on the West Suffolk guidance.

Residual waste constitutes 46.53% of the waste storage volume requirements, recyclables 26.33% and organic waste 27.14%. Each accommodation campus block will contain a communal waste storage area. Separate 1,100L bins will be used for the storage of residual, recyclable and organic wastes.

It is recommended that the use of a compactor is considered for the compaction of the residual waste to reduce the number of waste bins required.

A summary of the waste storage requirements for the residential element of the campus is shown in Table 43. This is based on weekly, four-day, two-day and daily collection.

The total required waste storage provision was calculated to be as follows:

- Daily basis 12.6m^3
- 2-day basis 25.2m^3
- 4-day basis 50.4m^3
- Weekly basis 88.2m^3

Assuming collection every four days, sufficient storage space should be provided for 45 bins.

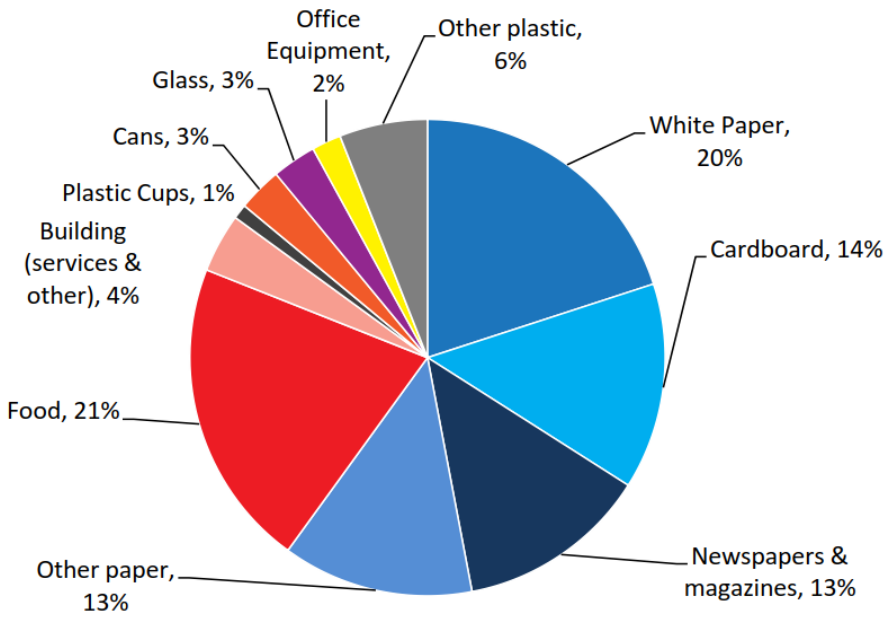
Table 37: Residential waste storage requirements

Waste type	Proportion of waste stream	Weekly waste volume (m^3)	No. of 1,100L bins required for weekly storage	Four-day waste volume (m^3)	Number of 1,100L bins required for four days' storage	Two-day waste volume (m^3)	Number of 1,100L bins required for two days' storage	Daily waste volume (m^3)	Number of 1,100L bins required for daily storage
Dry recyclables	33.5%	23.2	22	13.3	13	6.6	7	3.3	4
Organic waste	40.2%	23.9	22	13.7	13	6.8	7	3.4	4
Residual waste	26.3%	41.0	38	23.4	22	11.7	11	5.9	6
Total	100.0%	88.2	82	50.4	48	25.2	25	12.6	14

B.2.1.3 Offices

Office waste will primarily comprise paper and card. A typical breakdown of office waste is shown in Figure 7.

Figure 7: Typical office waste stream breakdown



Source: Cundall Johnston and Partners LLP – Information paper 6 – CO_2e emissions due to office waste. Diagram derived from Wastewatch (2004)

The waste generation for the office space is estimated to be 130 tonnes/year.

The waste composition breakdown, provided in Figure 7, has been used to assess the bin storage provision. It is recommended that separate bins are provided for residual waste, paper and card, other recyclable waste (plastic cups, glass, metal cans etc), and food waste. It is assumed that 'other plastic' will be placed in the residual waste bins, since it is unclear what this comprises.

The information in Table 42 has been used to convert weight into volume, and thus determine the waste storage requirements for the offices. In order to take into account short-term peaks of waste generation a safety factor of 30% has been allowed.

The storage volume required to accommodate paper and card over a week is as follows:

130 tonnes x 60% x (100% + 30%) / 0.366 tonnes/m^3 / 365) x 7 days = 5.31m^3

A similar exercise was undertaken for the other recyclable waste fraction, residual waste and food waste, the results of which are presented in Table 44.

Table 38: Waste storage requirements for offices

Waste type	Proportion	Weekly gross volume (m^3)	Number of 1,100L bins
Paper and card	60%	5.31	5
Cans, glass and plastic cups	7%	1.70	2
Food waste	21%	2.35	3

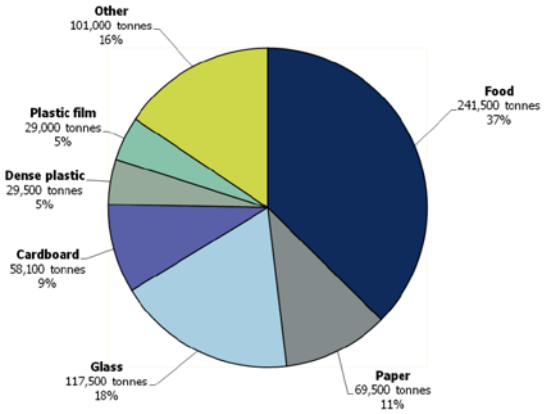
Waste type	Proportion	Weekly gross volume (m^3)	Number of 1,100L bins
Residual waste	12%	1.94	2
Total	100%	13.05	12

It is recommended to use 1,100L bins since commercial waste contractors are likely to want to provide a single size of container. If the storage space is insufficient for the specific purpose, more frequent collections will need to be organised.

B.2.1.4 Retail and Hospitality

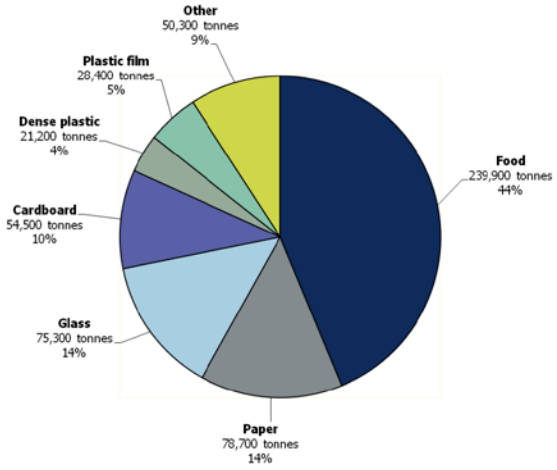
Waste composition data for restaurants and bars has been obtained from WRAP's 2011 report[47] and is shown in Figure 8 and Figure 9.

Figure 8: The composition (%) of mixed (residual) waste disposed of by pubs (29 samples) in the UK by primary material category



Source: WRAP, 2011 - The Composition of Waste Disposed of by the UK Hospitality Industry.

Figure 9: The composition (%) of mixed (residual) waste disposed of by restaurants (42 samples) in the UK by primary material category



Source: WRAP, 2011 - The Composition of Waste Disposed of by the UK Hospitality Industry.

Detailed composition data for restaurants and pubs is shown in Table 45.

Table 39: Composition of waste arising in hospitality spaces

Primary category	Secondary category	Pubs	Restaurants
		%	%
Paper	Newspaper/catalogues	3.8%	2.6%
	Paper packaging	0.6%	0.3%
	Non-recyclable paper	6.4%	11.4%
	Paper subtotal	**10.8%**	**14.3%**
Card	Liquid cartons	0.3%	0.2%
	Board packaging	6.3%	8.1%
	Card packaging	2.0%	1.5%

[47] WRAP, 2011 - The Composition of Waste Disposed of by the UK Hospitality Industry. Available online at http://www.wrap.org.uk/sites/files/wrap/The_Composition_of_Waste_Disposed_of_by_the_UK_Hospitality_Industry_FINAL_JULY_2011_GP_EDIT.54efe0c9.11675.pdf

Primary category	Secondary category	Pubs	Restaurants
		%	%
	Other card	0.3%	0.1%
	Card subtotal	**9.0%**	**9.9%**
Dense plastic[44]	PET plastic bottles	0.6%	0.5%
	HDPE plastic bottles	0.8%	0.9%
	Other plastic bottles	0.4%	0.3%
	Other dense plastic packaging	2.0%	1.7%
	Other dense plastic	0.8%	0.4%
	Dense plastic subtotal	**4.6%**	**3.9%**
Plastic film[45]	Plastic film	2.8%	3.2%
	Plastic bags	1.7%	2.0%
	Plastic film subtotal	**4.5%**	**5.2%**
Textiles		**2.2%**	**0.9%**
Glass	Green glass bottles and jars	3.5%	6.8%
	Clear glass bottles and jars	9.1%	5.1%
	Brown glass bottles and jars	5.3%	1.7%
	Other glass	0.3%	0.2%
	Glass subtotal	**18.2%**	**13.7%**
Miscellaneous combustible[46]		**5.9%**	**1.4%**
Miscellaneous non-combustible[47]		**0.3%**	**0.7%**
Ferrous metal	Ferrous food and beverage cans	1.3%	1.4%
	Ferrous aerosols	0.1%	0.1%
	Other ferrous metal	0.4%	0.4%
	Ferrous metal subtotal	**1.7%**	**1.9%**
Non-ferrous metal	Non-ferrous food & beverage cans	0.5%	0.2%
	Foil	0.4%	0.3%
	Non-ferrous aerosols	0.0%	0.0%
	Other non-ferrous metal	0.0%	0.2%
	Non-ferrous metal subtotal	**0.9%**	**0.7%**
WEEE		**0.0%**	**0.3%**
Hazardous waste[48]		**0.1%**	**0.1%**
Garden waste		**1.9%**	**0.3%**
Kitchen (food) waste	Packaged avoidable	0.5%	1.1%
	Packaged unavoidable	0.0%	0.0%
	Non-packaged avoidable	23.4%	29.3%
	Non-packaged unavoidable	13.5%	13.3%
	Kitchen waste subtotal	**37.4%**	**43.7%**
Fines (<10mm)[49]		**1.9%**	**2.2%**
Liquids[50]		**0.6%**	**0.8%**
Total		**100%**	**100%**

Source: WRAP, 2011 - The Composition of Waste Disposed of by the UK Hospitality Industry

[44] Includes plastic bottles and other containers as well as hard plastic objects.
[45] Includes single-use plastic bags and bin bags.
[46] E.g. wood.
[47] E.g. building rubble.
[48] Includes batteries and clinical waste.
[49] Material so small that it fell through the 10mm by 10mm sorting screen.
[50] Includes liquids inside containers and cooking oils (the latter accounts for the majority of the weight reported). Excludes liquids disposed of to the sink and sewer since these were outside the scope of the study

The bin storage provision for the canteens is displayed in Table 46, assuming that waste is collected either on a weekly, four-day or two-day basis. It is assumed that separate bins will be provided for residual waste, dry recyclables (paper and card, dense plastic, metals), glass and organic waste. Non-recyclable paper, plastic film, plastic bags, miscellaneous combustible and non-combustible, hazardous waste, fines and liquids have been included in the residual waste category.

Based on previous experience and the waste composition presented in Table 45, it is recommended that sufficient waste storage provision is provided in the bar to accommodate separate 1,100L mobile containers for glass, other dry recyclables, organic waste and residual waste.

The activities (e.g. general retail, convenience store, small supermarket) of the shop have not been confirmed at this stage. As such, the waste generation arising from the shop cannot be accurately calculated, neither can the bin storage provision due to the different compositions of waste arising from different retail units. However, it is likely that waste arisings from the shop will primarily comprise packaging waste and food waste, and therefore it is proposed that sufficient space is provided to accommodate separate 1,100L bins for dry recyclable, organic and residual waste.

It is estimated that for the bar and shop, a total of 4 No. and 3 No. 1,100L bins respectively would be required for weekly storage of waste. The waste storage requirements for the canteens are more onerous however, as 18 No. 1,100L bins for dry recyclables, 24 No. 1,100L bins for organic waste and 13 No. 1,100L bins for residual waste would be required assuming collection every two days.

Table 40: Waste storage requirements for canteens

Waste type	Proportion of waste stream	Weekly waste volume (m^3)	No. of 1,100L bins required for weekly storage	Four-day waste volume (m^3)	Number of 1,100L bins required for four days' storage	Two-day waste volume (m^3)	Number of 1,100L bins required for two days' storage
Dry recyclables	33%	69.3	63	39.6	36	19.8	18
Organic waste	44%	92.4	84	52.8	48	26.4	24
Residual waste	23%	48.3	44	27.6	26	13.8	13
Total	**100%**	210.0	191	120.0	110	60.0	55

B.2.1.5 Sports facilities

Waste composition data for community facilities has been obtained from Remade Scotland's 2008 report[48] and is presented in Table 47. The indoor sports facilities were assumed to have the same waste composition as that for leisure centres.

Table 41: Composition of waste arising in sports facilities

Premise	Paper and card	Organic	All plastics	Glass	Metals	Other
Leisure centres	54.9%	10%	17.1%	6.1%	6.3%	5.6%

Source: Remade Scotland, 2008 - The Strategic Overview of the Waste Prevention Planning Project Within Scottish Local Authorities.

The bin storage requirements for the indoor sports facility are shown in Table 48. It has been assumed that the recyclable/non-recyclable split for the paper and plastic waste streams mirrors that of the school waste composition presented in Tables 18 and 19 of WRAP's 2008 report[49], while the glass and metal fractions are assumed to be recyclable.

With regards to the outdoor sports areas, small litter bins will be provided in strategic locations, which would be delivered to a central waste storage area when filled.

B.2.1.6 Caravan park

The composition of the waste generated in the caravan park is assumed to be the same as that generated in the accommodation campus, while the same approach that was used to determine the required storage provision for the campus (see Appendix B.3.1.2) is followed for this facility too.

Therefore, the storage volume required to accommodate residual wastes in the caravan park over a weekly period, based on a peak occupancy of 600 workers, is as follows:

((0.375 tonnes/population x 600 people) / 0.21 tonnes/m^3 x (100% – 50.1%)) / (365 days / 7 days) = 10.25m^3

The storage volume required to accommodate recyclables over a week is as follows:

((0.375 tonnes/population x 600 people x 33.5%) / 0.2491 tonnes/m^3 / 365 days) x 7 days = 5.80m^3.

The storage volume required to accommodate organic wastes over a weekly period is as follows:

((0.375 tonnes/population x 600 people x 40.2%) / 0.290 tonnes/m^3 / 365) x 7 days = 5.98m^3.

A summary of the waste storage requirements for the residential element of the campus is shown in Table 49. This is based on weekly, four-day, two-day and daily collection.

The total required waste storage provision was calculated to be as follows:

- Daily basis 3.1m^3
- 2 day basis 6.3m^3
- 4 day basis 12.6m^3
- Weekly basis 22m^3

Assuming collection every four days, sufficient storage space should be provided for 14 bins.

[48] Remade Scotland, 2008 - The Strategic Overview of the Waste Prevention Planning Project Within Scottish Local Authorities. Available online at http://www.remade.org.uk/media/11341/waste_prevention_within_local_authorties.pdf

[49] WRAP, 2008 - The nature and scale of waste produced by schools in England

B.2.1.7 Vehicle parking

Small bins for recyclables and residual waste will be provided at the vehicle parking areas, located at appropriate distances from each other. The wastes will be collected from these bins at the end of every day and deposited in 1,100L or 660L bins.

The number of bins required for each vehicle parking area, assuming collection on a weekly or four-day basis, is shown in Table 50.

Table 42: Bin storage requirements for indoor sports facility

Premises	Waste type	Proportion of waste stream	Weekly waste volume (m^3)	No. of 1,100L bins required for weekly storage	Total no. of bins for weekly storage	4-day waste volume (m^3)	Number of 1,100L bins required for 4 days' storage	Total no. of bins for 4 days' storage
Indoor sports facility	Recyclable waste	60.00%	3.0	3	6	1.7	2	4
	Organic waste	10.00%	0.5	1		0.3	1	
	Residual waste	30.00%	1.5	2		0.9	1	

Table 43: Waste storage requirements for the caravan park

Waste type	Proportion of waste stream	Weekly waste volume (m^3)	No. of 1,100L bins required for weekly storage	Four-day waste volume (m^3)	Number of 1,100L bins required for four days' storage	Two-day waste volume (m^3)	Number of 1,100L bins required for two days' storage	Daily waste volume (m^3)	Number of 1,100L bins required for daily storage
Dry recyclables	33.5%	5.80	6	3.3	4	1.7	2	0.8	1
Organic waste	40.2%	5.98	6	3.4	4	1.7	2	0.9	1
Residual waste	26.3%	10.25	10	5.9	6	2.9	3	1.5	2
Total	100.0%	22.0	22	12.6	14	6.3	7	3.1	4

Table 44: Bin storage requirements for vehicle parking areas

Facility	Weekly storage							Four-days' storage						
	Waste storage provision (m^3)			Number of 1,100L bins required		Number of 660L bins required		Waste storage provision (m^3)			Number of 1,100L bins required		Number of 660L bins required	
	Dry recyclables	Residual waste	Total	Dry recyclables	Residual waste	Dry recyclables	Residual waste	Dry recyclables	Residual waste	Total	Dry recyclables	Residual waste	Dry recyclables	Residual waste
Vehicle parking - entrance hub area	1.02	1.02	2.04	1	1			0.58	0.58	1.17	1	1		
Vehicle parking - accommodation campus	0.33	0.33	0.66			1	1	0.19	0.19	0.38			1	1
Northern park and ride facility (Darsham)	5.59	5.59	11.18	6	6			3.19	3.19	6.39	3	3		
Southern park and ride facility (Wickham market)	5.28	5.28	10.56	5	5			3.02	3.02	6.03	3	3		
Freight management facility	2.20	2.20	4.40	2	2			1.26	1.26	2.51	2	2		
LEEIE park and ride facility	0.35	0.35	0.70			1	1	0.20	0.20	0.40			1	1
LEEIE HGV area	0.25	0.25	0.50					0.14	0.14	0.28				
LEEIE bus management area	0.03	0.03	0.07					0.02	0.02	0.04				
Total	15.05	15.05	30.10	14	14	2	2	8.60	8.60	17.20	9	9	2	2

B.2.1.8 Other

It is anticipated that welfare buildings containing toilets, bus drivers' rest room, security and administration offices will be located at each of the park and ride facilities and the freight management facility, in addition to security entrance huts. Based on our observations at similar buildings, it is expected that 360L recycling and residual bins will be sufficient for weekly storage of waste generated at each welfare building and 180L bins for recyclable and residual waste will suffice at the security entrance huts. Storage bins for paper towels will be provided in the welfare facilities, while female water closets (WCs) will also require bins for feminine hygiene waste which can be collected separately, if required.

It is expected for there to be minor quantities of general waste and office type waste (e.g. paper) produced from the operational phase of the Wickham Market park and ride postal consolidation facility. Therefore, it is suggested for there to be sufficient space to accommodate 1 No. 360L bin for recyclable waste (primarily paper and card) and another for residual waste.

A launderette/laundry service will be incorporated in the campus. Observations at a launderette showed there to be a simple medium sized pedal bin in the store and no specific outside storage. There is unlikely to be a requirement for waste storage, however, if any wastes are generated then it should be assumed that the storage provision for an adjacent facility can accommodate the wastes from the laundry area.

B.2.2 Sizing of operational waste consolidation centre

The spatial requirements imposed on the waste consolidation centre, intended to store operational waste arisings from the campus facilities, based on Scenario 1 and 2 for different collection frequencies, are shown in Table 51. As was done in Appendix B.2.2, the calculations have taken account of the requirement to provide 20m of clear space width- and length-wise, as well as 0.3m of spacing between containers.

Table 45: Spatial requirements for operational waste from campus facilities based on scenario 1

Collection frequency (days)	Number of 40 cubic yard skips required	Area of waste consolidation centre (m^2)
1	3	544
2	5	544
3	6	544
4	8	612
5	9	685
6	11	832
7	13	979
8	14	1,053
9	16	1,200
10	17	1,273
11	19	1,420
12	20	1,493
13	21	1,567
14	24	1,787

Table 46: Spatial requirements for operational waste from campus facilities based on scenario 2

Collection frequency (days)	Number of 40 cubic yard skips required	Area of waste consolidation centre (m^2)	Container arrangement (Top, Right, Left)
1	3	899	2,1,0

Collection frequency (days)	Number of 40 cubic yard skips required	Area of waste consolidation centre (m^2)	Container arrangement (Top, Right, Left)
2	5	899	2,2,1
3	6	899	3,2,1
4	8	899	3,3,2
5	9	899	3,3,3
6	11	899	4,4,3
7	13	899	5,4,4
8	14	899	5,5,4
9	16	899	6,5,5
10	17	899	6,6,5
11	19	899	6,7,6
12	20	899	6,7,7
13	21	964	6,8,7
14	23	1,140	7,8,8

C. Waste storage equipment specifications

Appendix 1 – Storage equipment for waste and recyclable material

1.1 Wheeled bins for single/multiple household recyclable material

Wheeled bins suitable to store residual (black), recyclable material (blue) and compostable waste (brown, 240l only) from single/multiple households will be supplied by the Developer.
The space required for wheeled bins for use in individual households, communal locations and commercial properties (mm) are identified below;

Container size	Height	Width	Breadth
140	1100	580	562
240	1100	580	740
360	1100	580	880
660	1320	1265	740
770	1356	1373	776
1100	1380	1270	1000
1280	1445	1280	1000

1.2 Container specification

The following information should be used when procuring new bins for domestic developments.

1.2.1 Domestic

Bin colour	Bin colour code
Black Anthracite	RAL 7016

The lid should have the following stamped on it in white lettering:

FHDC/SEBC *NO HOT ASHES*

1.2.2 Compost waste

Bin colour	Bin colour code
Brown	RAL 8002

The lid should have the following stamped on it in white lettering:

FHDC/SEBC

The body the following should be heat embossed on it in white lettering:

COMPOSTABLE WASTE

1.2.3 Dry recycling

Bin colour	Bin colour code
Blue	RAL 5002

The lid should have the following stamped on it in white lettering:

FHDC/SEBC *LOOSE MATERIAL ONLY NO BAGS*

The body should have the following heat embossed on it in white lettering;

DRY RECYCLABLES ONLY

1.3 Container build specification

Steel bins

- 1100 and 660 litre, double tank method as dictated by European Standard BS EN 840 to be used to confirm this capacity;
- all manufacturing to be carried out using Independent Quality Control Certification to BS EN ISO 9001;
- container to comply in full with European Standard BS EN 840;
- container complies in full with 'The Noise and Emission in the Environment by Equipment for use Outdoors Regulation 2001'. BSENISO3744:1985 and labelled to confirm this;
- container body steel, all joints fully welded with all internal body seams continuously welded. All steel parts galvanised after manufacture BS 729;
- because of the need for identification chips must be fitted to the container, the lifting bar must have the facility to accept all chips in common use in the UK without any further mechanical work;
- the lid should be double Skinned Plastic – minimum weight 6.5 kilos for 1100 litre and 5 kilos for 660 litre – colour black fitted complete with positive open / close lid lock and key;
- four off castors to have steel centres with two off front castors fitted with foot operated brakes which are to be accessible when the container is pushed onto its stationary position;

Plastic bins

- Manufactured in accordance with BS EN ISO 9002 Quality Standard;
- certification to BS EN 840 European standards for waste containers;
- built under certification to the highest manufacturing, quality and environmental standards.
- injection moulded from high-density polyethylene (HDPE), resistant to UV rays, heat and low temperatures.

Every bin will be embossed with a unique serial number.
The 660, 1100 and 1280 litre bins must have two lockable wheels and a lockable lid.

1.4 Containers for glass

These should conform to the specification in 1.1.1 above but be restricted to a maximum capacity of 660 litres. The lid should be lockable and have two apertures with brushes or rubber flaps.

1.5 Plastic sacks

These should conform to British Standard BS 6642: 1985. In order to minimise the problem of sacks splitting, leading to spillage, the following types of plastic sack are supplied as a **minimum** standard:

- **General Office Use** 120 gauge (30 micron), medium density, maximum 80% recycled.
- **Catering (hotels, restaurants etc)** 160 gauge (40 micron), low density, maximum 80% recycled. All plastic sacks used for waste storage should be of maximum dimensions 950mm long by 700mm overall width (gussets extended).

1.6 Bulk waste storage containers

These waste storage containers should conform to British Standard BS EN 840: 1997, and are available with nominal capacities of 660, 1100 and 1280 litres. They have a fixed lid, which can be supplied with a lock if required, and are suitable for residential and mixed developments and also offices of up to 2,500m^2 in size. Several manufacturers supply bins, some of which they all will be compatible with the council's waste collection vehicles. The Waste Management Section can advise which type of bin would be acceptable.

Refer to Capacity (litres)	660	1100
Width (lid open)	820	1260
Length	1250	1370
Height	1080	1205

1.7 Skips

These bulk storage containers may be used with or without a compactor and are available in the following sizes:

1. 6 Cubic yards open or enclosed
2. 8 Cubic yards open or enclosed
3. 10 Cubic yards open or enclosed
4. 14 Cubic yards open or enclosed

Dimensions (m)				
Width	1.80	4.5	2.5	5.0
Length	3.7	5.8	6.2	8.2
Height	2.34	4.9	2.8	6.0

Minimum width of entrance to service bay 4.0

In developments where the service bay opens directly on to the street, the distance from the entrance to the rear of the service bay should be a minimum of:

1. 12.0m for a 10.5 cu m skip *
2. 18.5m for a 27 cu m skip *

This is to prevent the vehicle encroaching on to the footway when loading or unloading the skip.
* Refer to 8 e. if used in conjunction with a static compactor.

1.8 Compactors

These utilise accommodation provided for waste storage to its best advantage by minimising the space required. The five main types of compactor are:

1.8.1 Small bag compactors

These are small compactors using plastic waste sacks of 300 gauge. Such compactors are either of a cylindrical or cabinet type occupying a floor area of 1 square metre and require minimum headroom of 2.5 metres. They significantly reduce the volume of waste and can achieve a compaction ratio of up to 4:1. A bag of compacted waste may weigh up to 30kg and it is therefore advisable to site the compactor at ground floor level near a street access. Collection of compacted waste in sacks is made only at street level. Small compactors are not suitable for mixed developments.

Dimensions (m)	
Width	0.78
Length	0.98
Raised Height (standard model)	2.68
Raised Height (short model)	2.38

Power Supply 240 volts 15 amp earthed socket.

1.8.2 Wheeled bin compactors

These compactors are of two main types, a small compactor using 360 litre wheeled bins and a larger compactor using 660 or 1100 litre bins. Adequate floor space is required (given in the table below) to allow for working space for the container. These compactors can achieve volume reductions of around 3:1 (a higher compaction ratio would result in damage to the 360 litre plastic bin and caster damage to the 660 and 1100 litre bin). It is advisable to site the compactor at ground floor level near a street access, as collection of wheeled bins containing compacted waste is only made at street level. These compactors are not suitable for mixed developments unless fully managed.

Dimensions (m)		
Bin capacity (litres)	660	1100
Width	0.90	1.5
Length	1.60	1.9
Working length	2.90	4.0
Height	2.00	2.5
Floor area required (m^2)	2.60	7.2

Power Supply 240 volts 15 amp earthed socket.

Note: to allow for servicing requirements for the Eurobin compactor (660 and 1100 litres), a minimum space of 1m is required at one side of the compactor and 150mm at the opposite side.

1.8.3 Portable skip compactor

These have a capacity of 9.5 cubic metres and can achieve volume reductions of up to 4:1. They require direct access by a skip vehicle. Additional length is required to that

given below for the service bay to accommodate the collection vehicle. These compactors are suitable for use in premises where a significant volume of waste is likely to be produced, such as large offices, retail units and hotels as well as mixed developments.

Dimensions (m)	9.5 m³ skip compactor	Service bay requirements	27 m³ skip compactor	Service bay requirements
Width	1.75	2.50	4.5	5.0
Length	4.28	6.63	5.8	8.63
Height	2.34	2.75	4.9	6.0

Minimum width of entrance to service bay 4.0m.

Power Supply 415 volts 32-45 amps (depending on model) three phase neutral and earth. The power supply should terminate with an RCD box located within two metres of the compactor.

Note: In developments where the service bay opens directly on to the street, the distance from the entrance to the rear of the service bay should be a minimum of:

1. 12.0m for a 9.5 cu m skip compactor.
2. 19m for a 27 cu m skip compactor.

This is to prevent the vehicle encroaching on to the footway when loading or unloading the skip.

1.8.4 Static compactor

These units are fixed and used in conjunction with a removable fully enclosed skip. They can achieve volume reductions of up to 5:1. Skips are available in a range of sizes from 10.5 to 27 cubic metres. Additional length is required to that given below for the service bay to accommodate the collection vehicle. Static compactors are ideal for developments where a considerable volume of waste is likely to be produced, including large retail, hotel and commercial developments. Static compactors may be used in conjunction with Eurobin wheeled containers.

Dimensions (m)	10.5 m³ skip	Combined unit service bay	27 m³ skip	Combined unit service bay
Width	1.8	2.5	4.5	5.0
Length	6.6	10.2	8.0	12.2
Height	2.4	2.8	4.9	6.0

Power Supply 415 volts 32-45 amps (depending on model).
Three phase neutral and earth.
Minimum width of entrance to service bay 4.0.

Note: In developments where the service bay opens directly on to the street, the distance from the entrance to the rear of the service bay should be a minimum of:

1. 14.5 m for a 10.5 cu m skip
2. 22.0 m for a 27 cu m skip
   This is to prevent the skip vehicle encroaching on to the footway when loading or unloading the skip.

Source: West Suffolk District Council, January 2014 - Waste Planning Guidance

D. Typical Baler

Figure 10: Typical waste baler

Source: Pakawaste

E. Operators of permitted waste management facilities in Suffolk

Table 47: Operators of permitted waste management facilities in Suffolk

Operator Name	Facility Name	Permit Type	Number of Facilities
AR Tilbrook Ltd	Stanchils Farm	A6: Landfill taking other wastes	3
	AR Tilbrook Ltd - Culford Gravel Pit	A6: Landfill taking other wastes	
	AR Tilbrook Ltd - Gravel Hill	A6: Landfill taking other wastes	
Aggmax Transport Ltd	Lawn Farm Quarry	L05: Inert LF	1
All Waste Solutions Ltd	Masons Quarry Ts	A11: Household, Commercial & Industrial Waste T Stn	1
Allan Collyer And Sons	Land Off Sparrowhawk	SR2010 No12: Treatment of waste to produce soil <75,000 tpa	1
Allen Newport Ltd	Martson's Pit	S0908 No 8: Management of inert or extractive waste at mine	1
Anglian Water Services Limited	Cliff Quay	A22: Composting Facility	2
	Cliff Quay Wastewater Treatment Works	A16: Physical Treatment Facility	
Anti - Waste Ltd	Anti-Waste Ltd Kentford Landfill Site	A4: Household, Commercial & Industrial Waste Landfill	6
	Red Lodge Compost Facility	A22: Composting Facility	
	Lowestoft	A9: Special Waste Transfer Station	
	Haverhill Recycling and Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	
	Fornham St Genevieve Landfill	A2: Other Landfill Site taking Special Waste	
	Red Lodge Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	
B&B Skip Hire	B&B Skip Hire Ltd	SR2010 No12: Treatment of waste to produce soil <75,000 tpa	2
	B&B Skip Hire	A9: Special Waste Transfer Station	
Badger Building (E Anglia) Limited	Badger Building (E. Anglia) Ltd	SR2010 No7: Use of waste in construction <50,000 tps	1
Barley Brigg Biogas Ltd	Barley Brigg Biogas Ltd	S1210 No 10: On-farm anaerobic digestion - farm wastes only	1
Bauly Michael	Ticehurst Gravels	S1539 No 39: Use of waste in a deposit for recovery op	1
Bentwater Parks Ltd	Bentwaters Park	S0811 No 11: Inert & excavation Waste TS + treatment	1
Biffa Waste Services Ltd	Bramford Quarry Landfill	A4: Household, Commercial & Industrial Waste Landfill	1

Operator Name	Facility Name	Permit Type	Number of Facilities
Bolton Brothers Ltd	Bolton Brothers Recycling Centre (MRF)	A15: Material Recycling Treatment Facility	1
Brett Aggregates Ltd	Ipswich Port Aggregate Recovery Facility	A16: Physical Treatment Facility	6
	Layham Quarry Landfill	L05: Inert LF A5 : Landfill taking Non-Biodegradeable Wastes	
	Shrublands Quarry Landfill	S0908 No 8: Management of inert or extractive waste at mine	
	Waldringfield Landfill/Quarry	L05: Inert LF A5: Landfill taking Non-Biodegradeable Wastes S0908 No 8: Management of inert or extractive waste at mine	
	Waldringfield Recycling Facility	A16: Physical Treatment Facility	
	Shrublands Quarry Recycling Facility	S0906 No 6: Inert & Excavation WTS with treatment	
British Sugar Plc	British Sugar - Bury St Edmunds Sugar Factory	A7: Industrial Waste Landfill (Factory curtilage)	2
	British Sugar - Hollow Road Landfill	A7: Industrial Waste Landfill (Factory curtilage)	
Brooks & Wood Ltd	Ski Centre	A5: Landfill taking Non-Biodegradeable Wastes	1
Buckley Trevor Lionel	T & G Buckley - Beck Row Auto Dismantlers	A20: Metal Recycling Site (mixed MRS's)	1
C G Finch	C G Finch - Elmswell	A20: Metal Recycling Site (mixed MRS's)	1
C. K Chemicals Ltd	C K Chemicals	A21: Chemical Treatment Facility	1
Cemex U K Materials Ltd	Flixton Park Quarry	SR2010 No12: Treatment of waste to produce soil <75,000 tpa A25: Deposit of waste to land as a recovery operation	4
	Flixton Quarry	A25: Deposit of waste to land as a recovery operation	
	Wangford Quarry	S0908 No 8: Management of inert or extractive waste at mine	
	Cartwrights Covert Landfill	L05: Inert LF	
Control Trading Ltd	Unity Street Metal Recycling Facility	A20: Metal Recycling Site (mixed MRS's)	1
CRS Bio Limited	Reydon Anaerobic Digestion Facility	A23: Biological Treatment Facility	1
Culford Waste Ltd	Culford Waste Ltd - The Folly	A6: Landfill taking other wastes	2
	Balloon Barn Farm	A11: Household, Commercial & Industrial Waste T Stn	
Danbury Haulage Ltd	Brundon Lane Landfill	A6: Landfill taking other wastes	1
E E Green & Son Ltd	Former Brick & Pipeworks Site	S0811 No 11: Inert & excavation Waste TS + treatment	1

Operator Name	Facility Name	Permit Type	Number of Facilities
East Point Metal Trading Ltd	East Point Metal Trading Limited	S1514 No 14: 75kte Metal Recycling Site	1
Elveden Farms Limited	Elveden Farms Recycling Facility	A16: Physical Treatment Facility	1
Euston Estates	Euston Estates	A6: Landfill taking other wastes	1
FA Edwards, D Edwards And J Edwards	FA Edwards And Son Ltd	A20: Metal Recycling Site (mixed MRS's)	1
FCC Recycling (UK) Limited	Mildenhall Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	8
	Ipswich Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	
	Felixstowe Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	
	Stowmarket Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	
	Hadleigh Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	
	Sudbury Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	
	Haverhill Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	
	Foxhall Waste Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	
Frimstone Limited	Worlington Quarry	S0908 No 8: Management of inert or extractive waste at mine SR2010 No12: Treatment of waste to produce soil <75,000 tpa A25: Deposit of waste to land as a recovery operation	2
Godolphin Management Co. Limited	Rutland Stud Composting Facility	A22: Composting Facility	1
H E H Enterprises Ltd	HEH Enterprises - Chippenham Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	1
H G Thurston & Co Ltd	Old Sandy Lane Pit	A5: Landfill taking Non-Biodegradeable Wastes	1
H2 Energy (ESCO 34) Limited	2 Sisters Food Group	A23: Biological Treatment Facility	1
Hales C R	Lowestoft	A11: Household, Commercial & Industrial Waste T Stn	1
HF & JT Few	Barking Landfill	A5: Landfill taking Non-Biodegradeable Wastes	1
HPL Services Ltd	Meadow View Farm	A18: Incinerator	1
Huggins Frank K	Sally Woods Lane Landfill	A5: Landfill taking Non-Biodegradeable Wastes	1
J Breheny Contractors Ltd	Creeting Hills	A5: Landfill taking Non-Biodegradeable Wastes	1

Operator Name	Facility Name	Permit Type	Number of Facilities
J Egmore	J Egmore - Lakenheath	S0811 No 11: Inert & excavation Waste TS + treatment	1
J T Few Plant Hire Limited	Malting Farm	S0811 No 11: Inert & excavation Waste TS + treatment	2
	J T Few Plant Hire Ltd	S0811 No 11: Inert & excavation Waste TS + treatment	
LP Pallet Quarry Limited	Henham Quarry	A25: Deposit of waste to land as a recovery operation SR2010 No12: Treatment of waste to produce soil <75,000 tpa S0908 No 8: Management of inert or extractive waste at mine	1
Lansdowne Paul	Poplar Farm	S0811 No 11: Inert & excavation Waste TS + treatment	1
M Dickerson Ltd	M Dickerson Ltd - The Carrops, Red Lodge	A6: Landfill taking other wastes	1
Material Change Creeting Ltd	Creeting Compost Facility	A22: Composting Facility	1
Mayer Parry Recycling Ltd	Mayer Parry - Snailwell	A20: Metal Recycling Site (mixed MRS's)	1
Medley James	The Yard	S0801 No 1: 75kte HCI Waste Transfer Station	1
Mick George Limited	Kennett Soil and Aggregate Treatment Facility	A16: Physical Treatment Facility	1
Mid Suffolk District Council	Creeting Road Depot	A9: Haz Waste Transfer Station	1
Middleton Aggregates Ltd	Cavenham Heath Quarry	A16: Physical Treatment Facility	1
Mills, D J & W J	W J & D J Mills	A20: Metal Recycling Site (mixed MRS's)	1
Mini Waste Limited	Miniwaste	A11: Household, Commercial & Industrial Waste T Stn	1
Mr. Glenn Ley And Mrs. Julia Ley	Solar Farm	SR2010 No12: Treatment of waste to produce soil <75,000 tpa	1
Skipaway	Leiston Transfer Station	S0801 No 1: 75kte HCI Waste Transfer Station	1
Murfitts Industries Ltd	Old Chicory Factory	A15: Material Recycling Treatment Facility	1
Newmarket Open Door	Newmarket Open Door Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	1
Nicholls Limited	Tippers R Us	A16: Physical Treatment Facility	1
Norfolk And Suffolk Construction Limited	Hadleigh Road Recycling Facility	SR2010 No12: Treatment of waste to produce soil <75,000 tpa	3
	Lion Barn Phase 2	A25: Deposit of waste to land as a recovery operation	
	Sandpit Lane Recycling Centre	SR2010 No12: Treatment of waste to produce soil <75,000 tpa	

Operator Name	Facility Name	Permit Type	Number of Facilities
Orcol Fuels Ltd Oss Group Ltd	Oss Thetford Transfer Station	A9: Special Waste Transfer Station	1
P C & T N Cook	P C Cook (Freight Kare) Ltd	A11: Household, Commercial & Industrial Waste T Stn	1
P W Waters Ltd	Oulton Broad	A11: Household, Commercial & Industrial Waste T Stn	1
R And D Construction Ltd	R And D Construction Recycling Facility	SR2010 No12: Treatment of waste to produce soil <75,000 tpa	1
Russell James Hugh	Glemsford Skip Hire	A11: Household, Commercial & Industrial Waste T Stn	1
S R C L Limited	Ipswich Clinical Waste Incinerator	S0824 No 24: Clinical Waste Transfer Station	1
S Sacker (Claydon) Ltd	S Sacker Claydon Ltd	A11: Household, Commercial & Industrial Waste T Stn	2
	Debtrac Centre	A11: Household, Commercial & Industrial Waste T Stn	
Safety Kleen UK Ltd	Safety Kleen UK	A9: Special Waste Transfer Station	1
Scrapco Metal Recycling Ltd	The Carrops	A20: Metal Recycling Site (mixed MRS's)	
SEH (Ipswich) Ltd	Mobile Plant - Land Remediation	A24: Mobile Plant	1
Shotley Holdings Limited	Folly Farm Waste Management Facility	A1: Co-Disposal Landfill Site A11: Household, Commercial & Industrial Waste T Stn	4
	Folly Farm Landfill	A1: Co-Disposal Landfill Site	
	Waste Recycling & Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	
	Hollow Road Farm	S0807 No 7: 75kte HCI Waste TS + treatment + asbestos	
Suez Environnement	Suffolk Energy from Waste Facility	Waste to Energy	1
Slicker Recycling Limited	Hollywell Waste Oil Facility	A17: Physico-Chemical Treatment Facility	1
St Edmundsbury Borough Council	St Edmundsbury Borough Depot	S0807 No 7: 75kte HCI Waste TS + treatment + asbestos	1
Steve Lumley Planing Limited	Hollow Road Farm	S0811 No 11: Inert & excavation Waste TS + treatment	1
Stowmarket Skip Hire Ltd	Stowmarket Skip Hire Ltd	S0803 No 3: 75kte HCI Waste TS + treatment	1
Sutton Services Limited	Lakenheath Recycling Facility	S0811 No 11: Inert & excavation Waste TS + treatment	1
T & K Weavers Demolition	Chilton Airfield	A16: Physical Treatment Facility	1
Tamar Composting (East Anglia) Limited	Parham Recycling Centre	A22: Composting Facility	1
Tamar Recycling (Suffolk) Limited	Lackford Recycling Facility	S1506 No 6: 75kte HCI Waste TS + treatment	1
Tarmac Aggregates Limited	Higham Rail Depot	A15: Material Recycling Treatment Facility	5

Operator Name	Facility Name	Permit Type	Number of Facilities
	Broomfield Depot	S0908 No 8: Management of inert or extractive waste at mine	
	Gallows Hill Pit	A5: Landfill taking Non-Biodegradeable Wastes	
	Darmsden Hall Landfill Site	L05: Inert LF	
	Barham Quarry	S0803 No 3: 75kte HCl Waste TS + treatment	
TD & AM Bugg	Harpers Hill Farm	A14: Transfer Station taking Non-Biodegradable Wastes; A11 : Household, Commercial & Industrial Waste T Stn	1
Tec Energy U K Ltd V C Cooke	Tec Energy	A11: Household, Commercial & Industrial Waste T Stn	1
Ticehurst Gravels	Ticehurst Gravels - Ticehurst Farm	A6: Landfill taking other wastes	1
TJ & WM Cardy Limited	The Follys Quarry	A6: Landfill taking other wastes	1
UK Power Networks (operations) Limited	Stowmarket Grid Substation	S1215 No 15: Storage of electrical insulating oils	2
	Barton Road	A9: Special Waste Transfer Station	
V C Cooke Limited	V C Cooke Limted	A17: Physico-Chemical Treatment Facility	1
V Cracknell And Son Limited	V Cracknell And Son Ltd	A20: Metal Recycling Site (mixed MRS's)	1
Viridor Waste Suffolk Ltd	Foxhall Landfill	A1: Co-Disposal Landfill Site	3
	Lackford Landfill	A2: Other Landfill Site taking Special Waste	
	Wangford Landfill	Non-Hazardous Landfill With Stable Non-Reactive Hazardous Waste cell	
Viridor Waste Management Limited	Masons Material Reclamation Facility	A15: Material Recycling Treatment Facility	1
Waveney District Council	Oulton	A14: Transfer Station taking Non-Biodegradable Wastes	1
Whites Recycling Ltd.	Troston Estates	A11: Household, Commercial & Industrial Waste T Stn	1
Wiles Contractors Limited	Wiles Contractors Limited	A16: Physical Treatment Facility	1
Woodage Sarah	Bramford Golf Centre	A25: Deposit of waste to land as a recovery operation	1

F. Local and regional waste facilities that accept relevant hazardous wastes

Table 48: List of relevant hazardous waste types

Hazardous waste types
020108 agrochemical waste containing dangerous substances
060101 sulphuric acid and sulphurous acid
060102 hydrochloric acid
060103 hydrofluoric acid
060104 phosphoric and phosphorous acid
060105 nitric acid and nitrous acid
060106 other acids
060203 ammonium hydroxide
060204 sodium and potassium hydroxide
060205 other bases
060404 wastes containing mercury
070101 aqueous washing liquids and mother liquors
070103 organic halogenated solvents, washing liquids and mother liquors
070104 other organic solvents, washing liquids and mother liquors
070201 aqueous washing liquids and mother liquors
070204 other organic solvents, washing liquids and mother liquors
070216 wastes containing dangerous silicones
070601 aqueous washing liquids and mother liquors
080111 waste paint and varnish containing organic solvents or other dangerous substances
080113 sludges from paint or varnish containing organic solvents or other dangerous substances
080115 aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances
080117 wastes from paint or varnish removal containing organic solvents or other dangerous substances
080119 aqueous suspensions containing paint or varnish containing organic solvents or other dangerous substances
080121 waste paint or varnish remover
080312 waste ink containing dangerous substances
080317 waste printing toner containing dangerous substances
080409 waste adhesives and sealants containing organic solvents or other dangerous substances
080411 adhesive and sealant sludges containing organic solvents or other dangerous substances
080415 aqueous liquid waste containing adhesives or sealants containing organic solvents or other dangerous substances

Hazardous waste types
110106 acids not otherwise specified
110111 aqueous rinsing liquids containing dangerous substances
110113 degreasing wastes containing dangerous substances
110116 saturated or spent ion exchange resins
110198 other wastes containing dangerous substances
110301 wastes containing cyanide
110504 spent flux
120107 mineral-based machining oils free of halogens (except emulsions and solutions)
120108 machining emulsions and solutions containing halogens
120109 machining emulsions and solutions free of halogens
120120 spent grinding bodies and grinding materials containing dangerous substances
130101 hydraulic oils, containing PCBs
130109 mineral-based chlorinated hydraulic oils
130110 mineral based non-chlorinated hydraulic oils
130113 other hydraulic oils
130205 mineral-based non-chlorinated engine, gear and lubricating oils
130206 synthetic engine, gear and lubricating oils
130207 readily biodegradable engine, gear and lubricating oils
130208 other engine, gear and lubricating oils
130301 insulating or heat transmission oils containing PCBs
130307 mineral-based non-chlorinated insulating and heat transmission oils
130308 synthetic insulating and heat transmission oils
130401 bilge oils from inland navigation
130403 bilge oils from other navigation
130501 solids from grit chambers and oil/water separators
130502 sludges from oil/water separators
130503 interceptor sludges
130507 oily water from oil/water separators
130508 mixtures of wastes from grit chambers and oil/water separators
130701 fuel oil and diesel
130702 petrol
130703 other fuels (including mixtures)
130802 other emulsions
140601 chlorofluorocarbons, HCFC, HFC

Hazardous waste types
140602 other halogenated solvents and solvent mixtures
140603 other solvents and solvent mixtures
140604 sludges or solid wastes containing halogenated solvents
150110 packaging containing residues of or contaminated by dangerous substances
150111 metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
150202 absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
160107 oil filters
160109 components containing PCBs
160113 brake fluids
160114 antifreeze fluids containing dangerous substances
160121 hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
160209 transformers and capacitors containing PCBs
160210 discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09
160211 discarded equipment containing chlorofluorocarbons, HCFC, HFC
160212 discarded equipment containing free asbestos
160213 discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12
160215 hazardous components removed from discarded equipment
160303 inorganic wastes containing dangerous substances
160305 organic wastes containing dangerous substances
160504 gases in pressure containers (including halons) containing dangerous substances
160507 discarded inorganic chemicals consisting of or containing dangerous substances
160508 discarded organic chemicals consisting of or containing dangerous substances
160601 lead batteries
160602 Ni-Cd batteries
160603 mercury-containing batteries
160708 wastes containing oil
160709 wastes containing other dangerous substances
160903 peroxides, for example hydrogen peroxide
160904 oxidising substances, not otherwise specified
161001 aqueous liquid wastes containing dangerous substances
170106 mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
170204 glass, plastic and wood containing or contaminated with dangerous substances
170301 bituminous mixtures containing coal tar

Hazardous waste types
170303 coal tar and tarred products
170503 soil and stones containing dangerous substances
170507 track ballast containing dangerous substances
170601 insulation materials containing asbestos
170603 other insulation materials consisting of or containing dangerous substances
170605 construction materials containing asbestos
200113 solvents
200114 acids
200115 alkalines
200121 fluorescent tubes and other mercury-containing waste
200123 discarded equipment containing chlorofluorocarbons
200126 oil and fat other than those mentioned in 20 01 25
200127 paint, inks, adhesives and resins containing dangerous substances
200129 detergents containing dangerous substances
200133 batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries
200135 discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)
200137 wood containing dangerous substances

Table 49: Hazardous waste facilities in Suffolk and neighbouring counties

County	Operator	Facility name	Permit Type	Total Through-put 2016 (tonnes)	Postcode	Distance (km)
Suffolk	B & B Skip Hire Limited	B & B Skip Hire	A9: Haz Waste Transfer Station	14,584	NR34 7TL	34.9
Suffolk	Anti - Waste Ltd	Lowestoft	A9: Haz Waste Transfer Station	61,204	NR33 7NF	36.1
Suffolk	East Point Metal Trading Ltd	East Point Metal Trading Ltd	S1514: 75kte Metal Recycling	0	NR33 9LZ	40.0
Suffolk	S R C L Limited	Ipswich Clinical Waste Incinerator	S0824: Clinical Waste Transfer Station	408	IP4 5PG	40.6
Suffolk	F A Edwards, D Edwards And J Edwards	F A Edwards And Son Ltd	A20: Metal Recycling Site (mixed MRS's)	1,726	IP21 5EX	40.7
Suffolk	Ipswich Auto Spares Ltd	Unity Street Metal Recycling Facility	A20: Metal Recycling Site (mixed MRS's)	12	IP3 0AP	44.0
Suffolk	Slicker Recycling Ltd	Hollywell Waste Oil Treatment Facility EPR/DP3438AF	Physico-chemical treatment installation	6,655	IP3 0BE	45.4
Norfolk	Personnel Hygiene Services Ltd	Unit Vi Vinces Road Ind Est	A12: Clinical Waste Transfer Station	141	IP22 4HQ	47.9
Norfolk	Augean North Sea Services Limited	Great Yarmouth WM Resource Centre EPR/ZP3637RM	Chemical Treatment installation	7,261	NR31 0LX	54.0
Suffolk	Mid Suffolk District Council	Creeting Road Depot	A9: Haz Waste Transfer Station	2,138	IP14 5AT	54.1
Norfolk	C & L Waste Oil Collection Limited	Great Yarmouth Oil Reclamation Facility EPR/NP3038MB	Haz Waste Transfer	3,753	NR31 0DN	54.5
Norfolk	Mitchell C B	Great Yarmouth Oil Reclamation Facility	A9: Haz Waste Transfer Station	365	NR31 0DN	54.5
Suffolk	Shotley Holdings Limited	Folly Farm WMF - EPR/SP3239BB	L01: Hazardous Merchant LF	129,091	IP9 2NY	55.7
Norfolk	Clements Paul	Great Yarmouth	A11: Household, Commercial & Industrial Waste T Stn	61,684	NR30 1TE	57.3
Suffolk	C K Chemicals Ltd	C K Chemicals	A21: Chemical Treatment Facility	184	IP7 6BQ	59.6
Norfolk	Norse Environmental Waste Services Ltd	Caister Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	41,108	NR30 5BE	60.2
Suffolk	C G Finch	C G Finch - Elmswell	A20: Metal Recycling Site (mixed MRS's)	257	IP30 9QR	63.1
Suffolk	Safety Kleen U K Ltd	Safetykleen U K	A9: Haz Waste Transfer Station	1,217	IP30 9HN	63.6
Norfolk	Biffa Waste Services Ltd	Attleborough W E E E Recycling Facility	A17: Physico-Chemical Treatment Facility	1,378	NR17 2QZ	67.8
Norfolk	A C Environmental Services Ltd	Cats Premises	A9: Haz Waste Transfer Station	116	NR16 1ER	69.2
Norfolk	Anti - Waste Ltd	Mile Cross	A11: Household, Commercial & Industrial Waste T Stn	9,815	NR2 4LH	70.8

County	Operator	Facility name	Permit Type	Total Through-put 2016 (tonnes)	Postcode	Distance (km)
Norfolk	European Metal Recycling Limited	Halfmoon Way	A20: Metal Recycling Site (mixed MRS's)	1,205	NR2 4EB	70.8
Norfolk	Mellor Metals Ltd	Mellor Metals	A20: Metal Recycling Site (mixed MRS's)	18,263	NR17 1LG	71.1
Norfolk	Norfolk And Suffolk N H S Foundation Trust	Hellesdon Hospital	A12: Clinical Waste Transfer Station	26	NR6 5BE	74.2
Norfolk	Viridor Waste Management Ltd	Larkshall Mill	A11: Household, Commercial & Industrial Waste T Stn	8,925	IP24 1QY	75.3
Norfolk	D A Culling Scrap Metals Ltd.	D A Culling Scrap Metals	A20: Metal Recycling Site (mixed MRS's)	3,883	NR9 3AX	75.6
Norfolk	Viridor Waste Management Ltd	Howlett Way Waste Transfer and Treatment Station	A11: Household, Commercial & Industrial Waste T Stn	4,197	IP24 1HZ	75.9
Essex	Wastecare Limited	Oyster Haven	S0803: HCI Waste TS + treatment	827	C02 8HT	76.0
Norfolk	Wiser Recycling Limited	Thetford W E E E Treatment Facility	S1515: 75kte WEEE	3,262	IP24 1HF	76.1
Norfolk	Rentokil Initial U K Limited	Thetford Service Centre	A12: Clinical Waste Transfer Station	1,454	IP24 1HZ	76.2
Norfolk	Anti - Waste Ltd	Anti-Waste Ltd - Thetford Transfer Station	A9: Haz Waste Transfer Station	44,241	IP24 3RW	76.9
Suffolk	U K Power Networks (Holdings) Ltd	Barton Road	A9: Haz Waste Transfer Station	138	IP32 7BG	77.0
Suffolk	Shotley Holdings Ltd	Hollow Road Transfer Station	S0807: HCI Waste TS + treatment + asbestos	26,104	IP31 1SJ	78.6
Norfolk	Anti-Waste Limited	Costessey MRF Transfer Station - EPR/RP3898NM	Haz Waste Transfer	126,389	NR5 0TL	79.6
Norfolk	Carter Concrete Limited	R G Carter Ltd	SR2010 No12: Treatment of waste to produce soil	4,259	NR5 0TX	79.8
Essex	Colchester Borough Council	Shrub End Road Depot Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	24,935	CO3 4RN	80.3
Suffolk	West Suffolk Council	Olding Road Depot	A9: Haz Waste Transfer Station	2,818	IP33 3YS	80.9
Essex	T R & P C Slade And M R Slade	Colchester Skip Hire	A9: Haz Waste Transfer Station	28	CO6 3AH	81.0
Norfolk	Bernard-Smith Kenneth	Norfolk Pet Crematorium	A9: Haz Waste Transfer Station	89	NR10 4DE	81.7
Essex	Eastern Waste Disposal Limited	Eastern Waste Disposal Ltd	A11: Household, Commercial & Industrial Waste T Stn	70,706	CO7 0SD	82.0
Essex	Veolia E S Onyx Ltd	Onyx	A11: Household, Commercial & Industrial Waste T Stn	3,494	CO15 4TL	83.0

County	Operator	Facility name	Permit Type	Total Through-put 2016 (tonnes)	Postcode	Distance (km)
Norfolk	European Metal Recycling Limited	Lenwade Recycling Facility	A20: Metal Recycling Site (mixed MRS's)	35,914	NR9 5SN	84.3
Suffolk	Carbon8 Aggregates Limited	Brandon Aggregate Manufacturing Plant - EPR/JP3332FK	Physico-chemical treatment installation	26,076	IP27 0AX	85.7
Norfolk	Norfolk Waste Ltd	Shipdham	A11: Household, Commercial & Industrial Waste T Stn	28,211	IP25 7SD	86.4
Norfolk	Norse Environmental Waste Services Ltd	Unit 6 Dunkirk Industrial Estate	A11: Household, Commercial & Industrial Waste T Stn	11,464	NR11 6SU	91.0
Suffolk	F C C Recycling (U K) Limited	Mildenhall Household Waste Recycling Centre	A11: Household, Commercial & Industrial Waste T Stn	4,401	IP28 7JQ	93.1
Norfolk	Wiser Recycling Limited	W E E E- Treatment Facility	S0823: WEEE treatment facility	4,017	IP26 4JQ	93.9
Norfolk	Cushion C F	Spa Common	A20: Metal Recycling Site (mixed MRS's)	7,008	NR28 9LG	94.4
Essex	I C E X Ltd	I C E X	A9: Haz Waste Transfer Station	280	CM8 2FN	96.3
Essex	Brand & Howes Environmental Ltd	Brand & Howes Environmental Ltd	S0821: Metal recycling site	3,612	CM77 8HB	99.1
Essex	R D Trading Limited	The Tekhnicon Centre	S0823: WEEE treatment facility	270	CM7 2YN	104.0
Essex	Maldon District Council	Promenade Park Depot	A9: Haz Waste Transfer Station	966	CM9 5UR	104.3
Cambridgeshire	Mayer Parry Recycling Ltd	Mayer Parry - Snailwell	A20: Metal Recycling Site (mixed MRS's)	165,497	CB8 7ND	104.5
Essex	European Metal Recycling Limited	Boreham Recycling Facility	A20: Metal Recycling Site (mixed MRS's)	33,529	CM3 3AW	104.6
Norfolk	Glazewing Limited	Glazewing - West Dereham	A11: Household, Commercial & Industrial Waste T Stn	66,151	PE33 9RR	105.6
Essex	A Clarke & Sons Ltd	Clarkes	A20: Metal Recycling Site (mixed MRS's)	1,424	CM6 3LD	107.0
Suffolk	West Suffolk Council	Homefield Road Depot	S0807: HCl Waste TS + treatment + asbestos	198	CB9 8QP	109.6
Norfolk	C & S Seaman	South Creake	A20: Metal Recycling Site (mixed MRS's)	27	NR21 9JB	115.9
Norfolk	Norse Environmental Waste Services Limited	King's Lynn Resource Management Centre	A11: Household, Commercial & Industrial Waste T Stn	49,364	PE30 4NG	121.0
Norfolk	Peaceful Pets Limited	Peaceful Pets Limited	S0824: Clinical Waste Transfer Station	60	PE31 8SY	121.6
Norfolk	Cannon Hygiene Limited	Kings Lynn Site	A12: Clinical Waste Transfer Station	682	PE30 4HG	121.8
Norfolk	Miller D	Derek Miller - Bentinck Dock	A20: Metal Recycling Site (mixed MRS's)	1,224	PE30 2HA	124.2
Norfolk	Bacon Peter	Innisfree M R S	A20: Metal Recycling Site (mixed MRS's)	2,674	PE32 1EY	125.0

County	Operator	Facility name	Permit Type	Total Through-put 2016 (tonnes)	Postcode	Distance (km)
Cambridgeshire	Amey Cespa (East) Ltd	Ameycespa Waste Management Park	A9: Haz Waste Transfer Station	8	CB5 9PG	126.0
Cambridgeshire	C F C Disposal Limited	C F C Disposal	A20: Metal Recycling Site (mixed MRS's)	466	PE14 9LF	127.0
Cambridgeshire	Saxon Recycling Ltd	Saxon Recycling Ltd	A17: Physico-Chemical Treatment Facility	394	CB2 4WL	127.3
Essex	Personnel Hygiene Services Ltd	P H S Wickford	A12: Clinical Waste Transfer Station	372	SS11 8ZB	128.6
Cambridgeshire	Malary Limited	Malary Oil Treatment Plant - EPR/BT2777IK	Physico-chemical treatment installation	38,280	CB24 8PS	129.6
Essex	P F Ahern (London) Ltd	P. F. Ahern (London) Limited Basildon Branch	A11: Household, Commercial & Industrial Waste T Stn	421	SS14 3JB	130.0
Essex	P F Ahern (London) Ltd	Ahern Basildon	A9: Haz Waste Transfer Station	14,419	SS14 3DF	130.0
Essex	Benfleet Scrap Co Ltd	Benfleet Scrap	A20: Metal Recycling Site (mixed MRS's)	48,772	SS13 1QJ	130.0
Essex	Cohart Asbestos Disposal Limited	Cohart Asbestos Disposal Limited	A9: Haz Waste Transfer Station	5,173	SS13 1DH	130.0
Essex	Keltbray Ltd	Keltbray Environmental Solutions	S0809: Asbestos Waste Transfer Station	4	SS13 1DT	130.5
Essex	Pelsis Limited	Pelsis Limited	A9 : Haz Waste Transfer Station	1	SS13 1ND	130.9
Essex	Total Waste Management Limited	Total Waste Basildon	A20: Metal Recycling Site (mixed MRS's)	60,822	SS13 1EB	131.1
Essex	Veterinary Waste Services Ltd	Wood Farm	S0824: Clinical Waste Transfer Station	183	CM5 0EY	131.1
Cambridgeshire	Vetspeed Ltd	Vetspeed, Thriplow EPR/MP3930BE	Haz Waste Transfer	10,755	SG8 7RR	131.2
Essex	Benfleet Scrap Co Limited	Benfleet Scrap Co Limited	A20: Metal Recycling Site (mixed MRS's)	46,014	SS7 4PS	131.5
Cambridgeshire	B H Porter & Son Limited	Oldfield Lane	A20: Metal Recycling Site (mixed MRS's)	4,387	PE13 2RJ	133.0
Essex	Safety Kleen U K Ltd	Safetykleen Uk	A9: Haz Waste Transfer Station	1,626	SS15 6TR	133.2
Essex	Platinum International Limited	Platinum International	SR2011 No2: Metal Recycling Site	329	SS9 5PR	133.3
Essex	G J Bowmer (Waste Disposal) Ltd	G J Bowmer	A9: Haz Waste Transfer Station	2,525	CM13 3DT	133.7
Cambridgeshire	Mick Denton Metal Recycling & Skip Hire Ltd	Mick Denton Metal Recycling & Skip Hire Ltd	A11: Household, Commercial & Industrial Waste T Stn	13,999	PE13 3JP	135.1
Essex	Aspect Contracts Ltd	Asbestos Collection Services	A9: Haz Waste Transfer Station	942	SS8 0PL	135.7
Essex	Frost & Wood Limited	Frost & Wood Limited	S0809: Asbestos Waste Transfer Station	685	SS8 0SA	136.1
Essex	Windsor Waste Management Limited	Windsor Waste Management Limited	S0809: Asbestos Waste Transfer Station	1,280	CM13 3HD	136.8
Essex	Total Waste Management Ltd	Total Waste Management Ltd	A20: Metal Recycling Site (mixed MRS's)	12,067	CM16 6LF	138.2

County	Operator	Facility name	Permit Type	Total Through-put 2016 (tonnes)	Postcode	Distance (km)
Essex	Sims Environmental & Recycling Services Ltd	Burrows Farm Transfer Station - EPR/WP3831JT	Hazardous waste transfer/treatment installation	47,894	RM14 3TL	138.8
Essex	Altech Trading Company Limited	Altech Trading Company Ltd	S0823: WEEE treatment facility	1,864	SS2 5SJ	140.0
Essex	Rochford Scrap Co. Limited	Roachside Recycling Centre	A20: Metal Recycling Site (mixed MRS's)	1,219	SS4 1LB	140.0
Hertfordshire	A W A Refiners Ltd	A W A Refiners Ltd	A20: Metal Recycling Site (mixed MRS's)	741	CM20 2SE	141.0
Cambridgeshire	Amey Cespa (East) Ltd	March Waste Recycling And Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	56,174	PE15 0EN	141.1
Essex	Lenval Ltd	Lenval Ltd	S0809: Asbestos Waste Transfer Station	145	SS17 0EH	141.2
Cambridgeshire	Network Rail Infrastructure Limited	Whitemoor NTMRC EPR/DP3535HN	Haz Waste Transfer	165,832	PE15 8QN	141.3
Essex	H T S (Property and Environment) Limited	Mead Park Depot, Harlow	A9: Haz Waste Transfer Station	2,392	CM20 2SE	141.4
Essex	Woods Building Services Limited	A A Woods	S0809: Asbestos Waste Transfer Station	149	CM20 2DP	141.7
Essex	Hammond John	Burnt Mill, Harlow	A11: Household, Commercial & Industrial Waste T Stn	8,220	CM20 2HT	142.5
Hertfordshire	Amey Cespa (East) Ltd	Royston H W R C	A11: Household, Commercial & Industrial Waste T Stn	2,850	SG8 5HF	143.1
Cambridgeshire	Gold Star Metal Traders Limited	Lodge Farm	S0809: Asbestos Waste Transfer Station	1,804	PE15 0YN	143.2
Cambridgeshire	Woodford Recycling Services Ltd	Warboys Waste Transfer Station	A9: Haz Waste Transfer Station	32,938	PE28 2TX	145.7
Essex	Asbestos Transfer Services Ltd	Asbestos Transfer Services Ltd	S0809: Asbestos Waste Transfer Station	997	RM16 4LL	146.6
Essex	Henderson & Taylor Public Works Limited	Unit 5 Bennett's Industrial Estate	SR2010 No12: Treatment of waste to produce soil	2,244	RM16 4LR	146.6
Essex	Alan Lowe & Albert Henry Lowe	Lowes Metals	A20: Metal Recycling Site (mixed MRS's)	15,653	RM17 6EF	149.2
Essex	Asbestos Waste Solutions Llp	Asbestos Waste Solutions	S0809: Asbestos Waste Transfer Station	945	RM20 3EE	149.5
Essex	P F Ahern (London) Ltd	West Thurrock Recycling and Transfer Station	A11: Household, Commercial & Industrial Waste T Stn	104,394	RM20 3EE	149.5
Essex	Recycle Telecom Limited	Recycle Telecom Ltd	S0823: WEEE treatment facility	4	EN9 1HT	149.6
Hertfordshire	Robert Gibbs (Contracting) Company Limited	Robert Gibbs (Contracting) Co. Ltd	A20: Metal Recycling Site (mixed MRS's)	51,325	EN11 0EW	149.9

G. Outline Site Waste Management Plan Template

NNB GENERATION COMPANY (SZC) LTD

SIZEWELL C: SITE WASTE MANAGEMENT PLAN

Version	N.N
Date of Issue	DD/MM/YY
Document No.	XXX-XXXXXX-XX-XXX-COD-NNNNNNN
Owner & Approver	[Owner and Approver Name]
Technical Reviewer	[Reviewer Name]
Author	[Author Name]

APPROVAL SIGN-OFF:

Originated by:	**Name:** **Title:**	Date:
Reviewed by:	**Name:** **Title:**	Date:
Approved by:	**Name:** **Title:**	Date:

DOCUMENT CONTROL

Version	Purpose	Amendment	By	Date
X.X	Fit for Use	First issue	A Name	DD/MM/YY

TABLE OF CONTENTS

1 INTRODUCTION

This plan has been written to support [insert contract name and number] carried out on the Sizewell C main development site and/or associated development sites.

It has been developed in accordance with the DTi's Site Waste Management Plans (SWMP), Guidance for Construction Contractors and Clients Voluntary Code of Practice, July 2004.

The provision of this information lays out how SZC Co. and its contractors shall manage waste arisings in accordance with legal compliance and best practice.

Effective management arrangements shall support:

- Legal compliance;
- Best practice; and
- SZC Co. commitments (see Section 7).

The Plan details the scope of the work activities, the waste types and quantities associated with the proposed activities, which are due to be undertaken by the Contractor, and the ways in which these wastes shall be managed.

2 REQUIREMENTS OF THIS PLAN

This plan has been designed to encourage effective waste management practices, improve environmental performance, reduce the cost of waste disposal and ensure regulatory compliance.

This SWMP shall be updated by the Contractor and provided to the Client for review and approval. All information will be gathered and stored centrally for the SZC project.

All waste materials sent off site, either for reuse, recovery, recycling or disposal shall be transferred, treated and disposed of in accordance with the legal Duty of Care required by section 34 of the Environmental Protection Act 1990 and the Waste (England and Wales) Regulations 2011, as amended. In line with best practice, the Contractor shall ensure full Duty of Care compliance through the waste supply chain, including conducting pre-engagement audits and random spot checks of waste carriers and disposal facilities, throughout the duration of the works.

To consolidate waste management data, the Contractor shall use a waste management tool to record waste forecasts, waste volumes, carriers' numbers, site/premises details etc.

The Contractor shall record and hold, either a hard copy on site or access given to an electronic copy, information required within the appendices of this SWMP. All information and data required by this plan, including revisions, shall be stored electronically as permanent records.

The Contractor shall periodically review and update this SWMP, in accordance with its Environmental Management System arrangements, on a 6-monthly basis, or when there is a significant change on the project or when waste is removed from site, whichever is appropriate.

2.1 Regulations

The following regulations shall be adhered to:

- The Waste (England and Wales) Regulations 2011, as amended;
- The Hazardous Waste (England and Wales) Regulations 2005, as amended;
- The Environmental Permitting (England and Wales) Regulations 2016;
- Environmental Protection Act 1990;
- The Waste (England and Wales) Regulations 2011, as amended;
- Environmental Permitting (England and Wales) Regulations 2016, as amended;
- Controlled Waste (England and Wales) Regulations 2012;
- Hazardous Waste (England and Wales) Regulations 2005, as amended;
- Waste Electrical and Electronic Equipment (WEEE) Regulations 2013;
- Waste Batteries and Accumulators Regulations 2009;
- Control of Pollution (Oil Storage) (England) Regulations 2001;

2.2 Project description

[Insert details of site name, geographic setting NGR, postal address and details of adjacent land uses]
[Insert details of the proposed works including construction activities and sequencing]

Project Information

Client		[TBC]
Person in charge of project/Principal contractor		[TBC]
Author of Outline SWMP	Design Stage	Mott Macdonald
	Construction Stage	[TBC]
	Operational Stage	[TBC]
Project title/ reference		Sizewell C
Project location		[TBC}
Project cost (estimated)		[TBC]
Building Footprint		[TBC]
Start date		[TBC]
Completion date		[TBC]
Description of project scope		See proposed works description in section 1.3. Works will involve construction of a new …
Waste Management Champion		[TBC]
Person responsible for SWMP		[TBC]
Document Controller		[TBC]
Version number and date		Draft issue [DATE] [To be updated during revision of plan in the construction and operational stages and in the event of significant design changes].
Location of SWMP		Copy to be kept in Site Office [or another agreed format]

3 TIMESCALES

[Insert forecast project commencement and completion dates] E.g.

It is anticipated that the construction works would take place over an estimated [insert months] period on a phased basis. An SWMP will be produced for each contract. The duration of the site works reflects the sequencing of the construction activities required.

4 PROPOSALS FOR MINIMISATION, REUSE AND RECYCLING OF C&D WASTE

General Measures

Good practice in waste management shall follow the principles of the waste hierarchy, see **Figure 1**, transposed into UK law through the Waste (England and Wales) Regulations 2011, as amended. This includes principles to reduce the amount of waste generated and maximise the amount that can be reused or recycled. Following the waste hierarchy is a legal requirement.

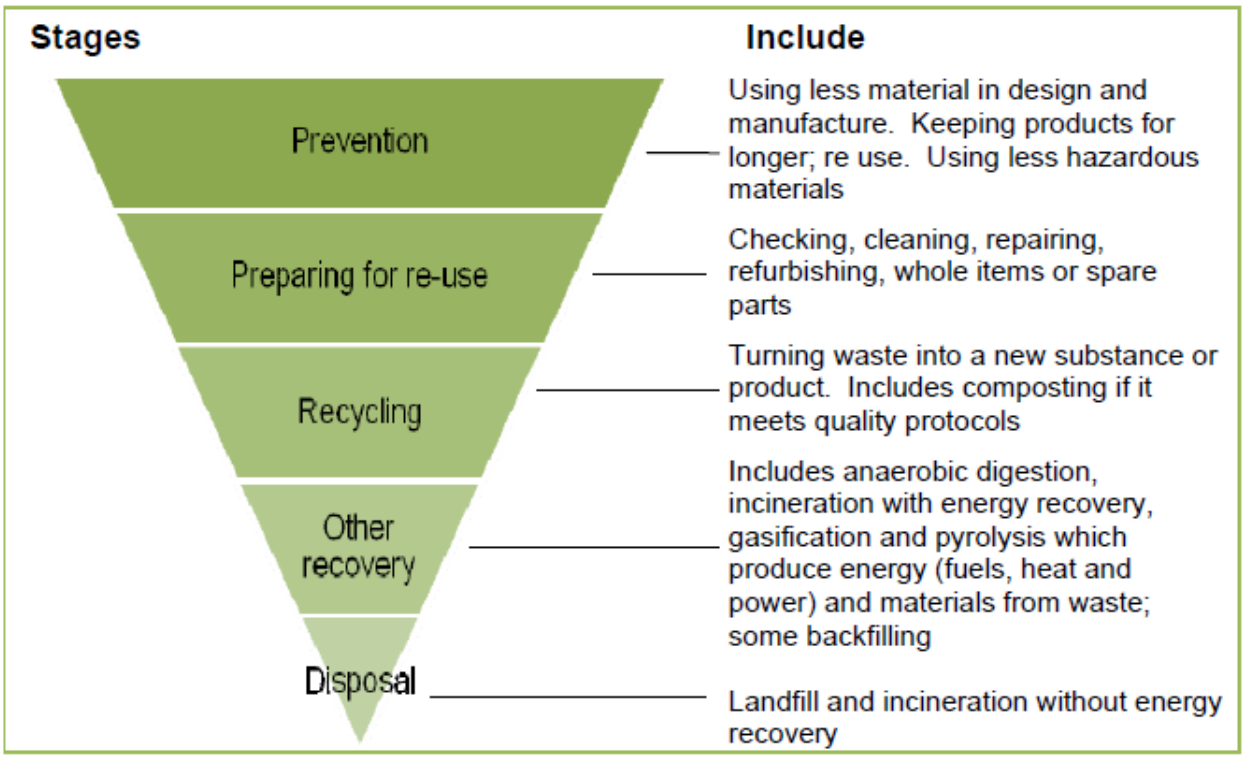


Figure 1. Waste hierarchy.

The purpose of the hierarchy is to reduce the amount of waste that is generated and sent for disposal by implementing appropriate management techniques to ensure that alternatives to disposal are achieved. The waste hierarchy illustrates how priority should be given to the way waste is managed. The higher up the hierarchy waste is reduced, the greater the cost and resource savings will be.

The objective of this plan is to ensure the waste hierarchy is implemented as set in order of preference; the highest options will be adopted where reasonably practicable, but usually a combination of options will be appropriate.

Other principles of waste management that will be applied include:

- The proximity principle – which includes provision for the management of waste as close to the point of generation as possible to avoid transport impacts.
- Best Available Techniques – which includes using the method of lowest environmental impact to manage wastes.
- The use of waste guidance and best practice – which ensures that industry best practice is applied.

The Contractor shall draw upon operational experience to ensure that the principles of waste management are implemented at all times, with the primary emphasis on reduction and prevention of waste arising. The Contractor shall ensure this occurs in the following way:

- Setting and working towards waste management targets.
- Getting it right first time (to reduce the need for re-work and waste generation).
- Following all method statements, which emphasise waste reduction.
- Driving down over-ordering of materials which can result in excess materials at the end of the job.
- Ensuring that materials are delivered, stored and handled efficiently with care, to prevent the generation of waste, which if generated will be managed appropriately
- Ensuring staff and operatives are trained in waste reduction techniques.

Waste mainly arises from site clearance, excavation and any unavoidable construction waste. The proposed scheme will require specific construction materials (such as concrete and steel etc.) to be imported to the site. A Construction Method Statement has been developed and used to identify the potential types and quantities of materials required and waste generated from this project.

Contaminated or potentially contaminated material should be kept separate from the clean materials and reused on site or sent for either recycling or recovery at appropriately permitted facilities, where possible. Unsuitable waste materials will be separated, where possible and collected in receptacles for subsequent further separation and treatment at off-site facilities.

In order to ensure the appropriate reuse of the materials the earthworks should be carried out under a Materials Management Plan (MMP) in accordance with industry adopted guidance “The Definition of Waste: Development Industry Code of Practice _ Version 2” published by CL:AIRE (March 2011), or another appropriate regime that enables the reuse of materials, where relevant.

[Phase One Activities]

[Include additional phase activities where necessary. This is not exhaustive]

Activity	Description	Timing	Materials/Waste Quantities

[Phase Two Activities]

C&D Activity	Description	Timing	Materials/Waste Quantities

5 WASTE METRICS / TARGETS

The Contractor shall seek to achieve [zero] waste to landfill as its overarching waste management ambition.

The Contractor shall measure waste arisings using standard industry best practice Key Performance Indicators (KPIs), as applicable, including:

[Contractor/Client to agree relevant KPI's]

[For example]

- Tonnages of inert and non-hazardous waste generated per 100-man hrs of construction;
- Percentages of inert and non-hazardous construction waste diverted from landfill; and
- Recording and reviewing performance against standard industry best practice recovery rates.
- % waste diversion from landfill

These waste metrics shall be provided by the Contractor to the Client on a quarterly basis.

6 WORK ACTIVITIES WASTE STREAMS

Different activities will generate different wastes, some of which will be reused or recycled on-site and others will be reused, recycled or disposed of off-site, by third party contractors. The tables below identify typical construction and operational activities and for each activity, the associated waste types, the relevant waste code identified in the List of Waste Regulations 2005 (also known as European Waste Catalogue (EWC) codes) and potential waste management methods.

[Contractors to fill in Appendix D – Waste Forecast]

Table 1: Example of Typical Construction Wastes by Work Activity [to be amended once confirmed]

Activity	Waste Material	Waste Code	Potential Management Method
Concrete Works	Concrete overspill/break off	17 01 07	Remove to transfer/recycling station or crush and re-use on-site
	Concrete admixtures/additives where used	17 01 01 or 17 01 06* (depending on substance used)	Remove to transfer/recycling station for non-hazardous materials. Dispose of at facility licensed for hazardous waste.
Road Planings	Bitumen coated stone	17 03 02	Reuse as internal haul road material or recycle off-site
Structural steel and temporary works	Scrap Ferrous Metal	17 04 05	Reuse as temporary works steel or recycle off-site
	Copper (from earthing)	17 04 01	Remove to transfer/recycling station.
Plant maintenance	Readily biodegradable hydraulic oils Oil filters	13 01 12* 16 01 07*	Remove to a facility licensed for hazardous waste, where possible these should be recovered Where recovery is not possible, dispose of at facility licensed for hazardous waste.
	Tyres	16 01 03	Remove to transfer/recycling station.
	Batteries	16 06 01*	Remove to a facility licensed for hazardous waste for recovery
	Mineral-based non-chlorinated engine, gear and lubricating oils	13 02 05	Remove to a facility licensed for hazardous waste for recovery
	Absorbents, filter materials (including oil filters), wiping cloths, protective clothing contaminated by dangerous substances	15 02 02*	Remove to a facility licensed for hazardous waste for recovery
	Brake pads Brake fluids	16 01 12 16 01 13*	Remove to a transfer/recycling station. Remove to a facility licensed for hazardous waste for recovery
	Vehicle light bulbs	16 02 14	Remove to a transfer/recycling station for recovery.
	Bottled gases	16 05 05	Send containers for refill/reuse or recycling to transfer/recycling station.
Spillages	Absorbents, wiping cloths & protective clothing contaminated by dangerous substances	15 02 02*	Remove to a facility licensed for hazardous waste for recovery
Drainage works	Plastics – off cuts from pipes etc	17 02 03	Remove to a transfer/recycling station for recycling.
	Bricks	17 01 02	Remove to a transfer/recycling station for recycling.
All areas of work	Aerosol canisters	15 01 10*	Remove to a facility licensed for hazardous waste for recovery.

Activity	Waste Material	Waste Code	Potential Management Method
	Oily water (from interceptors)	13 05 07*	Remove to a facility licensed for hazardous waste treatment and recovery..

7 CONSTRUCTION WASTE

Waste, generated during the construction of the [SZC] project, shall be managed in accordance with the Conventional Waste Management Strategy and lower tier Client and Contractor documents including Site Waste Management Plans. Where possible waste material, suitable for reuse, will be used on site as infill material, hardcore or for landscaping purposes. Surplus material will be removed from site.

7.1 Construction waste

Common waste streams generated by construction sites and likely to be generated by the works include (but not limited to):

- Surplus construction materials as a result of over-ordering;
- Materials damaged on site or in transit;
- Hazardous materials (e.g. oil from refuelling activities and in-situ plant maintenance and repair);
- Packaging materials;
- Surplus construction, demolition and excavation materials; and
- Canteen, accommodation and welfare wastes.

Demolition materials

[List demolition materials generated if any and locations generated]

Excavated soils

[Identify what will happen to the material and where/how it is generated]

Vegetation

[Identify what will happen to the material and where/how it is generated]

Packaging

[Identify what will happen to the material and where/how it is generated]

Hazardous waste

[Identify what will happen to the material and where/how it is generated]

Unacceptable materials

[Identify what will happen to the material and where/how it is generated]

Imported materials

[Identify what will happen to the material and where/how it is generated]

Fit out material

[Identify what will happen to the material and where/how it is generated]

[Insert tables to show the different waste streams per site and activity e.g. demolition, construction etc.]

8 TREATMENT AND DISPOSAL OPTIONS

Table below lists a number of treatment and disposal sites within the vicinity of the SZC. However, this is a guide and the appointed waste contractor for the site should contact the relevant Treatment/Transfer Facilities or Environment Agency directly to determine the most appropriate waste management facility to handle the waste material being produced.

Prior to disposal, if necessary, if material is deemed hazardous it must be pre-treated to meet the Waste Acceptance Criteria (WAC). WAC testing is only required for disposal at a landfill site.

For excavated materials that are confirmed to be non-hazardous, in accordance with the Material Acceptance Criteria (MAC) testing and /or Soil Guideline Values (SGVs), there are a number of reuse and recycling opportunities such as infill, bunding and landscaping or for construction or maintenance of roads, pavements and footings.

If reuse or recycling on site is not possible due to high levels of contamination, soil treatment facilities are available around England that could be used to treat the soil.

Waste treatment sites

Site name	Site address	Materials Handled[1]	Distance from Site by road (miles)[2]

Source:

Table below lists waste disposal facilities within the vicinity of SZC site.

Waste disposal sites

Site Name[3]	Site Address	Landfill Class	Distance from Site by Road (miles)[4]

[1] NB. The ability for materials to be deposited at these sites will be dependent on the conditions imposed on the sites through the relevant licence/permit. This list is not exhaustive and there may be other facilities in the vicinity of the site that can be used.

[2] Distance from site is based on the distance from SZC.

[3] The ability for materials to be deposited at these sites will be dependent on the availability of void space and the conditions imposed on the sites through the relevant licence/permit. This list is not exhaustive and there maybe alternatives in the vicinity of the site than could be used.

[4] Distance from site (in miles) is based on the distance from SZC.

Site Name[3]	Site Address	Landfill Class	Distance from Site by Road (miles)[4]

Source:

Soil treatment sites

The soil treatment centres can tackle a broad range of contaminants. Bioremediation gives a potential 100% recovery of soils, while soil washing gives 80% recovery of sand and gravel. Soil treatment is made available for sites where on-site treatment is not a viable option, thereby promoting the clean-up of contaminated land. Soil treatment can also be used as a pre-treatment to reduce contamination to acceptable levels before landfilling.

Technologies used include:

- Soil Washing
- Cement Stabilisation
- Bioremediation

However, suitability of technique is dependant on the nature of the soils and the contaminants it contains.

UK soil treatment sites

Site name	Site address

9 CONTROL MEASURES

The Contractor shall operate in accordance with industry best practice and the requirements of relevant legislation, and planning conditions as well as other relevant requirements (e.g. the SWMP, CEMP and KPI's) pertinent to the project. Training in waste minimisation and management techniques shall be delivered to all operatives, as appropriate.

Duty of Care

The duty of care legislation makes provision for the safe management of waste to protect human health and the environment. Practical guidance on how to meet these legal obligations, is set out in the Waste Duty of Care Code of Practice, March 2016.

All reasonable steps must be taken to ensure that:

- No unauthorised keeping, deposit or disposal of waste materials occurs on site; with audits of waste contractors to ensure that this does not occur off-site,
- No unauthorised treatment of waste occurs on-site, with audits of waste contractors to ensure that this does not occur off-site.
- No waste shall remain on site for a length of time which would result in it being classified as a landfill, and require permitting under The Environmental Permitting (England and Wales) Regulations 2016 (as amended).
- No escape/release of waste material occurs either on-site, while the waste is awaiting removal, or off-site, during transport, as far as can reasonably be controlled.
- Waste is only transferred by a registered waste carrier to an appropriately permitted or registered exempt facility.
- A waste transfer note or hazardous waste consignment note accompanies the waste. A transfer note should contain, as a minimum, a written description of the waste, including the relevant EWC code, details of the destination and a statement confirming the duty to apply the waste hierarchy has been fulfilled.

Pre-appointment checks shall be made to ensure that both the carrier and receiving facility are appropriately licensed / permitted to manage a particular waste stream.

Waste materials shall be segregated by type whilst temporarily stored prior to disposal. The range of waste material segregation will be determined in conjunction with the waste management supply chain.

Hazardous Wastes

Hazardous wastes arising from the works are expected to include waste oils, oil/fuel contaminated materials (e.g. absorbents or overalls), treated wood (e.g. creosote or those contaminated with dangerous substances), packaging (e.g. those containing residues of or contaminated by hazardous substances), empty aerosols and batteries. They shall be identified and stored securely in sealed or bunded containers, prior to removal off-site. No mixing or blending with non-hazardous or inert materials is permitted.

All hazardous wastes shall be dealt with in accordance with the relevant regulations including the Hazardous Waste (England and Wales) Regulations 2005, as amended.

All wastes to be removed from the Sizewell C Project site, or an associated development, shall use the UK Standard Industry Classification (2007) (SIC) code 42220 (construction of utility projects for electricity). In addition, a unique consignment number shall be provided and applied. It is the responsibility of the Contractor to agree this with the facility receiving the waste. Further information required on the Consignment Note is provided in Appendix C – Duty of Care.

10 RECORDS AND REPORTING

The Contractor will record progress against the waste management KPIs identified in Section 6 of this document.

The SWMP shall be reviewed and updated by the Contractor every 6 months or as appropriate. The review shall include details of all types of waste recorded, its destination and whether it was reused (on- or off-site), recycled, sent to landfill or otherwise disposed of.

Records will include (but not limited to):

- Waste Carriers Registrations, for all waste carriers utilised;
- Copies of Environmental Permits or exemptions of all off-site facilities accepting waste from Sizewell C Project site or reuse, recycling, recovery or disposal; Environmental Permits and Exemptions required for on-site activities;
- Copies of Waste Transfer Notes (to be kept for a minimum of 2 years);
- Copies of Consignment Notes (to be kept for a minimum of 3 years); and
- Copies of consignee's quarterly hazardous waste returns received by the Contractor.

Upon contract completion, the Contractor shall ensure that all waste records are provided to the Client in a suitable and agreed electronic format.

11 REFERENCES

APPENDIX A WASTE MINIMISATION AND RESOURCE EFFICIENCY DECISIONS

The SWMP should be used to record any early decisions, design changes, construction methods or material specifications which have helped to minimise waste arisings on site.

Resource efficiency demonstrates the components and decisions involved in ensuring a reduction in the amount of waste and surplus materials being produced during any works on site. This has the effect of minimising the amount of material which would traditionally be sent to landfill and to ensure a circular economy approach.

Actions to be taken to facilitate resource efficiency throughout the project, and therefore minimise waste produced, are detailed in the Tables below which also identifies recommended or proposed minimisation measures for this project. It shows the responsibilities apportioned to designated personnel, where appropriate, to ensure the measures are undertaken.

Example of Resource Efficiency measures for the Sizewell C Project

Planning waste minimisation during construction	Waste minimisation decisions taken	Resource saving	Responsibility[5]	Date action commenced
Design	Enabling the purchase of materials in shape/dimension and form that minimises the creation of off-cuts/waste.	Minimal waste produced	Project manager	From the design outset
Construction methods	Sequencing the works such that re-use of materials can be undertaken.	Minimal waste produced	Project manager/principal contractor	During design and planning stages and implemented during the construction.
Materials	Assess the quantities of materials required on site.	Prevents lost time in re-ordering of damaged equipment, reduces need for storage if over ordering occurs.	Project manager/principal contractor	During construction planning and throughout the project construction.
	Just in time delivery (as needed basis) to prevent over supply.		Project manager	During design and throughout the procurement/ construction stages of the project.

[5] It is the responsibility of the client to appoint a principal contractor for the purposes of the SWMP Regulations if one or more contractors are working on this project. If the project does not use a contractor, responsibility for updating the plan remains with the client.

Planning waste minimisation during construction	Waste minimisation decisions taken	Resource saving	Responsibility[5]	Date action commenced
	Secure storage to minimise the generation of damaged materials/theft.			
	Keeping deliveries packaged until they are ready to be used.			
	Inspection of deliveries on arrival.			
	Increase the use of recycled content; this could include traditional use of recovered material such as crushed concrete demolition waste and by procuring mainstream manufactured products with higher recycled content than their peers. Quick win areas of the project in which to implement this for could be concrete frames, flooring and brick/block work.	An increase in the demand for such products would reduce the quantity of waste going to landfill. Recycled material use results in a reduction in demand for extraction of virgin materials and subsequently the carbon and environmental footprint.		
Other measures to be included	TBC	TBC	TBC	TBC

It is anticipated that the contractor(s) will endeavour to reuse or recycle materials on the project where possible.

Summary of proposed or recommended minimisation measures

Summary of proposed and recommended minimisation measures		
Use of prefabricated elements	Recommended	It is recommended that as much of the construction as possible will be carried out off site, with pre-fabricated units being delivered to site when required. Some elements of the design can be pre-fabricated off-site to minimise on-site waste arisings and associated vehicle movements. These units will generate less on-site waste through off-cuts and storage damage. Units should be sourced from a supplier that recycles off-cuts and materials at the pre-fabrication site otherwise this measure simply shifts the waste problem from one location to another.
Excavation	Recommended	Surplus excavated materials including soils, gravels and man-made fill can potentially generate the largest quantities of all the waste streams with significant implications on disposal costs if it cannot be reused on site. It is proposed that excavated material where appropriate will be stored for reuse as landscaping material or reinstatement.
Minimisation of contaminated land arisings	Recommended	Where possible contaminated material should be clearly identified and delineated prior to the works commencing to ensure only contaminated material is excavated. This material could be remediated and reused on site, or, if found to pose no risk to receptors (e.g. groundwater and human health) should be left undisturbed. The latter can minimise potential transport and disposal costs. This approach should be standard practice among designers and contractors.
Contractor targets	Recommended	The Principal Contractor should consider setting off-cut/surplus targets for sub-contractors with a positive incentive scheme for on-site waste champions. Good practice suggests that a maximum 3% wastage rate based on the total amount of construction material handled on site is achievable. We have allowed 5% for this project.
Avoiding over-purchasing and accurate delivery times	Recommended	Over-purchasing can lead to significant wastage and should be avoided in the first place. Ensuring materials are ordered for delivery shortly before they are used on the project would also avoid possible damage and therefore wastage.
Use of take back schemes	Recommended	Some suppliers offer a take back scheme, which should be utilised where practicable, particularly for packaging and pallets.
Monitoring and review	Recommended	The Principal Contractor should use the waste data provided from the waste removed from the project and the periodic review process (required as part of the SWMP) to their advantage to assess whether the waste objectives are being met, and if not to review procedures to steer the project towards achieving them. This will require clear responsibilities to be identified, supported with authority and incentives to act on any deviations from the SWMP.
Education and awareness	Recommended	Waste minimisation must be underpinned by education and awareness throughout all levels of the project team, from the design team to site contractors who handle the construction materials. This could be via site inductions and frequent toolbox talks (included as part of Health and Safety updates, etc) which all contractors and site workers will be expected to attend.
Consideration of End of Life materials	Recommended	Consideration should be given to what will happen to the materials specified when they reach the end of their useful life. Where possible, elements should be designed for repair, modular repair, recycling at the end of life or safe disposal. The use of hazardous materials, in particular, should be minimised.

APPENDIX B FORECAST VS ACTUAL WASTE MANAGEMENT OPTION, TYPES AND QUANTITIES

Enabling works

Type	Materials/EWC	Forecast Total quantities (m^3) or (t)	Actual Total quantities (m^3) or (t)	Forecast On Site - reuse/recycling (m3) or (t)	Forecast Off Site - reuse/recycling (m3) or (t)	Actual On Site - reuse/recycling (m3) or (t)	Actual Off Site - reuse/recycling (m3) or (t)	Forecast Recovery (m3) or (t)	Actual Recovery (m3) or (t)	Forecast Disposal (m3) or (t)	Actual Disposal (m3) or (t)
Inert	Concrete	TBC		TBC				TBC		TBC	
	Rubble	TBC		TBC				TBC		TBC	
	Bricks and blocks	TBC		TBC				TBC		TBC	
	Sand and gravel	TBC		TBC				TBC		TBC	
	Boulder clay	TBC		TBC				TBC		TBC	
Non-hazardous	Soils (moderate contamination-suitable for reuse onsite)	TBC		TBC				TBC		TBC	
	Topsoil/Subsoils	TBC		TBC				TBC		TBC	
	Mixed waste	TBC		TBC				TBC		TBC	
	Metal	TBC		TBC				TBC		TBC	
	Timber	TBC		TBC				TBC		TBC	
	Plasterboard	TBC		TBC				TBC		TBC	
	Packaging	TBC		TBC				TBC		TBC	
	Cable & wiring	TBC		TBC				TBC		TBC	
	Glass	TBC		TBC				TBC		TBC	
	Green waste/vegetation	TBC		TBC				TBC		TBC	
	Other (general excavated materials including bulk earthworks and pavekment formation)	TBC		TBC				TBC		TBC	
Hazardous	Asbestos	TBC		TBC				TBC		TBC	

Type	Materials/EWC	Forecast Total quantities (m^3) or (t)	Actual Total quantities (m^3) or (t)	Forecast On	Forecast Off	Actual On	Actual Off	Forecast Recovery (m3) or (t)	Actual Recovery (m3) or (t)	Forecast Disposal (m3) or (t)	Actual Disposal (m3) or (t)
	Contaminated soils- unsuitable for reuse	TBC		TBC				TBC		TBC	
	Other	TBC		TBC				TBC		TBC	

Construction works (estimated as 5% wastage of materials imported to site)

Type	Materials/EWC	Forecast Total quantities (m^3) or (t)	Actual Total quantities (m^3) or (t)	Forecast On	Forecast Off	Actual On	Actual Off	Forecast Recovery (m3) or (t)	Actual Recovery (m3) or (t)	Forecast Disposal (m3) or (t)	Actual Disposal (m3) or (t)
Inert	Concrete	TBC		TBC				TBC		TBC	
	Rubble	TBC		TBC				TBC		TBC	
	Bricks and blocks	TBC		TBC				TBC		TBC	
	Sand and gravel	TBC		TBC				TBC		TBC	
	Boulder clay	TBC		TBC				TBC		TBC	
Non-hazardous	Soils, (moderate contamination-suitable for reuse onsite)	TBC		TBC				TBC		TBC	
	Topsoil/Subsoils	TBC		TBC				TBC		TBC	
	Mixed waste	TBC		TBC				TBC		TBC	
	Metal (including reinforcement)	TBC		TBC				TBC		TBC	
	Timber	TBC		TBC				TBC		TBC	
	Plasterboard	TBC		TBC				TBC		TBC	
	Packaging	TBC		TBC				TBC		TBC	
	Cable & wiring	TBC		TBC				TBC		TBC	
	Glass	TBC		TBC				TBC		TBC	
	Green waste/vegetation	TBC		TBC				TBC		TBC	
	Other (general excavated	TBC		TBC				TBC		TBC	

Type	Materials/EWC	Forecast Total quantities (m^3) or (t)	Actual Total quantities (m^3) or (t)	Forecast On Site - reuse/recycling (m3) or (t)	Forecast Off Site - reuse/recycling (m3) or (t)	Actual On Site - reuse/recycling (m3) or (t)	Actual Off Site - reuse/recycling (m3) or (t)	Forecast Recovery (m3) or (t)	Actual Recovery (m3) or (t)	Forecast Disposal (m3) or (t)	Actual Disposal (m3) or (t)
	materials)										
Hazardous	Asbestos	TBC		TBC				TBC		TBC	
	Contaminated soils- unsuitable for reuse	TBC		TBC				TBC		TBC	
	Other	TBC		TBC				TBC		TBC	

APPENDIX C DUTY OF CARE

Date removed	Waste type	Identity of the person removing the waste	Site the waste is being taken to and whether licensed or exempt	Waste carrier and registration number*	Confirmation of delivery*	Waste management route (reuse on/offsite, recycled on/offsite, recovery, landfill, other
TBC	TBC	TBC	TBC	TBC	TBC	TBC
						.

- The Contractor shall add the SIC code 42220
- The Contractor shall add the unique consignment number – for example NNBGEN/CN [two letters to describe the contract] 000 [three letters updated for each Consignment Note].

**Note: In certain circumstances an extra letter may need to be added the consignment note code. For example, an 'F' would be added if the waste consisted of fly-tipped material (see the Environment Agency's Hazardous Waste: Consignment Note Guidance for more detail)*

- Contractor shall be required to keep a register to track hazardous waste consignments which shall be made available to the Client on request.

Contractor shall provide register location and document number:

APPENDIX D TRAINING / COMMUNICATION

All those working on the site should receive relevant training which shall include:

- This Site Waste Management Plan
- Roles and responsibilities
- Waste minimisation
- Waste procedures on site
- Hazardous waste
- Duty of care / responsibilities
- Materials storage.

The following types of training shall be undertaken by the Contractor to all operatives as appropriate to support the waste management objectives; including:

- ☑ Induction
- ☑ Tool box talks
- ☑ Workshops
- ☑ Other

The training log is kept at: Site Office

This table can also be used as a training log

Name	Company	Date	Who trained by	Type of training	Date next training due

Communication

The plan is being communicated by:

- ☑ Meetings
- ☑ Posters
- ☑ Feedback from staff
- ☑ other, please state Feedback from operatives, subcontractor and suppliers.

APPENDIX E DECLARATION

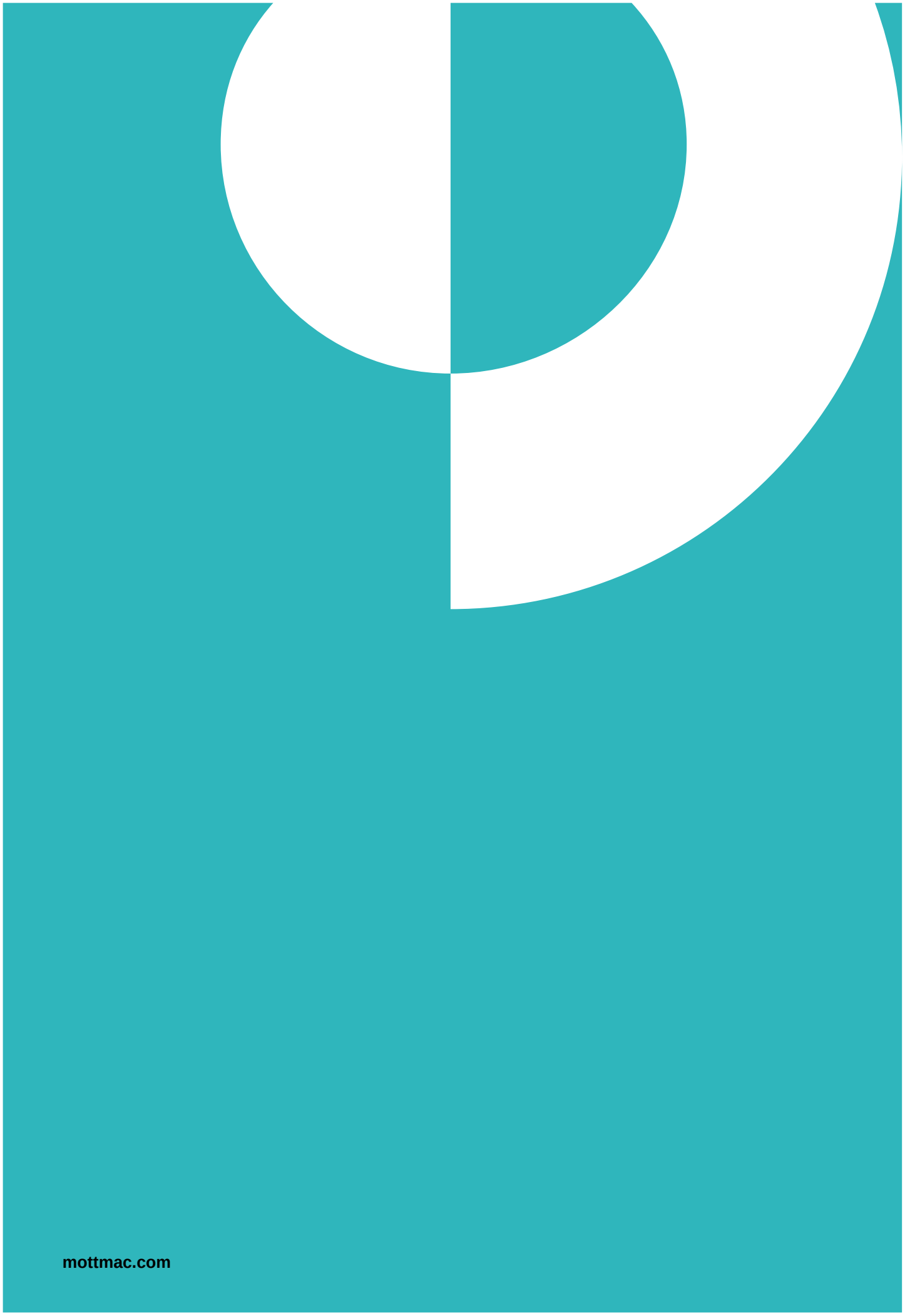
I have reviewed and understand the requirements of this Site Waste Management Plan.

All waste from the EDF Energy HPC site will be dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990) and the Waste Regulations (England and Wales) Regulations 2011.

All materials will be handled efficiently and waste managed appropriately.

Name:

Date:



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