



Enviroguide
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CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLAN

FOR

Kilternan Village

STRATEGIC HOUSING DEVELOPMENT

AT

Wayside, Enniskerry Road, Kilternan, Dublin 18

June 2022

ON BEHALF OF

Liscove Limited

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1 INTRODUCTION

Enviroguide Consulting (hereafter referred to as Enviroguide) was retained by Liscove Limited to prepare this Construction and Demolition Waste Management Plan (CDWMP) for the construction and demolition stage of a Strategic Housing Development on lands at Wayside, Enniskerry Road, Kilternan, Dublin 18 (hereafter referred to as the SHD).

1.1 Scope and Purpose of this CDWMP

The purpose of this CDWMP is to provide the information necessary to ensure that the management of surplus material including construction and demolition (C&D) waste at the Site is undertaken in accordance with relevant EU, National and Local Waste Management Policies, Waste Legislation, and Best Practice Guidelines, as discussed in Section 2 below.

This CDWMP details the legal and policy framework aimed at resource and waste management for C&D projects in Ireland. This CDWMP also includes information on the roles and responsibilities of all parties involved in the Proposed Development; the type and quantity of resources and waste to be generated by the Proposed Development, and details the planned approach to the management of resources and waste on-site.

This CDWMP relates to the Construction Phase of the Proposed Development and will be updated by the appointed Contractor in advance of construction works commencing on-site.

As detailed in this document, the exact materials and quantities of construction waste that will be generated from the proposed works will be audited throughout the project roll-out phase to prevent waste arising in the first place, and to re-use, recycle or recover waste materials where possible.

2 CONSTRUCTION AND DEMOLITION WASTE POLICY AND LEGISLATION IN IRELAND

2.1 National Policy

The Irish Government issued a policy statement in September 1998 known as 'Changing Our Ways', which identified objectives for the prevention, minimisation, reuse, recycling, recovery, and disposal of waste in Ireland. The target for C&D waste in this report was to recycle at least 50% of C&D waste within a five-year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e., 2013).

In response Changing Our Ways, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled 'Recycling of Construction and Demolition Waste' concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

The National Construction and Demolition Waste Council (NCDWC) was launched in June 2002, as one of the recommendations of the Forum for the Construction Industry, in the Task Force B4 final report. The NCDWC subsequently produced 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects' in July 2006 in conjunction with the then Department of the Environment, Heritage and Local Government (DoEHLG). The Best Practice Guidelines outline the issues that need to be addressed at the pre-planning stage of a development all the way through to its completion. These Best Practice Guidelines have been followed in the preparation of this document which includes the following elements:

- Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes;
- Waste disposal/recycling of C&D wastes at the site;
- Provision of training for waste manager and site crew;
- Details of proposed record keeping system;
- Details of waste audit procedures and plan; and
- Details of consultation with relevant bodies (i.e., waste recycling companies).

Section 3 of the Best Practice Guidelines identifies the following thresholds above which there is a requirement for the preparation of a C&D Waste Management Plan for developments.

- New residential development of 10 houses or more;
- New developments other than (1) above, including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1,250m²;
- Demolition/renovation/refurbishment projects generating in excess of 100m³ in volume, of C&D waste; and
- Civil Engineering projects producing in excess of 500m³ of waste, excluding waste materials used for development works on the site.

Design Out Waste (EPA, 2015) notes that the preparation of a Waste Management Plan within the early design and feasibility phases provides a framework to carry out design reviews, and should be used as an implementation, benchmarking, monitoring and reporting tool throughout the overall construction process. Similar to the Best Practice Guidelines (DoEHLG, 2006),

Design Out Waste Guidelines recommends that a Waste Management Plan should address the following aspects of the Proposed Development:

- Project description;
- Waste forecasting: Analysis of the waste arising / materials surpluses;
- Specific waste management objectives for the project;
- Proposed strategies and associated costs: Methods proposed for prevention, reuse and recycling of wastes;
- Materials logistics;
- Individual responsibilities;
- Monitoring procedures: Auditing and record keeping; and
- Proposals for education of workforce and plan dissemination programme.

The Best Practice Guidelines note that contractual arrangements need to be established in a manner which ensures that there is a contractual obligation on the Contractor(s) to prepare a Waste Management Plan in accordance with the above considerations at a minimum. It is noted that the EPA are currently developing the Best Practice Guidelines for the Preparation of Resource Management Plans for Construction and Demolition Projects which will supersede the Best Practice Guidelines (DoEHLG, 2006). The replacement guidelines, which are currently in the process of public consultation, will aim to reflect the current waste legislation and policy including 'A Waste Action Plan for a Circular Economy Ireland's National Waste Policy 2020-2025' published in September 2020 (updated in January 2021).

The 'Waste Action Plan for a Circular Economy' focuses on the prevention of waste disposal by maximising the value of material resources and reducing waste generation. The document sets out a number of actions in relation to C&D waste and commits to revise the NCDWC, 2006 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects', update C&D waste management plan guidelines, put in place incentives to encourage the use of recycled materials, further develop methods to encourage segregation of waste materials on-site and improve consistency across the waste sector.

Other guidelines followed in the preparation of this report include 'Construction and Demolition Waste Management – a handbook for Contractors and Site Managers' published by FÁS and the Construction Industry Federation in 2002.

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are minimised and maximum levels of waste recycling are achieved.

2.2 Irish Waste Management Targets

"A Waste Action Plan for a Circular Economy: Ireland's National Waste Policy 2020-2025" sets a "target of preparing for reuse, recycling and other material recovery (incl. beneficial backfilling operations using waste as a substitute) of 70% by weight of C&D non-hazardous waste (excluding natural soils & stone).

The "Circular Economy Action Plan: For a cleaner and more competitive Europe" announced the launch of a new "Strategy for a Sustainable Built Environment", which will revise these material recovery targets that were previously set EU legislation for construction and

demolition waste. These targets are envisioned to be incorporated into the Irish “National Waste Management Plan for A Circular Economy” which is currently in draft, stemming from the Waste Action Plan for a Circular Economy 2021-2025. Once these new targets are released, they will be complied with.

The State is currently exceeding this target, with a rate of 84% recorded in 2019 (EPA, December 2021. National Waste Statistics Summary Report for 2019). This also represents an improvement on the C&D recovery rate of 77% achieved by Ireland in 2018. It should be noted, however, that soil and stone wastes are excluded from the calculation of the Waste Framework Directive targets.

The EPA (EPA, December 2021) National Waste Statistics Summary Report for 2019) notes that C&D produces the largest volume of waste in the EU; specifically, within 2019, C&D waste within Ireland totalled 8.8m tonnes of waste from various waste streams with soil and stone accounting for 85% of the total. Final treatment (recycling, re-use as backfilling, re-use as a fuel, disposal) varied greatly between the various material streams generated during C&D operations. However, approximately 94% of all C&D waste material in 2019 was either recovered, re-used or recycled with the most dominant recovery operation being re-use as backfilling (i.e., land reclamation, improvements, or infill works).

This CDWMP sets out the waste management objectives for the Proposed Development for waste prevention, maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. It also sets out the appropriate measures to be taken regarding the collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g., contamination of soil and/or water).

2.3 Regional Policy

The Proposed Development is located in Dun Laoghaire-Rathdown County Council (DLRCC) planning district, and therefore governed by the Eastern-Midlands Waste Region Waste Management Plan 2015-2021.

The Eastern-Midlands Region Waste Management Plan 2015 – 2021 is the regional waste management plan for the DCC area published in May 2015. The Regional Plan sets out the strategic targets for waste management in the region and sets a specific target for C&D waste of “70% preparing for reuse, recycling and other recovery of construction and demolition waste” (excluding natural soils and stones and hazardous wastes) to be achieved by 2020. The plan reflects the targets set out for C&D waste in the Waste Framework Directive (WFD).

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €130 - €150 per tonne of waste which includes a €75 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2012.

This waste management plan will ultimately be replaced by the National Waste Management Plan for A Circular Economy which is currently in draft, stemming from the Waste Action Plan for a Circular Economy 2021-2025.

The “Dún Laoghaire-Rathdown County Development Plan 2022-2028” sets out a number of policies, objectives and actions for the Dún Laoghaire-Rathdown area in line with the

objectives of the regional waste management plan. Waste objectives and actions with a particular relevance to the proposed development are:

EI12: Waste Management Infrastructure, Prevention, Reduction, Reuse and Recycling (Circular Economy approach).

- It is a Policy Objective:
 - To support the principles of the circular economy, good waste management and the implementation of best international practice in relation to waste management in order for the County and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.

EI13: Hazardous Waste

- It is a Policy Objective to adhere to the recommendations of the 'National Hazardous Waste Management Plan 2014-2020' and any subsequent plan, and to co-operate with other agencies, to plan, organise, authorise and supervise the disposal of hazardous waste streams, including hazardous waste identified during construction and demolition projects.

2.4 Legislative Requirements

The primary piece of legislation governing waste management in Ireland is the Waste Management Act 1996, (as amended) and all associated regulations. Waste management is also regulated by the Environmental Protection Act 1992, (as amended), Litter Pollution Act 1997, (as amended) and the Planning and Development Act 2000, (as amended).

Under the Waste Management Act, 1996, (as amended), the waste producer is responsible for waste from the time it is generated through until its legal recycling, recovery, or disposal (including its method of disposal). This includes transportation by an authorised waste contractor.

2.5 Regulatory Requirements

2.5.1 European Communities (Waste Directive) Regulations 2011

These regulations transpose European Directive 2008/98/EC amending and superseding a number of provisions of the Waste Management Act 1996 (as amended), and associated regulations. Provisions include extended producer responsibility, the implementation of the Waste Management Hierarchy, and measures to promote the preparation of materials for re-use, recycling, and other material recovery (including beneficial backfilling operations using waste as a substitute). The European Communities (Waste Directive) Regulations 2011 also transpose EU waste management targets as set out in Section 1.3 as statutory benchmarks to be achieved by Ireland.

2.5.2 Waste Management (Facility Permit & Registration) (Amendment) Regulations 2015 (S.I. No. 198/2015)

Waste receiving facilities must be appropriately permitted or licensed and must be listed in the appendix of the Waste Collection Permit as an authorised destination. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR)

or Waste Management Facility Permit granted by the relevant Local Authority under the Waste Management (Facility Permit & Registration) Regulations 2007 as amended or a licence granted by the EPA under the Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) and S.I. No. 137/2013 - Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013.

The COR/permit/licence held will specify the type and quantity of waste that the facility is authorised to accept, store, process, recycle, recover and/or dispose of.

2.5.3 Waste Management (Licensing) Regulations 2004 and Waste Management (Licensing) (Amendment) Regulations 2010

These regulations relate to the process for obtaining a waste licence from the EPA for the operation of certain waste recovery or disposal facilities under Part V of the Waste Management Act.

2.5.4 Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820/2007), as amended

The Waste Management (Collection Permit) Regulations 2007, as amended (S.I. No. 820 of 2007) regulate the transport of waste in Ireland and provide that in order to transport waste, a waste carrier must hold a valid waste collection permit. Waste contractors engaged by construction contractors must be legally compliant with respect to waste transportation, recycling, recovery, and disposal. This includes the requirement that a contractor handle, transport, and recycle/recover/dispose of waste in a manner that does not give rise to environmental pollution or the risk of environmental pollution.

A valid waste collection permit to transport the specific waste types generated by the project must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO).

2.5.5 Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous

Correct classification of waste is the foundation for ensuring that the collection, transportation, storage and treatment of waste is carried out in a manner that provides protection for the environment and human health and in compliance with legal requirements.

In 1994, the European Waste Catalogue was published by the European Commission. In 2002, the EPA published a document titled the European Waste Catalogue and Hazardous Waste List. This document has been replaced by the EPA 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous' which became valid from the 1st July 2018.

The waste classification system applies across the EU and is the basis for all national and international waste reporting obligations such as those associated with waste collection permits, certificates of registration, waste facility permits, EPA Waste and Industrial Emissions licences and the EPA National Waste Database.

The EPA document 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous' (EPA, 2018) consolidates the legislation and allows the generators of waste to classify the waste as hazardous or non-hazardous and in the process to assign the correct List of Waste entry.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code (previously referred to as European Waste Code or EWC).

Potable water is to be provided from the existing piped infrastructure adjacent to the site along Glenamuck Road. These interfacing works are proposed on an area measuring c. 0.05 Ha.

At the GLDR access point, this will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of short section of shared path and an uncontrolled shared pedestrian and cyclist crossing across the side road junction on a raised table. The works will also include the provision of a toucan crossing, inclusive of the necessary traffic signal equipment, immediately south of the access point to facilitate pedestrian and cyclist movement across the mainline road. All works at the GLDR access point will include the provision of the necessary tactile paving layouts and are provided on an area measuring c. 0.06 Ha.

At the Enniskerry Road, works are proposed to facilitate 3 No. new accesses for the development along with modifications to Enniskerry Road. The 3 No. side road priority access junctions incorporate the provision of an uncontrolled pedestrian crossing across the side road junction on a raised table. The modifications to Enniskerry Road fronting the development (circa 320 metres) includes the narrowing of the carriageway down to 6.5 metres (i.e. a 3.25 metres running lane in each direction) from the front of the kerb on western side of Enniskerry Road. The remaining former carriageway, which varies in width of c. 2 metres, will be reallocated for other road users and will include the introduction of a widened pedestrian footpath and landscaped buffer on the eastern side of the road adjoining the proposed development. The above works are inclusive of all necessary tie-in works such as new kerb along eastern side of Enniskerry Road, drainage details, road marking, signage and public lighting. Potable water is to be provided from the existing piped infrastructure adjacent to the site along the Enniskerry Road. The interface works on Enniskerry Road measures c. 0.19 Ha.

Surface water and foul drainage infrastructure is proposed to connect into and through the existing/permitted Rockville developments (DLR Reg. Refs. D17A/0793, D18A/0566 and D20A/0015) on a total area measuring c. 0.09 ha. The development site area and drainage and roads works areas will provide a total application site area of c. 11.2 Ha.

The development will principally consist of: the demolition of c. 573.2 sq m of existing structures on site comprising a derelict dwelling known as 'Rockville' and associated derelict outbuildings; and the provision of a mixed use development consisting of 383 No. residential units (165 No. houses, 118 No. duplex units and 100 No. apartments) and a Neighbourhood Centre, which will provide a creche (439 sq m), office (317 sq m), medical (147 sq m), retail (857 sq m), convenience retail (431 sq m) and a community facility (321 sq m). The 383 No. residential units will consist of 27 No. 1 bedroom units (19 No. apartments and 8 No. duplexes), 128 No. 2 bedroom units (78 No. apartments and 50 No. duplexes), 171 No. 3 bedroom units (108 No. houses, 3 No. apartments and 60 No. duplexes) and 57 No. 4 bedroom units (57 No. houses). The proposed development will range in height from 2 No. to 5 No. storeys (including podium/undercroft level in Apartment Blocks C and D and in the Neighbourhood Centre).

The development also provides: pedestrian links from Enniskerry Road and within the site to the neighbouring "Rockville" development to the north-east and a pedestrian/cycle route through the Dingle Way from Enniskerry Road to the future Glenamuck Link Distributor Road; 678 No. car parking spaces (110 No. in the undercroft of Blocks C and D and the Neighbourhood Centre and 568 No. at surface level) including 16 No. mobility impaired spaces, 73 No. electric vehicle spaces, 1 No. car share space, 4 No. drop-off spaces/loading

bays; motorcycle parking; bicycle parking; bin storage; the decommissioning of the existing telecommunications mast at ground level and provision of new telecommunications infrastructure at roof level of the Neighbourhood Centre including shrouds, antennas and microwave link dishes (18 No. antennas and 6 No. transmission dishes, all enclosed in 9 No. shrouds together with all associated equipment); private balconies, terraces and gardens; hard and soft landscaping; sedum roofs; solar panels; boundary treatments; lighting; substations; plant; and all other associated site works above and below ground. The proposed development has a gross floor space of c. 43,120 sq m in addition to undercroft levels (under Apartment Blocks C and D measuring c. 1,347 sq m and under the Neighbourhood Centre measuring c. 2,183 sq m, which includes parking spaces, external storage, bin storage, bike storage and plant).



Figure 3-2 Proposed Site Layout

4 CONSTRUCTION SCHEDULE AND PLAN

4.1 Programme

The Proposed Development will consist of the demolition of 573.2 sq m of existing structures on site comprising a derelict dwelling known as 'Rockville' and associated derelict outbuildings; and the provision of a mixed use development on a developable site area of c. 10.8 hectares (Ha) consisting of 383 No. residential units (165 No. houses, 118 No. duplex units and 100 No. apartments) and a Neighbourhood Centre, which will provide a creche (439 sq m), office (317 sq m), medical (147 sq m), retail (857 sq m), convenience retail (431 sq m) and a community facility (321 sq m). This CDWMP relates to the construction and demolition phase of the Proposed Development.

The construction of the Proposed Development is intended to take place in five phases (Phase 1, 2, 3, 4 and 5) starting from the Central Western portion of the site moving in an anti-clockwise direction through Phase 2 to the East and Phase 3 to the North. The southern two sections of the site will be completed next, starting in the south-eastern corner of the site (Phase 4) and moving south westerly to Phase 5. The proposed sequence of construction outlined below is subject to confirmation once the building contract has been awarded and on completion of the Detailed Construction Management Plan for agreement with the relevant Local Authority. The overall duration of the project is estimated to be 5 no. years in total, with some phases overlapping.

The sequencing of the five phases of the Proposed Development is intended to proceed as follows:

- Phase 1 (18 months) – Central Western portion of the site consisting of 91 residential units (made up of houses and duplexes), all associated landscaping works and drainage for Phase 1. The Main Public Open Space, Central Green Way Link, Dingle Way and off-site drainage through southern lands. Access to Glenamuck Link Distributor Road (GLDR) will also be formed in this phase (if the GLDR is in place).
- Phase 2 and Phase 2A (24 months) – Central Eastern portion of the site and the Neighbourhood Centre consisting of 126 residential units (73 in Phase 2 and 53 in Phase 2A) made up of houses, duplexes, and apartments along with all associated landscaping works. The main drainage for Phase 2 and the Neighbourhood Centre will be completed. Access to GLDR will be constructed if not completed in Phase 1.
- Phase 3 (12 months) – North-eastern portion of the site consisting of 59 residential units made up of apartments, with all associated landscaping works, along with the creation of a new access to Glenamuck Road and drainage for Phase 3.
- Phase 4 (18 months) – South-eastern portion of the site consisting of 97 residential units made up of apartments, with all associated landscaping works and drainage for Phase 4.
- Phase 5 (8 months) – South-western portion of the site consisting of 10 residential units made up of apartments, with all associated landscaping work and drainage for Phase 5.

The Construction Phasing Plan is illustrated in Figure 4-1.

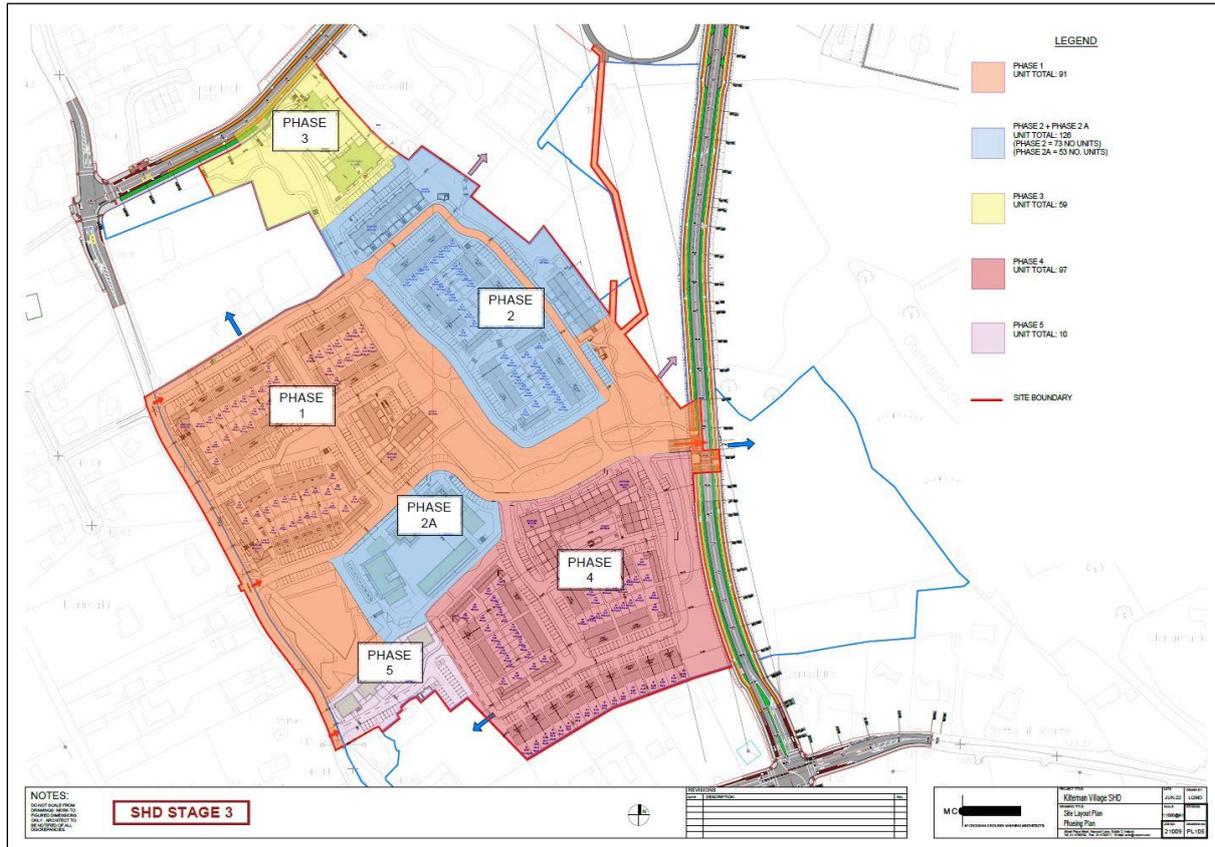


Figure 4-1 Construction Phasing Plan

4.2 Traffic

One of the main construction traffic generating activities will be associated with the removal of surplus and waste material arising from the demolition and enabling works.

It is proposed that all construction traffic and Heavy Goods Vehicles (HGV's) will access the Site through a main entrance from the Glenamuck Road. For Phase 1 of the Proposed Development it has been assumed that the Glenamuck District Roads Scheme (GDRS) will not be available and therefore it is likely that construction traffic and HGV's will utilise Junction 15 of the M50, coming from the north or south to access the Glenamuck Road North Roundabout and travel west along the Glenamuck Road before accessing the R117 and entering the site of the Proposed Development. Construction traffic leaving the site are likely to will utilise the same route in reverse.

For Phase 2 to 5 it has been assumed that the GDRS will be available. Therefore, it is likely that HGV's will utilise Junction 15 of the M50, coming from the north or south to access the Glenamuck Road, before accessing the Glenamuck District Distributor Road (GDDR) and from there the Glenamuck Link Distributor Road (GLDR) before accessing the site via new junction onto the GLDR. Construction traffic leaving the site are likely to will utilise the same route in reverse.

No public personnel, be it pedestrian or vehicular, will be permitted to enter the site.

The Contractor shall provide site security at the entrance to the site and thereby control the movement of traffic to and from the site. The contractor shall be responsible to maintain and keep the entrance area clean and tidy and free from construction debris.

Appropriate signage shall be positioned at approach roads to the site area so as to inform the public of the site activities.

All trucks exiting the site will pass through a wheel wash to prevent any soil or debris leaving the site. Where required, all trucks will be covered in accordance with the details outlined in the CEMP (Enviroguide, 2022).

4.3 Construction Compound and Waste Management

All construction support related activities will be contained within the site. This will include office facilities, welfare facilities such as toilets and canteen. Designated areas will be maintained for materials handling, waste segregation and temporary storage of soils (e.g. of skips or stockpiled material until a viable load is available or if pending waste classification).

Materials handling and plant storage including waste shall be contained within the boundary of the permitted development site. The compound area will be secured from the construction site by means of surrounding Heras fencing. Warning signs will illustrate the required PPE and risks associated when entering the construction Permitted Development.

Two (2 No.) dedicated, secure waste segregation areas will be provided onsite for the duration of the demolition and enabling works as presented in 4-2.

The dedicated waste storage areas within the Waste Segregation points will house all bins and skips for the storage of segregated construction waste generated. All containers will be marked with clear signage which will identify which waste types are to be placed into each container.

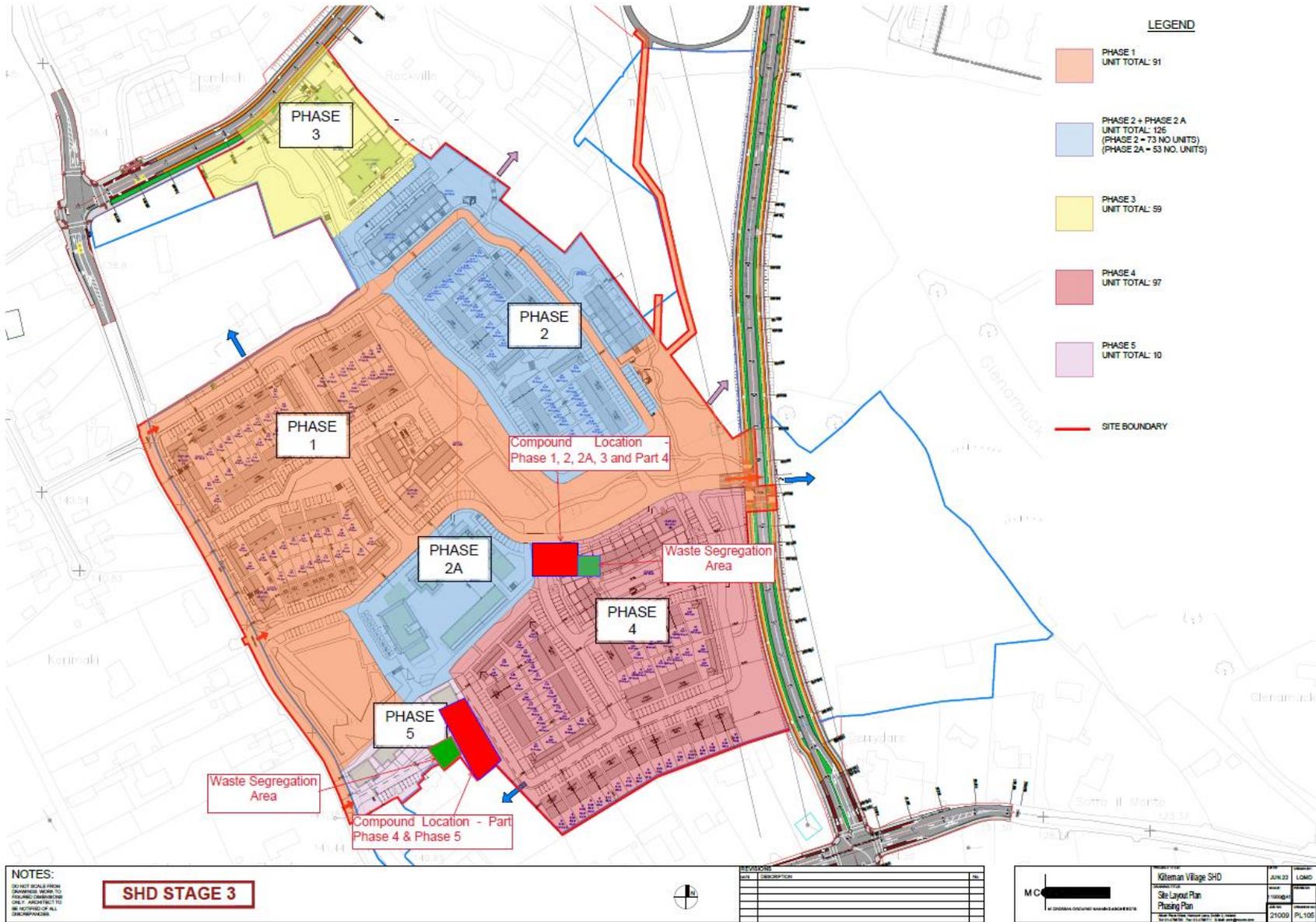


Figure 4-2 Location of Waste Segregation Areas (Green)

5 WASTE MANAGEMENT TEAM

5.1 Roles and Responsibilities

5.1.1 Waste Officer

A member of the construction team will be appointed as the project “Waste Officer” to ensure commitment, operational efficiency and accountability during the Construction Phase of the Proposed Development.

The appointed Waste Officer will have overall responsibility to oversee and record everyday waste management at the Proposed Development Site.

The Waste Officer will have the authority to select a waste team, if required (i.e., members of the site crew that will aid him/her in the organisation, operation and recording of the waste management system implemented on-site).

The Waste Officer will maintain the record keeping system for waste management on-site including maintaining a log of each load of waste materials being transported off-site and maintain a record of all necessary documentation including waste transfer documents and landfill gate receipts in the waste management file.

Authority will be given to the Waste Officer to delegate responsibility to subcontractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

5.1.2 Environmental Consultant

Guidance and support will be provided to the Waste Officer by the appointed Environmental Consultant to ensure the waste management targets and deliverables are maintained to a high standard.

If required, the Environmental Consultant will also be responsible for completing waste classification of surplus soil and stone materials that may require off-site disposal in compliance with all relevant waste management legislation.

5.2 Training Provisions

5.2.1 Waste Officer Training

The Waste Officer will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on-site. The Waste Officer will also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on-site and be knowledgeable in how to implement the project CDWMP.

5.2.2 Site Personnel Training

A basic awareness briefing will be held for all site personnel to outline the CDWMP and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic briefing will describe the materials to be segregated, the storage methods and the location of the Waste Storage Areas (WSAs). A sub-section on hazardous wastes will be incorporated into the briefing and the particular dangers of each hazardous waste will be explained.

6 WASTE TYPES

6.1 Details of Potential Non-Hazardous Wastes

6.1.1 Non-Hazardous C&D Waste

During the Construction and Demolition Phase of the Proposed Development, it is anticipated that there will be some surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics, metals, and tiles generated. There may also be excess concrete during construction which will need to be disposed of. Plastic and cardboard waste from packaging and supply of materials will also be generated.

The Demolition of ca. 573.2 sq. m of existing structures on site comprising derelict farmyard buildings will be required.

6.1.2 Inert and Non-Hazardous Soil and Stone

Phase to depths of up to 4.1mbGL for the construction of building foundations, carparking areas, access roads and filter drains, the surface / foul water drainage network and all ancillary works.

It is estimated by the contractor that the amount of top soil & sub-soil excavated will be c.72,500m³, and a volume of c.40,850m³ arising from groundworks will require off-site removal for reuse or recovery in accordance with appropriate statutory consents and approvals. The volume of fill Material required (up to FFL & FRL) is c.63,600m³ of which 31,650 m³ will be retained from excavation. A further c.35,600m³ of stone will need to be imported to the Site.

The removal of soils and materials off-site for disposal will be undertaken in accordance with the requirements outlined in the CEMP (Enviroguide, 2022) and will be managed in accordance with all legal obligations.

It is noted that surplus soil and stone waste generated as part of the construction and demolition works will be re-used, recycled, or sent for recovery, where appropriate and feasible.

6.1.3 Other Non-Hazardous Wastes

Waste will also be generated from construction workers (e.g., organic/food waste, dry mixed recyclables (wastepaper, newspaper, plastic bottles, packaging, aluminium cans, tins and cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided on-site during the construction phase. Waste printer/toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated infrequently from site offices.

6.2 Hazardous Wastes

6.2.1 Asbestos

It is anticipated that there will be no asbestos containing materials (ACMs) generated during the Demolition or Construction Phase of the Proposed Development. If ACMs are identified on site at a later stage, a full asbestos report will be carried out.

6.2.2 Hazardous Soil and Stone

It is anticipated that there will be no hazardous soil and stone waste requiring off-site disposal generated during the Construction Phase at the Proposed Development. If previously unidentified contaminated soil and stone is discovered on-site, a contaminated land assessment will be carried out. If soil is identified as hazardous that will require offsite removal, the contaminated soil will be managed in accordance with the procedures outlined in the CEMP (Enviroguide, 2022).

6.2.3 Fuel and Oils

Fuels and oils are classed as hazardous materials. The storage of small quantities of fuel will be required to allow for refuelling of machinery in the site compound and on an impermeable area with appropriate containment in place and in accordance with any procedures outlined in the CEMP (Enviroguide, 2022) which will be developed by the appointed Contractor in advance of Construction works commencing onsite. All fuels and oils required to be stored at the site will be sealed, banded and clearly marked. All tank, container and drum storage areas will be rendered impervious to the materials stored therein. Bunds and storage areas will have regard to Environmental Protection Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (EPA, 2004) and Enterprise Ireland Best Practice Guide BPGCS005 Oil Storage Guidelines. All tank and drum storage areas will, as a minimum, be banded to a volume not less than 110% of the capacity of the largest tank or drum within the banded area. Provided that these requirements are adhered to, and site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel/oil wastage at the site.

6.2.4 Other Hazardous Substances

Any paints, glues, adhesives, and other known hazardous substances will be stored in designated areas and will be sealed, banded and clearly marked. They will generally be present in small volumes only, ordered as needed and therefore, associated waste volumes generated will be kept to a minimum.

It is not envisaged that there will be any other hazardous waste generated throughout the construction works however if generated, on-site storage of any hazardous wastes produced (i.e., waste fuels/chemicals) will be kept to a minimum, with compliant removal off-site organised on a regular basis.

It is noted that storage of all hazardous wastes on-site will be undertaken to minimise exposure to on-site personnel and to also minimise potential for environmental impacts. A specialist hazardous waste contractor will be used to remove any hazardous waste arising.

6.3 Main C&D Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by construction and demolition activities at a typical site are shown in Table 6-1. The List of Waste (LoW) code (as effected from 1 June 2015) for each waste stream is also shown.

Table 6-1 Typical Waste Types Generated and LoW Code

Waste Material	LoW Code
Concrete	17 01 01
Bricks	17 01 02

Waste Material	LoW Code
Tiles and Ceramics	17 01 03
Mixture of concrete, bricks, tiles, and ceramics	17 01 07
Wood, Glass and Plastic	17 02 01, 17 02 02 and 17 02 03
Metals (including their alloys)	17 04 01, 17 04 02, 17 04 03, 17 04 04, 17 04 05, 17 04 06 and 17 04 07
Non-Hazardous Soil and Stone	17 05 04
Hazardous Soil and Stone	17 05 03*
Gypsum-based construction material	17 08 02
Bituminous mixtures	17 03 02
Paper and cardboard	20 01 01
Non-Hazardous Mixed C&D Wastes	17 09 04
Electrical and electronic components	20 01 35* and 20 01 36
Batteries and accumulators	20 01 33* and 20 01 34
Liquid fuels	13 07 01*, 13 07 02* and 13 07 03*
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13*, 20 01 19*, 20 01 27*, 20-01 28, 20 01 29* and 20 01 30
Insulation materials	17 06 04

6.4 Main C&D Waste Quantities

Table 6-2 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA National Waste Statistics (EPA, December 2021. National Waste Statistics Summary Report for 2019). The waste categories in Table 6-2 will be segregated into general waste and dry recycling categories.

Table 6-2 Quantities of C&D Materials Generated on a Typical Irish Construction Site (Source: EPA, 2021)

Waste Types	%
Mixed C&D waste	30
Segregated timber, glass, and plastic	2
Bituminous Mixtures	9
Metals	14
Segregated concrete, brick, tile, and gypsum	45
Total	100

There will also be a surplus of soil and bedrock arising from groundworks which will require offsite removal for reuse or recovery in accordance with appropriate statutory consents and approvals. Where possible, surplus soil that is verified to be clean inert soil will be removed from the Site under an Article 27 By-product notification.

The CDWMP will be updated with actual C&D waste / surplus soil and bedrock quantities throughout the construction project and as information becomes available.

7 WASTE CLASSIFICATION

7.1 Roles and Responsibilities

7.1.1 Construction Environmental Site Manager

The appointed Construction Environmental Site Manager will be responsible for ensuring all waste classification of wastes generated throughout the works to ensure offsite removal for recycling/ recovery and disposal in compliance with all relevant waste management legislation.

7.1.2 Environmental / Waste Officer

The appointed Environmental / Waste Officer will assist the Construction Environmental Site Manager as required by monitoring the movement and segregation of all waste streams across the Development Site.

7.1.3 Environmental Consultant

Where necessary and if required, the appointed Environmental Consultant (Enviroguide Consulting) will be responsible for completing any additional waste classification of excavated soil waste materials to enable off-site disposal in compliance with all relevant waste management legislation.

7.2 Waste Classification

7.2.1 C&D Waste Materials

The waste classification of inert C&D wastes generated throughout the construction phase of the development including structural concrete, metal, timber, cladding, plastics, cardboard, and tiles will be based on visual observations by the Waste Officer or appointed delegate.

It is noted that there will be no crushing of concrete on-site using a mobile crushing plant. Concrete will be segregated for removal off-site to an authorised permitted/licensed waste facility for recovery, recycling.

7.2.2 Soil and Bedrock

During the Construction Phase of the Proposed Development, it is anticipated that excavated surplus inert and non-hazardous soil and stone generated for the construction of the basement, building foundations, carparking areas, access roads and filter drains, the surface / foul water drainage network and all ancillary works. As mentioned in Section 6.4, the CDWMP will be updated throughout the construction stage with actual quantities of surplus soil and bedrock as information becomes available.

The removal of soils and materials off-site for disposal will be undertaken in accordance with the requirements outlined in the CEMP (Enviroguide, 2022) and will be managed in accordance with all legal obligations.

The majority of material may be suitable for removal from the Proposed Development Site to an inert landfill or soil recovery facility subject to verification and written confirmation from the

proposed receiving authorised waste facility, that acceptance of the material will be in accordance with all waste management legislation and the conditions of the receiving facility licence or permit.

All surplus materials will be removed off-site in accordance with waste management legislation.

7.2.3 Additional Waste Classification

Where additional sampling and assessment of soil and materials is required to ensure that the materials are managed and removed off-site in accordance with waste management legislation, the waste classification of sample results will be based on the following method:

- Soil sample collection and analysis in accordance with UK Environment Agency, 2021 Version 1.1 GB (EU Exit Update): Guidance on the Classification and Assessment of Waste (1st Edition v1.1.GB) Technical Guidance WM3 (UK EA, WM3 2021) and the Northern Ireland Environment Agency, 2021. Version 1.1 NI (EU Exit): Guidance on the Classification and Assessment of Waste (1st Edition v1.1.NI) Technical Guidance WM3 (NI EA, WM3 2021).
- Assessment of results to determine if the sample is a hazardous or non-hazardous waste using the <http://www.hazwasteonline.com> application developed by One Touch Data Limited; and,
- Assigning a List of Waste (LoW) Code to the sampled material in accordance with EPA guidance 'Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous' (EPA, 2018).

The material will also be assessed to determine if the material meets the waste acceptance criteria for authorised landfills and soil recovery facilities as follows:

- Screening the sample analytical results against the waste acceptance criteria (Landfill WAC) set out in the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002); and
- Screening the sample analytical results against the Maximum Concentrations and/or Soil Trigger Levels set out in the Environmental Protection Agency (2020) "Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities" (SRF WAC).

8 WASTE MANAGEMENT

8.1 Opportunities for Prevention and Reduction

Opportunities for the prevention and reduction of waste will be considered throughout all stages of the Proposed Development Construction Phase. The Contractor will plan the construction process to eliminate/reduce waste; specifically, careful planning will minimise the volume arising on-site, facilitate the use of reclaimed materials in the works, and influence wastage caused by poor materials handling.

Table 8-1 shows the targets for recovery during the Construction Phase of the Proposed Development based on data from the EPA National Waste Statistics (EPA, December 2021. National Waste Statistics Summary Report for 2019).

Table 8-1 Predicted Recovery Targets

Waste Type	Recycling	Energy Recovery	Backfilling	Disposal
	%	%	%	%
Mixed C&D waste	13%	1%	60%	26%
Segregated wood, glass, and plastic	39%	54%	7%	0%
Bituminous Mixtures	64%	0%	36%	0%
Metals	100%	0%	0%	0%
Concrete, brick, tile, and gypsum	46%	0%	52%	2%
Soil and Stone	0%	0%	91%	9%
Total	44%	9%	41%	6%
<p>Note: ‘*’ = Backfilling refers to a recovery operation, carried out at authorised facilities, where suitable waste is used for reclamation purposes in excavated areas or for engineering purposes in landscaping and where the waste is a substitute for non-waste materials. It includes worked out quarries that are in the process of being restored or sites where soil and stone is imported to the site to raise natural ground levels (EPA, December 2021)</p>				

The predicted recovery targets will be reviewed and updated by the appointed Contractor in advance of construction works commencing onsite when the final materials and detailed construction methodologies have been confirmed. The waste management objective will be to prevent waste arising in the first place, and to re-use, recycle or recover waste materials where possible. A policy of ‘as needed’ ordering and strict purchasing procedures will also prevent waste arisings as far as possible.

8.2 Article 27 By-product

Where appropriate the removal of surplus materials as a by-product of the Proposed Development Construction Phase under an Article 27 By-product notification in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No 126 of 2011) will be considered. Material will only be removed under an Article 27 By-product

notification when it can be robustly demonstrated that all tests for Article 27 By-product are met.

8.3 Demolition and Construction Waste Management

The management of the main waste streams are detailed in the following sections.

A policy of 'as needed' ordering and strict purchasing procedures will also prevent waste arisings as far as possible and as there is no demolition phase it is anticipated that there will be minimal surplus quantities of the following materials generated.

8.3.1 Concrete

The majority of concrete generated as part of the construction and demolition works is expected to be clean, inert material. There will be no crushing of concrete on-site using a mobile crushing plant. Concrete will be segregated for removal off-site to an authorised permitted/licensed waste facility for recovery and/ or recycling.

8.3.2 Tarmacadam

Where possible it is anticipated that tarmacadam generated during site clearance works will be reused onsite (e.g., capping layer below access roads) subject to assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. However, where the removal offsite of tarmacadam's is required, it will be segregated pending removal to an authorised permitted/licensed waste facility for recovery and/ or recycling.

8.3.3 Tiles, Ceramics and Gypsum

Tiles, ceramics and gypsum generated as part of the construction and demolition works will be segregated into dedicated skips/receptacles and recycled off-site at an authorised recycling facility. Under no circumstances, will gypsum containing materials (e.g., plasterboard) be stored with mixed waste. The appointed Waste Officer or delegate will ensure that supply of new plasterboard is carefully monitored to minimise waste.

8.3.4 Timber Glass and Hard Plastic

Glass, hard plastic (e.g., material cut offs) and timber that is uncontaminated (i.e., free from paints, preservatives, glues etc.) will be segregated into dedicated skips/receptacles and recycled off-site at an authorised recycling facility, where possible.

8.3.5 Metal

Metals will be segregated into mixed ferrous, aluminium cladding, high grade stainless steel, low grade stainless steel etc., where practical and stored in skips and recycled off site at an authorised recycling facility.

8.3.6 Waste Electrical and Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages/receptacles/pallets pending collection for recycling.

8.3.7 Other Recyclables

Where any other recyclable wastes such as cardboard and soft plastic are generated, these will be segregated at source into dedicated skips and removed off-site.

8.3.8 Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some contaminated cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip/receptacle will be examined by the appointed Waste Officer or delegate to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

8.3.9 Hazardous Wastes

On-site storage of any hazardous wastes produced will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately. Hazardous wastes produced (i.e., waste fuels/chemicals) will be kept to a minimum, with removal off-site organised on a regular basis by an appointed specialist hazardous waste contractor.

In the event that hazardous wastes, previously deposited wastes or previously unidentified contaminated soil are discovered on-site, the appointed Contractor will immediately notify the Client, DLRCC, the EPA and other relevant authorities as required, and a hazardous waste / soil management plan will be designed and implemented detailing the estimated volumes, any relevant mitigation measures, destinations for the authorised disposal/treatment and the designated authorised contractors for the movement of the material.

Potentially hazardous waste soil and stone will be segregated and stored appropriately so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered wherever possible and, failing this, disposed of appropriately.

8.3.10 Inert / Non-hazardous Soil and Stone

Surplus soil and bedrock arising from groundworks will require off-site removal for reuse or recovery in accordance with appropriate statutory consents and approvals. As mentioned in Section 6, the CDWMP will be updated throughout the construction stage with actual quantities of inert non-hazardous soil and stone as information becomes available.

The removal of soils and materials off-site for disposal will be undertaken in accordance with the requirements outlined in the CEMP (Enviroguide, 2022) and will be managed in accordance with all legal obligations.

If any surplus soil that is verified to be clean inert soil is to be removed from the Site under an Article 27 By-product notification to the EPA all statutory requirements of Article 27 By-product under the Waste Directive Regulations must be demonstrated to the satisfaction of the EPA. A separate assessment would be required to verify that the any surplus material meets the four conditions of Article 27 by-product prior to notifying the EPA or moving material off-site.

It should be noted that the EPA advises that material should not be moved off-site until a determination has been made by the EPA regarding the notified material.

Where the material cannot be re-used as a by-product and is deemed to be a waste it will be consigned to an authorised facility permitted to accept it.

8.3.11 Invasive Species

In the event that invasive species are identified at the Proposed Development Site, an Invasive Alien Species (IAS) Management Plan will be developed which will identify mitigation measures to prevent uncontrolled transportation and dispersion of invasive species from the Proposed Development Site. All works will be undertaken in accordance the mitigation measures outlined in the IAS Management Plan.

8.4 Segregation of Waste On-Site

Material will be segregated on-site for the appropriate waste stream and disposal destination. The Waste Officer or appointed delegate will ensure waste streams are adequately identified. The segregation and management of waste storage and stockpiling will be routinely inspected and audited by the Waste Officer and audit findings recorded in the CDWMP records.

There will be no crushing of concrete on-site using a mobile crushing plant. Concrete will be segregated for removal off-site to an authorised permitted/licensed waste facility for recovery, recycling.

C&D waste will be segregated on-site into labelled dedicated skips / receptacles. Where the on-site segregation of certain waste types is not practical, off-site segregation will be carried out an authorised waste recovery facility.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc., if required.

Waste materials generated from site office and canteen will be segregated into general waste, biodegradable waste and dry recycling and stored in appropriate refuse bins in a dedicated storage area on-site, where it is practical.

In the event of material being temporarily stockpiled on-site for reuse in the Proposed Development or in the event of material excavated pending waste classification for removal off-site, the material will be temporarily stockpiled in a designated area on-site. Stockpiles of different waste material will be located, maintained, and separated by a sufficient distance to prevent any inadvertent mixing of excavated material. All stockpiles will be clearly identified (e.g., signage) and recorded on a site map. Additional details on the management of stockpiles and procedures to prevent environmental and nuisance issues will be documented in the Construction and Environmental Management Plan (CEMP) which will be developed by the appointed Contractor in advance of construction works commencing on-site.

Any heavily contaminated material/soil that may be encountered will need to be segregated in accordance with the measures outlined in the CEMP (Enviroguide, 2022) for appropriate sampling, waste classification and authorised removal off-site.

The Construction Environmental Site Manager will ensure that site personnel involved in the excavation and removal of waste soil materials at the site are informed of and can identify the different waste types and categories of waste soil materials encountered on-site.

8.5 Storage of Waste Policy

Waste storage, fuel storage and stockpiling and movement are to be undertaken with a view to protecting the underlying soils and groundwater. Waste will be stored on-site, including non-hazardous soil and stone and inert C&D wastes, in such a manner as to:

- Prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required);
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling, and recovery; and
- Prevent hazards to site workers and the public during construction phase (largely noise, vibration and dust).

9 OFF-SITE REMOVAL OF WASTE

9.1 Removal and Disposal of Surplus and Waste Materials

Removal and recovery/recycling/disposal of all waste materials will be carried out in accordance with the Waste Management Act 1996 and as amended, S.I. No. 820/2007 - Waste Management (Collection Permit) Regulations 2007 and as amended and S.I. No. 821/2007 - Waste Management (Facility Permit and Registration) Regulations 2007 and as amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO.

9.2 Waste Management Procedure

All waste will be documented prior to leaving the site. Waste will be weighed or logged by the contractor, either by weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated project Waste Officer.

Prior to any removal of waste from the site, written confirmation should be obtained from the receiving waste facility, that acceptance of the waste will be in accordance with all waste management legislation and the conditions of the receiving waste facility licence or permit. A copy of the applicable licences and permits should be obtained and retained on-site.

If the waste is being transported to another site, a copy of the Local Authority waste Certificate of Registration (COR) or permit, or EPA Licence for that site will be provided to the Waste Officer.

If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from the National Transfrontier Shipment of Waste Office (NTFSO) (as the relevant authority on behalf of all local authorities in Ireland) and kept on-site along with details of the final destination. A receipt from the final destination facility of the material will be kept as part of the on-site waste management records. The Waste Officer will undertake regular audits of waste paperwork to ensure traceability of all loads off site to the final authorised destination facility.

To control off-site movements of waste a comprehensive docketing / waste tracking system should be implemented on-site. A daily record (including preparing and reconciling waste transfer note) of excavation at, and dispatch from the site should be maintained on-site.

All material excavated or segregated for off-site disposal should be transferred from site under chain of custody or waste dispatch dockets that should record:

- Date and time of transfer;
- Name of Carrier;
- National Waste Collection Permit Number and details
- Vehicle Registration and Name of Driver;
- List of Waste (LOW) Code;
- Waste Classification and origin of material at the site;
- Details of waste including quantity (tonnes/litres as appropriate)
- Details of proposed treatment (Reuse/Recycling/Disposal) including appropriate disposal/recovery code;
- Destination of load (receiving facility);

- Destination facility Waste Licence or Waste Permit number and details;
- Confirmation of receipt and acceptance at the final designated waste facility.

Chain of custody / waste dispatch dockets will be issued in triplicate. On dispatch the docket will be signed by the issuing operative and one copy retained on-site. The remaining two copies will accompany the load and be signed or stamped by the receiving facility.

To ensure complete site records are maintained on-site, a copy of the completed chain of custody / waste dispatch docket will have a copy of the weighbridge docket from the receiving facility attached and retained with the waste management records for the site. The completed chain of custody / waste dispatch docket will be maintained in the waste management file.

All loads will be checked prior to exiting the site. In addition to logging the trucks of waste materials, all trucks will be visually inspected to ensure the loads are within the permissible haulage limits. All trucks and skips will be covered, and any loose debris removed prior to leaving the Proposed Development Site.

All necessary documentation requirements will be fulfilled prior to transfer of material. A log of each load of waste materials being transported off-site will be compiled that will include details of the waste collection permit or skip operator licence, load of materials, name of the destination facility and serial number on the accompanying waste docket. In addition, the stamped dockets and gate receipts will be cross checked against details of the outgoing load and details entered on the log sheet. A record of all necessary documentation including waste transfer documents and landfill gate receipts will be stored in the waste management file.

Some of the sub-contractors on-site will generate waste in relatively low quantities. The transportation of non-hazardous waste by persons who are not directly involved with the waste business, at weights less than or equal to 2 tonnes, and in vehicles not designed for the carriage of waste, are exempt from the requirement to have a waste collection permit (Ref. Article 30 (1) (b) of the Waste Collection Permit Regulations 2007 as amended). Any sub-contractors engaged that do not generate more than 2 tonnes of waste at any one time can transport this waste off-site in their work vehicles (which are not designed for the carriage of waste). However, they are required to ensure that the receiving facility has the appropriate COR / permit / licence and the waste generated must be ancillary to their own activities.

9.3 Off-Site Destinations for Waste Materials

All waste materials that will be required to be transported off-site for further treatment or disposal will be undertaken in compliance with all Waste Management Legislation and all waste materials will only be transferred to appropriately permitted or licensed waste management facilities.

Details of the nominated waste facilities proposed for each specified waste type will be provided to Dun-Laoghaire Rathdown County Council (DLRCC) once appointed by the Contractor in advance of construction works commencing on-site. The nominated waste facility template, which will be updated on appointment of the contractor, and provided to DLRCC in advance of construction works commencing onsite, is included in Appendix A.

The Waste Officer will be required to maintain a detailed register of the nominated waste facilities (i.e., facility location, waste facility permit / licence number and expiry / renewal date) proposed for each specified waste type and to obtain a copy of all waste facility licences/permits which will be retained within the waste management file.

The expiry dates on all licences and permits will be reviewed routinely by the Waste Officer as part of the waste audits. The Waste Officer will ensure that only facilities with a valid permit or licence a will be retained for off-site management of waste.

9.4 Waste Collection and Transport

Only carriers/hauliers with a valid NWCPO issued Waste Collection Permit which authorises the transport of the applicable List of Waste (LoW) Code and delivery to the receiving facility will be appointed to transport the waste from the SHD Site.

Details of the nominated carriers/hauliers proposed for each specified waste type will be provided to DLRCC once appointed by the Contractor in advance of construction works commencing on-site. The nominated carriers/hauliers template, which will be updated on appointment of the contractor, and provided to DLRCC in advance of construction works commencing onsite, is included in Appendix B.

The Waste Officer will be required to maintain a detailed register of the waste haulage contractors (i.e., haulage contractor name, address, waste collection permit / skip operator licence number and expiry date) proposed for each specified waste type and to obtain a copy of all the applicable permits / licences which will be retained within the waste management file.

The expiry dates on all permits will be reviewed routinely as part of the waste audits. Only haulage contractors with a valid permit will be retained for off-site removal of waste.

10 RECORD KEEPING

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling, recovery or disposal.

All necessary documentation requirements will be fulfilled prior to transfer of material.

A copy of the receiving waste facility permits and licences with all appendices will be retained onsite.

A copy of the NWCPO waste collection permit with all appendices will also be retained on-site.

It will be the responsibility of the Waste Officer to record the following:

- Waste removed for reuse off-site;
- Waste removed for recycling;
- Waste removed for disposal; and
- Reclaimed waste materials brought to site for reuse (if required).

All waste will be documented prior to leaving the site. These waste records will be provided and maintained on site by the Waste Officer.

For each movement of waste on-site or off-site, a signed docket will be obtained by the Waste Officer or delegate from the contractor, detailing the date, vehicle registration, driver name and signature weight and type of the material and the source and destination of the material. This will be carried out for each material type. This system will also be linked with the delivery records. In this way, the percentage of construction waste generated for each material can be determined. The system will allow the comparison of these figures with the targets established for the recovery, reuse and recycling of construction waste and to highlight the successes or failures against these targets. Certificates of recycling/recovery will be obtained from the facility to which the waste has been consigned, in order to confirm receipt and trace the waste to end destination. This documentation will be cross checked with removal dockets to ensure that all waste removed from the site has been accounted for and accepted at end destinations.

Where additional sampling and assessment of soil and materials is required to ensure that the materials are managed and removed off-site in accordance with waste management legislation, the designated Environmental Consultant will produce waste classification reports detailing the findings of any additional assessment required. All existing and future waste classification report(s) will be maintained in the waste management file.

The waste recording template is included in Appendix C and will be updated on appointment of the contractor.

10.1 Register of Documents

A live register of documents will be maintained digitally as part of this waste management plan is outlined below. It will be the responsibility of the appointed Waste Officer to ensure that the register of documents is updated as appropriate.

1. Waste Facility Acceptance Letters.
2. Approved Receiving Waste Facility Permits and Licences.
3. Approved NWCPO Permits.

4. Waste Management Log Sheet – Digital Log to be Maintained On-Site.
5. Chain of Custody / Waste Dispatch Dockets
6. Landfill Gate Receipts.
7. Waste Classification Reports
8. Invasive Species Survey Reports

11 AUDIT AND INSPECTION

The Waste Officer or delegate will be responsible for conducting waste inspections at the site during the construction phase of the development to ensure the compliance with waste management procedures as outlined above to ensure that all procedures are strictly adhered to.

Waste skips/receptacles and stockpiles (if required) will be inspected daily by the Waste Officer to ensure materials are segregated on-site for the appropriate waste stream and disposal destination.

Regular audits will be undertaken by the Waste Officer or designate which will include checking the following in relation to waste management on-site:

- Segregation and storage practices;
- Recycling rates;
- Litter prevention practices;
- Documentation for waste removed;
- Documentation for waste received at destination facilities;
- Centrally recorded waste data;
- Waste collection permits for all waste hauliers used; and
- Waste management facility permits/licences for all waste management facilities used.
- A review of all waste facility and collection permits/licences being used for waste from the site will be carried out routinely to ensure that all permits and licences are not within 6 months of expiration. Any permits/licences within 6 months of the expiry date will be reviewed in detail.

Daily site inspections will be carried out to check for housekeeping, litter, and correct segregation. More detailed waste audits will be carried out on a bi-weekly basis. Where poor segregation practices are observed, littering is apparent or housekeeping falls below standard, a non-conformance will be raised with the Site Manager for corrective action.

Regular checks will be carried out to ensure that all waste is accounted for, and full load traceability exists. Where gaps are identified in the records available, a root cause analysis will be carried out and a preventive measure put in place to ensure that this does not happen in future. Any missing documentation will be sought from the waste haulier and the waste destination in the event that it is not present for audit and inspection

12 CONSULTATION WITH RELEVANT BODIES

12.1 Local Authority

The local authority (DLRCC) will be consulted as required with prior agreement with Liscove Limited.

Monthly reports regarding the management of the waste during works, will be made available electronically to the Waste Regulation Unit of Dún Laoghaire Rathdown County Council and as required

13 REFERENCES

Construction Environmental Management Plan (CEMP), Enviroguide Consulting, 2022.

Department of Environment and Local Government (DoELG) Waste Management – Changing Our Ways, A Policy Statement (1998).

Department of Environment, Communities and Local Government (DoECLG), A Resource Opportunity - Waste Management Policy in Ireland (2012).

Department of Environment, Heritage and Local Government, Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (2006).

Dún Laoghaire-Rathdown County Development Plan 2022-2028 – April 2022

Environmental Protection Agency, September 2020 National Waste Statistics Summary Report for 2018.

European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended 2011 (S.I. No. 323 of 2011) and 2016 (S.I 315 of 2016).

European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014).

European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended 2014 (S.I. No. 349 of 2014) and 2015 (S.I. No. 347 of 2015).

Environmental Protection Agency, 2020. Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities.

Environment Agency, (2021). Technical Guidance WM3: Guidance on the classification and assessment of waste (1st Edition v1.1 GB).

Environmental Protection Agency, 2018. List of Waste & Determining if Waste is Hazardous or Non-hazardous. Waste Classification.

EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002).

European Communities (Transfrontier Shipment of Waste) Regulations 1994 (S.I. No. 121 of 1994)

Enviroguide Consulting, Construction and Environment Management Plan (2022).

Environmental Protection Act 1992 (S.I. No. 7 of 1992) as amended by the Protection of the Environment Act 2003, as amended.

Southern Region Waste Management Plan 2015 – 2021 (2015).

Forum for the Construction Industry – Recycling of Construction and Demolition Waste.

FÁS and the Construction Industry Federation (CIF), Construction and Demolition Waste Management – a handbook for Contractors and Site Managers (2002).

Litter Pollution Act 1997 (S.I. No. 12 of 1997).

Northern Ireland Environment Agency, 2021. Version 1.1 NI (EU Exit): Guidance on the Classification and Assessment of Waste (1st Edition v1.1.NI) Technical Guidance WM3.

One Touch Data Limited, 2019. HazWasteOnline™ Application
<http://www.hazwasteonline.com>

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

UK Environment Agency, 2021. Version 1.1 NI (EU Exit): Guidance on the Classification and Assessment of Waste (1st Edition v1.1.NI) Technical Guidance WM3.

Waste Management Act 1996 (No. 10 of 1996) as amended 2001 (No. 36 of 2001), 2003 (No 27 of 2003) and 2011 (No. 20 of 2011).

Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended 2008 (S.I No 87 of 2008), 2015 (S.I. No. 197 of 2015) and 2016 (S.I. No. 24 and 346 of 2016).

Waste Management (Facility Permit and Registration) Regulations 2007,(S.I No. 821 of 2007) as amended 2008 (S.I No. 86 of 2008) as amended 2014 (S.I No. 320 and No. 546 of 2014) and as amended 2015 (S.I. No. 198 of 2015).

Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended 2010 (S.I. No. 350 of 2010).

Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended 2015 (S.I No 542 of 2015).

Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997).

Waste Management (Landfill Levy) (Amendment) Regulations 2019 (S.I. No. 182 of 2019) .

Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended 2015 (S.I. 190 of 2015) and European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 191 of 2015).

Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended 2000 (S.I. No. 73 of 2000).

Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended by European Communities (shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I No. 324 of 2011).

Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998).

14 APPENDIX A

15 APPENDIX B

16 APPENDIX C

LoW Code	Description	Volume Generated (tonnes)	Prevention (tonnes) (non-waste)	Reused (tonnes) (non-waste)	Recycled (tonnes) (waste)	Recovered (tonnes) (waste)	Disposed (tonnes) (waste)	Unit Cost Rate (€/tonne)	Total Cost (€)
17 01 01	Concrete								
17 01 02	Bricks								
17 01 03	Tiles and Ceramics								
17 02 01	Wood								
17 02 02	Glass								
17 02 03	Plastic								
17 03 02	Bituminous Mixtures								
17 04 01	Copper, Bronze, Brass								
17 04 02	Aluminium								
17 04 03	Lead								
17 04 04	Zinc								
17 04 05	Iron and Steel								
17 04 06	Tin								
17 04 07	Mixed Metals								
17 04 11	Cables								
17 05 04	Soil and Stone								
17 06 04	Insulation Material								
17 08 02	Gypsum								
17 09 04	Mixed C&D Waste								
17 01 06*	Mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substance								

17 02 04*	Glass, plastic and wood containing or contaminated with hazardous substances								
17 03 01*	Bituminous mixtures containing coal tar								
17 04 09*	Metal waste contaminated with hazardous substances								
17 05 03*	Soil and stones containing hazardous substances								
17 06 05*	Construction materials containing asbestos								
	Other resources (non-waste materials) (specify as needed)								
	Other wastes (specify as needed)								