CONSTRUCTION & DEMOLITION WASTE MANAGEMENT PLAN

Proposed Development at Lissywollen, Athlone, Co. Westmeath

Contents

Introduction

Construction & Demolition Waste Management Plan Requirement

This Construction & Demolition Waste Management Plan (CDWMP) has been prepared by Alanna Roadbridge Developments Ltd. to support a planning application for a Strategic Housing Development on site measuring circa 17.64 hectares at Lissywollen, Athlone, County Westmeath.

Waste management in Ireland is subject to EU, national and regional waste legislation which defines how waste materials must be managed, transported and treated. The overarching EU legislation is the Waste Framework Directive (2008/98/EC) which is transposed into national legislation in Ireland. The cornerstone of Irish waste legislation is the Waste Management Act 1996 (as amended).

In addition, the Irish government issues regular policy documents which outline measures aimed to improve waste management practices in Ireland and help the country to achieve EU targets in respect of recycling and disposal of waste. The most recent policy document *A Resource Opportunity – Waste Management Policy in Ireland* was published in 2012 and stresses the environmental and economic benefits of better waste management, particularly in relation to waste prevention. The document sets out a number of actions, including the following:

- A move away from landfill and replacement through prevention, reuse,
- recycling and recovery.
- A Brown Bin roll-out diverting 'organic waste' towards more productive uses.
- Introducing a new regulatory regime for the existing side-by-side competition
- model within the household waste collection market.
- New Service Standards to ensure that consumers receive higher customer
- service standards from their operator.
- Placing responsibility on householders to prove they use an authorised waste
- collection service.
- The establishment of a team of Waste Enforcement Officers for cases relating
- to serious criminal activity will be prioritised.
- Reducing red tape for industry to identify and reduce any unnecessary
- administrative burdens on the waste management industry.
- A review of the producer responsibility model will be initiated to assess and
- evaluate the operation of the model in Ireland.
- Significant reduction of Waste Management Planning

Following the above, the *Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021* was published and provides a framework for the prevention and management of wastes in a safe and

sustainable manner. The *EMR Waste Management Plan 2015 – 2021* is the regional waste management plan for the Lissywollen area published in May 2015.

Objectives

The Construction & Demolition Waste Management Plan (CDWMP) comprises an agreed set of measures designed to be easily implemented by all site contractors to effectively manage the construction phase of the of the development and traffic generated by the construction phase. The ultimate goal of a CDWMP is designed to minimise against any and all possible effects of the construction phase, including those on the surrounding roads and infrastructure.

The CDWMP will be a dynamic document which will evolve to suit the ongoing construction of the development and any changes which may occur.

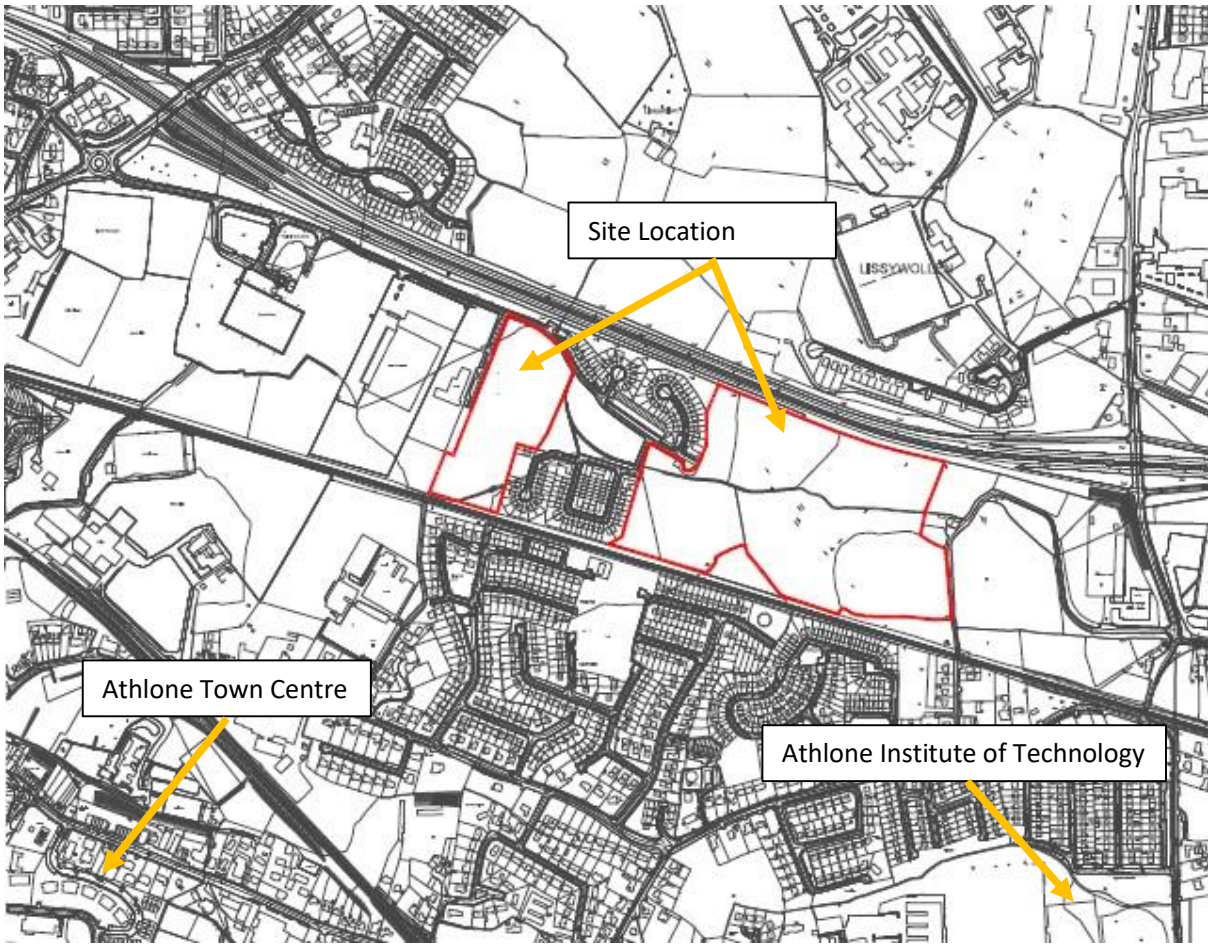
The CDWMP will be integrated into and implemented throughout the construction phase of the project to ensure the following:

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials;
- To ensure that all waste materials generated by site activities, that cannot be reused on site, are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed / permitted facilities in compliance with the Waste Management Act 1996, the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003;
- To manage and control any environmental impacts (noise, vibration, dust, water) that project construction work activities may have on receptors and properties that are located adjacent to project work areas and on the local receiving environment; and
- To comply with any planning conditions and requirements relating to waste management as required by An Bord Pleanála and Westmeath County Council.
- Supply chain management: including waste minimisation, management systems and site stewardship.

Project Programme

Proposal Summary

The subject site is bisected by the existing Brawny residential estate and is generally bounded to the north by the N6, Athlone Relief Road, to the south by the Old Rail Trial Greenway, to the west by Scoil na gCeithre Máistrí and to the east by undeveloped lands, further east of which are the ESB Regional Headquarters. The subject site is located within the lands designated for the Lissywollen South Framework Plan 2018-2024.



Site Location

The development proposal consists of 576 no. residential dwellings comprised of the following:

(a) 285 no. 2 storey semi-detached & terraced houses comprising 50 no. 4 bed houses, 200 no. 3 bed houses & 35 no. 2 bed houses.

(b) 246 no. apartments in 18 no. blocks (2 to 5 storey in height) comprised of 60 no. 1 bed, 169 no. 2 bed, and 17 no. 3 bed dwellings.

(c) 45 no. duplex units in 9 no. of the 18 no. blocks comprised of 8 no. 2 bed & 37 no. 3 bed dwellings.

The development proposal includes for the provision of a community hub measuring circa 101m2 located on the ground floor of the Block D and 2 no. crèches comprised of a 2 storey crèche located in

Block C (measuring circa 321m2) and a 1 storey crèche the ground floor of the Block T (measuring circa 448m2).

Access to the subject site will be from Ballymahon roundabout (on the R915) to the west and Garrycastle roundabout (on the R916) to the east. The development proposal includes for road development works and the construction of an east-west access route through the subject site from Ballymahon roundabout (on the R915) to the west to Garrycastle roundabout (on the R916) to the east. The development proposal provides for pedestrian and cyclist connectivity to Old Rail Trail Greenway to the south.

Proposed Development at Lissywollen

The development proposal includes for the provision of public open spaces, planting, boundary treatments & all ancillary landscape works, public lighting, drainage and attenuation, car & bicycle parking, bin storage, ESB sub-stations and all associated site development works.

Construction Process

The development is proposed to be constructed on the following basis;

- Set up site perimeter hoarding, maintaining existing pedestrian and traffic routes around the site;
- Site Clearance;
- Reduced Level excavations;
- Site services installations (drainage, power, water etc);
- Construct Building Frame and Envelope; and
- Finish Interior and Exterior Landscaping.

The works will be completed on a phased basis and will involve the following:

Site Preparation:

- Erection of Site Boundary Fencing around areas of the site perimeter and the strengthening of the existing boundary fencing.
- Site Access will be via the existing entrance from Garrycastle roundabout.
- Protection of trees and hedges to be retained
- Site clearance of bushes and overgrowth.

Demolition Works:

- There are no existing structures or buildings on site to be demolished.

Construction Works:

- Identification and location of existing services including protection of same.
- The site set up to include site office and the welfare facilities.
- Groundworks including drainage, foundations, kerbing, ducting, watermains, hard and soft surfacing.
- Construction of new residential units including, groundworks and foundations, external and internal walls, roof construction, fitting of windows and doors, external and internal rendering, first and second fixing of all carpentry, electrical and plumbing works, fitting of kitchen and bedroom fixtures, decoration works and landscaping.

CONSTRUCTION TYPE			
Development	**Tick as Appropriate**	**Quantity**	**Units**
Housing		576	No
Commercial (Community & Creche)		3	No
Institutional		N/A	m²
Treatment Works		N/A	m²
Road & Footpath		Dwg's	m²
Parking		Dwg's	No
Services/Ducting/Mains		Dwg's	m²
Parks - Amenities		Dwg's	m²
Drawings/Plans for development to be issued to all contractors			

Proposed Development

Demolition Procedures

Demolition Works Planning

General Safety Issues to Consider:

The two main causes of accidents in demolition have been established as premature collapse and falls. An accident in demolition is much more likely to be fatal than in any other construction work.

Only trained and competent persons are to work on demolition operations and then under the supervision of an appointed competent Supervisor.

All operations must be carried out in accordance with the agreed safe system of work/safety method statement and risk assessment.

Protective clothing, safety helmets, safety footwear with steel mid soles, hi-visibility must be worn by ALL operatives – respirations and eye protection to be provided and used as required.

Suitable barriers and signs must be erected to keep others away from danger. The area, which is being demolished, must be adequately fenced off so as to prevent unauthorised access.

Do not enter a structure or area under demolition unless instructed to do so by the Supervisor when they have deemed the area safe.

Do not work from insecure platforms: where necessary, to gain access, scaffolding, or Mobile Elevated Work Platforms (MEWP's) must be provided and used.

Only International Powered Access Federation (IPAF) trained certificated operatives are allowed to operate MEWP's, evidence of this training must be given to the Project Manager/PSCS prior to work starting.

Carry out a pre-demolition survey, a detailed demolition risk assessment and a demolition method statement.

Do not remove equipment or load bearing parts of the structure unless adequate precautions are taken to ensure no collapse of the structure. Use temporary propping where required – Full temporary work design as applicable.

A detailed safety method statement should stipulate how the building is to be demolished and in what order. The demolition technique to be used should be detailed. Examples of which as follows;

- Piecemeal – by hand – involves working at height which required thorough planning and detailing. Plant and lifting equipment still usually required to remove debris, larger components etc.
- Piecemeal – by machine – Roof structures normally removed by hand to wall plate level. If adjoining other properties, hand demolish to within a 1 metre before using machine.
- Exclusion zones required for machine to operate in alone. Cabs of machines used protected by FOPS. Machine pulls down structure in controlled sequences.
- Preweakening – Structural engineers determined the removal of loadbearing and structural elements to deliberately weaken the structure.
- Deliberate controlled collapse – restricted areas and safe zones must be created.

Demolition can be a dirty job so use the welfare facilities and keep your skin clean especially before eating.

A detailed safety method statement must be understood by all operatives concerned with demolition.

All supervisors and operatives involved in demolition activities to be trained and competent i.e. attained necessary skills and safety awareness to hold a valid Certificate of Competence for Demolition – Labourer, Topman and also valid CSCS card holders for relevant plant operations.

All services into the building must be terminated prior to any work being carried out ensure that any services i.e. electricity, water, gas have been terminated and deemed dead. Written confirmation from the utility company is required. Where disconnection is not possible any pipes or cables MUST be clearly identified.

An asbestos survey will be carried out on the existing buildings in advance of any construction or demolition works. If the presence of Asbestos is identified, then the first step in the demolition process will be to have the asbestos removed by a specialist contractor. Specific Method Statement and Risk Assessments will have to be prepared for this process and submits to the PSCS in advance.

Buildings to be Demolished on Site:

There are NO existing buildings or structures to be demolished.

Assignment of Responsibilities

The Project Manager shall be designated as the responsible person and have overall responsibility for the implementation of the on-site CDWMP. The Project Manager will be assigned the authority to instruct all site personnel to comply with the specific provisions of the plan. At the operational level, the Site Engineers, Foremen and Gangers, shall be instructed on the operational procedures and shall be responsible for ensuring that personnel under their control are complying with the plan.

Training

Copies of the CDWMP will be displayed in the site offices and site canteens for referral by site operatives. Environmental issues, site rules and waste management arrangements will be discussed as part of the Site Safety Induction, which all site personnel must attend. Tool Box Talks will also be held periodically to inform employees of their responsibilities under the plan and current waste management legislation. Any work involving Asbestos or hazardous materials should they be encountered will be undertaken by a specialist contractor who will have provided site management proof of the trainings and competencies of the crew for this work.

Waste Auditing

The Project Manager shall arrange for full details of all arisings, movements and treatment of construction & demolition waste discards to be recorded during the construction stage of the project. Each consignment of C&D waste taken from the site will be subject to documentation, which will conform to the table below and ensure full traceability of the material to its destination.

Detail	Particulars
Name of Project of Origin	Networks Services and Works Contract
Material being Transported	e.g. Soil, Waste Oil, etc.
Quantity of Material	e.g. tonnes
Date of Material Movement	e.g.
Name of Carrier	e.g. Authorised Carriers Ltd.
Destination of Material	e.g. Landfill
Proposed Use	e.g. Landscaping, Hardcore, etc.

Details of the inputs of materials to the construction site and the outputs of wastage arising from the project will be investigated and recorded in a Waste Audit, which will identify the amount, nature and composition of the waste generated on the site. The audit will examine the manner in which the waste is produced and provide a commentary highlighting how management policies and practices may inherently contribute to the production of C&D waste. The measured waste quantities will be used to quantify the costs of management and disposal of waste, which will also record lessons learned from these experiences and which can be applied to future projects.

Estimated Construction & Demolition Waste Arising on Site

Estimates of waste generation during the construction and operational phase of the project have been calculated. The waste types and estimated quantities are based on published data by the EPA in National Waste Reports, data recorded from similar previous developments, Irish EPA waste generation research and other available research.

The waste produced on this project will be surplus soil and timber demolition waste, unsuitable for placement in the works due to either the location of its source or the material not meeting specified

requirements. There will also be packaging material and small amounts off-cuts from plastic pipes/ducts and some small amounts of timber waste from shuttering activities.

Site management with responsibility for ordering of material shall ensure that materials are ordered so that the quantity delivered the timing of the delivery and the storage is not conducive to the creation of unnecessary waste.

HAZARDOUS MATERIALS - Have there been any precondition surveys carried out that have identified Hazardous materials and if so please give details.
There has been no Hazardous material identified on site at the time of drafting this document.

CONSTRUCTION WORKS– ESTIMATED WASTE ARISINGS ON SITE.

In the course of the Project, it is estimated that the following quantities of C&D wastes/material surpluses will arise. The estimations are based on records of previous projects and assuming that the design for the project will ensure all soil arisings will achieve a cut and fill balance.

Waste Type *(EWC Code)*	**Waste Type** *(Description)*	**Volume of waste generated** *(Estimated Tonnes)*	**Waste re-used within the works** *(Estimated Tonnes)*	**Waste exported off-site** *(Estimated Tonnes)*
	Construction and Demolition Waste. *(including excavated soil from contaminated sites)*			
17 01	Concrete, bricks, tiles and ceramics	Nil	Nil	Nil
17 02	Wood, glass and plastic	94T	N/A	92T
17 03	Bituminous mixtures, coal tar, and tarred products	N/A	N/A	N/A
17 04	Metals *(including their alloys)*	6T	N/A	6T
17 05	Soil *(including excavated soil from contaminated sites), stones and dredging spoil*	43746T	10936T	32810T
17 06	Insulation materials and asbestos-containing construction materials	N/A	N/A	N/A
17 08	Gypsum-based construction material	18.4T	N/A	18.4T
17 09	Other construction and demolition waste	86T	N/A	86T

20 01 01	Paper / Cardboard	23T	N/A	23T
20 01	Canteen Waste / Domestic	75T	N/A	75T
13 01	Waste Oil & Oil Filters	0.05	N/A	0.05
20 03 04	Septic Tank Sludge	N/A	N/A	N/A
	TOTAL WASTE	44048.45T	10936T	33110.45T

Soil

Excavated soil will be carefully stored in segregated piles on the site for subsequent re-use or until removed from site for direct beneficial use elsewhere. It is anticipated that surplus soil will be recycled to permitted agricultural disposal areas. Copies of these permits will be maintained in the Site Environmental Managers Office. If it is to be reused on another site as by-product (and not as a waste), this will need to be done in accordance with Article 27 of the EC (Waste Directive) Regulations 2011.

Concrete Blocks, Bricks, Tiles & Ceramics

The majority of concrete blocks, bricks, tiles and ceramics generated as part of the construction and works are expected to be clean, inert material and should be recycled, where possible. If this waste at any time does need to be removed from site it will be stockpiled in a segregated area until it can be collected for recycling by a licensed haulier.

Wood, Glass & Plastics

Timber waste will be kept to a minimum through the re-use of shutters, etc. throughout the job. At the end of the job, most of the timber will be sent on to the next site for re-use. Any timber that cannot be re-used because of poor quality, etc. will be segregated and stored for recycling in a skip. Where possible pallets will be stored for return to the supplier. In the case of hard plastic, it is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Steel

All waste steel, etc. such as off-cuts from reinforcement etc will be stockpiled and at the end of work on each structure, it will be collected for recycling by a scrap steel merchant.

Packaging

Where possible, packaging will be segregated for recycling or returned to the supplier. Any waste stored on site or any other activity carried out on-site must not cause a litter nuisance in a public place. Plastic wastes are highly visible and account for many reports of poor waste management on gas jobs. Some packaging materials are easily carried by the wind and represent a slip hazard, especially when wet. Ensure that all plastic packaging wastes are collected and covered/weighed down as work continues.

Canteen Waste / Domestic Non-Hazardous

A licensed external waste disposal contractor, as required, transports this waste to a licensed tip. Records are maintained of the quantity of domestic waste generated. Containers are also to be provided for gathering plastic bottles, etc. at the main compound.

Fuel Waste

Waste oil, filters, etc. are stored in labelled bunded containers or in a filter bin and will be collected by a licensed oil-recycling contractor (ENVA), as necessary. Records will be maintained of the volumes of waste oil generated.

Hazardous Material

In the unlikely event that any hazardous material if found during construction works it will only be removed by a licensed specialised contractor and will be stored in the interim, as per their instructions and requirements. A Transfrontier Shipment Notification and Final Certificate of Disposal will be obtained by the disposal contractor.

Paper & Cardboard

Office paper, carboard and packaging will be collected in a recycling bin and will be collected by a company for recycling as necessary.

Gypsum Based Construction Materials

There are currently a number of recycling services for plasterboard and gypsum-based construction materials in Ireland. All such material from the construction phase will be stored in a separate skip, pending collection for recycling. The site manager will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Encapsulant Waste

This includes containers of Encapsulant materials including cans, lids, primer bottles and lids, brushes, cardboard boxes and other contaminated materials. These should be bagged and placed with hazardous waste for correct disposal

Waste Water

Any water from excavations, etc. will be pumped into a designated settlement pond where it will be allowed to soak back into the water table.

If there is not room in any area of the site for settlement ponds, the water will be pumped into a filtration bag or use of traps which separates any silt or use a Mechanical system such as the Silt Buster system which also separates the silt.

Any areas of the site where there could be a risk of surface water runoff from the site into a watercourse or drain, we will set up protective silt fencing to protect the watercourse.

Other Wastes

Printer cartridges: These cartridges will be stored in a marked container and brought for re-filling rather than being disposed of.

Domestic Batteries: All used batteries should be kept in a marked container and sent for proper disposal or recycling at the end of the project.

Waste Electrical Equipment: This type of waste must be brought to a licensed disposal site, if required.

Fluorescent Bulbs: All fluorescent tubes and bulbs will be set aside in a designated area and disposed of periodically.

Waste storage

Waste skips will be located in the construction compound. All waste must be segregated and placed in the relevant skip. Skips will be collected by an appointed waste collector and disposed of at the relevant licensed facility.

Typical Site Arrangement for Skips

Proposals for Beneficial Use of C&D Waste Material

Excavated soil and other C&D waste-derived aggregates are considered suitable for certain on-site construction applications including road construction and backfill of drainage lines etc. Where possible and when material is suitable it is intended to reuse as much material within the site boundary as possible.

Estimated Waste Costs

Material	Estimated Quantities & Costs (Tonnes & Euro)
Soil	
Quantity of Waste Soil (Tonnes)	43746
Purchase Cost, i.e. Imported Soil	0
Materials Handling Costs	0
Material Storage Costs	0
Material Transportation Costs	0
Revenue from Material Sales	0
Material Disposal Costs	27 Euro/t
Material Treatment Costs	
Timber	
Quantity of Waste Timber (Tonnes)	94T

Purchase Cost,	40/CUBE
Materials Handling Costs	0
Material Storage Costs	0
Material Transportation Costs	0
Revenue from Material Sales	0
Material Disposal Costs	200 Euro/t
Material Treatment Costs	0
Steel	
Quantity of Waste Steel (Tonnes)	6.2 T
Purchase Cost,	1700/T
Materials Handling Costs	0
Material Storage Costs	0
Material Transportation Costs	0
Revenue from Material Sales	0
Material Disposal Costs	200 Euro/t
Material Treatment Costs	0
Waste Oil	
Quantity of Waste Oil (Litres)	100L
Purchase Cost,	300 Euro
Materials Handling Costs	0
Material Storage Costs	0
Material Transportation Costs	0
Material Disposal Costs	500 Euro
General Waste	
Quantity of Waste (Tonnes)	0.05 T
Purchase Cost,	Varies
Materials Handling Costs	0
Material Storage Costs	0
Material Transportation Costs	0
Revenue from Material Sales	00
Material Disposal Costs	65 Euro/t
Material Treatment Costs	

Proposed Waste Transportation & Destination Facilities

All waste will be documented prior to leaving the site. Waste will be weighed 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 Manager.

All movement of waste and the use of waste contractors will be undertaken in accordance with the *Waste Management Acts 1996 - 2011*, *Waste Management (Collection Permit) Regulations 2007* and Amendments and *Waste Management (Facility Permit & Registration) Regulations 2007* and Amendments. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project manager will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR/permit or EPA Waste/IED Licence for that site will be provided to the nominated project manager If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from South Dublin County Council (as the relevant authority on behalf of all local authorities in Ireland) and kept on-site along with details of the final destination (COR, permits, licences etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

The Project Manager/C&D Waste Manager shall arrange for full details of all arisings, movements and treatment of construction and demolition waste discards to be recorded in our "*Project Waste Traceability Register*" during the construction stage of the Project. Each consignment of C&D waste taken from the site will be subject to documentation, which will conform with the table below and ensure full traceability of the material to its destination. Accordingly, it will be necessary to arrange the following waste authorisations specifically for the project:

Authorisation Type	Specific Need for Project (Y/N?)
Waste Licence	No
Waste Permit	No
Waste Collection Permit	Yes
Transfrontier Shipment Notice	Yes
Movement of Hazardous Waste Form	Yes

Project Waste Tracability Register				
Waste Type *(EWC Code)*	**Waste Type** *(Description)*	**Waste exported off-site** *(Annual amount Tonnes)*	**Authorised Waste Collector and NWCPO number** *(collector tbc prior to commencement)*	**Authorised Waste Facility and licence no.**
17	**Construction and Demolition Waste**. *(including excavated soil from contaminated sites)*			
17 01	Concrete, bricks, tiles and ceramics	Nil	KC Civil Engineering NWCPO-17-11938-01	Callans Sand and Gravel WFP-KE-16-009-0
17 02	Wood, glass and plastic	35T	Callan Recycling NWCPO-14-11366-2	Thorntons Recycling W0044-02
17 03	Bituminous mixtures, coal tar, and tarred products	Nil	Nil	Nil
17 04	Metals *(including their alloys)*	1.6T	Callan Recycling NWCPO-14-11366-2	Thorntons Recycling W0044-02
17 05	Soil *(including excavated soil from contaminated sites), stones and dredging spoil*	Nil	KC Civil Engineering NWCPO-17-11938-01	Callans Sand and Gravel WFP-KE-16-009-0
17 06	Insulation materials and asbestos-containing construction materials	Nil	Barnmore Demolition NWCPO-10-01305-02	RILTA Greenogue W0192-03
17 08	Gypsum-based construction material	8.8T	Callan Recycling NWCPO-14-	Thorntons Recycling W0044-02

			11366-2	
17 09	Other construction and demolition waste	0.2T	Callan Recycling NWCPO-14-11366-2	Thorntons Recycling W0044-02
20 01	Canteen Waste / Domestic	14T	Callan Recycling NWCPO-14-11366-2	Thorntons Recycling W0044-02
20 01 01	Paper / Cardboard	4.6T	Callan Recycling NWCPO-14-11366-2	Thorntons Recycling W0044-02
20 02	Green Waste	12T	Callan Recycling NWCPO-14-11366-2	Thorntons Recycling W0044-02
13 01	Waste Oil & Oil Filters	0.05T	RIALTA Environmental W0185-01	RIALTA Environmental W0185-01
20 03 04	Septic Tank Sludge	0	Nil	Nil
	TOTAL WASTE	71.65T		