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Lorat Trading Ltd

Proposed Development
Main Street, Rathcoole, Co. Dublin

Construction and Demolition Waste Management Plan

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1. Introduction

EDPM Ltd was appointed by Lorat Trading Ltd to prepare this Construction and Demolition Waste Management Plan. This plan will support the planning application for a residential development at Main Street, Rathcoole, Co.Dublin.

The report is prepared at the planning application stage when exact quantities and volumes of waste material have not been determined and is therefore preliminary in nature. The report should be updated post planning as necessary.

The site is located in the centre of Rathcoole, it has a long narrow aspect with a north-south orientation. It is currently used as a commercial premises with customer parking to the rear.

The proposed development will consist of the demolition of some existing structures on site and the construction of 2 apartment blocks which will provide for 21 apartments. The development will also comprise of the refurbishments of three existing cottages to provide for 2 additional units.

The estimated volume of excavated material is 1900m^3, where possible, excavated spoil could be used as fill following appropriate testing. The volume estimates are subject to change at detailed design stage.

2. Legislative Requirements and Objectives

Construction and demolition waste is defined as waste which arises from construction, renovation and demolition activities. Also included within the definition are surplus and damaged products and materials arising during construction work or used temporarily during the construction.

A report of this type is required for any project that is likely to exceed the thresholds set out in the Department of Environment , Heritage and Local Government 2006 publication 'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects. These thresholds are as follows.

- New residential developments of 10 houses or more
- New developments other than the above, including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1250m^2.
- Demolition/ renovation/refurbishment projects generating in excess of 100m^3 in volume of construction and demolition waste
- Civil Engineering projects producing in excess of 500m^3 of waste, excluding waste materials used to development works on site.

As this development is greater than 10 units a Construction and Demolition Waste Management Plan is required. Further, from a pre-planning meeting of the 20th of March 2020, the planners noted that this report is required as part of the planning submission.

The purpose of this report is to provide information necessary to ensure that the management of the waste generated from the construction and demolition at the site is carried out in accordance with current legal and industry standards, which includes inter alia:

- Waste Management acts 1996 – 2011 (Amendments and associated Regulations)
- Protection of the Environment Act 2003
- Litter Protection Act 1997
- Eastern-Midlands Region Waste Management Plan 2015 – 2021
- South Dublin County Council Development Plan 2016-2022
- Designing out Waste: A design Team Guide for Civil Engineering

The report also aims to ensure recycling, reuse and recovery of waste wherever possible and provide guidance on the collection and transport of waste from the site to prevent issues with litter or other more onerous environmental pollution.

The objective of this report is to provide an outline of principals underpinning the preparation of Construction and Demolition Waste Management Plan, the primary objectives are

- Encourage an integrated approach to waste management throughout the project construction stage and delegate responsibilities.
- Promote sustainable waste management in line with the waste management hierarchy.
- Provide an outline plan for the management of wastes arising from construction works for the project in accordance with the relevant legislation
- Provide a framework for the designers and the contractor to appropriately manage waste generated during the course of the project

This report outlines methods to achieve waste prevention, maximum recycling and recovery of waste d provides recommendations for the management of the carious anticipated wastes.The plan also provides guidance on the collection and transport of waste to prevent issues associated with litter or more serious environmental pollution.

The Construction and Demolition Waste Management Plan describes the applicable legal and policy framework for Construction and Demolition waste management nationally and regionally.

3. General Waste Management Framework

General provisions on waste management policy and regulatory framework are set out as follows:

- Construction and Demolition waste can be defined as all waste that arises from construction, renovation and demolition activities, including hazardous and non-hazardous waste types.
- The EU Waste Framework Directive (2008/98/EC), enacted in Ireland under the Waste Directive Regulations (2011), requires Member States to take the necessary measures to achieve the minimum recycling/recovery target of 70% by weight for non-hazardous waste, excluding naturally occurring materials, by 2020. The Directive specifies that such a target sholjd be achieved be preparing for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other material.
- The Eastern-Midlands Region Waste Management Plan was published in May 2015 and the relevant points are:
    - there has been a sharp drop in the number of available operational landfills nationally. Historically these were a significant outlet for Construction and Demolition waste. Therefore, there is a need to maximise diversion of infill of waste and consider alternative uses
    - move towards a circular economy where raw materials have a smaller input and Construction and Demolition waste become raw materials in the design process.
    - The Eastern-Midlands Region Waste Management Plan sets a target of 70% of Construction and Demolition waste reuse and recycling (excluding soil and stones) by 2020
    - The Eastern-Midlands Region Waste Management Plan brings in the concept of upcycling which is the re-purposing of items that are otherwise seen as waste or useless products

The primary legislative instruments that govern waste management in Ireland and are deemed applicable to the project are:

- Waste Management Act 1996 (S.I.No.10 of 1996) as amended by the Waste Management (Amendment) Act 2001. Sub-ordinate legislation includes
    - European Communities (Waste Directive) Regulations 2011 SI 123 of 2011, (as amended (SI 203 of 2011)
    - Waste Management (Collection Permit) Regulations SI No. 820 of 2007 (as amended SI 87 of 2008)
    - Waste Management (Facility Permit and Registration) Regulations, SI 821 of 2007 (as amended SI 86 of 2008)
    - Waste Management (Licensing) Regulations SI 185 of 2000 (as amended SI 395 of 2004 and SI 350 of 2010)
    - Waste Management (Packaging) Regulations SI 61 of 2003 (as amended SI 871 of 2004, SI 308 of 2006 and SI 798 of 2007)
    - Waste Management (Planning) Regulations SI 137 of 1997
    - Waste Management (Landfill Levy) Regulations SI 221 of 2012 (as amended SI 189 of 2015)
    - European Communities (Waste Electrical and Electronic Equipment) Regulations 2011
    - Waste Management (Registration of Brokers and Dealers) Regulations SI 113 OF 2008
    - Waste Management (Food Waste) Regulations SI 508 of 2009 (as amended SI 190 of 2015)
- Protection of the Environment Act 2003 (S.I. No. 413 of 2003)

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

These acts and subordinate Regulations enable the transposition of relevant European Union Policy and Directives into Irish Law.

4. Roles and Responsibilities

All parties involved in the project will have responsibilities relating to waste management, this will vary at different stages throughout the project depending on the agreed project contractual arrangement and project design requirements.

The appointed Contractor will be responsible for implementing this report and combining their own Construction and Demolition Waste Management Plan into the project. The table below sets out roles and responsibilities.

Responsible Party	Responsibility	Project Stage
Client	Appointment of competent Principal Contractor and Design Team	Project inception and tendering stages
	Responsibility of waste management from project inception to completion	All project stages
Principal Contractor	Construction and Demolition Waste Management Plan implementation	Project Implementation
	Refinement of this report at planning stage to a construction stage report	Project Implementation
	Appoint competent and authorized waste management contractors	Project Implementation
	Appoint a competent Waste Manager	Construction phase
Waste Manager	Construction and Demolition Waste Management Plan implementation	Project Implementation
	Ensure objectives of plan are achieved	Construction phase
	Waste characterisation, selection of techniques and design to minimise waste, to maximise recovery and recycle waste during the project.	Project Design Stage and during construction phase
	Maintenance of waste documentation for three years	Post construction stage
	Completion of Final Waste Management Report	Construction stage
Design Team	Identification of key waste streams	Project Design stage
	Design to minimise waste generation in lifecycle of completed construction	Project Design stage
	Design of soil excavation plan	Project Design stage
	Provide for waste management in tender documents and declare all relevant information	Project procurement stage
Sub-contractors	Comply with Construction and Demolition Waste Management Plan	Project Implementation

The principal of waste legislation is 'duty of care', which implies that the waste producer is responsible for the waste from the time it is generated through until its legal recycling., recovery or disposal. As it is not practicable in most cases for the waste produced to physically transfer all waste from where it is produced to the final destination, waste contractors will be employed to physically transfer all waste from site to its point of disposal. The waste producer is responsible for any pollution incidents.

Client must ensure that waste contractors engaged by demolition and construction contractors are legally compliant with respect to waste transportation, recycling, recovery and disposal. This includes the requirement that a contractor handles, transports and recycles/recovers/disposes of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

Each waste contractor must have a collection permit. Waste receiving facilities must also be appropriately permitted of licenced.

5. Waste Hierarchy

Aside from the requirements that the off-site handling of waste generated by this project are subject to the required statutory instruments under the Waste Management Act, there is also a necessity that it conforms to the waste hierarchy. This outlines that waste prevention and minimisation are the priority in managing wastes, followed by waste reuse and recycling with disposal being considered as a last resort.

The EU Waste Directive also mandates that hazardous waste generation should be avoided of at least limited.

Definitions in the Waste Framework Directive of key terms are (in order of priority)

- Prevention – includes measures taken before a substance, material or product has becom waste, that reduce the quantity of waste, including through the reuse of products or the extension of the lifespan of products, the adverse impacts of the generated waste on the environment and human health or, the content of harmful substances in material and products
- Reuse – as defined as any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.
- Recycling – as any recovery operation by which waste materials are processed into products, material or substances whether for the original of other purposes. It includes the reprocessing or organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels of for backfilling operations
- Recovery – is defined as any operation, the principal result of which is waste serving a useful propose by replacing other material which would be otherwise have been used to fulfil a particular function, or waste being prepared to fulfil the function.

The Waste Hierarchy only applies to materials that is defined as 'waste', so does not apply to the proportion of the spoil that is handled on-site in conformity with the statutory exclusions.

The Waste Management Hierarchy will be activated for any material which does not satisfy the exclusions. In this regard the contract documents for the detailed design/construction project will set out the staged approach which the contractor will be required to adhere to through the use of the Waste Hierarchy.

The following waste limiting measures should be implemented during the course of the construction works.

- Facilitate recycling and appropriate disposal by on site segregation of all waste materials generated during construction into appropriate categories, including:
  - topsoil, subsoil, gravel, hardcore
  - concrete, bricks, tiles, ceramics, plasterboard
  - asphalt, tar and tar products
  - metals
  - dry recyclables, cardboard, plastic, timber
- All waste assessed by the Waste Manager as 'not suitable for reuse' will be stored in skips or other suitable receptacles in a designated area of the site, to prevent cross contamination between waste streams, dispersion and leaching.
- Where ever possible, leftover materials and any suitable demolition materials will be reused on site
- Uncontaminated excavation material will be segregated, stockpiled and reused on site in preference to importation of clean fill

- Where possible, the Waste Manager will ensure that all waste leaving site will be recycled or recovered.

6. Waste Identification, Classification, Quantification and Handling

The majority of waste generated will be soil excavated during the course of construction works. If appropriate reuse be required and practical, clean soil will be retained on site and reused in areas of soft landscaping and backfilling. A record of the volumes and reuse requirements will be maintained by the Contractor

There is the potential for small amount of asbestos containing materials to be present within the onsite buildings. This will be assessed during the preliminary works and a management plan put in place for their safe removal and disposal during demolition if necessary.

During the construction phase, there will be some building material and packaging waste generated. This will include excess ready mix concrete and mortar, timber cut offs, plastics, metal cut off, cladding and tile cut offs, as well as plastic and cardboard waste from packaging and potential over-supply of materials

Where possible, individual waste deposits shall be identified, classified and quantified, by weight and volume where appropriate, as early in the project lifecycle as possible Unanticipated wastes may occur as site work progresses. This will necessitate a need for procedures for waste classification as the works proceed.

It is anticipated that the majority of non-hazardous and inert waste generated will be suitable for reuse, recovery and recycling and will be segregated to facilitate the reuse, recovery and/or recycling.

A non-exhaustive list of anticipated wastes from the construction phase and preliminary classification as either hazardous or non-hazardous is itemised in the table below.

Hazardous waste	Non-hazardous waste
Excess electrical and electronic components	Asphalt
Liquid fuels	Metals
Batteries	Wood
Brick and stone (contaminated with dangerous substances)	Brick and stone (not contaminated with dangerous substances)
Concrete (contaminated with dangerous substances	Concrete (not contaminated with dangerous substances)
Excavated soil (contaminated with dangerous substances)	Excavated soil/fill (not contaminated with dangerous substances)
Other construction and demolition wastes containing dangerous substances	Municipal waste

Wastes arising from the project will be segregated, identified and classified by the Contractor in accordance with applicable waste regulations and guidance.

Wastes shall not be removed from the site until properly classified, assigned and all appropriate tracking and disposal documentation is in place

For each waste stream identified and classified, and for each waste stream that may arise during the course of the works, the following shall be identified and documented by the Contractor in their Construction and Demolition Waste Management Plan:

- An appropriate waste classification code Where a waste type is considered a mirror entry, the classification of materials as non-hazardous and/or hazardous waste will be determined based on the www.hazwasteonline.com web-based waste assessment system (as recognised by the Environmental Protection Agency) and using Waste Acceptance Criteria as accordance with the European Communities Council Decision 2003/33/EC, which establishes a criteria for the acceptance of waste at landfills.
- A suitable Waste Collection Contractor in possession of a valid Waste Collection Permit for the collection of waste within the South Dublin County Council area

- Appropriate waste recovery, recycling or disposal facilities, including any required transfer stations whereupon the said facilities shall be in possession of a valid Waste Facility Certificate of Registration, permit or Waste Licence as appropriate

Where any material is being recovered onsite or offsite for reuse, the Contractor will provide confirmation of any application to the EPA under Article 27 or Article 28 to classify material as a by-product or as end of life waste respectively and final reconciled waste quantities generated, including details of waste disposal, reuse and recovery quantities.

Wastes generated during the works will be segregated and temporarily stored on site (pending collection or for reuse on site) in accordance with a pre-determined segregation and storage strategy (to be developed by the Contractor as part of their Construction and Demolition Waste Management Plan).

The following minimum segregation and storage strategy requirements will be detailed:

- Waste streams will be individually segregated and all segregation, storage and stockpiling locations will be clearly delineated on site drawings.
- Waste storage, fuel storage and stockpiling and movement are to be undertaken with a view to protecting any essential services and to protect existing ground water quality
- Roles and responsibilities of those managing the segregation and storage areas will be identified.
- The waste storage area should contain suitably sized containers for each waste stream and will be agreed with the waste collectors in advance of the commencement of the project.
- All segregation and waste storage areas will be inspected regularly by the appointed Waste Manager.
- Waste will be stored on site, including metals, asphalt and soil stockpiles, in such a manner as to:
  - prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour/pest control measures)
  - maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent reuse, recycling and recovery
  -prevent hazards to site workers and the general public during construction

Under the Waste Management (Collection Permit) Regulations 2007, a collection permit to transport waste, which is issued by the National Waste Collection Permit Office, must be held by each waste collection contractor.

Waste may only be treated or disposed of at facilities that are licensed of permitted to carry out that specific activity (recovery, chemical treatment, landfill, incineration) for a specific waste type.

Operators of such facilities cannot receive any waste unless they are in possession of a Certificate of Registration or waste permit granted by the relevant Local Authority under the Waste Management (Facility Permit and Registration) Regulations 2007 or a waste license granted by the EPA. The certificate of registration/permit/license held will specify the type and quantity of waste permitted to be received, stored, recycled, recovered and/or disposed of at the specified site

Records of all waste movements and associated documentation should be held at the site. Record management and maintenance will be the responsibility of the Contractor.

7. Soil Management

Project works will result in the excavation of soils as part of the site development. Current cut/fill projections estimate 1900m^3 of excavated material and 1350m^3 of fill material. These figures will be subject to change at detailed design stage.

Prior to detailed design stage, and intrusive site investigation will be carried out to inform soil waste management. This will highlight any localised hotspots of contamination encountered during the site investigation. It is also possible that other areas of contaminated materials may be encountered during the construction stage.

Taking the above into consideration, the Contractor will, as part of their Construction and Demolition Waste Management Plan, prepare a project-specific Soil Management Plan, which will detail the following as a minimum:

- Detail prior and post excavation methodologies to classify waste soil for appropriate disposal in accordance with the relevant legislation and guidance
- Identify reuse requirements and soils suitable for reuse on site in consultation with the design team, including assessment methodology to determine which soils are suitable for reuse onsite.
- Site management procedures, including waste reduction, stockpile management, temporary storage procedures, waste license requirement
- Waste Management documentation, including waste generation record keeping, waste transfer notes, confirmation of appropriate disposal and details of any reject consignments.

The Construction and Demolition Waste Management Plan developed by the Contractor will detail relevant procedures including further environmental sampling, testing and assessment requirements, sampling protocols and sample density targets to supplement the existing soil data.

Where any hotspots of potential contamination are encountered, and prior to disposal, further assessment will be under taken by a suitably qualified environmental specialist to determine the nature and extend of the remediation required.

Where the Contractor proposed to reuse excavated soil within the works, i.e as backfill, and where backfill is permitted in accordance with the relevant legislation, the Contractor shall set out their proposal for its management, documentation and reuse. This should include the following:

- Define the criteria by which the suitability of the soils for reuse will be assessed and the engineering requirements for the material to be used within the works.
- Delineation of areas where excavated soil is intended for disposal off-site as waste and where it is untended for reuse on site.
- Identification and recording of the location from where the soil will be excavated and its proposed reuse location and function.
- Engineering assessment to confirm its suitability for reuse
- Any proposed treatment or processing required to enable its reuse as well as any associated treatment permits or licences required.

Where appropriate, excavated soil and material intended for recovery or disposal offsite shall require appropriate waste classification in order to select and appropriate receiving facility for the waste.

Assessment of the excavated material shall be carried out with regard to the following guidance and legislation:

- EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of Directive 1999/31/EC (2002)
- Regulation (EC) n. 1272/2008 the classification, labelling and packaging of substances and mixtures (CLP).
- Environmental Protection Agency document entitled Guidance on Waste Acceptance Criteria at Authorised SOIL Recovery Facilities.
- Environmental Protection Agency document entitled Waste Classification: List of Waste and determining if waste is Hazardous or Non-Hazardous
- UK Environmental Agency Technical Guidance WM3: Waste Classification – Guidance on the classification and assessment of waste
- Any other information that may be applicable at the time of disposal

Waste soil and material intended for offsite disposal, recycling or recovery shall not be removed from site prior to appropriate waste classification and receiving written confirmation of acceptance from the selected waste receiving facility.

In order to minimise potential traffic impacts of excavation activities, truck movements will be limited to designated routes and movements during peak hours will be avoided as far as possible. Details of such provisions should be included Construction and Demolition Waste Management Plan developed by the Contractor and any traffic management plan as appropriate.

Soil stockpiles may be generated as part of the operations. The contractor should consider the following measures to ensure that stockpiles are managed in and appropriate manner;

- A suitable temporary storage area shall be identified and designated
- All stockpiles shall be assigned a stockpile number
- Stockpiles shall not be positioned adjacent to ditches, watercourses or existing or future excavations
- Contaminated or potentially contaminated soil shall be stockpiled only on hard-standing or high-grade polythene sheeting to prevent cross-contaminated of the soil below
- Soil stockpiles shall be covered with high-grade polythene sheeting to prevent run-off of rainwater and leaching of potential contaminants from the stockpiled material generated and/or the generation of dust.
- Mixing of unclassified stockpiles of different origin, or of stockpiles having different classification should not be carried out. When a stockpile has been sampled for classification purposed, it shall be considered to be complete and no ore soil shall be added to that stockpile prior to disposal.

An excavation/stockpile register shall be maintained on site showing at least the following information:

- Stockpile number
- Origin (location and depth of excavation)
- Approximate volume of the stockpile
- Date of creation
- Description and Classification of the material
- Date sampled
- Date remove from site
- Disposal/recovery destination
- Photographic record

8. Hazardous Materials Waste Management

An undetermined volume of hazardous waste may be generated during the construction stage. Where hazardous waste is generated, the Contractor should undertake the following:

- Immediate notification of the nature of the hazardous waste to the Design Team in writing.
- Submission of a revised Construction and Demolition Waste Management Plan detailing the nature and management of the hazardous waste prior to off-site disposal.
- Should asbestos containing material be encountered during excavation works, the Contractor should establish a specific procedure for the management of asbestos waste that may arise during the construction works. The management of such wastes shall be co-ordinated with the Client representative and in accordance with the Safety and Health Plan for the overall works to ensure protection to personnel within the construction site and local residents against exposure to asbestos
- Prior to commencement of any asbestos removal works, the Contractor shall identify a suitable Waste Collection Contractor with a Waste Collection Permit for the transfer of asbestos wastes from the site

9. Waste Management Documentation

A Waste Documentation System should be prepared by the Contractor and included in their Construction and Demolition Waste Management Plan. The Contractor should be responsible for implementation and auditing the Waste Documentation System on a regular basis. The Clients representative may also undertake verification auditing.

The documentation to be maintained should be as follows

- The names of the agents(s) and transporter(s) of the waste.
- The names(s) of the person(s) responsible for the ultimate recycling, recovery or disposal of the wastes.
- The ultimate destination(s) of the wastes
- Written confirmation of the acceptance and recovery, recycling of disposal of any waste consignments.
- The tonnages for all waste materials.
- Details of any rejected waste consignments.
- Waste Transfer Forms for hazardous wastes transferred from site
- Completed Transfrontier Shipment Forms for hazardous wastes transferred abroad
- Written documentation of waste classifications, including related analyses
- Certificates of recycling, recovery, reuse or disposal for all wastes transferred from site

All waste records should be maintained for at least a period of three years and must be subject to verification and validation.

All waste documentation should be maintained by the Contractor and made available for inspection, this should be stored on site during project implementation.

Allowance of time and resources should be made to collate outstanding waste records once the project has been completed

10. Waste Audits

Details of the inputs of materials to the project and the outputs of wastage arising from the project should be investigated and recorded in a Waste Audit undertaken by the Contractor.

This audit will identify the amount, nature ad composition of the waste generated on the site. The Waste audit will examine the manner in which the waste is produced and will provide a commentary highlighting how management policies and practices may inherently contribute to the production of demolition wastes.

The Contractor will be responsible for undertaking regular waste auditing. The Design Team may undertake verification audits to review the findings of the Contractors audits during the course of construction.

The Construction and Demolition Waste Management Plan developed by the Contractor should be considered as a live document with regular reviews and update informed by audits.

11. Waste Management Plan Awareness and Training

Copies of the Construction and Demolition Waste Management Plan and the Contractors Site Waste Management Plan should be made available to all personnel on site

All site personnel and sub-contractors should be instructed about the objectives of these plans and informed of the responsibilities which fall upon them as a consequence of its provisions. Where source segregation and selective material reuse techniques apply, each member of staff should be given instructions and training on how to comply with the Construction and Demolition Waste Management Plan developed by the Contractor

Site signage should be placed to display key messages within the plan for the benefit of site staff. Specialist training should be provided as required.