Construction Environment Management Plan

Waste Recovery Facility

Unit 518B, Grants Crescent, Greenogue Business Park, Rathcoole, Co. Dublin

Thorntons Recycling

SWECO

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1. Construction Environment Management Plan

1.1 Introduction

This Construction Environment Management Plan (CEMP) has been prepared in support of proposed development at Unit 518B, Greenogue Business Park, Rathcoole, Co. Dublin (D24 NY97) by Padraig Thornton Waste Disposal Limited t/a Thorntons Recycling (hereinafter referred to as Thorntons Recycling). The proposed development includes the construction of a new waste handling building to support a proposed increase in the waste capacity of the existing waste recovery facility.

The project is at the early design stage and an Environmental Impact Assessment Report (EIAR) and planning application have been prepared for submission to South Dublin County Council (SDCC) for the proposed development. This CEMP reflects the current project stage and will be finalised upon appointment of the contractor for the construction works, subject to grant of planning permission.

1.2 Purpose

This CEMP sets out the approach that should be used by the Contractor, when appointed, to finalise this CEMP prior to the commencement of construction.

The objective of the CEMP is to set out the minimum requirements for mitigation, monitoring, inspecting, and reporting during construction. This ensures that all potential environmental impacts identified are fully addressed by the appointed Contractor and suitable measures and controls are implemented.

The CEMP has been prepared in conjunction with the Environmental Impact Assessment Report (EIAR), having regard to consultations with a range of specialists. This CEMP must be read in conjunction with the EIAR.

1.3 Structure

This CEMP is divided into the following sections:

- Section 1 – Introduction
- Section 2 – Proposed Development
- Section 3 – Environmental Management Framework
- Section 4 – Existing Environmental Site Conditions
- Section 5 – Environmental Management.

2. Proposed Development

2.1 Introduction

The proposed development includes the construction of a new waste handling building in addition to the use of two existing buildings onsite and associated infrastructure. On completion of the proposed new building, the overall Unit 518B will continue to be operated as a waste recovery facility. The proposed development provides for an increase in the annual waste intake to 20,000 tonnes.

The site of the proposed development is Unit 518B within the Greenogue Business Park and is located approximately 14.5 km southwest of Dublin City Centre, 2 km north of Rathcoole and 2 km east of Newcastle. Greenogue Business Park consists of light industrial and commercial warehouses and encompasses approximately 350 acres along with the adjacent Aerodrome Business Park.

Unit 518B is a 0.26 ha site located to the north of the Greenogue Business Park. The site location within the Business Park is shown in Figure 2.1

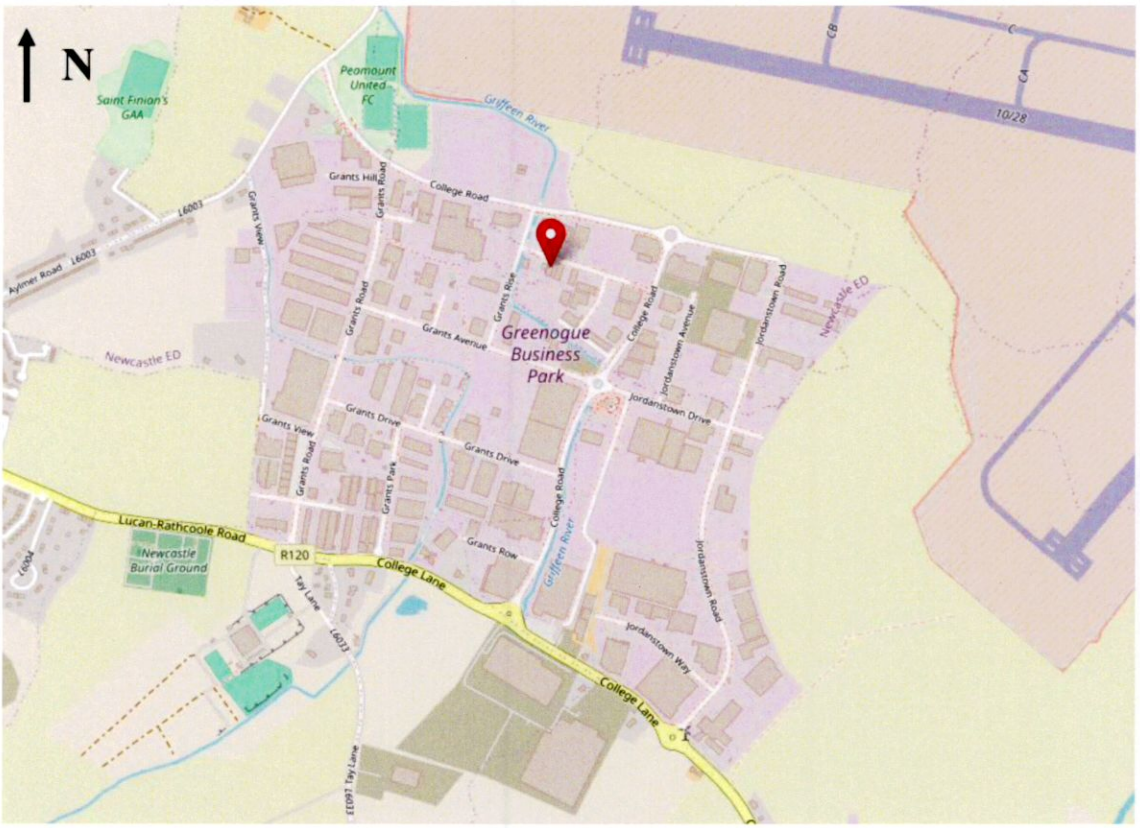

Figure 2.1: Site Location Map – Unit 518B, Greenogue Business Park

Within the site, the new building ('Building C') will be sited to the southern end of Unit 518B, behind two existing buildings as shown in Figure 2.2.

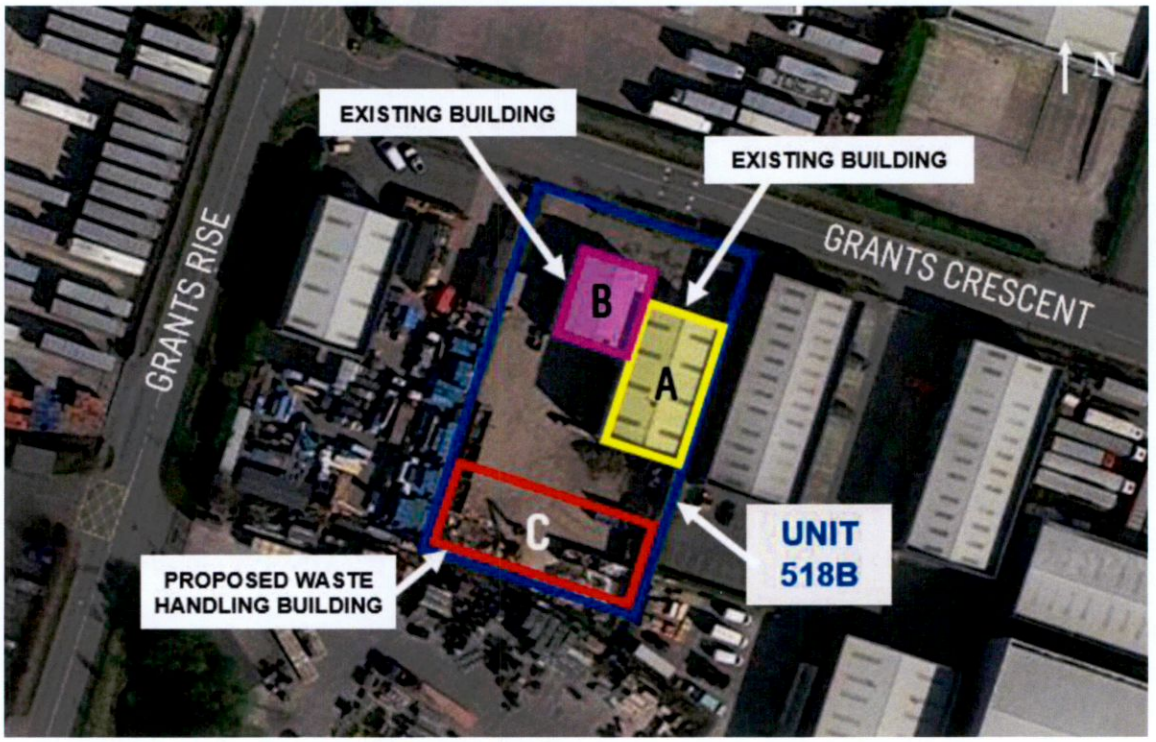

Figure 2.2: Site Overview

2.2 Construction

2.2.1 Introduction

The proposed development primarily consists of the construction of a new waste handling building ('Building C') at the south (rear) of the site. The new building will consist of a steel portal framed structure with a 3 m high concrete push wall.

The construction is scheduled for approximately 8 weeks and is due to commence in Q4 2022 subject to grant of planning permission.

The existing yard slab will be retained as the floor for the new building which will limit the foundation works to excavation of the building perimeter. Limited shallow excavation works will also be required for the reconfiguration of the surface water drainage.

On completion of the foundation and drainage works, the yard and floor area excavated will be reinstated. The concrete push walls, steel structure and roof installation works will then be constructed. There will be limited internal works (electrical cables, etc.).

Cladding and elevation treatment works will be carried out on the existing building ('Building B'). Minor civil works including the reconfiguration of the existing parking surfaces, installation of bicycle parking and enhancement of the site boundary landscaping will complete the construction phase.

2.2.2 Working Hours

The core construction on-site working hours are proposed as follows and shall be reviewed based on the conditions of planning permission (if granted):

- Monday to Friday 8.00 a.m. to 7.00 p.m.
- Saturdays from 8.00 a.m. to 4.00 p.m.

The provisional construction schedule is set out in Table 1 below.

Table 2: Provisional Construction Schedule

Stage	Estimated Duration	Schedule
Foundations & Drainage Works	2 weeks	Q4 2022
Erection of New Building C **Building A – Cladding & Elevational Treatment**	4 weeks	Q4 2022
Minor Civil Works / Site Finishes	2 weeks	Q4 2022 / Q1 2023

2.2.3 Construction Facilities

Access to the existing onsite office, kitchenette and toilet facilities will be made available for use by the construction personnel. The existing building 'B' will be provided to the construction contractor for use as a store and compound for the duration of the construction works. All construction parking will be accommodated within the existing site boundary.

2.2.4 Good Housekeeping

Through all stages of the construction phase the contractor will ensure that good housekeeping is maintained at all times and will include.

- General maintenance of the work area and storage areas;
- Maintaining all plant, material and equipment required to complete the construction work in good order;
- Effective prevention of oil, grease or other potential pollutants being discharged;
- Provision of appropriate waste management and collections to be arranged;

  Effective prevention of infestation from pests or vermin by ensuring the appropriate use of on-site kitchen facilities and arrangements for regular disposal of food and material attractive to pests;
- The use of less intrusive noise alarms which meet the safety requirements, such as broadband reversing warnings, or proximity sensors to reduce the requirement for traditional reversing alarms;
- Material handling and/or stockpiling of any materials will be appropriately located to minimise exposure to wind. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.

2.2.5 Security

The existing site fencing will be maintained and all gates will be locked each evening.

2.2.6 Emergency Response

A list of emergency contact numbers is provided in Table 2. A copy of these contacts will be included in the Construction Health and Safety Management Plan and displayed in appropriate locations on-site.

All major medical cases will require professional medical help (via ambulance). If a minor medical injury occurs on-site, a qualified first aider may assist and the injured party should be transported for medical attention.

In the event of an emergency 999 should be dialled immediately.

Relevant emergency services details are outlined in Table 2.

Table 2: Emergency Services Contact Details

Emergency Service	Address	Phone
Tallaght University Hospital Accident & Emergency	Tallaght Hospital, Belgard Square North, Tallaght, Dublin 24	+353 1 414 2000 999 or 112 in an emergency
Ambulance	-	999 or 112
Rathcoole Garda Station	Main St., Rathcoole, Co. Dublin	+353 1 666 7900 999 or 112 in an emergency
Tallaght Fire Station	Belgard Rd., Dublin 22, D22 RD68	+353 1 222 4000 999 or 112 in an emergency

To aid prevention of illness or injury due to the weather or elements, all personnel on site will have access to shelter and heat, a potable water supply and undergo site briefings at the start of each working day to be informed of the days weather and any weather warnings with the potential to impact the works.

Environmental Emergency Procedures

The contractor will ensure an emergency preparedness and response plan, including spillage and dust/silt control response procedures, are prepared prior to the commencement of construction.

3. Environmental Management Framework

3.1 Introduction

The contractual arrangements for the construction of the new building and associated ancillary infrastructure are to be finalised subject to grant of planning permission. The contractor for the works will be contractually bound by any conditions arising from the planning permission in addition to the commitments and mitigation measures set out in the EIAR. Prior to the commencement of construction, the CEMP will be finalised by the contractor and approved by Thorntons Recycling.

3.2 Roles and Responsibilities

The anticipated roles and responsibilities involved in the management of environmental aspects during the construction works area set out hereunder.

3.2.1 Employer

Thorntons Recycling will be responsible for ensuring that competent parties are appointed to undertake construction and that sufficient resources are made available to facilitate the appropriate management of risks to the environment.

3.2.2 The Contractor

The appointed Contractor will be responsible for the organisation, direction and execution of environmental related activities during the construction of the proposed development. The Contractor is required to undertake all activities in accordance with the relevant environmental requirements including the consent documentation and other regulatory and contractual requirements.

A Site Manager will be appointed by the Contractor to oversee the day-to-day management of working areas within the site and ensure that effective, safe, planned construction activities are delivered on an ongoing basis. The Site Manager will be suitably qualified to ensure that all work is compliant with the relevant design standards and health and safety legislation.

3.2.3 Environmental Co-ordinator

The Environmental Co-ordinator will be responsible for:

- Managing the requirements of the CEMP during the construction phase;
- Conducting regular environmental inspections and audits as specified in the contract and checking adherence to the CEMP;
- Ensuring that construction occurs in accordance with the relevant environmental requirements and that such compliance is adequately recorded and documented;
- Having a detailed level of knowledge on all aspects of environmental information associated with the proposed development;
- Dealing with environmental complaints; and
- Managing and responding to environmental incidents and ensuring that all incidents are recorded and reported in an appropriate manner.

3.3 Communication Procedures

3.3.1 Stakeholder Engagement

The Contractor will take all reasonable steps to engage with stakeholders in the local community, focusing on those who may be affected by the construction works including nearby businesses.

3.3.2 Enquiries and Complaints

The Environmental Co-ordinator will be responsible for responding to complaints or enquiries to ensure that they are investigated and dealt with in a timely manner. All enquires will be recorded and a log will be maintained to include details of the response and action taken. This will be available upon request for inspection by South Dublin County Council (SDCC) and regulatory authorities. All enquiries, whether a query or a complaint, will be dealt with in a timely manner.

3.3.3 Training

Training related to environmental issues shall be identified and undertaken by the Contractor and ensure all staff are aware of issues relating to potential environmental impacts.

3.3.4 Environmental Records

The following records shall be maintained by the Contractor:

- Training;
- Monitoring;
- Method Statements;
- Procedures.

3.3.5 Auditing and Reviews

Given the proposed construction period of 8 weeks, a minimum of two audits of the CEMP will be carried out. The audits will check that all necessary documentation and procedures are in place. Records of the reviews will be maintained with the findings of the reviews reported to the Project Manager and other members of the Contractor's team as required.

3.4 Existing Environmental Site Conditions

3.4.1 Geological and Hydrogeological Conditions

According to the Geological Survey of Ireland (GSI), the proposed development is underlain by Calp limestone and shale of the Lucan formation, which comprises of dark grey argillaceous and cherty limestone and shale.

The underlying aquifer is classified as a Locally Important Aquifer (LI) (bedrock which is moderately productive only in local zones) and extremely vulnerable aquifer.

3.4.2 Hydrological Conditions

The site is located within Hydrometric Area 09 (known as Liffey and Dublin Bay in the Liffey_SC_090 sub catchment.

The Baldonnel watercourse runs to the south of the site and west of the adjacent Unit 518A. It flows in a northerly direction to meet the Griffeen River (code: IE_EA_09L012100), a tributary of the River Liffey. The Griffeen river continues northwards to meet the River Liffey at Lucan, approximately 8.5 km downstream of the proposed development site.

The watercourse in the vicinity of the site for the proposed development is not subject to tidal influences.

The most recent ecological assessment for the Griffeen river was in 2019, which resulted in a Q-value of 3 (poor ecological conditions). Poor ecological conditions were recorded in Lucan (0600) in August 2019. The WFD 2013 – 2018 Status for the Griffeen River is 'moderate'.

The proposed development is rated as a 'less vulnerable' development by the Flood Management Guidelines under the Category 'Commercial/Industrial' and would therefore be classed as appropriate development within a Flood Zone B area. The proposed new building will not be constructed over the southern site boundary area which has been identified as an area with a slight risk of inundation in a 1 in 100-year return period flood event (Flood Zone A), therefore there are no flood risks to consider for that event.

There is a risk of flooding elsewhere in the 0.1% AEP flood event due to the proposed location of the new building within the flow path of flooding in this event.

3.4.3 Ecological Conditions

The existing site has the following limited habitats:

- **Buildings and Artificial Surfaces BL3:** the majority of the site is classified as this habitat. The buildings and artificial surfaces are a manmade habitat that are evaluated as not important;
- **Recolonising Bare Ground ED3:** This is a thin strip (up to 2 m in width) of recolonised bare ground in several places along the perimeter of the site. This habitat type is heavily modified with a species assemblage that is composed of widespread and commonly occurring species. This habitat type is considered important at the site level;
- **Hedgerows WL1:** The perimeter of the site, in particular to the front (north) and side (west), inside the gate of the site has large sections of hedgerow. Hedgerow habitats on this site are non-native and heavily managed and widespread in the wider area of the industrial park. This hedgerow would be evaluated as important at the site level;
- **Dry Meadows and Grassy Verges GS2:** A narrow strip of grassy verge borders one of the existing buildings (Building B) on its north side. This habitat has a species assemblage that is composed of widespread and commonly occurring species. Dry meadows and grassy verges would be evaluated as important at the Site level.

There are no Natura 2000 sites within the zone of influence of the proposed development. There are no Proposed Natural Heritage Areas (pNHAs) / Natural Heritage Areas (NHAs) within the zone of influence of

the proposed development. There is also no ecological or hydrological connectivity between the Site and any pNHA / NHA.

3.4.4 Archaeological & Cultural Heritage

There are no monuments with UNESCO world heritage status, National Monuments, protected structures, or structures listed in the National Inventory of Architectural Heritage (NIAH) within or adjacent to the proposed development.

The sub-surface archaeological potential is considered to be low to negligible due to the proposed development being on a brownfield site (already constructed), with the site devoid of topsoil.

3.5 Environmental Management

This section describes the specific environmental requirements identified as part of the preliminary design and EIAR will need to be adhered to by the Contractor.

3.5.1 Traffic and Transportation

The contractor is required to implement the following measures in relation to traffic and transportation during construction:

- The Construction Traffic Management Plan submitted with the planning application will be updated for the agreement of the planning authority;
- The start time for construction works will be 07:00-07:30 or after the peak hour identified (07:45-08:45) to minimise the impact of construction traffic on the local road network;
- A truck inspection and maintenance plan will be implemented.

3.5.2 Noise and Vibration Management

The Contractor will take specific noise abatement measures and comply with the recommendations of BS 5228-1 and 2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites: Noise and vibration* (BSI, 2014) and the *European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001* (EC, 2001).

The following specific measures will be implemented during the construction phase to ensure noise and vibration effects are minimised:

- Using 'silenced' plant and equipment;
- Switching off engines where vehicles are standing for a significant period of time;
- Fitting of acoustic enclosures to suppress noisy equipment as appropriate;
- Operating plant at low speeds and incorporating of automatic low speed idling;
- Selecting electrically driven equipment in preference to internal combustion powered, hydraulic power in preference to pneumatic and wheeled in lieu of tracked plant;
- Properly maintaining all plant (greased, blown silencers replaced, saws kept sharpened, teeth set and blades flat, worn bearings replaced, etc.);
- Considering the use of temporary screening or enclosures for static noisy plant to reduce noise emissions as appropriate; and
- Certifying plant to meet any relevant EU Directive standards.

Should any non-routine activities be identified, that would make it impracticable to work to the target criterion, provisions would be set out in advance and with the agreement of SDCC, to reduce the effect.

For any proposed construction works to be undertaken outside of the permitted working day, particularly at night, prior consent would be sought from SDCC. Dispensation procedures for works would be agreed in advance with the local authority and included within Construction Method Statements.

Deliveries and removal of material off-site, would be subject to the following controls:

- Ensuring that construction traffic is parked off the public roads;
- Controlling the departure of trucks from Site to avoid congestion; and
- Implementing traffic management systems at the entrance to the site of the proposed development at all times to control the traffic into and out of the site.

3.5.3 Air Quality & Climate

Emissions to air during construction will occur, although the prevailing weather, the extent of the works and the distance from sensitive receptors will determine the extent of the effects. The focus of the control procedures will therefore be to reduce the generation of airborne material. Best practice dust control procedures will be deployed at the site during construction to include:

- Truck loads will be covered when carrying material likely to generate dust;
- Excavated material will be deposited directly into a skip and covered;
- Control of vehicle speeds, speed restrictions and vehicle access;
- Sweeping of hard surface roads and yard area;
- A water bowser will be kept on-site and haul roads will be regularly sprayed; and
- Public roads in the vicinity of the proposed development will be inspected and clean when necessary.

The following mitigation measures will be implemented during the construction phase of the development to minimise CO_2 emissions:

- The Construction Traffic Management Plan (CTMP) will be implemented in full. This will minimise trip generation and encourage car sharing and the use of public transport, insofar as practicable;
- Materials will be handled efficiently on site to minimise the waiting time for loading and unloading, thereby reducing potential emissions;
- Engines will be turned off when machinery is not in use; and
- The regular maintenance of plant and equipment will be carried out.

3.5.4 Site Drainage Management Plan

During construction the following control measures will be implemented:

- Materials brought on site will be suitably covered where there is a risk of wind-blown sediments escaping from imported or exported material;
- Hard road surfaces will be swept;
- Parking of vehicles will be limited to a designated area;
- Any fuels or oils stored on site will be bunded;
- Any stockpiled material will be covered;
- Construction personnel will use the existing sanitary facilities on site;
- Construction works will be suspended in an extreme flood event.

Any entrainment of suspended solids in surface water runoff will be captured in the existing underground attenuation tank which would act as a catchpit, thereby avoiding any silt-laden runoff continuing on into the main surface water drainage storm system along Grants Crescent which in turn discharges to the culverted Baldonnell Stream. The existing petrol interceptor would capture hydrocarbons arising in the event of accidental spills of fuels and oils thus avoiding such pollutants being conveyed into the main drainage storm system.

The attenuation tank will be required to be inspected and cleaned out before the operational phase if it is found that accumulation of silt has occurred within the tank. The petrol interceptor shall be maintained in accordance with the manufacturer's instructions.

3.5.4.1 Spillage and Leakage Response

In the event of the spillage of polluting materials, immediate action will be taken to contain the spillage. The spillage will be reported to the Site Manager who will assess the situation and decide on the most appropriate course of action. The action taken will depend upon the size and location of the spillage in relation to sensitive receptors and the nature of the spilled material.

Action taken can include some or all of the following:

- If possible, the leak will be stopped;
- If it safe to do so, the cause of the spill or leak will be isolated, and/or moved to a bunded area;
- If the spillage is small, spill granules will be used as soon as is practicable to prevent the spill spreading. The area will be cleared, and all contaminated material will be sent to an appropriately licensed site for disposal;
- If the spill is larger, inert materials such as clay or sand will be used to make a containment bund and specialist help will be sought to assist in clean up;
- If a vehicle is found to be leaking, it should be moved to a position where the spillage can be contained i.e., quarantine area, or other hard surfaced area, if it is safe to do so.

3.5.4.2 Flooding

The Contractor will consider the effects of extreme weather events and related conditions during construction. The Contractor will use a short to medium range weather forecasting service from Met Eireann or other approved meteorological data and weather forecast provider to inform short to medium term programme management, environmental control and mitigation measures.

3.5.5 Groundwater & Soils

The following mitigation measures for the protection of the soil, geological and hydrogeological environment underlying the site of the proposed development and its environs have been identified.

Earthworks

Earthworks will be limited to the area of the foundations for the new waste handling building in addition to trenches excavated for new services, including surface water drainage pipes. Although there is no evidence or likely source of contamination in the area, excavated materials shall be visually assessed for signs of possible contamination such as colour / staining or odour. Should any visual anomaly or odour be observed, samples of this soil shall be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the excavated soil excavated is contaminated, this material shall be sent offsite for appropriate recovery or disposal at a suitably authorised facility.

Concrete

All ready-mixed concrete will be delivered to the site of the proposed development by truck. Based on the prevailing weather conditions, a risk assessment shall be carried out for wet concrete works considering the potential for alkaline wastewater generation and potential for contamination of stormwater. All concrete pours will take place within the designated area (i.e. foundations of new building) using a geosynthetic material to prevent concrete runoff into the underlying soil / groundwater.

Washout of concrete truck(s) will take place at an appropriate facility offsite.

Fuel / Chemical Handling & Storage

In order to prevent any spillages to ground of fuels or other chemical materials used during the construction phase, the following measures shall be employed:

- Use of a designated bunded fuel/ chemical storage area located away from the site drainage infrastructure;
- Fuel leaks observed from any construction plant or machinery shall be reported to site supervision and fixed as soon as possible;
- All construction plant will be routinely inspected and maintained in accordance with supplier instructions, including regular checks on machinery hydraulics;
- When not in use, all plant shall be kept on an area of hard standing and away from the site drainage infrastructure;
- Spill kits will be held onsite for use in the event of accidental leak or spillage of fuels/chemicals and all operators of construction plant/ equipment will be appropriately trained in spill response;
- Where mobile fuel bowsers are used on the site, any flexible pipes including delivery, tap, pump or valve shall be fitted with a lock and locked shut when not in use;
- Where portable generators are used on the site, these shall be placed on suitable drip trays and any spillages should be cleaned up using spill kit materials.

3.5.6 Biodiversity

The Landscaping Plan for the proposed development includes for the retention and enhancement of existing perimeter landscaping. The existing non-native hedgerow species along the front of the site will be supplemented with native species. This will increase the ability of these hedgerows to support nesting birds and native pollinators and would represent a significant increase in biodiversity value on the site.

Specifically, the cherry laurel and *Griselinia* are to be supplemented by native hedgerow species such as hawthorn (*Crataegus monogyna*), blackthorn (*Prunus Spinosa*) or hazel (*Corylus avellana*) which will represent an enhancement of the biodiversity value of the site of the proposed development.

The existing perimeter landscaped areas are to be retained and protected throughout the construction phase.

3.5.7 Resource and Waste Management

This CEMP will be finalised by the Contractor following appointment and prior to commencing works on site.

The following measures will be implemented for the management of waste and resource use during the construction works:

- The contractor will minimise waste disposal so far as is reasonably practicable;
- Source segregation: Where possible, metal, timber and other recyclable CDW will be segregated on site within the existing buildings and will be removed off site in accordance with the existing WFP;
- Material management: 'Just-in-time' delivery will be used so far as is reasonably practicable to minimise material wastage;
- Waste from the proposed development will be transported by authorised waste collectors in accordance with the relevant Irish waste legislation;
- Waste from the proposed development will be delivered to authorised waste facilities in accordance with the relevant Irish waste legislation;

- The Contractor will engage with the supply chain to supply products and materials that use minimal packaging, and segregate packaging for reuse;
- The Contractor will record the quantity in tonnes and types of waste and materials leaving site during the construction phase;
- Waste fuels/oils may be generated from equipment used on-site during construction and may be classified as hazardous waste. Such wastes will be stored in a secure, temporary bunded area on-site prior to collection by a Contractor who holds the appropriate waste collection permit;
- The name, address and authorisation details of all facilities and locations to which waste and materials are delivered will be recorded along with the quantity of waste in tonnes delivered to each facility. Records will show material which is recovered, and which is disposed of; and
- While contaminated material is not anticipated from the limited excavations required for the foundations of the new building and re-configuration of drainage lines, in the unlikely event that quantities are identified, the material will be left in situ until Waste Acceptance Criteria (WAC) can be undertaken (in line with recommended standards) and acceptability criteria from the suitably licensed waste disposal or transfer facilities intended to be used. Should WAC testing confirm the presence of contaminated material, the material will be excavated and transported by a permitted carrier to a suitable recovery or disposal facility.