



Clifton Scannell Emerson
Associates

Outline Construction Environmental Management Plan

Unit 1, M50 Business Park

Client: Creighton Properties LLC

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Civil
Engineering

Structural
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Engineering

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Management

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and Safety

CONSULTING ENGINEERS





Clifton Scannell Emerson
Associates

Clifton Scannell Emerson Associates Limited,
Consulting Engineers, Mentec House, Bakers Point, Dun Laoghaire, Co.
Dublin, Ireland A96 K6P3

T. +353 1 2885006 F. +353 1 2833466 E. info@csea.ie W. www.csea.ie

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1 INTRODUCTION

1.1 Background

This Outline Construction Environmental Management Plan (CEMP) has been prepared by Clifton Scannell Emerson Associates (CSEA) on behalf of Creighton Properties LLC in support of a planning permission application submitted to South Dublin County Council for planning permission for Unit 1, M50 Business Park, Ballymount, Dublin 12 which lies approximately 10km southwest of Dublin's city centre and is accessed from the M50 and R148. The site is bound to the north by Calmount Road, to the west by Ballymount Road Upper, to the east by an existing warehouse unit, and to the south by an internal estate road within the M50 Business Park. The proposed development of a brownfield site with a total area of approximately 0.86 Hectares.

1.2 Overview

This Outline CEMP defines the approach to environmental management at the site during the construction phase. It provides a basis for achieving and implementing the construction related mitigation measures identified in the environmental reports provided in support of the planning application and promotes best environmental on-site practices for the duration of the construction phase.

The outline CEMP provides a framework from which a final CEMP will be developed to avoid, minimise or mitigate any construction effects on the environment prior to commencement on site.

The contractor will prepare specific method statements which should identify perceived risks to the environment and detail mitigation measures to be employed which will negate the risk to the environment.

The main issues that have been considered within this document are as follows;

- Description of works;
- Construction programme and phasing;
- Site logistics;
- Workforce;
- Public relations and community liaison;
- Construction traffic and access; and
- Safety, health and environmental management.

Preparation of the final CEMP should comply with all mitigation measures presented in the environmental documentation submitted in support of this application, the Planning Conditions and all additional measures may be added to following consultation with relevant consultees in preparation of specific method statements prior to commencement of works.

1.3 Development Description

The proposed development will consist of the change of use from warehouse to data repository facility, alterations to external facades, provision of a new 1100 mm parapet, reclad roof, internal alterations, refurbishment of the existing office space, solar panels at roof level, external plant at ground and roof levels and equipment to include 12 no.

condenser modules, an emergency back-up generator and associated fuel storage tank, transformer, extension to the existing sub-station (c. 13 m²), 2 no. sprinkler tanks and pumphouse, bin store, 22 parking spaces including 2 electrical vehicle charging points, bicycle parking shelter, landscaping, planting, new security fence, external lighting, CCTV, altered vehicular gates, permeable hard surfaces, alterations to internal foul sewerage and water supply networks, provision of SuDS compliant surface water drainage system and all associated site works. The application site area measures 0.86 ha.

The site layout plan is highlighted in Figure 1.1 below:-



Figure 1.1 – Proposed Site Location Plan

2 DESCRIPTION OF THE PROJECT

The subject site is located within M50 Business Park. The proposed development of a brownfield site of approximately 0.86 Hectares. The subject site is located at Unit 1, within M50

Business Park, Ballymount, Dublin 12 which lies approximately 10km southwest of Dublin's city centre and is accessed from the M50 and R148.

The site is a brownfield site located at the entrance to the M50 Business Park at the junction of Ballymount Road Upper and the internal estate road within M50 Business Park. It is served by existing roads infrastructure implemented as part of the setting out of the business campus. The site boundary is delineated in red in Figure 2.1 below.

The existing site is approximately 0.86 hectares comprising of an existing single storey warehouse, two-storey offices and showroom. An E.S.B. substation is located adjacent to the site boundary. The site is bound to the north by Calmount Road, to the west by Ballymount Road Upper, to the east by an existing warehouse unit, and to the south by an internal estate road within the M50 Business Park.



Figure 2.1: Aerial view of the site from Google Maps showing the application site outlined in red

3 CONSTRUCTION PROGRAMME AND PHASING

The estimated construction duration for the proposed development is 36 weeks. This includes all site works, building upgrade works and full building fit-out and will all be constructed in a single phase. It is envisaged that construction will commence in March 2023 and will be complete in December 2023.

Site Preparation

Site preparation works include the following:-

- Site Hoarding;
- Internal Temporary Fencing;
- Provision of temporary access roads;
- Provision of temporary hardstanding areas for car parking;
- Provision of temporary hardstanding areas for material storage;
- Wheel wash facilities;
- Security cabins;
- Site clearance;
- Excavations and levelling of the site to the necessary base level for construction;
- Surveying and setting out for structures;
- Any rerouting of services/connections to services.

The construction compound (c. 8m x 30m), will facilitate office, portable sanitary facilities, equipment storage, etc. for contractors. The construction compound as indicated in Figure 3.1 will be used for the duration of the works however there may be some local relocation of parking facilities and cabins as the site works near completion and the permanent fencing, gates and berming are constructed.

A combination of excavators, trucks and other soil shifting plant will commence the main site clearance and levelling aspects.

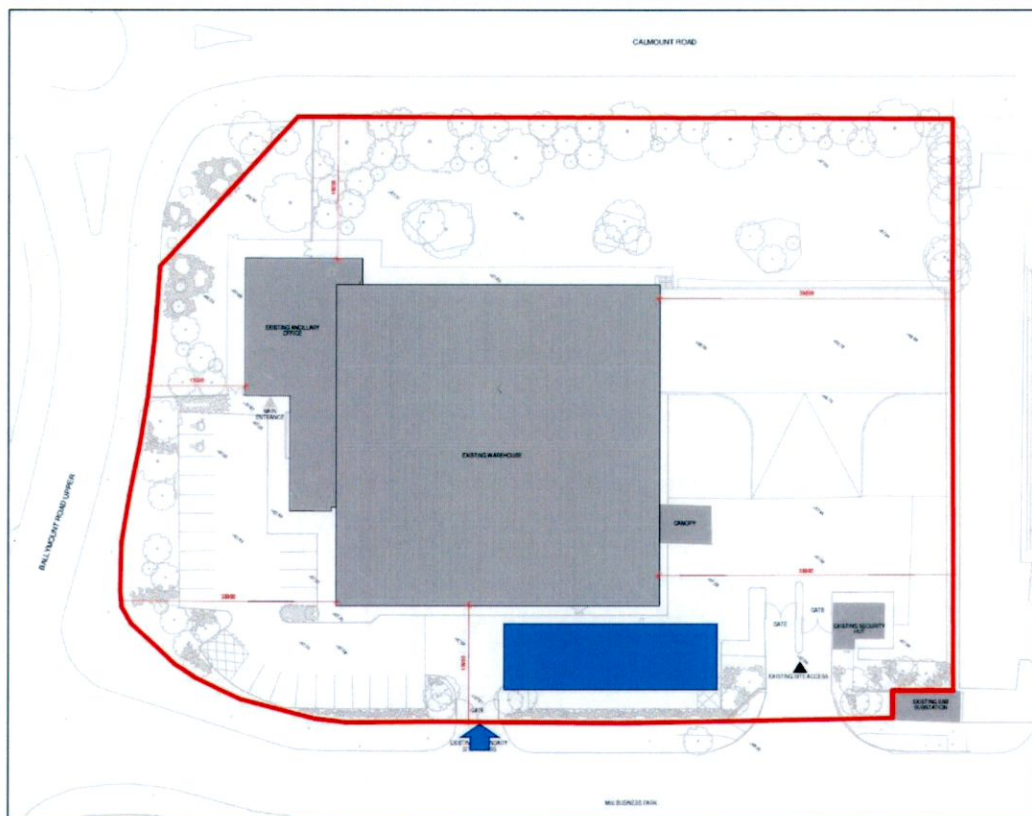


Figure 3.1: Proposed construction compound and contractors access show in blue

Building Construction Works

Foundations and Structure

Following the completion of site clearance and levelling, all structures are to be to the structural engineer specifications.

Local minor dewatering may be required during excavation works and groundworks (depending on the time of year development works are carried out).

Levelling/Cut and Fill

It is predicted that the majority of the spoil generated during site preparation/levelling will be removed from site with some topsoil and spoil used in landscaped areas.

The importation of fill will be required to facilitate construction of the proposed roads, carparks and structures.

Contractors will be required to submit and adhere to a method statement (including the necessary risk assessments) and indicating the extent of the areas likely to be affected and demonstrating that this is the minimum disturbance necessary to achieve the required works.

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Any temporary storage of spoil required will be managed to prevent accidental release of dust and uncontrolled surface water run-off which may contain sediment etc.

Building Envelopes and Finishes

The outer finishing of the building envelopes are intended to be of a high quality and appearance as per the architects drawings.

Roads, Services and Landscaping

Sections of the internal road system will be completed as part of the permitted development as detailed on the architects' drawings.

Landscaping will be undertaken in accordance with the landscape masterplan for the proposed development.

4 EXCAVATION

4.1 *Archaeological and Architectural Heritage*

As the site has been previously developed it is extremely unlikely that the proposed development will uncover potential as yet unknown sub-surface archaeological features on the site. There will be no predicted impacts on the archaeological, architectural or cultural heritage relating to the development, and therefore no mitigation measures are required.

Therefore, no mitigation measures relating to archaeological, architectural or cultural heritage are required.

4.2 *Ground Conditions*

Ground works will be required to clear the site and to facilitate construction of building structures, roads, the installation of utilities and landscaping on areas external to the existing warehouse.

Site preparation, excavations and levelling works required to facilitate construction of roads and structures will generate c. 600m³ of excavated material (excluding excavation for utilities). It is currently proposed to dispose of all excavated material off-site. The maximum depth of excavation 3m at the proposed surface water attenuation tank.

Any surplus material that requires removal from site for offsite reuse, recovery and/or disposal and any potentially contaminated material (in the unlikely event that it is encountered), should be segregated, tested and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled '*Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous*' using the *HazWasteOnline* application (or similar approved classification method). If the material is to be disposed of to landfill, it will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the *EC Council Decision 2003/33/EC* and landfill specific criteria. This legislation sets limit values on landfills for acceptance of waste material based on properties of the waste including potential pollutant concentrations and leachability.

The surplus soils and stones may be suitable for acceptance at either inert or non-hazardous soil recovery facilities/landfills in Ireland or, in the event of hazardous material being encountered, be transported for treatment/recovery or exported abroad for disposal in suitable facilities.

5 SITE LOGISTICS

5.1 Site Establishment and Security

The site office (if required) and welfare facilities will be situated on site at an agreed location within the site boundary.

The site parking for all staff, contractors and visitors will be provided at suitable locations identified.

It is proposed to provide a one-way system for vehicles to enter and exit the site.

5.2 Consents and Licences

All statutory consents and licences required to commence on-site construction activities will be obtained ahead of works commencing, allowing for the appropriate notice period. These will include, but are not limited to:

- Site notices;
- Construction commencement notices; and
- Licence to connect to existing utilities and mains sewers, where required.
- Road opening licences.

5.3 Service and Utilities

Welfare facilities (canteens, toilets etc.) will be available within the construction compound on site. Temporary connections to the existing estate services in the existing estate road will be utilised to provide service and utilities subject to relevant applications and approvals.

5.4 Material Handling and Storage

Key materials will include, steel structure, concrete, cladding, ducting and piping. A 'Just in Time' delivery system will operate to minimise storage of materials, the quantities of which are unknown at this stage.

Where possible it is proposed to source general construction materials from the surrounding area to minimise transportation distances.

Aggregate materials such as sands and gravels will be stored in clearly marked receptacles in a secure compound area within the contractors' compound on site. Liquid materials will be stored within temporary bunded areas, doubled skinned tanks or bunded containers (all bunds will conform to standard bunding specifications – BS EN 1992-3:2006) to prevent spillage.

Construction materials will be brought to site by road. Construction materials will be transported in clean vehicles. Lorries/trucks will be properly enclosed or covered during transportation of friable construction materials and spoil to prevent the escape material along the public roadway.

The majority of construction waste materials generated will be soil from excavation works. Soil requiring removal offsite will be removed from site regularly to ensure there is minimal need for stockpiling.

5.5 Visitor Management

Visitors will only be allowed to enter the main site compound at the northern boundary of the site from the Kingswood Drive or via designated pedestrian access gates. A dedicated, secured footpath to the security office is established at the gate for registration and obtaining PPE prior to entering the site. A log will be maintained by security to control access to the site. Visitors will be required to attend a site-specific induction to allow access to the site unless being accompanied by an inducted member of the site team.

Visitors will then be taken by an inducted member of the construction team to the required area of the site.

5.6 Site Working Hours

Construction of the proposed development would take place over a period of approximately 16 months from the commencement of construction for site development works.

Majority of works are to be done off-road within the site boundary, with the exception of service connections which will be done under licence from the Local Authority and Utility providers.

During the off-road section of works, no construction vehicles will access the site (or commence work) and the use of machinery, plant or equipment (which includes pneumatic drills, generators etc) will not be permitted outside the following hours:-

- Before 7.00 a.m. on weekdays, Monday to Friday;
- Before 9.00 am on Saturday;
- After 7.00 p.m. on weekdays, Monday to Friday;
- After 1.00 pm on Saturday;
- No works permitted at any time on Sundays, Bank Holidays or Public Holidays,

The above will be subject to any planning conditions restrictions imposed as part of the grant of permission.

5.7 Employment and Management Workforce

Construction traffic would consist of the following:

- Private vehicles belonging to site construction staff;
- Private vehicles belonging to site security staff;
- Occasional Private vehicles belonging to professional staff (i.e. design team, utility companies); and
- Excavation plant and dumper trucks used for site development works.

It is anticipated that the worst case construction traffic impact for the proposed development would occur at peak construction.

Construction traffic has been estimated using data obtained from a similar data repository facility development that used a similar construction methodology to the current development. The following construction data has been used to estimate peak daily construction traffic:

- Average construction staff for data repository facility: 25;
- Peak construction staff for data repository facility: 40;
- Average cars/ day for data repository facility: 25;
- Peak cars/day for data repository facility: 40
- Peak HGVs/day for data repository facility: 10; and
- Peak LGVs/ day for one data repository facility: 10.

All employees working on the site will be required to have a Safe Pass Card (or similar approved Construction Health & Safety card), manual handling training and the necessary certificates to operate machinery, as required. The details of training required, records maintained, and induction procedures will be outlined in the Main Contractor's Health and Safety Plan(s).

6 CONSTRUCTION TRAFFIC AND SITE ACCESS

During construction of the proposed development, construction traffic will travel to and from the site via the construction site access of the site. It is expected that the origins and destinations of construction traffic will continue to match the distribution of traffic currently using the surrounding road network with the majority of construction traffic via the Ballymount Road Upper.

The following measures will be put in place during the construction works:

- The contractor will be required to provide wheel cleaning facilities, and regular cleaning of the main access road;
- Temporary car parking facilities for the construction workforce will be provided.
- Monitoring and control of construction traffic will be ongoing during construction works. Construction Traffic Management will minimise movements during peak hours.
- Construction Traffic routes minimising traffic impact on surrounding residential development will be used by construction vehicles.

Traffic Queueing

Material deliveries and collections from site will be planned, scheduled and staggered to avoid any unnecessary build-up of construction works related traffic.

Site Hoarding and Security Fencing

Security fencing will be established around the site compound as needed.

Site access will be restricted by dedicated security personnel who will check all incoming and outgoing vehicles and workers.

7 SAFETY, HEALTH AND ENVIRONMENTAL CONSIDERATIONS DURING CONSTRUCTION WORKS

The appointed main contractor will be required to prepare a Construction Health & Safety Plan which will be put in place prior to commencement of the works. At a minimum, this plan will include:

- *Construction Health & Safety training requirements;*
- *Induction procedures;*
- *Emergency protocols; and*
- *Details of welfare facilities.*

7.1 Air Quality

This section describes the site policy with regard to dust management and the specific mitigation measures which will be put in place during construction works. The objective of dust control at the site is to ensure that no significant nuisance occurs at nearby sensitive receptors. In order to develop a workable and transparent dust control strategy, the following measures have been formulated by drawing on best practice guidance from Ireland, the UK and the US, such as:

- Department of Environment, Heritage and Local Government (DOEHLG), *Quarries and Ancillary Activities, Guidelines for Planning Authorities* (2004) ¹;
- US Environment Protection Agency (USEPA), *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition* (periodically updated) (1986) ²;
- The Scottish Office – Development Department, *Planning Advice Note PAN50 Controlling the Environmental Effects Of Surface Mineral Workings Annex B: The Control of Dust at Surface Mineral Workings* (1996) ³; and
- Institute of Air Quality Management (IAQM), *Guidance on the Assessment of Dust from Demolition and Construction* (2014) ⁴.

Site Management

The site activities will be undertaken with due consideration of the surrounding environment and the close proximity of sensitive receptors such as watercourses, residents and pedestrians. Dust management during the construction phase will be the most important aspect in terms of minimising the impacts of the project on the surrounding air quality. The following measures will also be implemented to ensure impacts are minimised:

- Complaint registers will be kept detailing all telephone calls and letters of complaint received in connection with construction activities, together with details of any remedial actions carried out;
- Equipment and vehicles used on site will be in good condition such that emissions from diesel engines etc. are not excessive; and
- Pre-start checks will be carried out on equipment to ensure they are operating efficiently and that emission controls installed as part of the equipment are functional.

Dust Control Measures

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design, planning and effective control strategies. The siting of construction activities and the limiting of stockpiling will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance. In addition, good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs. The following measures shall be taken in order to avoid dust nuisance occurring under unfavourable meteorological conditions:

- A speed restriction of 20km/hr shall be applied as an effective control measure for dust for on-site vehicles.
- Access gates to the site shall be located at least 10m from sensitive receptors where possible.
- Bowers or suitable watering equipment will be available during periods of dry weather throughout the construction period.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads will be restricted to essential site traffic.
- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust.
- During periods of very high winds (gales), activities likely to generate significant dust emissions should be postponed until the gale has subsided.
- Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the site, where possible.
- Regular watering will take place during dry/windy periods to ensure the moisture content is high enough to increase the stability of the soil and suppress dust.
- Where feasible, hoarding will be erected around site boundaries. This will have the benefit of reducing the impact of larger particles on nearby sensitive receptors.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities such as rock blasting or earthworks are necessary during dry or windy periods.
- At the main site traffic exits, a wheel wash facility shall be installed if feasible. All trucks leaving the site must pass through the wheel wash.
- Vehicles delivering or collecting material with potential for dust emissions shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust.

- Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary.
- The Principal Contractor or equivalent will monitor the contractors' performance to ensure that the proposed mitigation measures are implemented, and that dust impacts and nuisance are minimised;
- During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions;
- The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board will also include head/regional office contact details;
- Community engagement shall be undertaken before works commence on site explaining the nature and duration of the works to local residents and businesses;
- A complaints register will be kept on site by the Principal Contractor detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out;
- It is the responsibility of the contractor at all times to demonstrate full compliance with the dust control conditions herein; and
- The procedures put in place will be reviewed at regular intervals and monitoring conducted and recorded by the principal contractor. It is recommended that reviews are conducted on a monthly basis as a minimum.

The dust minimisation measures shall be reviewed at regular intervals during the works to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practice and procedures. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed and satisfactory procedures implemented to rectify the problem. Specific dust control measures to be employed are described below.

Site Roads

Site access routes (particularly unpaved routes) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25% to 80% ⁵.

- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles;
- Bowsers will be available during periods of dry weather throughout the construction period. Research shown found that the effect of surface watering is to reduce dust emissions by 50% ⁶. The bowser will operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use;

- Access gates to the site shall be located at least 10m from sensitive receptors where possible; and
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.

Land Clearing/Earth Moving

Land clearing/earth-moving works during periods of high winds and dry weather conditions can be a significant source of dust.

- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust;
- During periods of very high winds (gales), activities likely to generate significant dust emissions should be postponed until the gale has subsided.

The movement of truck containing materials with a potential for dust generation to an off-site location will be enclosed or covered.

Stockpiling

The location and moisture content of rubble stockpiles are important factors which determine their potential for dust emissions. The following measures will be put in place:

- Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible;
- Regular watering will take place during dry/windy periods to ensure the moisture content is high enough to increase the stability of the soil and suppress dust;
- There will be no storage of soil along the cable route; and
- Where feasible, hoarding will be erected around site boundaries to reduce visual impact. This will also have an added benefit of preventing larger particles from impacting on nearby sensitive receptors.

Site Traffic on Public Roads

Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures:

- Vehicles delivering or collecting material with potential for dust emissions shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust;
- At the main site traffic exits, a wheel wash facility shall be installed if feasible. All trucks leaving the site must pass through the wheel wash; and
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.

General

The pro-active control of fugitive dust will ensure that the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released, will contribute towards the satisfactory management of dust by the construction contractor.

7.2 Ecology

There is no connectivity to any European sites within or outside the potential Zone of Influence. There are no notable surface water features onsite and no direct hydrological pathways to offsite surface water bodies.

The Contractor shall put in place measures that ensure that there will be no direct or indirect impacts on the Robinhood Stream and Camac River.

The key strategies to be undertaken to minimise impact on the local flora and fauna during site clearing and construction are as follows:

- Cutting vegetation should be carried out outside the bird nesting season March 1st to August 31st to avoid potential impacts on birds. Where cutting vegetation within that season is required, it will be undertaken under the supervision of a suitable qualified ecologist to ensure any birds nests are identified and avoided, and;
- Lighting at all construction stages will be done sensitively, pointing inwards with no external spill, on site with no significant direct lighting outside of the proposed site.

7.3 Noise and Vibration

Noise impacts arising from earthworks and construction activities have the potential to cause annoyance or nuisance to local residents in the area.

The earthworks will generate typical construction activity related noise and vibration sources from use of a variety of plant and machinery such as rock breakers (where required), excavators, lifting equipment, dumper trucks, compressors and generators.

As stated in the Noise Impact Assessment report prepared by AWN Consulting, the following Construction Noise Threshold (CNT) levels are proposed for the construction stage of this development:

- For residential NSLs it is considered appropriate to adopt 65 - 75 dB(A) CNT depending on existing noise level. Given the baseline monitoring carried out, it would indicate that Category A and C values are appropriate using the ABC method.
- For non-residential NSLs it is considered appropriate to adopt the 70 dB(A) CNT, given the urban environment in which the community centre resides, in line with BS 5228-1:2009+A1:2014 Annex E2.

There is no published statutory Irish guidance relating to the maximum permissible vibration level. The following standards are the most widely accepted in this context and are referenced here in relation to cosmetic or structural damage to buildings:

- British Standard BS 5228-2 (BSI 2014); and
- British Standard BS 7385-2 (BSI 1993)

Type of building	Peak component particle velocity in frequency range of predominant pulse	
	4 Hz to 15 Hz	15 Hz and above
Unreinforced or light framed structures. Residential or light commercial buildings.	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Note 1: Values referred to are at the base of the building.

Note 2: At frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not to be exceeded.

Table 7.1 Transient Vibration Guide Values for Cosmetic Damage

Any noise complaints related to activities at the site will be logged and investigated and, where required, measures taken to ameliorate the source of the noise complaint.

A designated noise liaison should be appointed to site during construction works. Any complaints should be logged and followed up in a prompt fashion. In addition, prior to particularly noisy construction activity, e.g. excavation close to a property, etc., the site contact should inform the nearest noise sensitive locations of the time and expected duration of the works.

All works on site shall comply with BS 5228 2009+ A1 2014 (Parts 1 & 2) which gives detailed guidance on the control of noise and vibration from construction activities. In general, the contractor shall implement the following mitigation measures during the proposed infrastructure works:

- Avoid unnecessary revving of engines and switch off equipment when not required.
- Keep internal haul roads well maintained and avoid steep gradients.
- Minimise drop height of materials.
- Start-up plant sequentially rather than all together

Various mitigation measures will be considered and applied during the construction of the proposed development. Specific examples of such measures are:

- Limiting the hours during which site activities likely to create high levels of noise or vibration permitted;
- Establishing channels of communication between the contractor/developer, Local Authority and residents;
- Appointing a site representative responsible for matters relating to noise and vibration;
- Monitoring levels of noise and/or vibration during critical periods and at sensitive locations; and
- All site access roads will be kept even so as to mitigate the potential for vibration from lorries.

Furthermore, it is envisaged that a variety of practicable noise control measures will be employed. These may include:

- Selection of plant with low inherent potential for generation of noise and/ or vibration;

- Erection of barriers as necessary around items such as generators or high duty compressors;
- Situate any noisy plant as far away from sensitive properties as permitted by site constraints and the use of vibration isolated support structures where necessary.

7.4 Waste Management

This section outlines the measures that will be undertaken to minimise the quantity of waste produced at the site and the measures to handle the waste in such a manner as to minimise the effects on the environment.

A site-specific Resource and Waste Management Plan (RWMP) prepared by AWN Consulting is included with the planning application documents. This RWMP will be refined and updated in advance of the works to ensure best practice is followed in the management of waste from the proposed development.

Adherence to the RWMP prepared for the construction works will ensure that the management of Construction & Demolition (C&D) waste at the site is undertaken in accordance with the current legal and industry standards including the Waste Management Act 1996 as amended⁷ and associated Regulations⁷, Environmental Protection Agency Act 1992 as amended⁸, Litter Pollution Act 1997⁹ as amended and the Eastern-Midlands Region Waste Management Plan 2015 – 2021¹⁰. In particular, this plan aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. It also seeks to provide guidance on the appropriate 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).

The main non-hazardous and hazardous waste streams that could be generated by the construction activities at a typical site are shown in Table 7.2. The List of Waste (LoW) code (as effected from 1 June 2015) (also referred to as the European Waste Code or EWC) for each waste stream is also shown.

Table 7.1 Typical waste types generated and LoW codes (*individual waste types may contain hazardous substances)

Waste Material	LoW/EWC Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Bituminous mixtures, coal tar and tarred products	17 03 01*, 02 & 03*
Metals (including their alloys) and cable	17 04 01-11
Soil and stones	17 05 03* & 04
Paper and cardboard	20 01 01
Mixed C&D waste	17 09 04
Green waste	20 02 01
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07 01-10
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01

7.4.1 Waste Minimisation

Waste minimisation measures proposed are summarised as follows:

- Materials will be ordered on an 'as needed' basis to prevent over supply;
- Materials will be correctly stored and handled to minimise the generation of damaged materials;
- Materials will be ordered in appropriate sequence to minimise materials stored on site; and
- Sub-contractors will be responsible for similarly managing their wastes.

All wood waste generated by site works will be inspected and examined and will be segregated as re-useable wood and scrap wood waste.

7.4.2 Waste Storage

A dedicated and secure compound containing bins, and/or skips, and storage areas, into which all waste materials generated by construction site activities are to be stored, is to be established within permitted site compound.

Waste materials generated will be segregated on at the site compound, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled.

The site construction manager will ensure that all staff are informed of the requirements for segregation of waste materials by means of clear signage and verbal instruction. Appointed employees will be made responsible for ensuring good site housekeeping.

7.4.3 Responsibility

It will be the responsibility of the Contractor to ensure that a written record of all quantities and natures of wastes removed from the site are maintained on-site in a waste file (in hardcopy or electronically).

It is the responsibility of the Contractor or his/her delegate that all contracted waste haulage drivers hold an appropriate waste collection permit for the transport of waste loads and that all waste materials are delivered to an appropriately licenced or permitted waste facility in compliance with the relevant Regulations.

The Contractor, as part of regular site inspection audits, will determine the effectiveness of the waste management strategy and will assist the project manager in determining the best methods for waste minimisation, reduction, re-use, recycling and disposal as the construction phase progresses and waste materials are generated.

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 as amended and Waste Management (Facility Permit & Registration) Regulations 2007 and amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project waste manager (see Section 10.0) 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/IE Licence for that site will be provided to the nominated project waste manager (see Section 10.0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from DCC (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.

Prior to commencement of the excavation and construction activity and removal of any waste off-site, details of the proposed destination of each waste material will be provided to the local authority.

7.5 Surface Water Management

Run-off into excavations/earthworks cannot be prevented entirely and is largely a function of prevailing weather conditions. Earthwork operations will be carried out such that surfaces, as they are being raised, shall be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. Correct management will ensure that there will be minimal inflow of shallow/perched groundwater into any excavation.

Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation site which limits the potential for any offsite impacts. No significant dewatering will be required during the construction phase which would result in the localised lowering of the water table. There may be localised pumping of

surface run-off from the excavations (up to 5m) during and after heavy rainfall events to ensure that the trenches are kept relatively dry.

Any run-off water containing silt during construction will be contained on-site via settlement tanks and treated to ensure adequate silt removal. Silt reduction measures on site will include a combination of silt fencing, settlement measures (silt traps, silt sacks and settlement tanks / ponds).

Movement of material will be minimised to reduce the degradation of soil structure and generation of dust. Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise the potential for water ingress into excavations. Soil from works will be stored away from existing drainage features to avoid any potential impact. Stockpiles of soil and construction aggregate can have the potential to cause negative impacts on air and water quality. The effects of soil stripping and stockpiling will be mitigated against through the implementation of appropriate earthworks handling protocol during construction. It is anticipated that any stockpiles will be formed within the boundary of the site and there will be no direct link or pathway from this area to any surface water body. Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible.

No construction shall take place within 30m of the Kingswood Stream and there shall no abstractions from the water course.

No silty or contaminated water from the construction works will be discharged to any stormwater network, but should any discharge of contaminated construction water be required during the construction phase, the discharge will be to foul sewer following agreement with the Local Authority / Irish Water.

These measures are in compliance with the following relevant CIRIA guidance documents:

- CIRIA, (2001), *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors*, (C532) Construction Industry Research and Information Association;
- CIRIA (2002) *Control of water pollution from construction sites: guidance for consultants and contractors (SPI56)* Construction Industry Research and Information Association;
- CIRIA (2005), *Environmental Good Practice on Site* (C650); Construction Industry Research and Information Association;
- BPGCS005, *Oil Storage Guidelines*;
- CIRIA 697 (2007), *The SUDS Manual*; and
- *UK Pollution Prevention Guidelines*, (PPG) UK Environment Agency, 2004.

8 SUMMARY

This Outline CEMP sets out the overall management strategy for construction works for the proposed development.

The Outline CEMP aims to ensure the management of construction activity is carried out in a planned, structured and considerate manner which minimises the impacts of the works on the local environment, residents and commercial activities in the vicinity of the site. Due to the nature of construction works, there may be unforeseen events which occur at the site and the project team will actively manage any changes and discuss with the relevant authorities, where required.

The project team are committed to ensuring that the construction activities to be carried out are pro-actively managed so as to minimise potential impacts.

9 REFERENCES

1. Department of Environment, Heritage and Local Government (DOEHLG), *Quarries and Ancillary Activities, Guidelines for Planning Authorities* (2004).
2. US Environment Protection Agency (USEPA), *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition (periodically updated)* (1986).
3. The Scottish Office – Development Department, *Planning Advice Note PAN50 Controlling the Environmental Effects Of Surface Mineral Workings Annex B: The Control of Dust at Surface Mineral Workings* (1996).
4. Institute of Air Quality Management (IAQM), *Guidance on the Assessment of Dust from Demolition and Construction* (2014).
5. UK Office of Deputy Prime Minister, *Controlling the Environmental Effects of Recycled and Secondary Aggregates Production Good Practice Guidance* (2002).
6. USEPA, *Fugitive Dust Technical Information Document for the Best Available Control Measures* (1997).
7. 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). Sub-ordinate and associated legislation includes:
 - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended 2011
 - Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended
 - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I. No. 821 of 2007) as amended
 - Waste Management (Licensing) Regulations 2000 (S.I. No. 185 of 2000) as amended
 - Waste Management (Packaging) Regulations 2014 (S.I. No. 282 of 2014)
 - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997)
 - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
 - European Communities (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
 - Waste Management (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended
 - Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009) as amended 2015 (S.I. No. 190 of 2015)
 - European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 191 of 2015)
 - Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) as amended
 - Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007)
 - Waste Management (Movement of Hazardous Waste) Regulations 1998 (S.I. No. 147 of 1998)
 - The European Communities (Transfrontier Shipment of Hazardous Waste) Regulations 1988 (S.I. No. 248 of 1988)
 - European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I. No. 324 of 2011)
 - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015) as amended
8. Environmental Protection Agency Act 1992 as amended
9. Litter Pollution Act 1997 (No. 12 of 1997) as amended
10. *Eastern-Midlands Region Waste Management Plan 2015 – 2021* (2015)
11. Construction Industry Research and Information Association (CIRIA) *Control of Water Pollution from construction Sites, Guidance for consultants and contractors (C532)*.
12. CIRIA, *Environmental Good Practice on Site* (3rd edition) (C692).

Clifton Scannell Emerson Associates Limited, Civil & Structural Consulting Engineers
3rd Floor The Highline, Bakers Point, Pottery Road, Dun Laoghaire, Co. Dublin, A96 KW29

T. +353 1 288 5006 F. +353 1 283 3466 E. info@csea.ie W. www.csea.ie



