



Preliminary Construction Environmental Management Plan (PCEMP)

Proposed Amendment Application at Tinahask, Arklow, Co. Wicklow

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Waterman Moylan Consulting Engineers Limited

Block S, East Point Business Park, Alfie Byrne Road, Dublin D03 H3F4
www.waterman-moylan.ie

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No. 1	Oct. 2026	J. Muhia	I. Worrell	

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1. Introduction

1.1 Introduction

This Preliminary Construction Environmental Management Plan (PCEMP) has been prepared by Waterman Moylan Consulting Engineers on behalf of the Client, as part of an amendment application for a proposed development of 352 residential units and a creche at Tinahask, Arklow, Co. Wicklow. This application seeks to amend a scheme previously permitted by Wicklow County Council under Planning Reg. Ref. 24/325.

This PCEMP describes the measures proposed to manage the environmental impact arising from construction works on the site.

1.2 Purpose of Plan

The purpose of the Plan is to identify the project management structure, roles and responsibilities, with regard to managing and reporting on the environmental impact of the construction phase.

1.3 Background

This Preliminary CEMP provides a framework to:

- (a) Describe the programme for environmental management during construction.
- (b) Implement the monitoring and mitigation measures.
- (c) Outline the principles and minimum standards required of the contractor during the development of the detailed CEMP (and associated Method Statements) and throughout construction.
- (d) Identify the relevant roles and responsibilities for developing, implementing, maintaining and monitoring environmental management.
- (e) Outline the procedures for communicating and reporting on environmental aspects of the proposed development throughout construction.

It is intended that this Preliminary CEMP will be expanded and updated prior to the commencement of any construction activities on site.

Following appointment, the contractor will be required to develop more specific Method Statements and submit a more detailed (bespoke, contract-specific) CEMP that is cognisant of the proposed construction activities, equipment and plant usage and environmental monitoring plan for the proposed development.

This Preliminary CEMP should not be considered a detailed Construction Method Statement, as it will be the responsibility of the appointed contractor to implement appropriate procedures and progress the documentation prior to the commencement of construction.

This Preliminary CEMP outlines the potential construction methods, plant and equipment that may be used by the appointed contractor, so that their likely impacts can be assessed.

2. Description of Proposed Development

2.1 Site Location

The subject site is located to the southeast of Arklow town at Tinahask Upper, Co. Wicklow. The site is greenfield in nature and is bounded by agricultural lands to the north, east and south. The Dublin – Rosslare railway line bounds the site to the west.

The area of the works included in this application measures c. 12.7 hectares (ha). The approximate Irish Grid Co-ordinates of the site are X: 324147, Y: 171932.

Refer to the figure below for the location of the subject site.



Figure 2-1: Site Location Map

2.2 Proposed Development

- The proposed development comprises amendments to the Large-scale Residential Development permitted under WCC Reg. Ref. 24/325 consisting 352no. residential units proposed in a mix of houses and apartment units comprising 334no. houses (44no. 2-bedroom, 241no. 3-bedroom and 49no. 4-bedroom) ranging from 2 to 3 storeys, 18no. apartments (6no. 1-bedroom and 12no. 2-bedroom) in 1no. 4 storey building, 1no. creche (c. 711 sqm) at ground floor of apartment Block A; and all associated and ancillary site development works including on site attenuation, hard and soft landscaping and boundary treatment works, including public open space; communal open space, public lighting; surface car parking; bicycle parking store for apartment units; 4no. ESB substations; bin stores; vehicular access via existing Northwood Road and railway overbridge from Knockmore roundabout. The proposed development also includes road upgrade works to the existing railway overbridge and the western approach to same including the provision of a 2.5m footpath, 6m carriageway, safety barrier improvement works and other ancillary works required to facilitate these elements.

2.3 Programme of Works and Phasing

The indicative programme of works for the proposed development envisages that construction could commence in 2027. The construction period is expected to be approximately 36 to 60 months.

3. Site Management

3.1 Site Compound Access - Construction

Site access for construction traffic is proposed from Northwood Road via the existing roundabout of Wexford Road (R772) and Knockmore Road.

A site compound, including offices and welfare facilities, will be established by the main contractor at a location within or near the subject site, to be agreed.

It is proposed that the open space at the northern end of the subject development, within the red line boundary, be used as the construction compound.

Potential access routes to the subject site and proposed compound are available from the M11 motorway (E01) to the southeast of the subject development via the Wexford Road (R772) and Northwood Road. The site is readily accessible from the motorway network through established industrial areas along these regional routes.

The main contractor will be required to schedule deliveries of materials on a daily basis and to provide a site compound for the secure storage of materials.

Figure 3-1: Subject Site Location and Potential Access Routes from M11/E01 Motorway

3.2 Construction Traffic Routes

The designated construction traffic routes for the proposed site and site compound have been selected to minimise disruption to local residents and businesses and to reduce impacts on the surrounding road network. As noted in Section 3.1, the site and site compound are readily accessible to construction vehicles via the M11 motorway and connecting regional roads.

Construction access will be facilitated via two primary routes:

- Inbound: M11 (E01) / R772 (Wexford Road) / Northwood Road
- Outbound: Northwood Road / R772 (Wexford Road) / M11 (E01)

Both routes use the existing public road network and provide suitable access to and from the M11 motorway, as shown Figure 3-1.

The proposed construction compound will be accessed from Northwood Road via the existing Northwood / Wexford roundabout as shown in the figure below.

The final site compound location and access arrangement will be agreed with Wicklow County Council, the applicant and the appointed contractor.



Figure 3-2: Construction Traffic Routes to/from Proposed Site Compound

The routing of construction traffic through adjacent residential areas will not be permitted, except in exceptional circumstances and only with the prior agreement of Wicklow County Council. To minimise peak hour congestion, deliveries will be scheduled outside peak traffic periods and limited to standard working hours (08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on Saturdays).

Temporary directional signage will be installed along the selected access routes to guide vehicles safely to and from the site. Traffic marshals will be deployed, where necessary, to manage site access and egress, particularly during busier periods.

3.3 Site Establishment

As noted in Section 3.1, the site compound is proposed to be located within the proposed open space at the northern end of the subject site.

The compound will provide office accommodation and welfare facilities.

The works compound for the subject site will be used for material storage including all fuels and hazardous materials.

3.4 Plant

The primary items of plant for the construction of the residential units on the subject site will be medium-sized excavators and material handling units.

3.5 Construction Staff Parking

Parking for construction staff will not be permitted on the surrounding public road network and will instead be accommodated within the designated compound area only.

To minimise parking demand and associated traffic impacts, construction staff will be encouraged to car share and/or utilise public transport where feasible.

3.6 Site Access

Access to the site will be controlled by means of a swipe card system or turnstiles, with a remote CCTV monitoring system in operation outside working hours.

During working hours, a gate operative will control traffic movements and deliveries to ensure safe access to and egress from the site.

All personnel working on site will be required to hold a valid Safe Pass card and to receive a site-specific induction from the main contractor.

4. Environmental Management Framework

4.1 Overview

The contract(s) awarded for the proposed development will include a requirement for the contractor to comply with relevant documentation including planning conditions, this Preliminary CEMP and the subsequent detailed CEMP(s).

As part of the environmental management framework, contractors will need to comply with all relevant environmental legislation and take account of published standards, accepted industry practice, national guidelines and codes of practice appropriate to the proposed development.

Due regard should be given to ISO 14001 and to guidance published by the Construction Industry Research and Information Association (CIRIA). The contractor will be required to develop and implement an Environmental Management System (EMS) that follows the principles of ISO 14001.

Furthermore, the contractor's EMS should include an environmental policy and operational, monitoring and auditing procedures to ensure compliance with environmental legislation and with the environmental management provisions outlined in the relevant documentation.

4.2 Responsibilities

4.2.1 Employer

The client will be the Employer 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.

4.2.2 Employer's Representative

The client and/or the Employer's Representative (ER) appointed by the client will be responsible for monitoring compliance with the CEMP. The ER may be required to appoint temporary or permanent specialists with appropriate skills and experience as required to implement on-site procedures and monitor construction on behalf of the client. These include competent experts in biodiversity and architecture, archaeology and heritage, noise, vibration, dust, waste, land, soils, contamination and/or water.

4.2.3 The Contractor

The contractor(s) appointed will be responsible for the organisation, direction and execution of environment-related activities during the detailed design and construction of the proposed development. The contractor will be required to undertake all activities in accordance with the relevant environmental requirements including the consent documentation and other regulatory and contractual requirements.

4.2.4 Site Manager

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 to the highest standards.

The Site Manager will be a suitably qualified, competent and experienced professional who will oversee site logistics, communicate regularly with construction staff, deliver project-specific inductions for staff on

site and ensure that all work is compliant with the relevant design standards and health and safety legislation.

4.2.5 Environmental Manager

An Environmental Manager will be appointed by the contractor to ensure that the CEMP(s) are effectively implemented. The Environmental Manager will be a suitably qualified, competent and experienced professional who will perform the necessary tasks, review environmental procedures and consult with members of the construction team and stakeholders as required.

The Environmental Manager will be responsible for:

- Preparing, maintaining and implementing the CEMP.
- Establishing, implementing, and maintaining the EMS in line with ISO 14001.
- 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.
- Completing a site inspection and compiling an environmental compliance report on a monthly basis.
- Attending site and stakeholder meetings as required.
- Keeping up to date with relevant environmental best practice and legislative changes.
- Liaising with the relevant staff to prepare Method Statements and relevant plans for all activities where there is a risk of environmental damage.
- Having a detailed knowledge of all aspects of environmental information associated with the proposed development.
- Ensuring all personnel have undertaken adequate environmental inductions, awareness briefings and training (including subcontractors).
- Dealing with environmental complaints.
- Managing and responding to environmental incidents and ensuring that all incidents are recorded and reported in an appropriate manner.

4.2.6 Environmental Specialists engaged by the Contractor

To fulfil its obligations under the CEMP and to support its Environmental Manager, the contractor will be responsible for engaging suitably qualified and experienced professionals, including, where necessary and depending on the scope of the contract, the following competent experts:

- Project archaeologist.
- Project ecologist.
- Project aquatic ecologist.
- Noise and vibration specialist.
- Air quality and dust specialist.

- Land, soils and contamination specialist(s).
- Water specialist.

4.3 Communication Procedures

4.3.1 Community and 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 residents, businesses, community resources and specific vulnerable groups.

Communication with the local community, Wicklow County Council and other relevant stakeholders shall be undertaken at an appropriate level and frequency throughout construction.

The client will establish a Communications Management Plan that will specify obligations in relation to community and stakeholder engagement that the contractor must adhere to. Where communications are related to environmental issues, the Environmental Manager will be informed and engaged with, as appropriate.

4.3.2 Regular Consultation and Public Communications

The Communications Management Plan will also specify obligations in relation to regular consultation and public communications activities required during the construction of the proposed development. The contractor will facilitate regular consultation in accordance with, and cooperate fully with, this plan.

Details of the communication channels and points of contact available to members of the public during construction will be established in advance of the commencement of construction and displayed around working areas.

The Contractor, in conjunction with the Project Archaeologist, will agree and implement a programme of archaeological monitoring and reporting to Wicklow County Council.

4.3.3 Advance Notice of Works

When appropriate, the contractor will ensure that local residents, businesses, occupiers, general users of the area and stakeholders are informed in advance of construction activities that may affect them. Relevant obligations and procedures in relation to advance notice of works will be identified in the detailed CEMP(s) and in the Communications Management Plan.

All notifications will detail the nature of the works, their estimated duration and the working hours, and will include a project-specific contact number to which any enquiries can be directed. The contractor will be responsible for preparing and issuing the notifications subject to the relevant approvals and consents. The contractor, in consultation with Wicklow County Council and statutory stakeholders, will decide whether to arrange any further targeted consultation with the public or relevant stakeholders in advance of specific construction activities on a local basis.

4.3.4 Contacts

An emergency contact list will be established and made available to all construction staff. The contact list shall be displayed prominently on site and at suitable locations around active working areas. It will include key environmental representatives who may need to be contacted in the event of an incident.

4.3.5 Enquiries and Complaints

The contractor will establish a process for handling all enquiries, including complaints. All enquiries will be recorded, and a log will be maintained that includes details of the response and action taken. This log will be available for inspection by Wicklow County Council upon request. All enquiries, whether a query or a complaint, will be dealt with in a timely manner.

The Environmental Manager will be immediately informed of any environment-related issues that have been raised. Where appropriate, the Environmental Manager will be responsible for informing Wicklow County Council, relevant stakeholders and statutory bodies.

5. Environmental Management Procedures

5.1 Training and Competence

The contractor (and their subcontractors) will be selected with due consideration for their relevant qualifications and experience. The contractor will be required to employ construction staff with skills, qualifications and experience appropriate to the needs of the works to be carried out during construction.

A site induction will be provided to all construction staff before they commence work on site. Where appropriate, the contractor will identify specific training needs for the construction workforce and will ensure that appropriate training requirements are fulfilled.

The contractor will establish an Environmental Training and Awareness Programme and ensure that all personnel receive adequate training prior to the commencement of construction activities. A baseline level of environmental awareness will be established through the site induction programme. Key environmental considerations and objectives will be incorporated into this induction.

Specifically, site inductions will cover the following as a minimum:

- Introduction to the Environmental Manager.
- Description of the CEMP(s) and consequences of non-compliance.
- The requirements of due diligence and duty of care.
- Overview of conditions of approvals, permits and licences.
- Requirements associated with community engagement and stakeholder consultation.
- Identification of environmental constraints and notable features within the site.
- Procedures associated with incident notification and reporting including procedures for dealing with damage to the environment.

Nobody will work on site without first receiving an environmental induction. Signed records of environmental training will be established, maintained and made available to the Employer's Representative. Site briefings and talks will be carried out on a regular basis to ensure that construction staff have an adequate level of knowledge of environmental topics and community relations and can effectively follow environmental control procedures throughout construction.

5.2 Meetings

The client and/or the Employer's Representative will arrange quarterly meetings to discuss environmental matters and ensure effective coordination. These meetings will be attended by:

- The client
- The Employer's Representative.
- The Contractor.
- The Environmental Manager.
- Environmental Specialists engaged by the client and/or the contractor.

The Environmental Manager will be responsible for arranging and holding the meetings and site walkovers with the Employer's Representative, and for preparing and distributing the minutes of these meetings.

5.3 Monitoring, Inspections and Audits

For the duration of the contract(s), the environmental performance of the contractor will be monitored through site inspections and audits. The programme for monitoring, inspections and audits shall be specified in the contract and is likely to comprise a combination of internal inspections and independent external audits that may be either random or routine.

All inspections should be recorded on standard forms, and all actions should be closed out within a reasonable timeframe. The detailed CEMP(s) will include further details of inspection procedures.

5.3.1 Monitoring

Mitigation and monitoring will be carried out in accordance with the requirements of the NSAI (National Standards Authority of Ireland) so that construction activities are undertaken in a manner that does not give rise to significant negative effects. Suitable monitoring programmes will need to be developed, implemented, documented, and assessed (with follow-up where required) in accordance with the specification outlined in the detailed CEMP(s).

The results of all environmental monitoring activities will be reviewed by the Environmental Manager on an ongoing basis to enable trends or exceedance of criteria to be identified and corrective actions to be implemented as necessary. The contractor will be required to inform the Employer's Representative of any persistent exceedances of criteria.

5.3.2 Inspections

Routine inspections of construction activities will be carried out by the Environmental Manager on a daily basis to ensure all necessary environmental measures relevant to the construction activities are being effectively implemented by construction staff, ensuring legal and contractual conformity. More detailed inspections will be undertaken by the Environmental Manager on a weekly basis.

The weekly inspections will be appropriately documented by the Environmental Manager and copies of these records and any action required to be undertaken should be made available to the Employer's Representative.

Each month, one of the weekly inspections will include a review of environmental documentation and records. This monthly inspection will be recorded on a standard form and reported to the Employer's Representative within five days of the inspection taking place.

This standard form will address the following as a minimum:

- Summary of compliance/non-compliance with the CEMP(s).
- Results and interpretation of the monitoring programme.
- Key issues noted in inspections and/or audits.
- Summary record of non-conformities, incidents and corrective actions.
- Summary of environmental complaints and queries received in relation to environmental matters.
- Summary record of environmental training undertaken by staff.

5.3.3 Audits

The client will arrange for independent environmental audits to be carried out by a third party during construction. External audits provide the opportunity for an independent auditor to advise on compliance with applicable environmental regulatory requirements, the efficacy of the environmental management approaches used, and recommendations for reducing identified environmental risks (if considered appropriate).

Further, regulatory and statutory bodies may undertake site visits to monitor compliance with legislative and regulatory requirements. These site visits may occur randomly throughout the construction period. The contractor will facilitate these visits and the Environmental Manager will be available to provide information as required and deal with any issues that may arise during, or as a result of, these visits.

Planned and documented audits aimed at evaluating the conformance of the EMS will also be carried out by the Environmental Manager. As part of the detailed CEMP(s), the Environmental Manager will establish a schedule for internal audits, which will be made available to the Employer's Representative. These environmental audits will be scheduled at least once every three months.

The contractor will be required to prepare standard forms for reporting, and audit items shall include but not be limited to the following activities:

- Review of environmental documentation to establish if relevant requirements are being achieved and if continual improvement is occurring.
- Site inspection and interviews with onsite personnel.
- Reporting with recommendations.

For any environmental non-conformances found, the auditor will prepare a Corrective Actions Report to describe and record the findings of the non-conformance. The verification of previous Corrective Actions Reports will also be recorded.

Following completion of an audit, the auditor will review all Corrective Actions Reports and prepare an Audit Report to summarise:

- Corrective action requests raised.
- Previous corrective action requests closed.
- Observations made during the audit.

The Environmental Manager will be entitled to participate in all audits. The Employer's Representative will provide the contractor with a copy of each audit report within five working days of the audit. Each audit report will detail the findings from the auditor, specify non-conformances identified and outline the proposed corrective action.

5.4 Incident Response

5.4.1 Corrective Actions

Corrective actions are measures to be implemented to rectify any non-conformances such as exceedance of criteria or targets identified during monitoring, inspections and/or audits. In the first instance, an investigation will be undertaken by the Environmental Manager to identify the cause of any non-conformances.

Appropriate remedial measures will be identified and implemented as soon as practicable to prevent further exceedances. If necessary, the appropriate statutory authority and stakeholders will be notified. Where new or amended measures are proposed, the relevant CEMP(s) will be updated accordingly by the Environmental Manager and the Employer's Representative will be informed at the earliest opportunity.

A Corrective Actions Report will be prepared on foot of any non-conformances identified during environmental monitoring, inspections and/or audits on site. The Corrective Actions Report will describe in detail the cause and effect of a non-conformance on site and describe the recommended corrective action that is required to remedy it.

An appropriate timeline for closing out the corrective actions will be identified by the contractor in their detailed CEMP(s) as well as arrangements for the Environmental Manager verifying the Corrective Actions Report and informing appropriate authorities and stakeholders in a timely manner.

5.4.2 Emergency Incidents

Emergency incidents are those occurrences that give rise to significant negative environmental effects including but not limited to the following:

- Any malfunction of any mitigation measure and/or environmental protection system.
- Any emission that does not comply with the requirements of the contract and relevant licences.
- Any circumstance with the potential for environmental pollution.
- Any emergency that may give rise to environmental effects such as significant spillages or fire outbreak.

5.4.3 Spill Control Measures

Every effort will be made to prevent pollution incidents associated with spills during the construction of the proposed development. There is a risk of oil/fuel spillages on site, and any such incident will require an emergency response.

The following steps provide the procedure to be followed in the event of an oil/fuel spill occurring on site:

- Identify and stop the source of the spill and alert people working in the vicinity.
- Notify the Environmental Manager immediately, giving information on the location, type and extent of the spill so that they can take appropriate action.
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident.
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- Where appropriate, cover or bund off any vulnerable areas, such as drains, watercourses and/or sensitive habitats.
- Clean up as much of the spill as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.
- The Environmental Manager shall inspect the site as soon as practicable and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.

- The Environmental Manager will notify the appropriate stakeholders such as Wicklow County Council, National Parks and Wildlife Service, the Department of Climate, Energy and the Environment, the Department of Housing, Local Government and Heritage and/or the EPA.

Environmental incidents are not limited to fuel spillages. Therefore, any environmental incident must be reported, recorded and investigated in accordance with the procedures described in this Plan.

5.4.4 Emergency Incident Response

A set of standardised emergency response procedures will govern the management of emergency incidents. The contractor will be required to detail emergency incident response procedures in the detailed CEMP(s) and to develop an Emergency Incident Response Plan.

The Emergency Incident Response Plan will contain emergency phone numbers and the method of notifying local authorities, statutory authorities and stakeholders. Contact numbers for key personnel will also be included therein.

Contractors will be required to adhere to and implement these procedures and ensure that all staff and personnel on site are familiar with the emergency arrangements. In the case of work required in an emergency, or which if not completed would be unsafe or harmful to workers, the public or local environment, Wicklow County Council will be informed as soon as reasonably practicable of the reasons and likely duration.

Examples may include ground stabilisation where unexpected ground conditions are encountered, or concrete pours taking longer than anticipated due to delayed deliveries or equipment failure.

In the event of an emergency incident occurring, the contractor will be required to investigate and provide a report including the following, as a minimum:

- A description of the incident, including location, the type and quantity of contaminant and the likely receptor(s).
- Contributory causes.
- Negative effects.
- Measures implemented to mitigate adverse effects.
- Any recommendations to reduce the risk of similar incidents occurring.

The contractor will consult with the relevant statutory authorities, stakeholders and relevant parties such as the Health and Safety Authority, the Fire Authority, the Ambulance Service, the EPA, utility companies and Wicklow County Council when preparing and developing response measures.

Further, if any sensitive receptor is impacted, the appropriate environmental specialists will be informed and consulted accordingly. Any response measures will be incorporated into an updated Emergency Incident Response Plan that will be disseminated to construction staff and the Employer's Representative.

5.4.5 Emergency Access

The contractor will be required to maintain emergency access routes throughout construction and identify site access points for each working area.

Emergency access arrangements should be developed in partnership with the emergency services and documented as part of the detailed CEMP(s) and Emergency Incident Response Plan.

5.4.6 Extreme Weather Events

The contractor will consider the impacts of extreme weather events and related conditions during construction. The contractor will use a short to medium range weather forecasting service from Met Éireann or another approved weather forecast provider to inform short to medium term programme management, environmental control and mitigation measures.

The detailed CEMP(s) will consider all measures deemed necessary and appropriate to manage extreme weather events and will specifically cover training of personnel and prevention and monitoring arrangements for staff.

As appropriate, method statements will also consider extreme weather events where risks have been identified.

5.4.7 Unexpected Discoveries

The contractor will be required to put in place appropriate procedures to be followed in the event of encountering unexpected archaeological or cultural heritage assets or subsurface contamination during intrusive ground works.

The contractor will be required to develop appropriate procedures as part of their detailed CEMP(s) and the Environmental Manager will ensure that specialists such as archaeologists are facilitated to ensure management in accordance with industry best practice and effective compliance with the relevant legislation.

All unexpected discoveries will be reported to the appropriate authorities and documented in an appropriate manner.

5.5 Reporting

5.5.1 Environmental Compliance Report

The contractor will be required to submit a monthly report to the Employer's Representative for review and approval. The report shall address the following as a minimum:

- Summary of compliance with the CEMP(s) including identification of any non-conformances.
- Interpretation of the results of ongoing monitoring.
- Detailed description of any issues and/or non-conformances identified during inspections and/or audits.
- Record of incidents and corrective actions (including Corrective Actions Reports as appropriate).
- Synopsis of environmental complaints received and queries raised by stakeholders.
- Records of environmental training undertaken (as appropriate).

5.5.2 Incident Investigation Reports

The contractor will inform the Employer's Representative of all emergency incidents immediately and prepare an initial report within 24 hours setting out the details of the incident and cause(s) if known. The contractor will be required to complete the Environmental Incident Report and any further documentation

requested by the Employer's Representative in relation to the incident within seven days of the incident occurring. The Contractor will respond to all comments made by the ER on any incident.

The Environmental Incident Report will contain details of the incident including the location, known and suspected causes and weather conditions. It will define the scale and effects (short, medium, long term, temporary/permanent) as well as required corrective actions and mitigation/remediation/compensation measures (as appropriate).

5.6 Environmental Records

The Contractor will maintain records of all environmental documentation including monitoring, test results, method statements and plans. All records will be kept up to date and be made available for audits, inspections and periodical reporting.

The Contractor will maintain the following environmental records (as a minimum) that will be made available for inspection to the Employer's Representative and the relevant authorities, if required:

- Management Plans.
- Records of environmental incidents.
- Monthly environmental reports.
- Records of environmental training.
- Register of environmental complaints.
- Corrective Action Reports.
- Environmental inspection and audit reports.
- All monitoring data.
- Waste and chemical inventories.
- Health and Safety records.

6. Environmental Management

6.1 Background

This chapter provides a summary of minimum requirements that will be built upon by the contractor when developing the detailed CEMP(s).

The measures set out in this chapter will be discussed in more detail with relevant stakeholders as required to support the identification of any additional measures to be taken into account during construction.

6.2 Traffic and Transportation

The contractor will be required to implement the measures in relation to traffic and transportation during construction including but not limited to:

- All trucks entering and exiting the site will be covered with tarpaulin.
- Adequate waiting space will be provided on site to avoid queuing at the site entrance and prevent disruption to neighbouring developments.
- Construction vehicles will not be allowed to park on the public road either outside the site or on any of the approach roads leading to the site.
- All trucks entering the site will be restricted to suitable speed limits and will be directed to the relevant area by the Site Manager.
- Trucks required to wait on site will switch off engines to avoid unnecessary fuel usage and noise.
- All trucks exiting the site will be required to pass through a wheel wash. A lance will be provided to clean down the bodies and sides of the truck prior to leaving site.
- Roads outside the site will be visually inspected on a daily basis and power swept and washed as and when required.
- All site staff including truck drivers will be required to abide by the normal rules of the road.
- The contractor will prepare a detailed Construction Traffic Management Plan (CTMP) covering all construction stages that takes into account other potential construction works in the area. The CTMP will demonstrate how pedestrians, cyclists and motorised vehicles can pass through the works areas safely and that measures are in place to ensure that traffic operates as efficiently as possible.
- The CTMP will include a detailed consultation plan to deal with third-party queries from residents and retail/commercial operators. The CTMP will require agreement with both Wicklow County Council and An Garda Síochána.
- The contractor will appoint a single point of contact to facilitate the communication of the various traffic management plans and possibly the preparation of a project-specific website to aid communications.
- As part of the CTMP, a Workplace Travel Plan will be prepared to ensure access to the site by sustainable travel modes is encouraged. The following measures will need to be considered within the Workplace Travel Plan:
 - The provision of showers/changing rooms for construction staff.

- The provision of cycle parking for staff.
- The promotion of car sharing among staff, including where possible van pooling to travel between the different work sites.

6.3 Air Quality and Climate

The contractor will be required to implement the following measures in relation to air quality and climate during construction:

- Implementation of standard mitigation, including the following measures:
 - Spraying of exposed earthworks and site haul roads during dry weather.
 - Provision of wheel washes at exit points.
 - Covering of stockpiles.
 - Control of vehicle speeds, speed restrictions and vehicle access.
 - Sweeping of hard surface roads.
- Generators will be located away from sensitive receptors insofar as practicable.
- Stockpiles will be located as far as possible from sensitive receptors and covered and/or dampened during dry weather.
- Employee awareness is also an important means of controlling dust on site. Staff training and the management of operations will ensure that all dust suppression methods are implemented and continuously inspected.
- Should asbestos be uncovered on site during construction, the asbestos-containing material (ACM) will be double-bagged and removed from the site by a competent contractor and disposed of in accordance with the relevant procedures and legislation.

6.4 Odour

No mitigation measures with regard to odour are expected to be required during the construction of the proposed development.

6.5 Noise and Vibration

The Noise and Vibration Management Plan (NVMP) will outline how the appointed Contractor(s) will comply with the noise criteria set out in this Plan and will deal specifically with construction activities in a strategic manner to remove or reduce significant noise and vibration impacts associated with the construction of the proposed development.

The NVMP will detail the provision and installation of localised acoustic screens, the best practice noise measures that the appointed Contractor(s) will be required to adhere to for construction activities and the noise and vibration monitoring programme that the appointed Contractor(s) will be required to undertake during the construction works.

In addition, the appointed Contractor(s) will prepare detailed method statements addressing the likely ground-borne noise and vibration levels that will be generated as a result of the construction activities once the specific details of the proposed plant items and construction methodologies are known.

Where considered necessary, structural surveys will be undertaken at sensitive receptors in close proximity to the works to establish their condition and tolerance for vibration impacts.

The contractor will implement the following measures in relation to noise and vibration during construction:

- A site representative shall be appointed to be responsible for matters relating to noise and vibration.
- Specific noise abatement measures will be put in place by the Contractor and will comply with the recommendations of the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001 and 2016.
- Temporary infrastructure such as haul roads will be constructed with materials that minimise noise and vibration, and haul roads will be designed to minimise reversing.
- Internal haul roads will be well maintained.
- Unnecessary revving of engines will be avoided.
- Plant and equipment will be switched off when not required.
- Rubber linings will be used in chutes and dumpers etc. to reduce noise.
- Drop heights of materials shall be minimised.
- Generators will be located away from sensitive receivers and will be enclosed.
- Equipment, construction methods and programming will be carefully selected with the objective of reducing noise and vibration where possible.
- Only equipment, including road vehicles, conforming to relevant national or international standards, directives and recommendations on noise and vibration emissions, will be used.
- Plant and vehicles shall be started sequentially rather than all together.
- Where interchangeable, electrically powered plant, which is quieter than diesel or petrol-driven plant, will be selected.
- Anti-vibration mountings will be fitted, where practicable, to rotating and/or impacting equipment.
- Percussive piling will be avoided except where there is an overriding justification.
- Noise-control equipment such as jackets, shrouds, hoods, and doors will be used.
- Plant will be located, as far as is reasonably practicable, away from receptors or as close as possible to noise barriers or hoardings where these are located between the source and receptor.
- Regular and effective maintenance by trained personnel will be carried out to reduce noise and/or vibration from plant and machinery.
- All plant will be maintained regularly to comply with relevant national or international standards and will be operated in a manner that minimises noise emissions.
- Air lines will be maintained and checked regularly to prevent leaks.
- All audible warning systems and alarms will be designed to minimise noise. Non-audible warning systems such as cab-mounted CCTV or banksmen may be used in preference. If required, audible warning systems will be switched to the minimum setting required by the Health and Safety

Authority and where practicable 'white noise' reversing alarms will be used in place of the usual 'siren' style reversing alert.

- Appropriate hoarding will be provided around construction works.
- Rotary drills and bursters actuated by hydraulic or electrical power will be used for excavating hard material. In some instances, chemical bursting may be used where nearby sensitive structures are particularly vulnerable to vibration from pneumatic breakers etc.
- All materials, particularly steelwork, will be handled in a manner that minimises noise.
- Materials will be stored as far as possible away from sensitive receptors and resilient mats will be used around steel handling areas.
- During construction, regular inspections will be undertaken to ensure that the noise and vibration minimising methods, plant and mitigation identified in the specimen design stage are adopted on site and are working effectively. If applicable, construction method inspections will be integrated into any health and safety or quality surveillance regime.
- Typically, site activities will be limited to 08.00 – 18.00, Monday to Friday; and 08.00 – 13.00, Saturday. Any works outside these core working hours will be agreed in advance with Wicklow County Council. The planning of such works will have regard to nearby sensitive receptors.
- Noise monitoring will be undertaken at the start of each new activity to determine compliance with limit values. This may involve monitoring on a daily basis initially (for the first three weeks), but subject to satisfactory results, this could be relaxed to once or twice weekly, depending on the site activities. The frequency will be increased again if particularly noisy activities are undertaken.
- Environmental noise monitoring will be undertaken only by suitably trained and experienced staff.

6.6 Ecology

The Contractor will implement the mitigation measures set out in the Ecological Impact Assessment undertaken for the subject development, including:

- Mitigation Measures to Minimise Impacts to Habitats
- Mitigation Measures for habitats during construction
- Protection of woodland habitats (if applicable)
- Reuse of soil including pale flax (if applicable)
- Mitigation Measures to Reduce the Spread of Invasive Species (if applicable)
- Mitigation Measures for Breeding Birds during Construction (if applicable)
- Mitigation Measures to compensate for the loss of spoil and bare ground and recolonising habitat to the footprint of the proposed development (if applicable)
- Mitigation Measures for Bats during Construction (if applicable)
- Measures to Control and Reduce Light Spill During Construction and Operation (if applicable)
- Management of Wastewater
- Management of Surface Water

6.7 Landscape and Visual

The contractor is required to implement the following measures in relation to landscape and visual amenity during construction:

- All tree protection works will be implemented strictly in accordance with BS 5837:2012.
- A requirement for detailed construction management plans that set out robust tree protection methodologies in accordance with BS 5837:2012 where trees are to be retained, ensuring that tree protection is implemented and maintained throughout construction.
- Reinstatement of vegetation will be undertaken by a suitably qualified landscape contractor.

6.8 Land and Soils

The contractor will implement the following measures in relation to land and soils during construction:

The adopted construction techniques will comply with the requirements of statutory bodies, including the Building Control (Amendment) Regulations, Health and Safety Authority inspections, and the Employer's Requirements.

Precautionary measures will be taken to contain any areas within the site boundary at risk of contaminated run-off.

Potential pollutants shall be adequately secured against vandalism and will be provided with proper containment according to the relevant codes of practice. Any spillages will be immediately contained and contaminated soil shall be removed from the proposed development and properly disposed of in an appropriately licensed facility.

Dust generation shall be kept to a minimum through the wetting down of haul roads as required and other dust suppression measures.

Any stockpiles of earthworks and site clearance material shall be stored on impermeable surfaces and covered with appropriate materials.

Silt traps shall be placed in gullies to capture any excess silt in the run-off from working areas.

Soil and water pollution will be minimised by the implementation of good housekeeping (daily site clean-ups, use of disposal bins, etc.) and the proper use, storage and disposal of potentially polluting substances and their containers as well as good construction practices in accordance with CIRIA guidance, including CIRIA C532 Control of Water Pollution from Construction Sites.

A contingency plan for pollution emergencies will also be developed by the contractor prior to the commencement of the works and regularly updated during construction. This contingency plan will identify the actions to be taken in the event of a pollution incident in accordance with the CIRIA guidance which requires the following to be addressed:

- Containment measures.
- Emergency discharge routes.
- List of appropriate equipment and clean-up materials.
- Maintenance schedule for equipment.
- Details of trained staff, location and provision for 24-hour cover.

- Details of staff responsibilities.
- Notification procedures to inform the EPA or Environment Section of Wicklow County Council.
- Audit and review schedule.
- Telephone numbers of statutory water consultees.
- List of specialist pollution clean-up companies and their telephone numbers.

6.9 Water

The contractor will implement the following measures in relation to water during construction:

- During construction and as required, surface water runoff will be collected by the temporary drainage system installed by the contractor and then treated or desilted on-site before discharge.
- Earthworks operations will be carried out such that the surfaces are designed with adequate slope to promote safe runoff and prevent flooding.
- Good housekeeping such as site clean ups, use of disposal bins, etc. will be adopted in construction areas.
- In order to prevent accidental release of hazardous materials such as fuels, cleaning agents, etc. into surface water during construction, all hazardous materials will be stored within appropriately bunded containment areas designed to retain spillages.
- Temporary bunds will be used for storage of oil/diesel.

6.10 Resource and Waste Management

The contractor will implement the following in relation to resource and waste management during construction:

- The contractor will prepare, implement and maintain a Construction and Demolition Waste Management Plan throughout construction that addresses the following as a minimum:
 - Description of the proposed development.
 - Wastes arising including procedures for minimisation/reuse/recycling.
 - Estimated cost of waste management.
 - Roles including training and responsibilities for construction and demolition waste.
 - Procedures for education of workforce and plan dissemination programme.
 - Record keeping procedures.
 - Waste collectors, recycling and disposal sites including copies of relevant permits or licences.
 - Waste auditing protocols.
- The Contractor will minimise waste disposal as far as is reasonably practicable.

- Waste from the proposed development will be transported by authorised waste collectors in accordance with the Waste Management (Collection Permit) Regulations 2007, as amended, including the Waste Management (Collection Permit) (Amendment) Regulations 2016.
- Waste from the proposed development will be delivered to authorised waste facilities in accordance with the Waste Management Act 1996, as amended, and the Waste Management (Collection Permit) (Amendment) Regulations 2016.
- Source segregation: Where possible, metal, timber, glass and other recyclable material will be segregated during construction works and removed off site to a permitted/licensed facility for recycling. Waste stream colour coding, and photographs of wastes to be placed in each container as required, will be used to facilitate segregation. Where waste generation cannot be avoided, segregation will maximise the quantity and quality of waste delivered for recycling and facilitate its movement up the waste hierarchy away from landfill disposal and reduce its environmental impact.
- Material management: 'Just-in-time' delivery will be used as far as is reasonably practicable to minimise material wastage.
- Supply chain partners: The contractor will engage with the supply chain to supply products and materials that use minimal packaging, and segregate packaging for reuse.
- Waste Auditing: 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, bunded area on-site prior to collection by a contractor who holds the appropriate waste collection permit.
- Possibilities for re-use of clean non-hazardous excavation material as fill on the site or in landscaping works will be considered following appropriate testing to ensure material is suitable for its proposed end use. Where excavation material may not be re-used within the proposed works the contractor will endeavour to send material for recovery or recycling as far as is reasonably practicable.
- 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.
- The contractor(s) will ensure that any off-site interim storage or waste management facilities for excavated material have the appropriate waste licences or waste facility permits in place.

6.11 Population and Human Health

The contractor will implement the following measures in relation to population and human health during construction:

- Provide for safe pedestrian access at points of entry and exit of construction vehicles accessing the site from Northwood Road.
- Ensure provision of a safe surface for footpaths.
- Where practicable, use short sections of transparent hoarding or include viewing windows in the hoarding at locations popular for amenity.

- Stagger works wherever possible and remove hoarding as soon as it is no longer needed. Avoid high-noise or visually intrusive works at sensitive times, where practicable.
- Maintain regular proactive consultation with adjoining stakeholders.

Other than the mitigation outlined in the accompanying reports, no further mitigation has been proposed with respect to human health effects during construction of the proposed development. This is because, based on the best available scientific evidence, no significant health effects are predicted with the mitigation already proposed.

6.12 Material Assets

The contractor will implement the following measures in relation to material assets during construction:

- Access to all existing properties will be maintained at all times during the construction of the proposed development. This may require temporary alternative access arrangements at some locations. All access will be reinstated upon completion of construction.
- The contractor will be obliged to put measures in place to ensure that there are no interruptions to existing utilities and services unless this has been agreed in advance with the relevant service provider. All utilities and services diversions will be agreed and undertaken as part of the enabling works and in advance of the commencement of construction activities. All construction activities in the vicinity of existing services and utilities will be carried out in ongoing consultation with the relevant service provider and undertaken in compliance with any requirements or guidelines they may have.
- Surface water management measures will be adopted across the entire site.

UK and Ireland Office Locations

