



Confey, Leixlip LRD

Outline Construction Environmental Management Plan
(OCEMP)
21 July 2026

WDA2604031RP_A_04

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Notice

This document serves as the Outline Construction and Environmental Management Plan (OCEMP) for the Proposed Large Scale Residential Development (LRD) at Confey, Leixlip, Co. Kildare. The information contained in this document is specifically for the Proposed Development and may not be reproduced, edited, or copied in any form without the permission of Wave Dynamics. This OCEMP outlines the necessary environmental mitigation and management techniques to ensure that the construction phase of the Proposed Development does not cause significant harm to the environment. As a "live" document, it may be updated throughout the project's progress. This OCEMP establishes the minimum requirements that must be followed during the construction phase of the Proposed Development.

Document Information

Project Name:	Confey, Leixlip LRD
Address:	Confey, Leixlip, Co. Kildare
Project Number	WDA2604031
Report Title	Outline Construction Environmental Management Plan (OCEMP)
Client	Leixlip and Newbridge SPV Limited

Document History

Revision	Status	Description	Author	Reviewed	Date
A	Issued	Outline Construction Environmental Management Plan (OCEMP)	 Shannon Doherty	 James Cousins	21/07/2026

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Executive Summary

Wave Dynamics were engaged by Leixlip and Newbridge SPV Limited to undertake an Outline Construction Environmental Management Plan (OCEMP) for the construction of a Large-Scale Residential Development on lands at Confey, Leixlip, Co. Kildare.

The Proposed Development

The development will comprise a Large-Scale Residential Development (LRD) on a site at Confey, Leixlip, Co. Kildare.

The proposed development provides a total of 125 residential units, comprising 81 no. houses, 22 no. duplex units and 22 no. apartments. The housing element consists of a mix of semi-detached and terraced dwellings, including 56 no. 3-bedroom houses and 25 no. 4-bedroom houses, ranging in height from 2 to 3 storeys. The development includes 22 no. duplex units within 11 duplex blocks, comprising 11 no. 2-bedroom and 11 no. 3-bedroom duplex homes, arranged over 3 storeys. The apartment element comprises 22 no. units within a single apartment block of up to 5 storeys in height, consisting of 5 no. 1-bedroom apartments and 17 no. 2-bedroom apartments.

Provision of car, cycle and motorbike parking will be provided throughout the development. Vehicular, pedestrian, and cyclist access points will be provided from the north of the site via R149, with additional pedestrian and cyclist access provided from the south via the Royal Canal Greenway. The development will also provide landscaping, public and communal open spaces and all associated site development works to facilitate the project. These include boundary treatments, plant and waste management areas, and other service provisions.

Outline Construction Environmental Management Plan (OCEMP)

This Outline Construction Environmental Management Plan (OCEMP) outlines the necessary environmental mitigation and management techniques to ensure that the construction phase of the Proposed Development does not cause significant harm to the environment. As a "live" document, it may be updated throughout the project's progress. This OCEMP establishes the minimum requirements that must be followed during the construction phase of the Proposed Development.

An OCEMP is an essential tool for managing environmental aspects during the construction phase. It outlines how various construction activities will be conducted to comply with relevant environmental legislation and best practices, thereby minimising impacts on both human and environmental receptors.

The OCEMP provides a framework for identifying and recording environmental risks while defining measures needed to mitigate and monitor construction effects. This includes mitigation strategies outlined in supporting environmental documents and assessments. Additionally, it specifies procedures for auditing and reporting, as well as actions to address any corrective measures that may be necessary throughout the construction process.

Implementation of this OCEMP will ensure compliance with relevant environmental legislation and best practices during the construction phase of the development, which in turn will significantly reduce the impact on both human well-being and the environment.

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1 Introduction

Wave Dynamics were engaged by Leixlip and Newbridge SPV Limited to undertake an Outline Construction Environmental Management Plan (OCEMP) for the construction of a Large-Scale Residential Development on lands at Confey, Leixlip, Co. Kildare.

1.1 Purpose of the OCEMP

An Outline Construction Environmental Management Plan (OCEMP) is a key tool for managing environmental practices during construction. This plan explains how to manage construction activities to follow environmental laws and best practices, reducing impacts on people and the environment.

The OCEMP provides a clear framework to identify environmental risks and outlines the steps needed to reduce and monitor any negative effects from construction activities. It includes specific strategies from related environmental documents and assessments. Additionally, the plan describes how to conduct audits and report findings, as well as the steps to take if corrective actions are necessary during construction. This approach ensures a strong commitment to protecting the environment throughout the project. The purpose of the OCEMP is to;

- Record environmental risks and outline how they will be managed during the construction period.
- Provide a means for identifying environmental commitments, objectives, and targets.
- Establish a method for monitoring and reporting performance against these objectives and targets.
- Create a framework to ensure that all parties are aware of their responsibilities.
- Develop a checklist of control procedures that can be integrated into an overall environmental management protocol.
- Describe how construction activities will be conducted and managed in compliance with environmental legislation, policy, and the requirements of regulatory authorities.
- Provide detailed environmental mitigation measures to minimise potential impacts during the pre-construction and construction phases.
- Highlight that certain activities may require consents or licenses.
- Serve as a key document for linking environmental issues between the design and construction stages.
- Ensure that the mitigation requirements outlined in associated environmental assessments (included in the supporting documents for the planning application) are fulfilled.

The Appointed Contractor must develop and implement a Construction Environmental Management Plan (CEMP) to ensure that construction activities are planned and managed in compliance with environmental requirements. The contractor will use this Outline Construction Environmental Management Plan (OCEMP) as a template for creating their own individual CEMP.

1.2 Statement of Competence

This report was completed by Shannon Doherty, a Senior Consultant at Wave Dynamics, who brings over 14 years of specialised expertise in environmental planning, pollution prevention, waste management, and regulatory compliance across major residential, infrastructure, energy, and brownfield/greenfield developments in the UK and Ireland. Shannon has extensive experience working within complex planning frameworks to ensure full regulatory alignment, with extensive experience producing Construction Environmental Management Plans (CEMPs), Waste Management Plans (WMPs), Emergency Response Plans (ERPs), and Decommissioning and Aftercare Plans for wind and solar assets. As a member of the Institute of Acoustics holding a Diploma in Acoustics and Noise Control and an ANC Certificate of Competence, he seamlessly integrates sound insulation and noise control engineering into broader environmental frameworks.

2 Proposed Development

This Outline Construction Environmental Management Plan (OCEMP) is for the proposed Large Scale Residential Development on lands at Confey, Leixlip, Co. Kildare.

The proposed development consists of:

The proposed development provides a total of 125 residential units, comprising 81 no. houses, 22 no. duplex units and 22 no. apartments. The housing element consists of a mix of semi-detached and terraced dwellings, including 56 no. 3-bedroom houses and 25 no. 4-bedroom houses, ranging in height from 2 to 3 storeys. The development includes 22 no. duplex units within 11 duplex blocks, comprising 11 no. 2-bedroom and 11 no. 3-bedroom duplex homes, arranged over 3 storeys. The apartment element comprises 22 no. units within a single apartment block of up to 5 storeys in height, consisting of 5 no. 1-bedroom apartments and 17 no. 2-bedroom apartments.

Provision of car, cycle and motorbike parking will be provided throughout the development. Vehicular, pedestrian, and cyclist access points will be provided from the north of the site via R149, with additional pedestrian and cyclist access provided from the south via the Royal Canal Greenway. The development will also provide landscaping, public and communal open spaces and all associated site development works to facilitate the project. These include boundary treatments, plant and waste management areas, and other service provisions.

Figure 1 illustrates the proposed development plans.

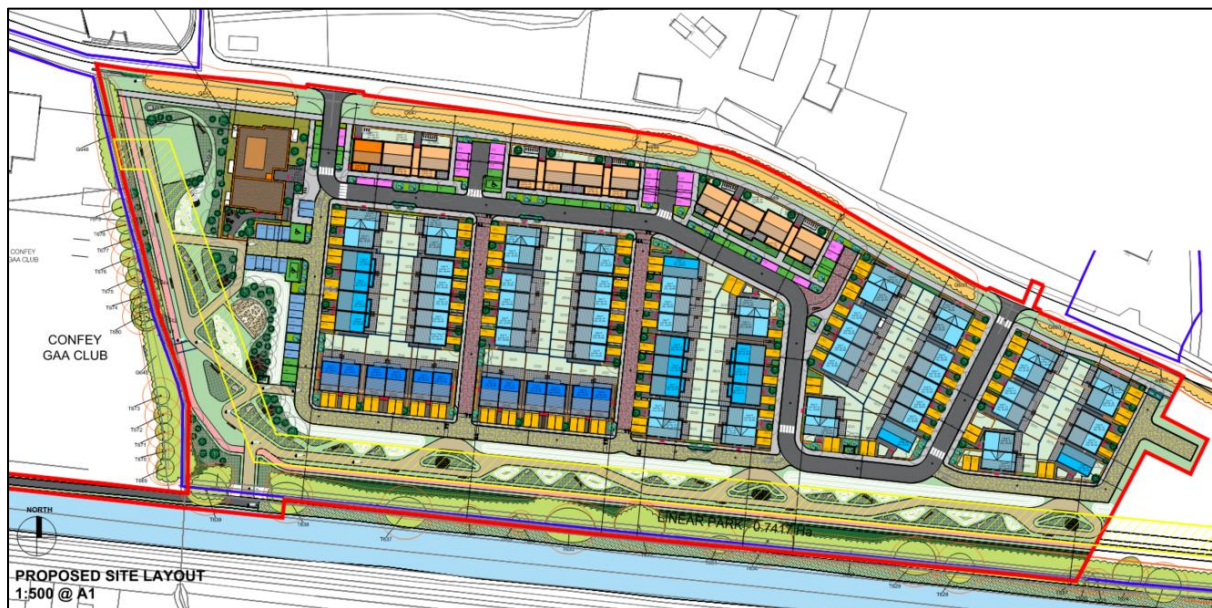


Figure 1: Proposed Development Plans

Site Location

The Proposed Development site is located on a c. 4-hectare greenfield site in Confey townland, on the northern outskirts of Leixlip, Co Kildare. The site is accessed via the R149 road, and is positioned between the R149, defining its northern boundary, and the Royal Canal and Royal Canal Greenway, defining its southern boundary. As part of the proposed development, the section of towpath forming the Royal Canal Greenway between the site and Cope Bridge is proposed to be upgraded, in agreement with Waterways Ireland. Creighton Park - the Confey GAA Club grounds - is situated to the west of the site. A small tributary stream on the western boundary, known as the Silleachain Stream, which separates the Proposed Development site from Creighton Park, functions as the

townland boundary between Confey and Newtown townland to the west. Figure 2 below illustrates the Proposed Development site location, highlighted in red.

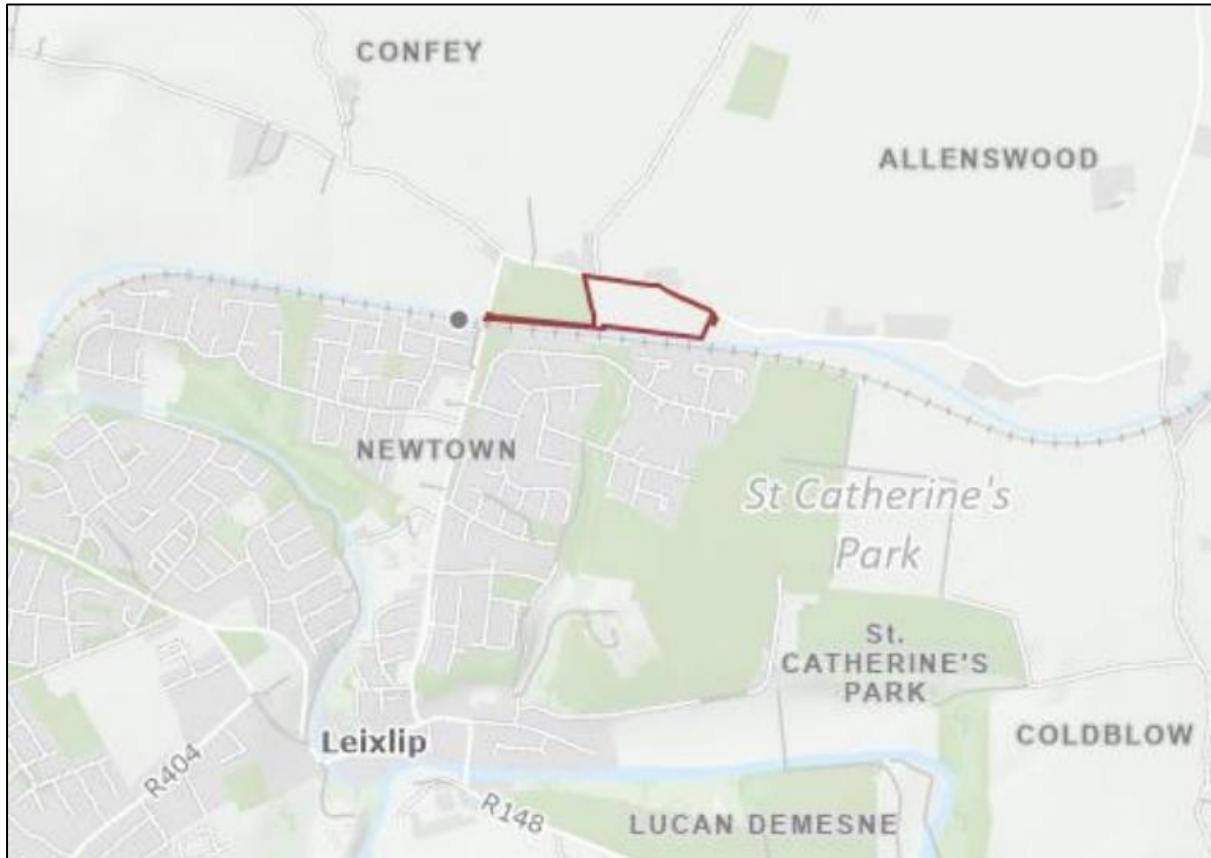


Figure 2: Site Location

3 Defining the OCEMP

3.1 Objective

An Outline Construction Environmental Management Plan (OCEMP) is an essential tool for managing environmental issues during the construction phase. It outlines the procedures for managing various construction activities to ensure compliance with relevant environmental legislation and best practices, thereby minimising impacts on both human and environmental receptors.

The OCEMP provides a framework for identifying environmental risks and specifies the measures needed to mitigate and monitor the effects of construction. This includes the mitigation strategies detailed in related environmental documents and assessments. Additionally, it outlines provisions for auditing and reporting, as well as actions to address any corrective measures needed throughout the construction process.

The primary objective of the OCEMP is to ensure that environmental management is effectively integrated into construction practices, this can be achieved by the following;

- ✓ Record environmental risks and outline management strategies for the construction period.
- ✓ Identify environmental commitments, objectives, and targets.
- ✓ Establish a method for monitoring and reporting performance against these objectives and targets.
- ✓ Create a framework to ensure all parties are aware of their responsibilities.
- ✓ Develop a checklist of control procedures to integrate into an overall environmental management protocol.
- ✓ Describe how construction activities will be conducted and managed in accordance with environmental legislation, policies, and the requirements of regulatory authorities.
- ✓ Provide detailed environmental mitigation measures to reduce potential impacts during pre-construction and construction phases.
- ✓ Highlight that certain activities may require consents or licenses.
- ✓ Serve as the primary document for referencing environmental issues between the design and construction stages.
- ✓ Ensure that the mitigation requirements outlined in the associated environmental assessments (included in supporting documents for the planning application) are met.

The Appointed Contractor is required to develop and implement a CEMP to help ensure that construction activities are planned and managed in accordance with the environmental requirements. The contractor will use this OCEMP as the template for their own individual CEMP.

3.2 Extent of the OCEMP

The OCEMP covers all environmental effects related to the construction of the Proposed Development. In this context, 'construction' refers to all site preparation, earthworks, waste removal, and related engineering and construction activities authorised by the local authority and associated permissions.

The OCEMP will outline the Contractor's plans to ensure compliance with legal and contractual obligations while implementing best practices in construction environmental management. This plan will apply to all work associated with the Proposed Development, including activities carried out by subcontractors.

3.3 Status of the OCEMP

The status of the OCEMP is as follows:

- ✓ This document comprises the OCEMP, which has been prepared during the preliminary design phase and alongside the submission of the full planning application for the Proposed Development.

- ✓ The OCEMP, along with its adopted version before onsite work begins (the CEMP), is a 'live' document that will be regularly reviewed and updated as necessary to incorporate additional requirements from the local authority.
- ✓ The CEMP will identify any further mitigation methods and control measures that must be agreed upon with key stakeholders and must be established before construction starts.
- ✓ During the construction phase, the CEMP may be revised to account for modifications to the design, changes in external factors (such as regulations or standards), unforeseen circumstances, and any shortcomings in environmental performance identified during routine inspections.
- ✓ The provisions of the OCEMP will be included in the contracts for the construction of the Proposed Development. It is mandatory for both the Principal Contractor and all subcontractors to comply with the OCEMP to ensure that best practices are implemented during construction and that the environment is protected.
- ✓ The requirements outlined in the OCEMP do not replace or negate the legal duties, responsibilities, or obligations of the Principal Contractor, subcontractors, and other parties as specified in the contract documents and legislation.
- ✓ The CEMP serves as a mechanism to ensure that the Proposed Development employs relevant best practice management techniques for sustainable construction.

4 Positions and Responsibilities

4.1 Overview

The Project Manager/Construction Manager shall bear the overall responsibility for the construction of the Proposed Development. A dedicated Environmental Manager will be responsible for the development of the Outline Construction Environmental Management Plan (OCEMP) and for the implementation of the Construction Environmental Management Plan (CEMP) throughout the construction phase, acknowledging that the CEMP may undergo various updates as it is considered a living document.

Additional members of the project team will be assigned specific responsibilities to assist the Project Manager in the execution of the OCEMP. Furthermore, individual specialists will be appointed to provide expert guidance on relevant matters. The subsequent sections delineate the key environmental roles and responsibilities assigned to the pertinent project personnel.

4.2 Principal Contractor

The Principal Contractor is ultimately responsible for ensuring the successful environmental performance of the Proposed Development. This responsibility includes the appointment and management of subcontractors and environmental specialists.

Key responsibilities include:

- ✓ The Principal Contractor and all subcontractors must comply with all relevant environmental legislation while working on-site.
- ✓ Establishing environmental standards and requirements for contractors throughout all stages of the contract.
- ✓ Serving as a point of contact for consultation and feedback with landowners, occupiers, statutory and non-statutory consultees, other interested parties, and the public.
- ✓ Auditing the performance of subcontractors.
- ✓ Conducting environmental monitoring and reporting in collaboration with the Environmental Officer. Relevant environmental issues for the project will be discussed during weekly Site Progress Meetings attended by the Site Manager and Environment Manager. Environmental performance will also be addressed at regular HSEQ meetings, which will include the dissemination and discussion of findings from audits, environmental reports, and other inspections where appropriate.

Additional responsibilities include:

- ✓ Health and Safety: A full-time project management team will oversee the health and safety of all personnel on-site.
- ✓ Site Rules: All personnel must adhere to the established site rules and regulations.
- ✓ Induction and Sign-In/Out Procedures: All visitors must sign in and out, and all personnel working on-site will undergo an induction by the Principal Contractor.
- ✓ Training: All construction staff, including subcontractors, will receive structured training on the requirements of the Construction Environmental Management Plan (CEMP) and associated environmental control plans. They will also participate in a site induction covering key environmental issues identified for the Proposed Development. This briefing will emphasise the methods and practices necessary to protect the environment, including emergency procedures for reporting and handling environmental incidents. Records of training sessions and attendance will be maintained.

4.3 Construction Manager/Site Manager

The Construction Manager holds a pivotal role in organising and executing all environmental activities in strict alignment with regulatory and project requirements. Key responsibilities include:

- ✓ Taking comprehensive ownership of the proposed development and the effective implementation of the Construction Environmental Management Plan (CEMP).
- ✓ Strategically allocating resources to ensure the CEMP is implemented successfully.
- ✓ Leading the management review of the CEMP to evaluate its suitability, adequacy, and effectiveness.
- ✓ Defining the direction for environmental policy, objectives, and targets for the Contractor, ensuring a proactive approach to environmental stewardship.

4.4 Environmental Officer

The Environmental Officer will take ownership of the following responsibilities:

- ✓ Develop and enforce the requirements of the Construction Environmental Management Plan (CEMP), ensuring that all procedures, method statements, and work instructions are implemented to meet environmental standards.
- ✓ Review and assert the environmental responsibilities of managed contractors, both in the scoping phase and during contract execution.
- ✓ Provide decisive advice, guidance, and instruction on all CEMP-related matters to managers, employees, construction contractors, and visitors on-site.
- ✓ Report directly to the Construction Manager on the environmental performance of line management, supervisory staff, employees, and contractors, ensuring accountability.
- ✓ Advise site management, including the Construction/Commissioning Manager, on all environmental matters with authority.
- ✓ Maintain complete and accurate environmental records without exception.
- ✓ Guide the site team effectively in addressing environmental issues, including compliance with all legal and statutory requirements.
- ✓ Rigorously review the environmental management content of method statements.
- ✓ Report environmental performance to the Site Manager with clarity and precision.
- ✓ Liaise proactively with statutory and non-statutory bodies, as well as third parties, to address their environmental interests in the proposed development.
- ✓ Monitor and ensure the accurate maintenance of the waste register, implementing proper waste management procedures without fail.
- ✓ Implement and uphold rigorous environmental controls on-site (see Appendix B for the Environmental Inspection Schedule and Appendix F for details on method statements).
- ✓ Address any spills or environmental incidents on-site promptly and effectively (refer to Appendix G for the Pollution Prevention Plan and Appendix H for the Emergency Response & Environmental Plan).
- ✓ Conduct thorough site environmental monitoring and walkovers (refer to Appendix B for the Environmental Inspection Schedule).
- ✓ Enforce the correct procedures in the event of environmental incidents, ensuring compliance (see Appendix D for the Incident Report Form and Appendix H for the Emergency Response & Environmental Plan).

4.5 Site Supervisors

Site Supervisors are responsible for the following:

- ✓ Creating a culture of health and safety on-site by thoroughly reading, comprehending, and implementing the Construction Environmental Management Plan (CEMP).
- ✓ Being knowledgeable of the fundamental requirements of applicable environmental legislation and taking necessary actions to ensure compliance.
- ✓ Evaluating Contractors' construction methods and materials with regard to environmental considerations at all stages of the project.
- ✓ Identifying potential environmental risks associated with the site, plant, or materials, and duly notifying the appropriate management.
- ✓ Ensuring that the proposed equipment is environmentally suitable for the designated tasks.

- ✓ Coordinating the environmental planning of all construction activities to adhere to regulatory requirements and mitigate environmental risks. Providing Contractors with explicit instructions regarding their responsibilities in employing correct working methods to prevent environmental damage.
- ✓ Where applicable, confirming that the Contractors' method statements include appropriate waste disposal protocols.
- ✓ Being vigilant about potential environmental risks related to Contractors and bringing these concerns to the attention of the relevant management.
- ✓ Ensuring the accurate completion of the materials and waste register as necessary.

4.6 Site Personnel

All contractors and site personnel involved in the project must adhere to the following principal duties and responsibilities:

- ✓ Support and promote the health and safety culture on the site.
- ✓ Fully cooperate with the General Contractor and the Environmental Officer in implementing and developing the Construction Environmental Management Plan (CEMP) at the site.
- ✓ Conduct all activities in compliance with regulatory standards and best environmental practices.
- ✓ Actively participate in the environmental training program and provide management with necessary feedback to ensure effective environmental management at the site.
- ✓ Comply fully with the site's environmental rules and regulations.

4.7 Ecological Clerk of Works (ECoW)

An Ecological Clerk of Works will oversee implementation of the ecological measures during vegetation clearance, excavation and other works with the potential to affect bats, breeding birds or non-volant terrestrial mammal. Further details are outlined in Section 9 of this OCEMP.

4.8 Team Structure and Distribution

Every project team member is responsible for managing their own environmental impact. They are required to execute their duties in accordance with the stipulations of the Construction Environmental Management Plan (CEMP) and to adhere to the controls outlined therein.

A distribution list for the CEMP should be developed once all relevant contact names and organisations have been identified. The objective of this distribution list is to establish effective communication channels that will enhance the management of environmental-related issues. It should specify individuals and organisations that have received or will receive a copy of the construction-stage CEMP for implementation.

Key stakeholders may include the developer, the environmental consultant, primary contractors, subcontractors, and appointed environmental managers or individuals holding similar roles responsible for executing the content of the construction-stage CEMP. The distribution list must be established by the appointed contractor prior to the commencement of construction activities. Furthermore, all roles and responsibilities should be confirmed in the updated CEMP before construction begins. Table 1 outlines project roles and responsibilities and forms the basis of the CEMP distribution list.

Table 1: Role, Company, Named Contact & Contact Details

Role	Company	Contact Name	Contact Details
Principal Contractor	Company	Name	Phone Number
Construction Manager	Company	Name	Phone Number
Environmental Officer	Company	Name	Phone Number
Site Supervisors	Company	Name	Phone Number

Role	Company	Contact Name	Contact Details
Site Personnel	Company	Name	Phone Number
Health & Safety Representative (May be combined with Construction Manager role)	Company	Name	Phone Number
Other specialists as required (e.g. geotechnical , drainage/civil engineer)	Company	Name	Phone Number
Other specialists as required (e.g. geotechnical , drainage/civil engineer)	Company	Name	Phone Number
Other specialists as required (e.g. geotechnical , drainage/civil engineer)	Company	Name	Phone Number
Notifying the NECL on 1800 365 123 Any spillages / pollution incidents should be reported to the NECL within 30 minutes of the incident occurring unless it is not safe to do so			
To report an urgent environmental pollution incident, call the 24/7 National Environmental Complaints Line (NECL)			

Notifying the EPA: To notify the EPA by telephone, operators may call EPA HQ at 053 916 0600 or their Regional EPA Office. The EPA's business hours are 09:00 – 17:00 Monday to Friday except Public & Bank Holidays. Outside of these hours, contact the EPA on any of the above numbers or on our dedicated Low Call number 0818 33 55 99. Our Out of Hours line is open 24 hours a day, 7 days a week. To leave a message, please hold for a choice of the three options. Please be aware that all after-hour calls are recorded.

Option 1 – Non-emergency notification. This is for non-urgent incidents, which will be received by an EPA inspector on the next working day.

Option 2 – Emergency incident. This is an urgent notification of a significant incident at a licensed site or environmental pollution, which will be forwarded to an EPA manager for rapid response.

The Principal Contractor as appointed has ultimate responsibility for the successful environmental performance of the Proposed Development through appointment and management of subcontractors and environmental specialists, as required, as detailed in Table 1. Specifically, this includes:

- ✓ Principal Contractor & all sub-contractors will need to **comply with all** relevant environmental legislation when carrying out work on the site;
- ✓ **Definition** of environmental standards and requirements for the contractors throughout the contract stages;
- ✓ **Acting as a point of contact** for consultation and feedback with landowners/occupiers, statutory and non-statutory consultees, other interested parties and the public;
- ✓ **Auditing** of the performance of sub-contractors;
- ✓ **Environmental monitoring and reporting (in conjunction with Environmental Officer)** - Environmental issues relevant to the project will be discussed during weekly Site Progress Meetings attended by the Site Manager and Environment Manager. Environmental performance will also be discussed at regular HSEQ meetings. This will include dissemination and discussion of the findings of audits, environmental reports and other inspections where appropriate. Other responsibilities are as follows:
 - ✓ **Health and Safety** - The site will be managed by a full-time project management team who will be responsible for the Health and Safety of all personnel on site.
 - ✓ **Site Rules** - All personnel must comply with the rules and regulations laid down in the appropriate site rules.
 - ✓ **Induction and signing in and out** - All visitors to the site will be required to sign in and out and all personnel working on the site will be subject to an induction by the Principal Contractor.
 - ✓ **Training** - All construction staff, including sub-contractors, would receive structured training on the requirements of the CEMP and the associated environmental control plans, as developed. They would also be required to attend a site induction which would include the key environmental issues identified for the Proposed Development. The briefing would emphasise the methods and working practices which must be employed to protect the environment, including emergency procedures for reporting and dealing with environmental incidents. Records of training and those attended will also be retained.

5 Communications

Effective communication is vital for ensuring consistent application of environmental standards and the clear relaying of information, data, and reports. The following points outline key communication requirements for the project:

5.1 External Communication

Communication may be necessary during the construction phase with various external parties, including statutory authorities, interest groups, and the public. These interactions may involve scheduled meetings, site visits, or written correspondence.

5.2 Statutory and Regulatory Bodies

The project team will maintain communication with relevant statutory bodies (such as the Environmental Protection Agency - EPA) to clarify potential issues as the project progresses.

- ✓ Reference List: Table 2 provides a foundational list of statutory bodies in Ireland with environmental remits who may require consultation. Links to their websites for contact information are also provided.
- ✓ Review and Amendment: The Contractor will review and update this list as needed; it is not definitive.
- ✓ Non-Statutory Groups: Communication may also be established with non-statutory environmental protection organisations if further clarification or consultation is required.

5.3 Public and Local Businesses

The Site Manager is responsible for keeping local residents and businesses informed about operations that may affect them.

- ✓ Methods: Communication methods may include letter drops or meetings to provide updates on progress and upcoming activities.
- ✓ Point of Contact: The Site Manager will provide specific project team contact details for the public to use should any issues or concerns arise.

5.4 Internal Communication and Documentation

Internal communication channels ensure environmental information is shared efficiently among the project team and client.

5.5 Meetings and Records

Environmental issues relevant to the project will be standing agenda items in regular site meetings:

- ✓ Site Progress Meetings: Weekly meetings attended by the Site Manager and Environmental Manager.
- ✓ HSEQ Meetings: Regular meetings where environmental performance, audit findings, and inspection reports are discussed and disseminated.

5.6 Regulatory Changes

The Site Manager will communicate any changes in legislation, guidance, or proposed improvements that bear on the environmental commitments made in supporting project documents to the Client.

5.7 Consents, Licences, and Permits

The Contractor will ensure all necessary environmental licences and permits are in place before work commences.

- ✓ Water Management: Provisions for controlling, pumping, and discharging water will be agreed upon in consultation with the Environmental Protection Agency (EPA).

Table 2: Basic List of Statutory Bodies with an Environmental Remit

Organisation	Website Address
Environmental Protection Agency (EPA)	https://www.epa.ie/
Waterways Ireland	https://www.waterwaysireland.org/
Inland Fisheries Ireland	https://www.fisheriesireland.ie
Uisce Éireann	http://www.water.ie
Office of Public Works	https://www.gov.ie/en/organisation/office-of-public-works/
Kildare County Council (KCC)	https://kildarecoco.ie/

6 Pollution Control and Emergency Preparedness

This section outlines mandatory measures to prevent environmental pollution during construction and the procedures to be implemented in the event of an incident.

6.1 Emergency Procedures and Incident Response

A comprehensive Site Environmental Emergency Plan will be developed before construction begins. This plan will comply with guidance from the Environmental Protection Agency (EPA) and will be communicated to all site personnel, subcontractors, and emergency services.

Incidents covered by the plan include:

- ✓ Material handling incidents during delivery or use.
- ✓ Spillages of oils, chemicals, or hazardous materials.
- ✓ Discharge of pollutants (e.g., silty water) to watercourses.
- ✓ Flooding events.
- ✓ Fires, including failure to contain contaminated firewater runoff.

Response Plan Activation

The emergency procedures define when the plan should be activated and include:

- ✓ Contact details for trained incident response staff.
- ✓ Clear roles, responsibilities, and chains of command.
- ✓ Location and types of available emergency response equipment.
- ✓ Location of the emergency assembly point.
- ✓ Specific procedures for recovering spilled product.

Training and Implementation

- ✓ A dedicated Emergency Team will be trained in these procedures for swift and effective implementation.
- ✓ The Site Manager will conduct periodic testing of emergency procedures, which the Environmental Manager will observe and report on.
- ✓ **Immediate Notification:** The Environmental Manager must be notified immediately should any emergency incident occur.
- ✓ **Coordination:** The Site Manager is responsible for coordinating the emergency response.
- ✓ **Documentation:** A record of all incidents and corrective actions will be kept (refer to Appendix D for the template).

Should an emergency incident occur, the Environmental Manager will be notified immediately. The emergency response will be co-ordinated by the Site Manager.

6.2 Oil Storage and Refuelling

Designated oil storage and refuelling areas must be located away from watercourses or drainage ditches.

- ✓ Containment:
 - a. Dedicated, clearly defined areas must be used.
 - b. Bunds must be sized to contain 110% of the maximum storage capacity.
 - c. Bunded pallets, secondary containment units, and fill-point drip trays must be used.
- ✓ Security: Fuel storage areas must be enclosed, secured, and secondarily locked within the main site boundary.
- ✓ Supervision: All fuel/chemical deliveries will be supervised by a trained, responsible person capable of managing a spillage.
- ✓ COSHH Items: COSHH items should not be stored on site long-term but brought as needed. Small, portable machinery should be fuelled using drip trays.

6.3 Concrete and Grout Management

Concrete, cement, and grouts are highly alkaline pollutants. Strict measures are required during handling and pouring:

- ✓ Containment: Pours must be contained within the working area and prevented from entering any drains or watercourses.
- ✓ Mixing: Construct suitable barriers around on-site mixing areas, supply lines, and working areas to prevent escape.
- ✓ Washout: Equipment washdown must occur in a dedicated, contained, impervious area (see the 'Management of Concrete Wash Out Areas' procedure).
- ✓ Supervision and Preparation: All pours will be supervised. Proper preparation (shuttering, mud mats, membranes) is required to avoid runoff and waste.
- ✓ Weather Conditions: Concrete pouring must not take place when heavy rain is imminent.

Wash down water arising from the washing of equipment that has come into contact with concrete will be collected in an impervious container.

6.4 Stockpile Management

Stockpiles must be managed in accordance with best practices to prevent contaminated runoff and dust generation. A minimum **20-metre buffer zone** should be maintained between stockpiles and any watercourse where possible.

- ✓ Mitigation: Silt fencing at the toe of the slope or geotextile wrapping should be used if required to manage runoff.
- ✓ Dust Control:
 - a. Locate stockpiles out of the main wind direction or provide wind breaks.
 - b. Keep heights minimal and slopes gentle.
 - c. Minimise storage duration on site.
- ✓ Handling: Minimise the height of material falls to prevent dust, clean spills promptly, and protect stockpiles with geotextiles if necessary.

Stockpiled material is located more than 20m away from the exclusion zone around the water body.

6.5 Silt Management

Effective soil management is crucial to prevent silt pollution, which harms aquatic life and blocks drainage.

- ✓ Prevention: Do not allow water containing silt or mud to discharge to any waterway.
- ✓ Exposure Minimisation: Minimise the time that stripped ground and soil stockpiles are exposed by only clearing vegetation from active work areas.
- ✓ Control Measures:
 - a. Install geotextile silt fencing at the toe of slopes before soil stripping begins.
 - b. Ensure silt controls are in place to prevent entry into watercourses or drains.
 - c. Plant washing must occur in a designated hardstanding area at least 20 metres from any watercourse or drain.
- ✓ Treatment: Contaminated runoff must not be pumped or flow into the water environment without appropriate treatment (e.g., settlement ponds, settlement tanks) that allow water to remain undisturbed for a period.
- ✓ Maintenance: All silt management facilities must be correctly installed, routinely maintained, and inspected to ensure efficiency.

7 Monitoring, Review, and Compliance

This section outlines the procedures for the ongoing management, monitoring, and continuous improvement of environmental performance throughout the construction project.

7.1 Environmental Risk Management

The **Environmental Manager/Officer** is responsible for creating and maintaining an Environmental Risk Register. This register must take into account all legal requirements, project commitments, and potential significant environmental impacts of the works.

- **Action Tracking:** The register will document specific responsibilities and required actions for mitigating and controlling identified environmental risks.
- **Regular Review:** The Environmental Manager and Site Manager will jointly review the register regularly to ensure all information is current.

7.2 Legal Consents and Documentation

All necessary legal consents, permits, and licenses will be managed centrally.

- **Documentation:** The Environmental Manager will store copies of all required permits and licences in the dedicated site environmental file.

7.3 Method Statements and Risk Assessments

Specific environmental risks must be assessed as part of the preparation of construction method statements.

- **Integration of Controls:** Environmental constraints and actions relevant to specific operations will be incorporated into method statements, field control sheets, and activity plans where necessary.
- **Standard Requirements:** Generic environmental requirements will be included as standard within all method statements. Guidance on content is provided in Appendix F.

7.4 Site Inspections and Audits

Routine inspections ensure that pollution control and environmental protection measures are implemented and maintained effectively.

- **Weekly Inspections:** The Environmental Manager will conduct formal, weekly site inspections and produce corresponding reports.
- **Daily Monitoring:** Supervisors will perform daily inspections during each shift. Any environmental risks or problems identified must be actioned as soon as reasonably practicable and reported immediately to the Environmental Manager.
- **Checklists:** An example inspection schedule is detailed in Appendix B.

7.5 CEMP Review and Update Programme

The CEMP is a dynamic document that requires continuous review and updating.

- **Minimum Review Frequency:** The Contractor will update the document, and the Environmental Manager will review it at least once per month.
- **Incident Review:** The CEMP will also be reviewed and updated following any environmental incidents that require changes to work methods.

7.6 Non-Conformance and Corrective Action

Instances where CEMP requirements are not met will trigger a formal non-conformance and corrective action procedure.

- **Identification:** Non-conformances may be raised during inspections by Supervisors, the Site Manager, the Environmental Manager, or during external third-party audits.

- **Resolution:** The Site Manager is responsible for establishing and implementing a corrective action plan to address the identified shortcoming. An incident report form example is available in Appendix D.

7.7 Complaints Handling

All complaints regarding environmental matters will be managed efficiently and logged.

- **Management:** The Site Manager manages the initial response to all complaints and informs the Environmental Manager of any environmental-specific issues.
- **Register Maintenance:** A Complaints Register will be maintained with details of the complainant, date, nature of the complaint, action taken, and close-out date.
- **Response Time:** The Environmental Manager ensures all environmental complaints are responded to within 24 hours. A complaints form example is in Appendix C.

7.8 Key Performance Indicators (KPIs) and Objectives

The Contractor will establish clear environmental objectives to drive continuous improvement in the site's environmental performance.

- **Target Setting:** Objectives will be based on significant environmental impacts and reviewed monthly.
- **Measurement:** Procedures, monitoring requirements, and key performance indicators (KPIs) will be measured against achievable targets.

8 Work Programme

This section details the construction timeline, approved working hours, and the management of site setup, plant, and equipment.

8.1 Proposed Programme of Works

It is estimated that the overall duration of the construction programme will be approximately 24 months. A detailed construction programme will be developed by the appointed Contractor and will be included in this Section prior to commencement of construction works.

The construction phase for the Proposed Development can be broadly divided into key phases:

- **Enabling & Ground Works:** Initial site clearance, ground preparation, foundation laying, and installation of site infrastructure/utilities.
- **Substructure & Superstructure:** Construction of foundations, floor slabs, wall erection, and roofing installation for house plots.
- **External Finishes & Landscaping:** Installation of windows, external cladding, brickwork, and initial hard/soft landscaping.
- **Internal Finishes & Fit-Out:** First and second fix M&E (Mechanical & Electrical), plastering, installation of kitchens/bathrooms, and internal decoration.
- **Testing and Commissioning:** Final checks, snagging, utility connections, and handover of plots to the client.

8.1.1 Construction Hours

All construction activities will adhere to the following schedule. Variations based on summer/winter seasons are noted below.

Table 3: Construction Working Hours

Day	Standard Hours (Summer Months)	Winter Months Hours
Monday – Friday	07:00 – 18:00	08:00 – 17:00
Saturday	08:00 – 14:00	08:00 – 14:00
Sunday / Bank Holidays	No work permitted	No work permitted

Working hours outside of this standard regime will only be permitted in exceptional or emergency circumstances. If such extended hours are known in advance (non-emergency), discussions will be held with the local authority environment and planning teams to minimise impact on sensitive receptors (local residents).

8.2 Construction Site Compound

A construction site compound will be established centrally within the site to support construction activities. The site compound base will utilise a geogrid or similar temporary, removable base to facilitate easy removal and site reinstatement upon completion. The compound will host essential site support functions, including:

- construction compound;
- welfare facilities;
- any areas of hardstanding;
- turning areas, internal access tracks;
- car parking;
- material stockpiles;
- oil storage;
- storage area for bulk materials (e.g., sand, aggregates);
- lighting columns; and

- any construction compound boundary fencing.

Figure 3 below illustrates the location of the construction site compound, storage and parking facilities on the western boundary of the proposed development site.



Figure 3: Construction Site Compound

8.2.1 Plant and Equipment

The following plant and equipment are anticipated for use during construction:

- Tracked excavators (rubber-tracked machines only on public roads);
- Tracked dumpers or tractor/trailers;
- 4x4 vehicles and vans;
- Teleporters;
- 360° tracked excavator (13 ton normally, 22 ton for rock breaking if required);
- Cherry Pickers / Mobile Elevating Work Platforms (MEWPs);
- Cranes;
- Various specialist tools and hand tools.

Plant and Tool Safety

Strict adherence to safety and maintenance standards is required for all plant and tools:

- **PAT Testing:** All electrical tools must have a valid Portable Appliance Test (PAT) within the last 12 months.
- **Pre-Use Checks:** Operators must check all electrical/hand tools daily to ensure they are fit for purpose.

- **Competency:** Users of high-risk tools (kango hammers, grinders, stills saws, drills) must be certified as competent and have relevant training.
- **Generators:** Petrol/Diesel generators providing site power must be fitted with Residual Current Devices (RCDs) for safety.
- **Certification:** All large plant (forklifts, excavators, MEWPs) must be certified, and copies of certification must be kept on file.

Cranes, Lifting Of Equipment and Road Closures

Cranes and concrete placing booms may be required during construction. A combination of goods hoists and telehandlers will offload and distribute materials for the finishing trades. All lifting equipment and appliances will carry current test certificates and be inspected prior to use. Trained banksmen will attend the cranes at all times. Permits and approval for road restrictions will be applied for with KCC and all parties involved kept informed on progress. The Appointed Contractor will obtain approval from the Environmental Health Department and Planning to ensure that what is planned is feasible within the times agreed.

Waste Disposal within Compound

- **Zero General Waste Goal:** The plan aims to minimise general waste generation (see Section 7.0 for Waste Management Plan details).
- **Sanitary Waste:** Self-contained toilet facilities will be used, with waste appropriately disposed of off-site by qualified, licensed contractors.
- **Reinstatement Waste:** Any hardcore associated with the reinstatement of the temporary compound will be removed and disposed of appropriately at a licensed facility.

8.2.2 Storage Areas

Stockpiles

The following measures are proposed in relation to stockpiling of materials:

- Locate stockpiles out of the wind or provide wind breaks to minimise dust generation.
- Keep stockpiles to minimum practicable height and use gentle slopes.
- Minimise the storage time of materials on site.
- Store materials away from the site boundary.
- Minimise the height of fall of all materials.
- Avoid spillage and clean any spill up as soon as possible.
- Good soil handling and storage methods including protection of stockpiles with geotextiles.

Oil Storage and Refuelling

Oil storage and refuelling areas will not be located close to any local watercourses or any drainage ditch. The following measures must be implemented.

- Dedicate specific areas for oil storage and refuelling, bunds sized to contain 110% of fuel storage capacity.
- The contractor will use fill point drip trays, bunded pallets and secondary containment units.
- The site will be enclosed and secured, and fuel storage areas will be secondarily secured.
- All fuel, oil and chemical deliveries will be supervised by a responsible person who will be trained to deal with any spillage to prevent a pollution problem occurring.

Waste Storage Areas (WSAs)

In relation to resource and waste storage, the Waste Management Act 1996, as amended, allows for the temporary storage of resources defined as 'waste' at the site where it was produced. The Act defines the phrase 'the temporary storage of waste' limiting it to having a six-month duration. Appropriate measures to prevent environmental impact, e.g. run-off, will be implemented as needed.

Prior to construction, the site layout will be reviewed and suitable Waste Storage Areas (WSA) with adequate space for storage and handling will be identified. WSAs may include stockpiles (for soil and stone, aggregates, etc.), skips (for metals, wood, glass, etc.) or secure containers for hazardous materials. All WSAs will be assessed as fit for purpose and will be suitably contained, banded or defined as required. The WSA will be laid out to reduce any potential for impact on sensitive human (e.g. residential) or natural (water courses, ecological sites, etc.) and a suitable buffer to receptors will be applied to mitigate any impact. Waste materials will be collected and stored in separate clearly labelled skips and suitable containers for collection by a Permitted Waste Contractor holding an appropriate Waste Collection permit.

Labelling and signage will be used on site to inform personnel of key WSA requirements and restrictions, with clear signage provided on all WSAs. Signage will also be erected to provide information to assist good resource practice across the site.

Non-Recyclable Waste

C&D waste unsuitable for reuse or recovery—including certain polystyrene, cardboard, and plastics—will be placed in separate, designated skips. Prior to removal, these containers will be inspected by the waste management team to ensure no recyclable materials have been misplaced. If contamination is found, the items will be resorted, and the cause of the sorting error will be addressed to improve future segregation. An example layout plan for a site-based waste segregation compound is shown in Figure 3.

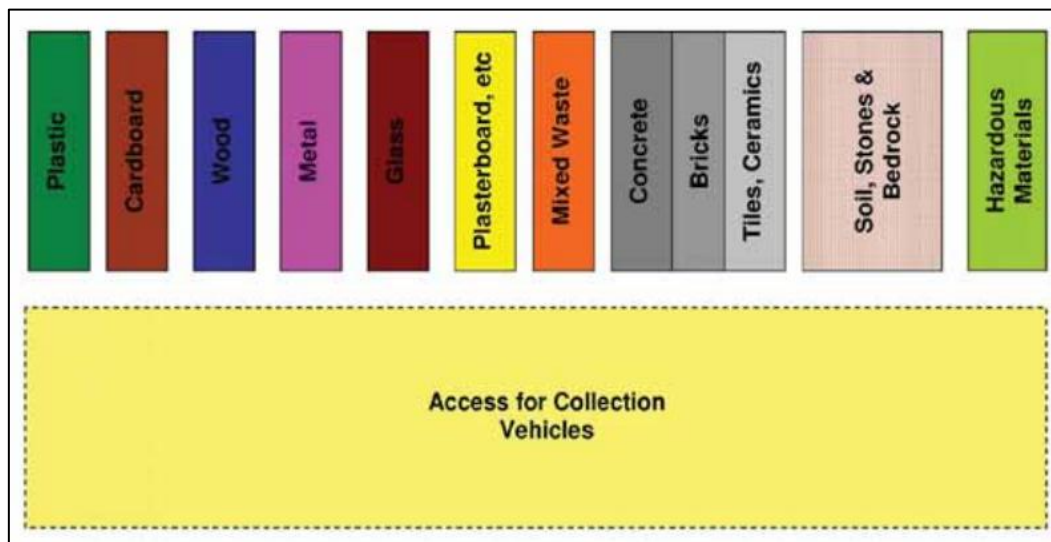


Figure 4: Layout Plan for the site-based waste segregation

8.3 Demolition Works

There are no demolition works associated with the Proposed Development.

8.4 Construction Traffic

It is assumed typical construction traffic will comprise of ready-mix lorries, articulated low loaders, plant delivery and rigid vehicles. It is not anticipated that any specialist vehicles will be required to serve the site. However, if an abnormal load is required prior notice would be agreed with the An Garda Síochána and other relevant authorities.

8.4.1 Construction Traffic Management Plan

Prior to the commencement of development (including any site clearance or groundworks), a Construction Traffic Management Plan (CTMP) will be developed setting out how traffic flow will be managed to mitigate potentially negative impacts. It will be the Contractor's responsibility to develop the CTMP, in compliance with the employer's requirements. The CTMP will be agreed with Planning Authority before commencement of

development. It shall be the responsibility of the Contractor to ensure that an agreed CTMP is in place before construction commences and that clear structures/arrangements are in place for full compliance during the course of construction.

8.4.2 Proposed Access

Primary access to the site will be from the R149 for both construction and development traffic. The access is appropriate to accommodate the largest vehicle visiting the site during construction (standard HGV) and will facilitate 2-way access/egress. Site access will be controlled at a gate. A suitable vehicle turning area (suitable for the largest vehicles expected to visit or in connection with the operation of the site) will be provided within the curtilage of the site to enable all vehicle movements onto or from the public road to be carried out in forward gear. If any specialist vehicles or abnormal loads are required for the site, prior notice would be agreed with the An Garda Síochána and other relevant authorities. Following this, appropriate routing requirements would be agreed. A speed limit will be implemented on site to reduce the likelihood of injury or death due to the movement of construction traffic.

8.4.3 Deliveries

Delivery of equipment and materials will be carefully controlled and managed at the site. Access and egress to the proposed area will be managed by the General Contractor. Delivery times will be planned in advance.

8.4.4 Temporary Traffic Construction Measures

All temporary traffic management arrangements, street works, and external road-facing signage deployed during the construction phase shall strictly comply with the requirements of the Department of Transport Traffic Signs Manual Chapter 8 (Temporary Traffic Measures and Signs for Roadworks). The Appointed Contractor is responsible for ensuring all site access point layouts, advance warning sign sequences, and roadside safety barriers conform exactly to the layouts stipulated in the manual to maintain public safety.

A speed limit will be implemented on site to reduce the likelihood of injury or death due to the movement of construction traffic. Within the site itself, a construction compound area will provide an area for loading and unloading of vehicles and will provide a turning area to allow vehicles to exit the site in forward gear, in line with Kildare County Council (KCC) requirements. All delivery drivers and construction workers will be advised of the construction route prior to making their delivery or commencing work. Due to the movement of construction traffic, a speed limit will be implemented on site for health and safety reasons. It is also proposed that temporary signage be located on R149, in the vicinity of the site access during the construction period, to warn drivers of the site entrance, as shown in Figure 4 below.



Figure 5: Example Temporary Signage at Site Access

The Site Manager for the project will undertake the transport co-ordination role for the site. In this respect, their main responsibilities will include:

- ✓ Vehicle scheduling;
- ✓ Checking for scheduled road works that could disrupt arrivals;
- ✓ Checking for scheduled refuse collections to avoid conflict with HGV deliveries within built up areas;

- ✓ Handling any complaints; and
- ✓ Acting as a point of contact for employees, contractors and the public.

8.4.1 Vehicle & Wheel Wash Facility

A temporary wheel wash system with overground settlement tank will be installed at the construction exit points from the site to prevent soil from being carried onto the public road network. Figure 5 illustrates the location of the wheel wash system.

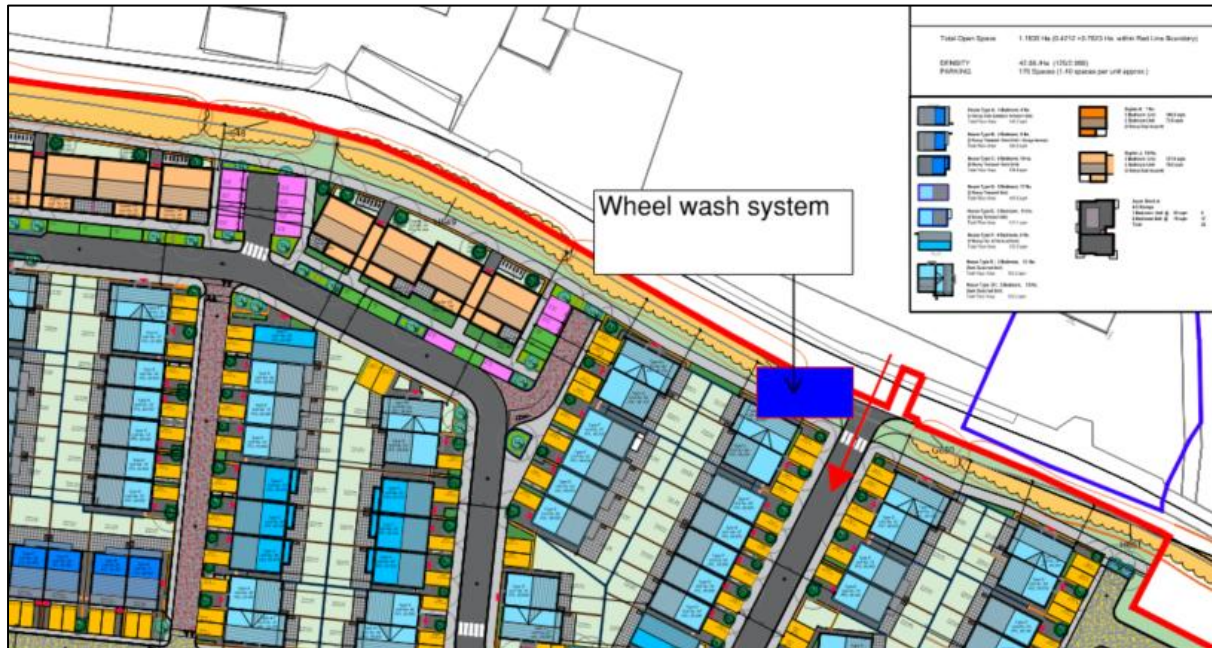


Figure 6: Location of Wheel Wash System

The overground settlement tank will be used within the wheel wash system in order to contain the washings and remove solids and oils from the water either through commercially available systems or a bespoke system developed. The wash water can then be discharge to sewer under agreement with the EPS or removed off site for authorised disposal. The effectiveness of the wheel wash facilities will be monitored throughout the construction of the development. Figure 5 illustrates an example of an operational wheel wash system.



Figure 7: Example Wheel Wash System

8.4.2 Road Cleaning

The appointed contractor will continuously monitor all public roads along designated haul routes for project-related dirt and debris. To mitigate excessive material deposition, a truck-mounted vacuum mechanical road sweeper will be deployed as required throughout the development cycle. The sweeper must feature high-efficiency vacuum functionality capable of capturing fine silt and dust. This specialised equipment will prevent airborne particulates and safeguard local drainage systems and adjacent waterbodies from sediment runoff.

8.5 Services

Note that in relation to working near services such as electricity, gas, water etc, liaison will take place with the service provider.

All utility services discovered adjacent to the site will be treated as “live” until proven otherwise and the co-ordination of switchovers and temporary disruptions for new constructions will be undertaken in accordance with the standard procedures of the relevant statutory authorities.

8.6 Construction Site Security

During the entire construction phase, maintaining the highest standards of Health and Safety (H&S) for all workers, site visitors, and the public is of paramount importance. All site activities will strictly adhere to the relevant safety legislation.

A key aspect of this commitment is adequate site security. Uncontrolled access by the public, such as children or trespassers, must be rigorously restricted. This is not only essential for managing immediate safety risks but also vital for environmental protection, as unauthorised access and vandalism are recognised as major contributors to pollution events on construction sites.

The security of the works areas will be the responsibility of the Appointed Contractor who will provide adequate security to prevent unauthorised entry to or exit from any working areas. The following measures may be used to prevent unauthorised access.

- ✓ Installation CCTV and alarm systems where required;
- ✓ CCTV and security systems will be sited and directed so that they do not intrude into occupied residential properties;
- ✓ When there is no activity on site, site gates will be closed and locked and appropriate site security provisions will be undertaken; and
- ✓ Consultation with neighbouring properties and local crime prevention officers including KCC and An Garda Síochána on site security matters as required.

8.6.1 Hoarding

Perimeter hoarding will be provided around the site and along the public road so as to prevent unauthorised access to the site. Controlled access points will also be provided. Hoarding will be maintained to a high standard and painted or covered as appropriate. Temporary hoarding will be provided as necessary within the site as safety restrictions to prevent public access.

The following measures will be applied in relation to hoarding and fencing:

- ✓ Construction compounds will be secured by fencing and provided with lockable gates to prevent unwanted access to temporary compounds and working areas.
- ✓ Appropriate sight lines/visibility splays will be maintained around accesses to temporary compounds and working areas from the public road to ensure safety of both vehicles and pedestrians is preserved;
- ✓ Temporary Heras fencing will be used in certain areas, such as for short term occupation of working areas;
- ✓ Display information boards will be provided with out of hours contact details, a telephone helpline number for comments/complaints and information on the works; and

- ✓ Notices to warn of hazards on site such as deep excavations, construction access will be installed on site boundaries.

8.6.2 Lighting

Working areas will be powered preferably by mains supplies and by diesel generators where an electrical supply is not available. The Contractor will put measures in place to ensure that there are no interruptions to existing services unless this has been agreed in advance with the relevant service provider.

Lighting – site lighting will typically be provided by tower mounted temporary portable construction floodlights. The floodlights will be cowled and angled downwards to minimise spillage to surrounding properties. The following measures will be applied in relation to site lighting:

- ✓ Lighting will be provided with the minimum luminosity sufficient for safety and security purposes. Where practicable, precautions will be taken to avoid shadows cast by the site hoarding on surrounding footpaths, roads, and amenity areas;
- ✓ Motion sensor lighting and low energy consumption fittings will be installed to reduce usage and energy consumption; and
- ✓ Lighting will be positioned and directed so that it does not unnecessarily intrude on adjacent buildings and land uses, ecological receptors and structures used by protected species, nor cause distraction or confusion to motorists.

9 Environmental Mitigation Measures

Supporting environmental assessments, submitted with the planning application, have evaluated the Proposed Development's likely environmental impacts. These assessments also outline specific mitigation measures designed to reduce the magnitude of those effects. Sections 9.1 - 9.5 detail these proposed mitigation measures.

9.1 Pollution Prevention

All work will be conducted in strict adherence to national and international legislation, as well as best practice guidance. This includes, but is not limited to, established guidance on preventing pollution from construction sites.

9.1.1 Guidance for Pollution Prevention (GPPs)

Although the Guidance for Pollution Prevention (GPPs) is not directly applicable to the Republic of Ireland, these documents provide essential environmental good practice guidance for the UK (Northern Ireland, Scotland, and Wales). It is considered best practice to reference the GPPs, as they are rooted in relevant legislation and reflect current industry standards. Adhering to this guidance assists in managing environmental responsibilities and preventing pollution incidents. Failure to prevent pollution may constitute a criminal offence; following these guidelines helps mitigate that risk.

GPP 1: Understanding your environmental responsibilities - good environmental practices.

A basic introduction to pollution prevention, with signposts to other PPGs and publications (October 2020).

GPP 2: Above ground oil storage tanks

For above ground oil storage, excluding oil refineries and distribution depots (January 2018).

GPP 3: Use and design of oil separators in surface water drainage systems

For identifying where an oil separator is required and, if so, what size and type of separator is appropriate. (March 2022).

GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer.

For selecting the correct sewage disposal, treatment and disposal options, and maintenance and legal requirements. Also, for what to have in mind, in terms of wastewater treatment, when buying a house. (November 2017).

GPP 5: Works and maintenance in or near water

For construction or maintenance works near, in, or over water (February 2018).

GPP 6: Working at construction and demolition sites.

For the construction and demolition industry (2012).

GPP 8: Safe storage and disposal of used oils.

For storing and disposing of used oils. Applies to activities ranging from a single engine oil change to those of large industrial users (July 2017).

GPP 13: Vehicle washing and cleaning.

A guidance document that deals with the requirements for washing and cleaning any vehicle using automatic wash systems, high pressure or steam cleaners and washing by hand. It provides information on the type of site, cleaning materials and the drainage requirements that will prevent pollution from these activities (April 2017).

PPG 18: Managing fire water and major spillages.

For identifying equipment and techniques available to prevent damage to the water environment caused by fires and major spillages (June 2000).

GPP 20: Dewatering underground ducts and chambers

Information on the steps to be taken to avoid pollution when dewatering underground ducts and inspection chambers (January 2018).

GPP 21: Pollution incident response planning.

For producing emergency pollution incident response plans to deal with accidents, spillages and fires (June 2021).

GPP 22: Dealing with spills

For anyone who is responsible for storing and transporting materials that could cause pollution if they spill (October 2018).

Spill kit must be kept on site with sand, earth or commercial products for the containment of fuel and other material spillages. All staff will receive appropriate training in the use of these kits and are to be made aware of where the kit is stored. In the event of a spillage of oils or chemicals resulting in contamination of water courses or damage to habitats, the following procedure will be adopted:

- ✓ The appropriate spill kit is to be deployed immediately and the site manager is to be informed.
- ✓ The incident is to be recorded within the site logbook; and
- ✓ In the event of contaminants being discharged directly to water courses, or in the event of significant spillage (more than 10 litres), the **EPA is to be contacted on 0818 33 55 99**.



Figure 8: Example Spill Kit

GPP 26: Safe storage - drums and intermediate bulk containers. For site operators of industrial and commercial premises storing and handling drums and intermediate bulk containers (IBCs) containing oil, chemicals or potentially polluting substances (February 2019).

National Environmental Complaints Line (NECL)

1800 365 123

It is recommended that in the event of a water pollution incident the NECL hotline is contacted within 30 minutes unless it is not safe to do so.

9.2 Water Environment

The Office of Public Works (OPW) regulate activities in or in the vicinity of rivers, lakes and wetlands, including engineering activities like river crossings and culverting. Depending on the nature of the works, these may

require consent from OPW. In addition, consultation with Inland Fisheries Ireland (IFI), the Loughs Agency and the Environment Protection Agency (EPA) will be required. The Contractor undertakes all consultation and obtains consents/permits prior to works as necessary.

The surface water management strategy and silt mitigation measures proposed for the development site have been designed to protect adjacent watercourses from indirect runoff. All works will be executed in compliance with the following statutory and non-statutory guidance documents:

- Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.
- CIRIA C811 (2023) Environmental Good Practice on Site Guide (Fifth Edition).
- CIRIA C532 (2001) Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors.

9.2.1 Existing Watercourses

Several waterbodies are located within and adjacent to the Proposed Development site, as shown below in Figure 7. There is an existing watercourse (the Silleasechain Stream) within the site running along the western boundary which runs beneath the Royal Canal and rail line and joins the River Liffey to the south in Leixlip. On the southern boundary a tributary runs parallel to the Royal Canal to the south and converges with the Silleasechain Stream in the southwest corner of the site.

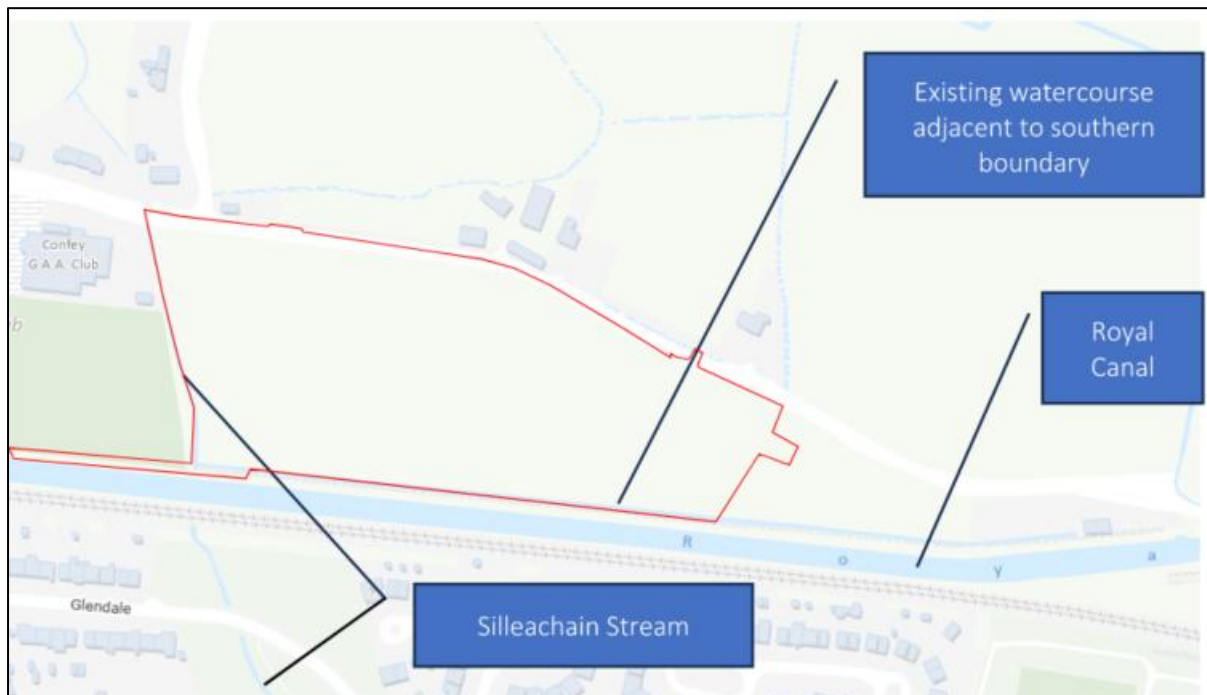


Figure 9: Existing Waterbodies

20m Exclusion Zone

Pre-construction site clearance and construction works have the potential to indirectly impact on Silleasechain Stream and existing drainage ditches, causing deterioration of water quality flowing into the designated sites located downstream of the proposed project.

A 20 m buffer will be maintained between all construction works and existing waterbodies in order to avoid and / or minimise adverse effects from pollution and runoff and to ensure the project will not have adverse effects on the integrity of any designated sites located downstream of the proposed project.

The 20m distance exclusion zone or buffer from the watercourse must be maintained for the duration of all construction works.

- NO material shall be stored in the exclusion zone.
- There shall be no cement, concrete, grout, fuels/ oil/ hydrocarbons stored in the exclusion zone. Pollution prevention measures detailed below will be incorporated during the construction phase to prevent any possibility of sediments and other pollutants entering any nearby watercourses or surface drainage systems. The following measures must be implemented;

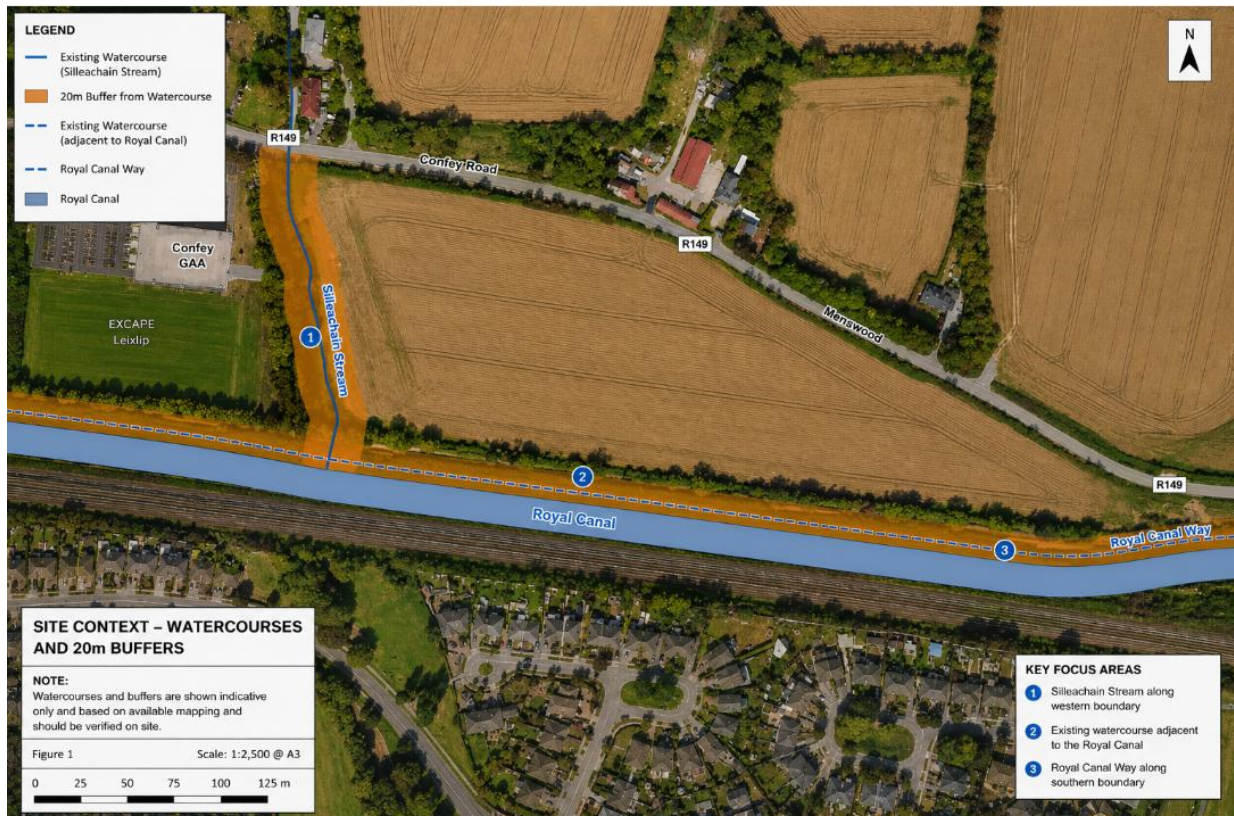


Figure 10: 20m Exclusion Zone

- ✓ Dedicate specific areas for oil storage and refuelling, separated a minimum of 20m from any adjacent waterbodies and comply with legislation, including providing bunds sized to contain 110% of fuel storage capacity.
- ✓ The contractor will use fill point drip trays, bunded pallets and secondary containment units.
- ✓ The site will be enclosed and secured and fuel storage areas will be secondarily secured.
- ✓ All fuel, oil and chemical deliveries will be supervised by a responsible person who will be trained to deal with any spillage to prevent a pollution problem occurring.
- ✓ Storage of COSHH items is not permitted and only brought to site as required, fuel is provided by client from an existing bunded static supply, where small portable machines are to be fuelled up a drip tray is used.

9.2.2 Protection of the Water Environment

Timing of works can strongly influence the potential for damaging the freshwater environment. Operations during wetter periods of the year pose a significantly greater risk of causing erosion and siltation, which can be particularly severe following major rainfall or snowmelt events. Traditionally, construction undertaken during the drier summer months will result in significantly less erosion and siltation. Construction activities in proximity to the exclusions zones shall be avoided during or after prolonged rainfall or an intense rainfall event when it is evident that water quality could potentially be impacted.

Silt Fencing

During the construction phase, surface water runoff will outfall into the existing on-site streams and tributary. Silt fencing shall be installed to prevent silt-laden run-off and pollutants from entering any watercourse. Silt fencing shall consist of a maintainable geotextile membrane (equivalent to Terrastop™ Premium; 250 microns; 45 l/m2/sec). Installation, maintenance, and removal shall follow the manufacturers' specifications. The geotextile membrane will be inspected at least once a week and following any period of heavy rainfall (i.e. Met Éireann orange rain warning).



Figure 11: Typical Silt Fencing

All silt mitigation structures must be positioned entirely outside (upslope of) the designated 20-metre watercourse exclusion zone. This positioning ensures that runoff is fully treated before gravity allows it to seep into the protected exclusion zone.

Installation Standards

Silt fences must be continuous, positioned transverse to the expected flow, and follow site contours as closely as possible.

- **Trenching and Burial:** A trench measuring 150mm wide and 150mm deep shall be excavated on the upslope side of the proposed silt fence. The bottom 150mm of the geotextile fabric must be laid in the trench in an "L" configuration and backfilled to prevent under-flow or bypasses.
- **Compaction Requirements:** Backfill soil must be compacted immediately adjacent to the fabric to achieve stable density and prevent structural failure. Compaction should be performed using appropriate site equipment or manual tamping, ensuring the physical integrity of the geotextile is maintained. Poor compaction is a primary cause of silt fence failure.
- **Post Placement:** Support posts must be driven tight to the downslope side of the fabric at a maximum spacing of 1.50m. Based on site investigations confirming 1m of overburden across the site, a minimum driving depth of 500mm must be achieved (extending to 600mm if the fence is placed on a slope of 3:1 or greater).
- **Joint Management:** Maximum run lengths are limited to 30m to minimise joints and maintain structural stability. Where joints are unavoidable, the fabric shall be spliced together only at a support post with a minimum 300mm overlap and securely sealed to eliminate gaps.

Inspection and Maintenance

- **Inspection Frequency:** The contractor shall inspect all temporary silt fences immediately following each heavy rainfall event, and at least daily during prolonged wet weather incidents. The site hoarding layout must facilitate clear visual access to the fences from the active works area to ensure regular monitoring.
- **Sediment Management:** Accumulated sediment must be removed when deposits reach one-third of the exposed fence height. Extracted silt must not be stockpiled near the 20-metre exclusion zone; it must be

transferred immediately to a designated, bunded soil storage area located away from active drainage paths.

- Decommissioning: Fences must remain fully operational in-situ until the contributing catchment area is fully stabilised and the project Environmental Manager authorises their removal. All bare areas exposed during decommissioning must be re-vegetated immediately to prevent secondary erosion.

Oil Storage and Refuelling

The following pollution prevention measures will be incorporated during the construction phase to ensure sediments and other pollutants do not enter watercourses or surface water drains. The implementation of these water pollution mitigation measures is designed to prevent any adverse effects on watercourses or downstream designated sites. The following measures are mandatory:

- ✓ Designated Areas: Specific areas for oil storage and refuelling must be established.
- ✓ Containment: Bunds must be sized to contain 110% of the fuel storage capacity. The contractor will utilise fill-point drip trays, bunded pallets, and secondary containment units.
- ✓ Security: The site will be secured, and fuel storage areas will have secondary security measures.
- ✓ Supervision: A trained, responsible person must supervise all fuel, oil, and chemical deliveries and be prepared to manage any spillage.
- ✓ COSHH Items: Storage of Control of Substances Hazardous to Health (COSHH) items on-site is not permitted; items should only be brought to the site as required. For small, portable machines fuelled from the client's existing static supply, a drip tray must be used.

Suspended Sediment / Sedimentation

Preventing run-off is the most effective method for controlling sediment pollution in the water environment. The adoption of appropriate sediment controls during construction is essential for regulatory compliance and environmental protection. The Contractor is responsible for implementing and adhering to mitigation measures outlined in this CEMP. Sediment control measures will be consistent with the following guidance documents:

- Inland Fisheries Ireland (2016) Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters;
- CIRIA C811 (2023) Environmental Good Practice on Site Guide (Fifth Edition);
- CIRIA C532 (2001) Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors;
- GPP 1: Understanding your environmental responsibilities - good environmental practices (October 2020);
- GPP 2: Above ground oil storage tanks;
- GPP 5: Works or maintenance in or near water (February 2018); and,
- GPP 6: Working at construction & demolition sites (Environment Agency, 2012).

Additional Measures to Limit Water Quality Issues:

- Stockpile Management: The location of stockpile storage areas will be carefully planned, clearly identified, and selected to minimise material movements, erosion potential, and cross-contamination risk.
- Exclusion Zones: 20m exclusion zones will be clearly marked using tape and cones to provide a visual reminder to all site personnel of restricted areas.

Concrete and Cement Pollution

The primary impacts regarding cement and concrete for the Proposed Development are related to the installation of concrete flooring and general building construction works. Mitigation measures to prevent cement contamination of water bodies will be implemented strictly according to the recommendations within this OCEMP. The following actions are mandatory to mitigate potential water quality issues:

- Washout Facilities: A risk assessment will be performed to determine the optimal, contained location for concrete washout facilities required for plant on site.
- Mixing Areas: If required, all washout from mixing operations will be undertaken within a contained, impermeable area.
- Stockpile Location: Stockpile storage areas must not be located within the designated environmental exclusion zone.
- Exclusion Zone Marking: The 20m exclusion zone shall be clearly marked with tape and cones to provide a visual reminder of restricted areas.

The implementation of these mitigation measures during construction operations will reduce the potential impact to the receiving water environment to a negligible magnitude, resulting in a minor, temporary environmental effect.

9.2.3 Flooding

The site is not at risk of flooding from overland pluvial or fluvial flows. The proposed scheme includes extensive SuDS measures which will reduce surface water discharge and overland flow routes created within the development will ensure there is only limited risk of flooding as a result of a surface water network failure. Surface water from the development will be collected in green roofs areas, permeable paving surfaced areas, infiltration trenches, tree pits, and swales throughout the site. The development design mirrors the existing scenario regarding surface levels and existing overland flow routes will remain generally unchanged.

Sustainable Drainage Systems (SUDs)

The proposed development includes a number of SuDS measures which are designed to minimise flood risk to the subject site and upstream and downstream properties in accordance with the GDSDS. The surface water discharge for the development is limited to the calculated greenfield runoff rate (QBARRURAL) and the necessary attenuation storage is designed allowing for a 30% climate change factor and a 10% Urban Creep factor. The addition of a green roof to the apartment building, infiltration trenches, tree pits, a conveyance and retention swale and extensive areas of permeable paving areas, water butts, etc. further increases storage throughout the site and also increases the time of entry for discharge into the swale area, thereby further flattening the peak flow curves. Figure 9 illustrates the locations of the infiltration blanket and swale.



Figure 12: Proposed Swale

9.2.4 General Construction Works

The risk of water quality impacts associated with works machinery, infrastructure, and on-land operations—such as leakages or spillages of fuels, oils, chemicals, and wastewater—will be controlled through robust site management protocols.

Adherence to established codes of practice will limit these risks to acceptable levels. When these mitigation measures are employed correctly during construction operations, the potential impact magnitude on the receiving water environment is reduced to negligible, resulting in a minor, temporary environmental effect.

Table 4:: General Mitigation Measures

Mitigation Measure	When?	By whom?
All mitigation measures detailed herein will be subject to periodic inspection and maintenance.	Before Construction Phase	Principal Contractor to deliver
The contractor should adhere to standard requirements for the protection of watercourses adhering to the exclusion zone, if applicable.	Construction Phase	Principal Contractor to deliver
The Principal Contractor will allocate a dedicated area for material deliveries separated a minimum of 20m from any adjacent waterbodies, manage the same and make sure that over-ordering and stockpiling is kept to a minimum.	Construction Phase	Principal Contractor to deliver
The Principal Contractor will dedicate specific areas for oil storage and refuelling and will use spill point drip trays, bunded pallets and secondary containment units. The site will be enclosed and secured and fuel storage areas will be secondarily secured.	Construction Phase	Principal Contractor to deliver
Reference and adherence to all the relevant precepts contained in EPA Pollution Prevention Guidance paying particular attention to where further information can be found regarding oil storage, safe storage - drums and intermediate bulk containers, and the use of oil separators in surface water systems (including the restrictions due to use of detergents).	Construction Phase	Principal Contractor to deliver
A discharge consent is required for any discharges to the Aquatic Environment and may be required for Site Drainage during the construction stages of the development.	Construction Phase	Principal Contractor to deliver
Reference and adherence to all the relevant precepts contained in	Construction Phase	Principal Contractor to deliver

Mitigation Measure	When?	By whom?
Standing Advice Discharges to the Water Environment.		
The GPPs are an acknowledged source of best practice guidance for pollution prevention across different sectors. Whilst some of these GPPs have now been withdrawn they still provide useful information on good practice.	Construction Phase	Principal Contractor to deliver
The contractor will adopt a site specific Emergency Response & Environmental Plan (Appendix H of this OCEMP provides a template than can be adopted and used) Appoint a responsible person and train operatives in implementation and testing of the plan periodically throughout construction of the works. An Emergency Spill Response Plan, the content of which is included in this OCEMP (Please refer to Appendix H), will detail actions to be taken in the event of an accidental spillage of fuel, chemicals or other hazardous material.	Construction Phase	Principal Contractor to deliver
During the construction stage foul discharges will be collected and stored locally for removal off site. As such, no burden will be placed on any existing foul infrastructure and no further mitigation measures are required.	Construction Phase	Principal Contractor to deliver
Suitable training will be provided to relevant personnel detailed within the Emergency Response & Environmental Plan (Please refer to Appendix H) to ensure that appropriate and timely actions will be taken should an incident occur.	Construction Phase	Principal Contractor to deliver

9.2.5 Unexpected Contamination

During construction works, should unexpected contamination be encountered in soils or groundwater with visual or olfactory signs of contamination, samples of the potentially contaminated material should be obtained and sent for chemical analysis. An updated risk assessment should be completed to assess risks to human health and environmental receptors. Should unacceptable risks be identified then appropriate remedial works will be conducted and agreement sought from the relevant regulatory bodies.

9.3 Ecology

This Section outlines the protocols for protecting the site's ecological integrity, including habitat removal and mitigation for birds and bats. The appointment of an Ecological Clerk of Works (ECoW) will oversee implementation of the ecological measures during vegetation clearance, excavation and other works with the potential to affect bats, breeding birds or non-volant terrestrial mammal.

9.3.1 Birds

The scrub on site may provide a habitat for breeding birds. The principle of avoidance will be implemented in relation to timing of works to avoid disturbance of breeding birds within the site. Any pre-construction site clearance works and removal of vegetation including trees, ivy, scattered scrub and bramble will take place outside the bird breeding season which extends between 1st March and 31st August inclusive to ensure breeding birds are protected from harm. If pre-construction site clearance and removal of vegetation is deemed necessary within the bird breeding season an ECoW will undertake a survey to check for breeding birds immediately prior to works and confirm that breeding birds will be protected from harm during works.

Habitat Removal

Any clearance of vegetation will ideally be carried out outside the main breeding season, i.e. 1st March to 31st August, in compliance with the Wildlife Act 2000. Should any vegetation removal be required during this period, this vegetation will be checked for bird nests, and if any are noted during this evaluation prior to removal, a derogation licence will be required from the NPWS. This would note the section of habitat that is a nest site, the precise location within the hedgerow/trees, the species of bird present; and also elaborate the means by which the birds would be protected prior to nest removal. If eggs have been laid, the nest will be protected until the young have fledged after which time the nest could be destroyed (under licence from the NPWS only). This would also require further compensatory measures including nesting sites for birds if practicable.

9.3.2 Bats

If any roosting bats are found to be present during construction works, all work in that area must stop immediately. The National Parks and Wildlife Service (NPWS) and the project's Ecological Clerk of Works (ECoW) must be contacted immediately for further guidance. Works must then be conducted in compliance with Irish and EU legislation, specifically the Wildlife Act 1976 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011, and any associated NPWS guidance documents.

Tree Removal

Specifically, if tree felling is necessary, the following protocol should be followed for trees as a precautionary measure:

- ✓ Tree-felling should be undertaken in the period late August to late October/early November. During this period bats are capable of flight and this may avoid risks associated with tree-felling.
- ✓ Felling during the winter months should be avoided as this creates the additional risk that bats may be in hibernation and thus unable to escape from a tree that is being felled. Additionally, disturbance during winter may reduce the likelihood of survival as the bats' body temperature is too low and they may have to consume too much bodyfat to survive.
- ✓ Tree-felling should be undertaken using heavy plant and chainsaw. There is a wide range of machinery available with the weight and stability to safely fell a tree. Normally trees are pushed over, with a need to excavate and sever roots in some cases. In order to ensure the optimum warning for any roosting bats that may still be present, an affected tree will be pushed lightly two to three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. Any affected trees should then be pushed to the ground slowly and should remain in place for a period of at least 24 hours, and preferably 48 hours to allow bats to escape.

9.3.3 Ecological Clerk of Works (ECoW)

An Ecological Clerk of Works will oversee implementation of the ecological measures during vegetation clearance, excavation and other works with the potential to affect bats, breeding birds or non-volant terrestrial mammals.

Ecological monitoring will be undertaken at the frequency required by the works programme and the level of ecological risk. Sensitive works will be attended directly where necessary, while routine inspections will be undertaken periodically throughout the Construction Phase. Where monitoring identifies a failure to implement an ecological measure, the affected works will stop where required and corrective action will be completed before works recommence.

The Ecological Clerk of Works will:

- review the final construction programme, temporary lighting design and relevant method statements;
- inspect areas of vegetation, debris and stored materials before mammal-sensitive clearance;
- inspect open excavations, trenches and pipework where mammals could become trapped;
- verify that ecological exclusion zones and stop-work procedures are observed;
- monitor temporary construction lighting where it could affect bat-roost features or retained habitat;
- record ecological incidents, non-compliance and corrective actions; and
- confirm that any previously unidentified protected species or active nests are appropriately managed.

Ecological Monitoring

Ecological monitoring will be undertaken during the Construction and Operational Phases to confirm that the avoidance, mitigation, compensation and enhancement measures set out in the Outline EclA (Outline Ecological Impact Assessment) are implemented correctly and remain effective. Monitoring will be proportionate to the ecological risks identified and will be undertaken by suitably qualified and experienced personnel.

Table 5: Details of Ecological Clerk of Works (ECoW)

Role	Company	Named Contact	Contact Details
Ecological Clerk of Works	Write name of company here	Write name of person here	Write phone number here

9.4 Noise & Vibration

The construction phase of the Proposed Development will involve the movement of plant and machinery in order to facilitate the construction of the proposed building structures. Such works have potential to give rise to airborne noise. Sections 9.4.1 and 9.4.2 below outline a number of mitigation measures which can be implemented to reduce noise levels during the construction phase of the Proposed Development.

9.4.1 Control of Noise at Source

There are many general measures that will be used to reduce noise levels at source. Such as:

- ✓ The avoidance of unnecessary revving of engines and switching off equipment when not required;
- ✓ Keeping internal haul routes well maintained and avoiding steep gradients;
- ✓ The use of rubber linings in, for example, chutes and dumpers reduce impact noise;
- ✓ The minimisation of drop heights; and
- ✓ Starting up plant and vehicles sequentially rather than all together.

The use of conventional audible reversing alarms can be a noise nuisance issue on some sites, the reversing alarms used on the proposed site will be of a type which, whilst ensuring that they give proper warning, has a minimum noise impact on persons outside the proposed site. Where practicable, alternative reversing alarm systems will be employed to reduce the impact of noise outside of construction sites.

Prior to the construction phase, the contractor shall review the specification for all plant and equipment to be employed on-site to ensure that the quietest plant/equipment available is to be used. Modifications to plant and equipment to improve sound reduction will be implemented if required, but any alterations shall be conducted in consultation with the plant manufacturer.

9.4.2 Noise and Vibration Monitoring

Pre-commencement Baseline Survey

The proposed development is located within the jurisdiction of Kildare County Council, however it will adopt the standards set out in the Dublin City Council Good Practice Guide for Construction and Demolition (2024). This approach ensures the application of industry-leading environmental controls and rigorous monitoring protocols throughout the project lifecycle.

In line with these guidelines, a baseline noise monitoring survey will be conducted before any on-site development begins. This survey will establish existing ambient noise levels, which will be used to define construction noise threshold limits in strict compliance with BS 5228-1:2009+A1:2014 (Code of practice for noise and vibration control on construction and open sites).

Construction Phase Monitoring

To ensure continuous compliance, noise and vibration monitoring will be carried out throughout the construction phase:

- Noise Monitoring: Real-time monitoring will be conducted at sensitive receptor locations to ensure site activities remain within the established BS 5228 limits.
- Vibration Monitoring: Monitoring will be undertaken to ensure vibration levels—measured in Peak Particle Velocity (PPV)—do not exceed thresholds for cosmetic or structural protection of neighbouring buildings.

Vibration Monitoring

Prediction of vibration levels at receptors is complex and dependent on several variables including the excavation method, the nature of the used equipment, the properties of the subsoil, the heterogeneity of the soil deposit, the distance to the receptor and the dynamic characteristic of the adjacent structures. Therefore, limits or threshold criteria as set out in BS5228-2 are applied for buildings and humans. BS5228-2 provides some historic data on vibration levels measured on sites from different types of piling equipment under specific conditions e.g. soil type, however there is no data for other types of equipment. Taking account of the distances to bridge from the works and notwithstanding ground conditions present, it is not anticipated that the vibration criteria outlined in BS5228-2 will be exceeded. While detailed construction methods are yet to be finalised, if piling is included in the proposed works, precautionary vibration monitoring is recommended. This monitoring should be conducted at the boundary of the site closest to sensitive receptors during any vibration-generating activities

9.4.3 Construction Noise General Mitigation

British Standard BS5228:2009+A1:2014 – Noise and vibration control on construction and open sites outlines a range of measures that can be used to reduce the impact of construction phase noise. These measures will be applied by the contractor where appropriate during the construction phase of the Proposed Development. Examples of some of the best practice measures included in BS5228 are listed below:

- ✓ ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order;
- ✓ careful selection of quiet plant and machinery to undertake the required work where available;
- ✓ all major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use;
- ✓ any ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers;
- ✓ machines in intermittent use will be shut down in the intervening periods between work;

- ✓ ancillary plant such as generators, compressors and pumps will be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines will be placed away from sensitive locations, in order to cause minimum noise disturbance. Where possible, in potentially sensitive areas, acoustic barriers of enclosures will be utilised around noisy plant and equipment.
- ✓ Handling of all materials will take place in a manner which minimises noise emissions;
- ✓ Audible warning systems will be switched to the minimum setting required by the Health & Safety Executive;

In order to minimise the likelihood of complaints, Kildare County Council and affected residents must be kept informed of the works to be carried out and of any proposals for work outside normal hours.

Screening

Screening when used correctly can be an effective method of reducing the construction noise impact on the NSL's. The use of site hoarding and careful selection of areas for noise works, using buildings on the site, site offices and the building being constructed to screen noise from the works.

Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- <https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/>
- <https://echobarrier.com/>



Figure 13: Temporary Construction Noise Barrier © Ventac

Public Engagement

It is recommended that a public liaison officer should be put forward by the contractor to liaise with the local residents on matters relating to noise. Residents should be informed of any noise works scheduled where there is the potential to generate high levels of construction noise or if specialist works etc need to be conducted out of the working hours. This person should also be the point of contact for all complaints and be responsible for reviewing the noise monitoring results and exceedances.

9.5 Air Quality Management

Construction activities associated with the Proposed Development may generate dust and exhaust emissions. The following mitigation measures are mandatory during the construction phase to control fugitive dust and emissions to the atmosphere.

9.5.1 Communications and Awareness

The following communication protocols will be implemented before works commence on site:

- ✓ Accountability: Display the name and contact details of the person(s) accountable for environmental issues (e.g., Project Manager or Site Manager) on the site boundary.
- ✓ Training: Provide appropriate training to all staff to ensure awareness and understanding of dust and environmental control measures.
- ✓ Head Office Contact: Display head or regional office contact information on site signage.

9.6 Site Management

The Principal Contractor must implement the following site management measures as required throughout the works:

- ✓ Complaints Handling: Record all dust and air quality complaints, identify the cause(s), take timely measures to reduce emissions, and document all actions taken.
- ✓ Reporting: Make the complaints record available to relevant regulatory authorities upon request
- ✓ General Controls:
 - Avoid site runoff of water or mud.
 - Use covered skips for waste materials.
 - Prohibition: No bonfires or burning of waste materials on site is permitted

9.6.1 Earthworks and Excavation

Earthworks, including foundations, trenching, and stockpiling, are planned as part of the scheme. The following measures will be implemented:

- ✓ Material Handling: Minimise drop heights when loading or handling equipment/materials. Use fine water sprays on handling equipment where appropriate.
- ✓ Dampening: Utilise dampening methods (e.g., water suppression) where necessary to control dust generation.

9.6.2 Construction Activities

The appointed contractor must implement the following measures during the construction period:

- ✓ Bulk Materials: Ensure bulk cement and other fine powder materials are delivered in enclosed containers.
- ✓ Smaller Supplies: For smaller supplies of fine powder materials, ensure bags are sealed after use and stored appropriately to prevent dust release.
- ✓ Cutting/Grinding: Only use cutting, grinding, or sawing equipment that is fitted with, or used in conjunction with, suitable dust suppression techniques (e.g., water sprays or local exhaust ventilation systems).
- ✓ Cleaning: Hardstand areas must be cleaned regularly using personnel or mechanical road sweepers fitted with water suppression systems.

9.6.3 Vehicle Movement and Emissions

Vehicle movement, plant use, and emissions will be managed throughout the project:

- ✓ Transportation: Transport aggregates and fine materials in enclosed or sheeted vehicles.
- ✓ Speed Limit: The main contractor will implement and enforce an appropriate onsite speed limit (e.g., 15 km/h).
- ✓ Engine Idling: Ensure all vehicles switch off engines when stationary and not in immediate use—no idling vehicles.
- ✓ Plant Maintenance: All plant utilised must be regularly inspected and maintained to comply with manufacturer limits.

- ✓ Visual Monitoring: Conduct visual monitoring of plant to ensure no black smoke is emitted other than during ignition.
- ✓ Exhaust Direction: Vehicle exhausts must be directed away from the ground and surfaces (preferably upwards) to avoid re-suspension of road dust.

9.6.4 Dust Monitoring

To safeguard human health and maintain local amenity, a rigorous dust monitoring regime will be enforced throughout the construction phase of the proposed development.

10 Appendices and Supporting Documents

This final section introduces the supporting documentation referenced throughout the CEMP. These documents provide detailed templates, forms, checklists, and plans necessary for the practical implementation and recording of environmental management activities on site.

Adherence to the procedures and completion of the forms contained within these appendices is mandatory for all site personnel and contractors. The following documents are appended to this plan:

Appendix A: Proposed Site Plans.

Appendix B: Environmental Inspection Schedule

This schedule provides a structured checklist for routine monitoring of site environmental controls. It details what needs inspecting (e.g., bunding, waste areas, silt fences), the required frequency (daily/weekly), and who is responsible for recording observations and necessary corrective actions.

Appendix C: Example Complaints Form

This template is used to formally log any environmental complaints received from the public or external stakeholders. It ensures that all details, the nature of the complaint, and the resulting actions taken are recorded for audit purposes.

Appendix D: Incident Report Form

This form is used to document any actual or near-miss environmental incidents (e.g., spills, contamination discovery, non-compliance). It captures essential details, immediate response actions, and the root cause analysis required for future prevention.

Appendix E: Resource Waste Management Plan (RWMP) Checklist

This checklist aids in managing waste streams generated on site. It helps track waste minimisation efforts, segregation procedures, recycling rates, and ensures that all waste is disposed of legally by licensed carriers at authorised facilities.

Appendix F: Construction Method Statement Requirements

This appendix outlines the mandatory environmental information that must be included within all site-specific construction method statements. It ensures that environmental risks are assessed and mitigation measures are planned before specific high-risk activities commence.

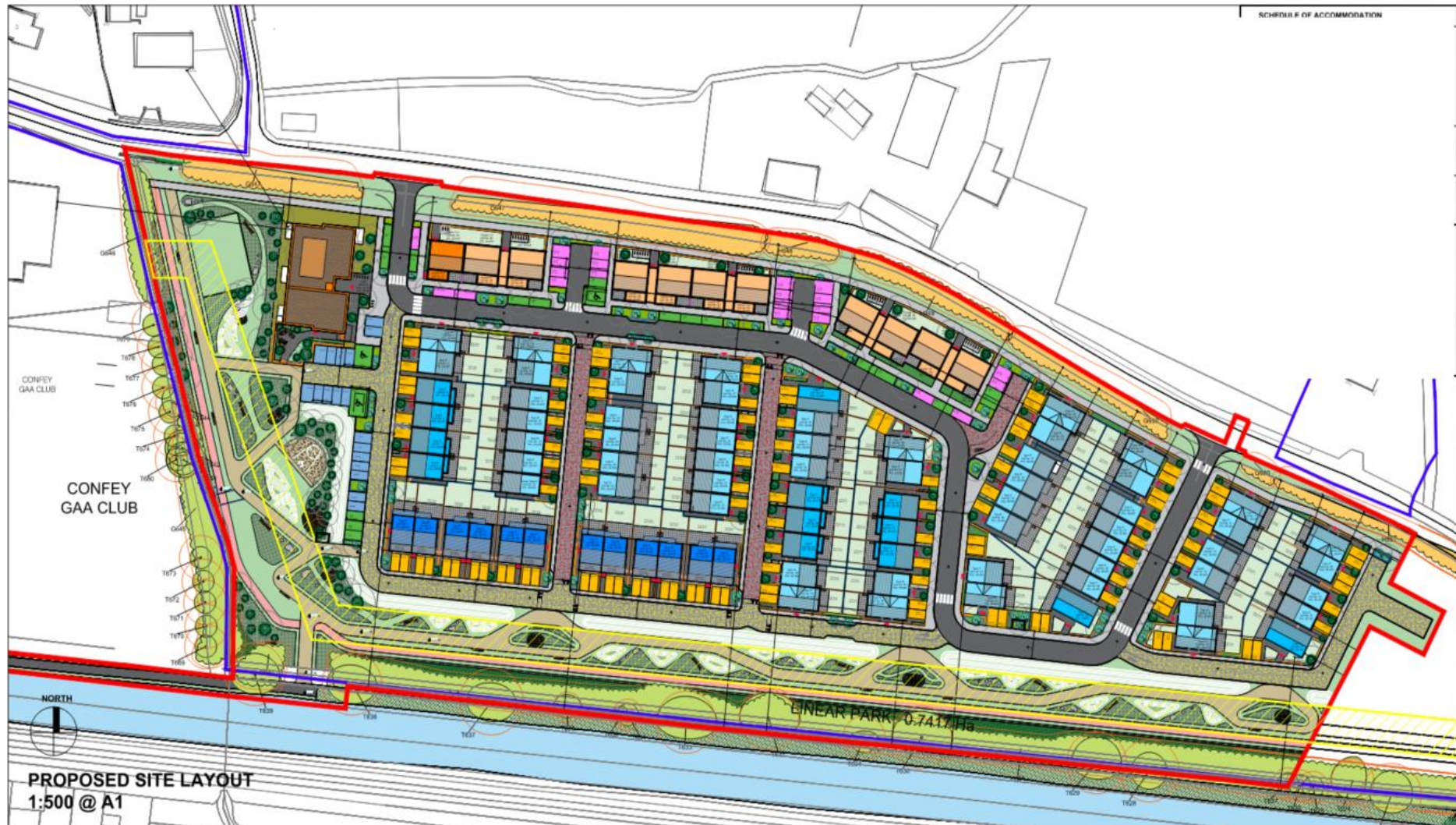
Appendix G: Pollution Prevention Plan

This plan consolidates all site-specific measures designed to prevent pollution incidents from occurring. It details the location of sensitive receptors, required buffer zones, spill kit locations, and specific controls for high-risk materials.

Appendix H: Emergency Response and Environmental Plan

This document outlines the immediate actions and communication protocols to be followed in the event of an environmental emergency (e.g., major chemical spill, fire, or flooding). It includes key contact details for emergency services, regulatory bodies, and the site response team.

Appendix A- Proposed Site Plans



Appendix B- Environmental Inspection Schedule

Environmental Inspection Schedule		Site:	
Inspected by:		Date:	
	Assessment Ratings 0 – Not in place = Non Compliance 1 – In place but not full Compliance = Non Compliance 2 – Full Compliance Actions raised from this audit must be closed out within the agreed time scale with Kildare County Council.		
1.0	Emergency preparedness and incidents response		Comment
1.1	Is environmental response equipment held on-site?		
1.2	Where is it located?		
1.3	Is it all in working order?		
1.4	Can site staff operate the equipment?		
2.0	<u>Environmental Incidents</u>		Comment
2.1	Have any incidents been reported?		
2.2	Have all such incidents been investigated?		
2.3	Have they all been documented?		
2.4	Have all relevant parties been made aware of any incident?		
2.5	Has the Incident Report Form (Appendix D) been completed ?		
3.0	Hazardous Materials Storage		Comment
3.1	Are hazardous materials kept in secure areas?		
3.2	Are stores of fuels or oils banded?		

3.3	Has any damage occurred to Mobile Bowsers or tanks?		
3.4	Are containers/drums labelled with content and capacity?		
3.5	Are drip trays empty of water ?		
3.6	Are hoses inside bunds/cabinets ?		
3.7	Are spill kits fully stocked and have all staff been trained to use equipment ?		
3.8	Has an individual been appointed for the safe handling of fuels ?		
4.0	Waste minimisation		Comment
4.1	Are all waste containers covered and labelled?		
4.2	Is waste segregated correctly ? Do skips need to be emptied ?		
4.3	Have waste skips been located on-site?		
4.4	Are different waste types segregated for recycling?		
4.5	Are staff and contractors encouraged to recycle? Is relevant signage in place		
4.6	Has litter been removed from site and the external boundary		
4.7	Is all appropriate duty of care documentation in place i.e. waste licence, Carrier's licence all kept on file ?		
4.8	Does the external appearance of the site present a positive image of the industry?		
4.9	Does the site appear well organised, clean and tidy?		
4.10	Does the appearance of all facilities, stored materials, vehicles and plant make a positive impression?		

5.0	Water Discharges & Pollution Control		Comment
5.1	Are there any de-watering activities conducted on-site?		
5.2	Any visible signs of spillage on site (fuel, oil, lubricants etc)? Including from machinery and plant.		
5.3	PPG/GPP guidance being followed as stipulated in CEMP ? 1. Annotated Sketch if appropriate of any spillage and clean up detailed		

6.0	Site Boundary & Access		Comment
6.1	Site boundary fencing in place ? No visible signs of breaches		
6.2	Site signage and information boards in place ?		
6.3	Appropriate sign in followed and appropriate health and safety followed ? Hi-vis, boots, hard hat worn for site visit. Appropriate PPE and H&S recommendations for this site in particular.		
7.0	Land contamination		
7.1	Has any unforeseen historical land contamination been discovered on-site? IF yes, please detail. Annotated Sketch if Appropriate		

7.2	Has this been managed? <u>Please detail</u>
8.0	Site Photographs – labelled, detailed and saved on file
8.1	Site Photos To Be Taken During Construction Phase (From first commencement of works). These will include; boundary photographs, internal roadways, fuel storage areas, pollution control in place (inc. spill kits), spills, waste storage areas, recycling signs, machinery.
8.2	Have site photos been taken of any specific environmental incidents ? If yes please details:
8.3	Have site photos been stored on file, labelled and dated ? Please ensure this is completed

Corrective Action Plan relating to this environmental inspection schedule:						
		Site :	Actionee	Target date (if not immediate)	Close out by Actionee	Issue dealt with ? Y/N
Count	Proposed Corrective Action					
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Managers use only	Follow up Action from Incidents?			Closed out by Manger		
Acknowledged	Signed:			Signed:		

Please Keep On File With Other Completed Environmental Inspections

Appendix C- Complaints Form

Complaints Form	
The site complaints log must be made available to the local authority or relevant regulatory bodies upon request.	
1.	Have any complaints been received? If so please detail
2.	The name and contact details of the complainant:
3.	Date and time of the complaint:
4.	Nature of complaint:
5.	Action taken to resolve issues:
6.	Date of complaint handover:
7.	Name of person addressing the complaint: Company: Signature:

Appendix D- Incident Report Form

Incident Date	Incident Time	Report Date	Report Time

Incident Ownership		
Division	Sub-Division	Unit Or Dept

Description Of What Happened

Exact Incident Location			
On Or Off Site		Location	Sub-Area

Person Involved

Category Of Person [✓]									
Employee	[]	Contractor	[]	Visitor	[]	Environmental	[]	Mem Of. Public	[]

Nature Of Involvement [✓]					
Witness	[]	First Person On Scene	[]	Other	[]

Person's Name					
Name:	Mr/Mrs/Miss/Ms	First Name:		Last Name:	

Other Information

Site Manager In Attendance (If Applicable)	
Reported In Duty Log/Site Book?	Yes [] No [] N/A []

Type Of Incident [✓]

Breach Of Limits/Licence Cond.	[]	Oil & Chemical Storage	[]	Spillage/Spillage Response	[]
Waste Storage & Disposal	[]	Serious Public/Other Complaint	[]	Water Abstraction/Disposal	[]
Third Parties And Supply Chain	[]	Smoke, Fumes & Odours	[]	Natural Envnmnt & Wildlife	[]
Light Pollution	[]	Noise Nuisance	[]	Other	[]
If "Other" Please Describe:					

Is This A Reportable Incident?	Yes	[]	No	[]	Unknown	[]
If "Yes" Which Agency						

What Are The Actual Or Foreseeable Potential Consequences Known At This Time? [✓]

Prosecution	[]	Enforcement Notice (Imp/Proht)	[]	Civil Claim	[]
Clean-Up/Restoration	[]	Breach Of Licence Requirements	[]	Adverse Publicity/Reaction	[]
Adverse Customer Reaction	[]	Contamination Of Water	[]	Habitat Or Species	[]
Health Effects	[]				

Please Provide Any Other Relevant Information

What Immediate Actions Have Been Taken?

Incident Reported By

Name	Telephone No.	Date

Appendix E- Resource Waste Management Plan Checklist

Resource Waste Management Plan Checklist

Planning and preparation

- ☐ Have you set aside time to review your RWMP?
- ☐ Have you considered the construction methods and materials that you can use to reduce the amount of waste your project produces?
- ☐ Have you thought about ordering materials that have less or reusable/returnable packaging?
- ☐ Have you recorded all of your waste reduction decisions in your plan?

Allocation responsibility

- ☐ Has someone with authority been assigned overall responsibility to implement the RWMP?
- ☐ Have you included a declaration from the client and principal contractor in your RWMP?

Identifying your waste

- ☐ Have you assessed the waste produced at each stage of the project- the types, how much and when, including the processes involved?
- ☐ Have you identified which workers will produce waste?

Managing your waste

- ☐ Has an area of the site been set aside for storing new materials and waste, including separate containers for different types of waste? You must store new materials separately from waste, and make sure storage areas are secure against vandalism.
- ☐ Have you set targets for the different types of waste likely to be produced by the project? Include targets for the amounts of each waste type to be reused, recycled and disposed of.
- ☐ Have measures been put in place to deal with expected and unexpected hazardous waste?
- ☐ Have you considered whether you can reuse materials either on-site or off-site?
- ☐ Have you considered on-site and off-site processing and reuse of materials?

Disposing of your waste

- ☐ Have you considered how you will dispose of liquid wastes such as wash-down water and lubricants?
- ☐ Have you got agreement from your water and sewerage operator for trade effluent discharge?
- ☐ Are you complying with your duty of care, including waste transfer notes or consignment notes for all movements of waste from your site and checking the details of those removing the waste?
- ☐ Has someone been made responsible for checking that loads of waste leaving your site are accurately described, and waste transfer notes and consignment notes completed correctly?
- ☐ Have you checked that every waste carrier you use is registered with your environmental regulator?
- ☐ Have you checked that all sites receiving your waste have the appropriate permits, licences or registered exemptions?
- ☐ Have you identified your nearest waste sites?
- ☐ Have you considered how to reduce disposal costs by reusing or recycling waste materials with a commercial value?

Organising materials and waste

- ☐ Have you assessed the quantities of materials you need to order to reduce over-ordering and site waste?
- ☐ Can you return unused materials to the supplier, sell them or use them on another job?
- ☐ Have you considered using recycled materials?
- ☐ Can you return unwanted packaging to the supplier for reuse or recycling?
- ☐ Will you separate different types of waste to enable you to get best value from good waste management practices?
- ☐ Have you labelled containers and skips clearly to avoid confusion? Colour coding your containers could help.
- ☐ Are your storage areas secure and weatherproof to prevent wind and rain damaging your materials?
- ☐ Have you covered or netted any loose materials to prevent them being spread and possibly causing pollution?
- ☐ Is everyone who will handle waste aware of the RWMP requirements?

Communicating and training

- ☐ Have you planned site inductions and toolbox talks for all site staff?
- ☐ Are contractors and subcontractors trained and aware of their responsibilities?
- ☐ Have contractors and subcontractors understood and agreed the RWMP?
- ☐ Are RWMP requirements built into contracts?
- ☐ Are you carrying out spot checks and monitoring your staff regularly to make sure they are following procedures?

Measuring and monitoring your waste

- ☐ Are you updating your plan every time waste is removed from your site?
- ☐ Are you checking the RWMP regularly and making sure targets are being reached?
- ☐ Are the agreed waste management procedures being checked and monitored regularly?
- ☐ Are you producing regular reports on waste quantities, treatment/disposal routes and costs?
- ☐ When construction is underway, are you making notes of problem and recording them for your next plan?

Appendix F- Construction Method Statement

The Construction Method Statement (CMS) is a critical tool for managing environmental compliance and health and safety risks during project construction phases. It provides the framework for identifying environmental risks, defining mitigation and monitoring measures, outlining reporting provisions, and ensuring all parties understand their responsibilities. The primary purposes of the CMS are to:

- ✓ **Risk Management:** Record environmental risks and outline how they will be managed during the construction period.
- ✓ **Performance Tracking:** Identify environmental commitments, objectives, and targets, and provide a means of monitoring and reporting performance.
- ✓ **Compliance:** Describe how construction activities align with environmental legislation, policy, and regulatory requirements.
- ✓ **Mitigation Detail:** Provide detailed environmental mitigation measures for reducing potential impacts during pre-construction and construction phases.
- ✓ **Awareness:** Highlight activities that may require specific consents or licences.

General Environmental Control Measures

The following mitigation measures represent best practice construction methods and must be adhered to:

- ✓ **Guidance:** Adhere to the Environmental Protection Agency's (EPA) advice on pollution prevention guidance.
- ✓ **Ground Disturbance:** Minimise the time that stockpiles and ground areas are exposed, reinstating disturbed areas as soon as possible.
- ✓ **Spill Response:** Maintain spill kits on site. All staff will be trained in their use. Contaminated soil will be removed to a suitable licensed landfill site.
- ✓ **Machinery Maintenance:** Regularly inspect machinery for leaks, provide spillage contingency kits with vehicles, and adequately maintain all equipment.
- ✓ **Waste Management:** All temporary waste generated from welfare facilities (e.g., portable toilets) will be removed by a registered waste carrier to a licensed disposal site.

Worker Awareness

All personnel involved in earthworks that could potentially pollute the water environment must be aware of their statutory responsibility not to cause water pollution or damage habitats. They must be familiar with potential causes and consequences of pollution, control measures, and emergency procedures.

Buffer Zones

A suitable buffer zone must be maintained between the location of any refuelling, storage of oil/fuel, concrete mixing and washing areas, storage of excavated spoil, construction materials, and any nearby watercourses or surface drains.

Health and Safety Function of a Method Statement

Method statements are widely used to control specific health and safety risks identified during risk assessments (e.g., lifting operations, working at height, plant use).

The preparation of a written method statement provides evidence that:

- ✓ Significant health and safety risks have been identified.
- ✓ Worker cooperation has been ensured.
- ✓ Safe, co-ordinated systems of work are in place.
- ✓ Workers have been involved in the risk management process.

While not a definitive legal requirement, the Health and Safety Authority (HSA) identifies method statements as an effective means of assessing and managing risks, collecting worker input, and briefing staff.

Preparation and Review

The format for preparing, reviewing, and using method statements should be established at the outset of the project. Statements must be produced by a competent person familiar with the process and may require peer review as part of the Quality Assurance (QA) system.

When preparing a method statement, the following considerations apply:

- Is there a safer way to perform the task?
- Will workers practically implement the controls?
- Do controls make the job difficult or inconvenient?
- How will controls work in adverse conditions?

Standard Contents

The contents will vary by activity, but generally include:

- Details of the organisation/individual responsible for the activity.
- A description of the activity, location, access, and segregation.
- Plant and equipment required.
- The procedure for changing the proposed method of work.
- A step-by-step description of activities.
- Necessary precautions, including PPE and ventilation.
- Training procedures and requirements for specialist operators.
- Emergency procedures and equipment locations.
- Material handling, storage, and pollution prevention procedures.
- Temporary works designs and safeguarding existing structures.

General mitigation and control measures to be employed (as appropriate)

Appendix G- Pollution Prevention Plan

Appendix G serves as a high-level overview of the key strategies and control measures the Contractor will employ to minimise the risk of environmental pollution during the construction phase.

The plan highlights the main commitments to best practice and regulatory compliance, ensuring that sensitive environmental receptors are protected from potential pollutants such as sediments, fuels, and chemicals. It provides a summary of proactive measures to be implemented across the site, designed to maintain acceptable risk levels throughout the duration of the works.

General Guide to Preventing Pollution

This guide outlines the essential reasons why effective environmental management is critical for any business operation.

Section 1: Key Benefits of Environmental Compliance

Adhering to robust environmental standards offers several significant benefits:

Legal Compliance

Compliance with environmental regulations is the foundation of good environmental performance. All operations must adhere to legal requirements. Non-compliance carries severe risks, including enforcement actions, significant fines, and substantial reputational damage to the business.

Financial Savings

Good environmental performance translates directly into financial efficiency. By reducing waste, minimising energy and water use, and controlling other environmental impacts, businesses can operate leaner, more efficiently, and with lower overhead costs.

Risk Management

Businesses that proactively manage environmental risks are better prepared to handle problems efficiently when they arise. Effective risk management provides operational stability, peace of mind, and maximises the chances of running a successful and resilient business.

Enhanced Reputation

Implementing legal compliance and environmental best practices enhances a business's reputation with customers, clients, and neighbours. Strong environmental credentials can provide a competitive advantage, as they are an increasingly relevant part of the tendering and procurement process across many sectors.

The Importance of Environmental Protection

Pollution occurs when substances released into water, land, or air have a harmful effect on the environment.

These impacts can affect drinking water supplies, human health, business activities, wildlife, habitats, and overall enjoyment of the environment. Pollution can be invisible, but its effects are real.

Pollution incidents can be accidental or deliberate, originating from a single point source or multiple diffuse sources. Common pollutants include:

- Fuels and oils
- Chemicals
- Sewage
- Farm manure and slurry
- Detergents
- Milk
- Fire-fighting run-off

It is vital that you understand your premises and how your activities could potentially cause pollution. Assess your operational linkages and potential environmental pathways.



Figure 14: Source, Pathway, Receptor

Environmental harm to people or the environment occurs only when all three of the following elements are present:

- **Source:** A potential pollutant (e.g., fuel, sediment).
- **Pathway:** A route for the pollutant to travel (e.g., a drain, the wind).
- **Receptor:** The entity that is harmed (e.g., a watercourse, a person, a habitat).

Effective environmental management requires implementing measures designed to break or weaken the links between potential pollution sources, their pathways, and the final receptors. By doing this, the likelihood of pollution incidents is prevented or reduced, and the impact of any problems that do occur is minimised.

Section 2: Managing Water and Drainage

Sources of "Dirty Water"

Almost all operational premises produce wastewater ("dirty water") that could cause pollution if it enters rivers, streams, ditches, or groundwater. Common sources of dirty water include:

- Kitchen, bathroom, toilet, and laundry facilities
- Vehicle and plant washing areas
- Rainwater run-off from dirty areas or delivery zones
- Liquid wastes or trade effluents from business activities

Many sites also store potential liquid pollutants (chemicals, fuels, oils) that may spill or leak during routine operations or during an incident like a fire or flood.

Drains: Why They Are Important Pathways

Drains are common pathways for dirty water to enter the environment and cause pollution. Incidents often occur due to incorrect connections, spills, poor maintenance, or leaks.

Sites typically have two types of drainage systems:

- **Surface Water Drains:** Lead directly to local watercourses (ditches, streams, rivers). You **must not** allow dirty water to enter surface water drains.
- **Foul Drains/Sewers:** Connect to the public sewer system for treatment at a sewage treatment plant (these can be dirty water only or combined sewers).

Action Points:

- To reduce pollution risk, you must know where your drains are, where they discharge, and correct any problems, such as misconnected pipes.
- If premises are altered (e.g., building an extension), the drainage system must be understood and managed to avoid causing pollution.

Discharge Permissions

- **Watercourses/Land:** To discharge anything other than clean rainwater runoff onto land or into a watercourse, you must contact your environmental regulator (EPA) for a permit. Treatment of dirty runoff will likely be required.
- **Sewer:** To discharge dirty water into a sewer, you must contact your water and sewerage provider for permission.

Drainage Plans and Identification

All premises should have a clear, up-to-date drainage plan.

The plan should show:

- The location of all surface water drains and their discharge points (ditches, streams, rivers).
- The location of all foul or combined sewers.
- Nearby watercourses.

This information is essential for daily planning, maintenance, and emergency response.

Best Practice Identification:

- Produce a clear site plan identifying all drains, flow direction, and discharge points.
- Colour-code manhole covers and drains: use **red** for drains that lead to the sewer and **blue** for drains that lead to surface water. This prevents accidental contamination of the surface water system.

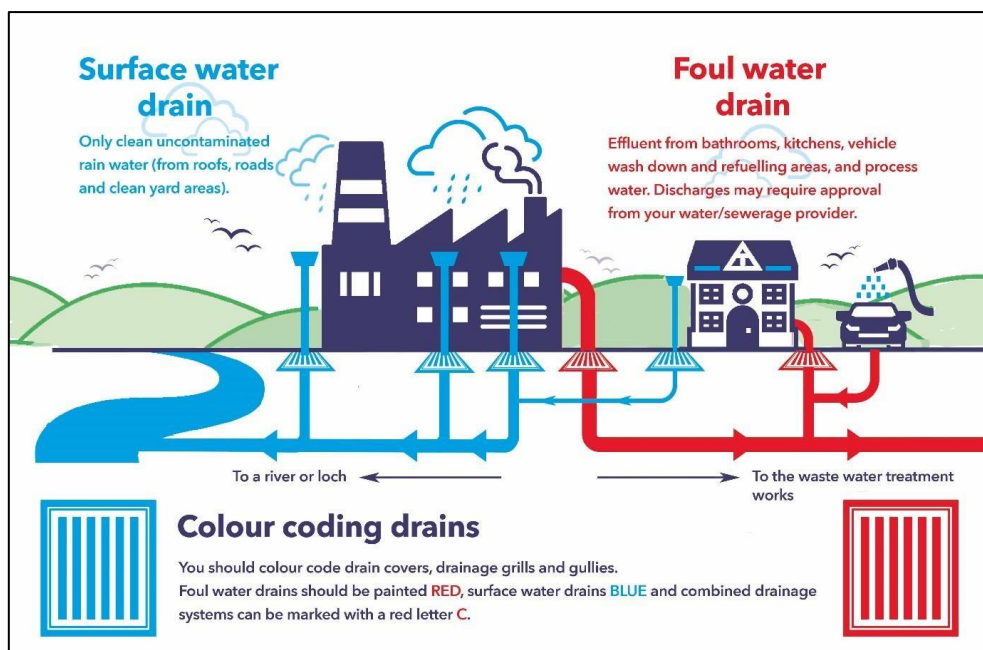


Figure 15: Surface Water and Foul Water Drainage

On-site Treatment Facilities

If your site utilises on-site treatment facilities such as septic tanks, package treatment plants, or oil separators, ensure they are maintained properly. These systems can become a source of pollution if they are not working correctly.

- Maintenance Information: Manufacturers provide specific maintenance guidelines. Keep this information accessible to correct any problems promptly or adapt to site layout changes.

Sustainable Drainage Systems (SuDS)

Sustainable Drainage Systems (SuDS) can be used to treat lightly contaminated water runoff from your site (e.g., car parks). You must contact your environmental regulator before installing SuDS and ensure the system is properly maintained.

SuDS function by trapping and breaking down light contamination. They also reduce the risk of downstream flooding and can enhance green space in built-up areas.

- Limitations: SuDS require a certain amount of land and are not feasible for every site. If designing a new premises, consider SuDS from the outset.
- Vehicle Washing: If vehicles are washed on site, ensure runoff does not enter surface water drains. Obtain permission from your sewerage provider if this runoff is to be discharged to the foul sewer.

More Information on Drainage

Further detailed guidance on drainage and wastewater disposal can be found via the following resources:

- Technical Guidance Document H - Drainage and Waste Water Disposal: The current edition for the Republic of Ireland is TGD H (2016). It calls up requirements under S.R. 66:2015 related to wastewater treatment products.
- Irish Water: Contact details can be found on their website. Visit <https://www.water.ie/contact/>.

Section 3: Storage

- Environmental Responsibility: Even seemingly safe materials like food products or detergents can cause significant pollution (e.g., milk is highly damaging to watercourses). Oils and chemicals are obvious risks.
- Identify Risks: Understand all materials stored, handled, and moved on-site by staff, visitors, or contractors. Suppliers provide crucial safety information.
- Plan Safe Storage:
 - Consult your drainage plan to find the safest locations.
 - Avoid high-risk areas like open drains, bare ground, flood zones, and areas near watercourses or soakaways.
 - Choose secure, designated areas that are:
 - Covered: To stop rainwater spreading pollutants.
 - Bunded: To contain any spills.
 - Protected: Away from vehicle traffic to avoid collisions.
- Waste Management: Store waste with the same care as raw materials, using appropriate containers and areas as advised by waste management companies.
- Consequences of Spills: Spills lead to financial losses (lost product, clean-up costs), potential health and safety issues, and significant environmental damage, particularly to groundwater and drinking water sources. Clean-up of groundwater contamination is a long and expensive process.



Figure 16: Safe Storage, Bunded and Under Cover

- Use Proper Containers: Select containers appropriate for the specific materials, label them clearly, and store them in dedicated areas.
- Regular Inspections: Frequently check containers for cracks or leaks to address issues before an incident occurs.
- Material Segregation: Store certain materials separately to prevent dangerous reactions or fires. Specific regulations apply to materials like oils and fuels.
- Security Measures: Secure all storage areas against accidental damage, theft, and vandalism. Remember that you remain responsible for clean-up costs even if the damage is caused by vandalism.

- Plan for Spills: Acknowledge that leaks and spills will happen, and implement measures to reduce their impact and severity. Ensure minor spills can be easily caught and safely cleaned up.
- Install Secondary Containment:
 - Utilise secondary containment systems like bund walls or bunded pallets to catch overflows.
 - "110% containment" is a common best practice (and sometimes a legal requirement for items like oils), meaning the containment capacity should exceed the primary container's volume.
 - Secondary containment provides crucial time to correct problems or minimise harm and seek assistance.



Figure 17: Bunded Storage Drums and Containers

You should inspect and maintain your secondary containment so it's still effective, such as sealing any cracks or holes, making sure any walls or floors are rendered impermeable, and safely removing any rainwater from the secondary containment. If you store fuels or other liquids in underground storage tanks (USTs) you must take care when installing these tanks, or when decommissioning or removing them. If not carried out properly, these activities can result in serious pollution of soil, groundwater and nearby water courses.

You and others on your premises should know where to find your spill kits, understand how to use them properly and understand how to store and use materials safely. Label your spill kits and check their contents regularly.

If you have a spill or any pollution incident, report immediately on **0818 33 55 99**.

Your environmental regulator can advise you on what to do, and can help to inform any other agencies that might be required.

Deliveries

Delivery and handling of materials can be risky, and delivery areas should be managed to prevent incidents. Have procedures in place for safe deliveries, and make sure all your suppliers understand them. Supervise deliveries to make sure that procedures are followed.

Keep spill kits or appropriate clean-up equipment close to where deliveries are made, and make sure staff and suppliers understand how to use them.

Minimise the handling and movement of materials around your site by planning where deliveries take place. This reduces the risk of spills, and also saves time and money.

3.5 More information on storage of materials

More information on the storage of materials can be found in the EPA's IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.

https://www.epa.ie/publications/licensing--permitting/industrial/ied/IPC_Guidance_note_Materials_storage.pdf.

Section 4: Minimising Waste

Every item used on your premises, from food to packaging to off-cuts, can become waste. Knowing what waste you generate at each stage of operations is essential.

- Environmental Impact: Poorly managed waste can seriously pollute the environment through illegal dumping or leaks into land and watercourses.

- **Legal Responsibility (Duty of Care):** You have a legal obligation—known as the duty of care—to ensure all waste you produce, store, transport, and dispose of does not harm the environment. This responsibility extends to waste generated by contractors working on your behalf.
- **Hazardous Waste:** Wastes that pose significant risks to human health or the environment (e.g., solvents, asbestos, and oils) require specialised management protocols. You are legally required to identify these waste types and manage them accordingly.

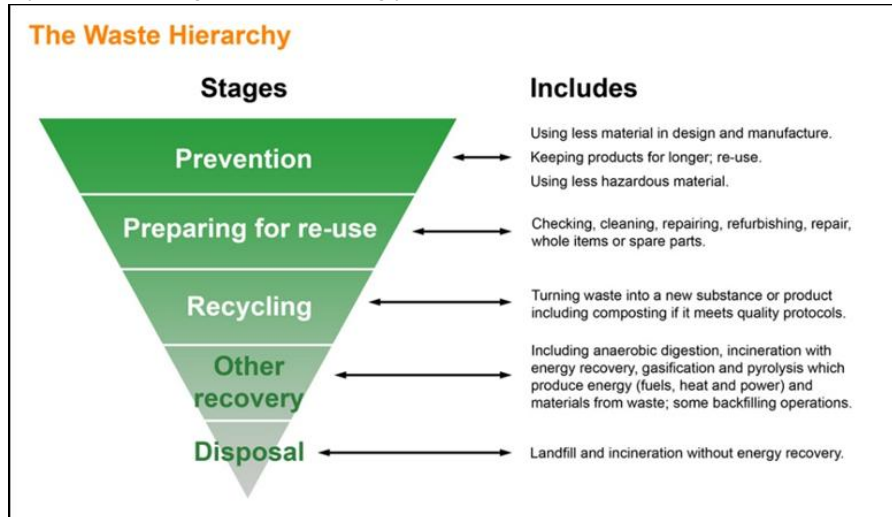


Figure 18: The Waste Hierarchy

- **Reduce:** There are a number of ways to reduce the amount of waste you produce. This ranges from simple measures such as purchasing goods with less packaging or buying in bulk, not in individual packs, to entirely redesigning your products and processes to eliminate waste.
- **Reuse:** Identify goods or materials that can be reused, perhaps with minimal cleaning and preparation. Design for re-use, e.g. your packaging.
- **Recycle:** Items that can't be re-used can often have the materials they are composed of recycled. Items made of a single material are easier, however you may be able to find a cheap way of removing recyclable parts from more complex items.
- **Recover:** Rather than dispose of materials to landfill, it is sometimes possible to recover some value from them, even if this is just heat from burning them. Energy from waste plants convert the waste into heat and power.
- **Dispose of:** The least desirable destination for waste. A last resort if all other options have been tried and have not been feasible.

Waste Storage and Handling

- **Secure Containment:** Store all waste in suitable, secure containers. Containers for liquids should be leak-proof. Using containers with lids prevents waste from being dispersed by wind and keeps it dry. This prevents rainwater from creating contaminated water (leachate), which also needs to be managed as waste.
- **Inspections and Security:** Regularly inspect containers for damage. Keep storage areas secure to prevent accidental damage, theft, or vandalism, as you are responsible for all clean-up costs, regardless of the cause.

Waste Segregation

- **Mandatory Segregation:** All businesses are legally required to separate different waste streams. You must present glass, metal, plastic, paper, and cardboard for separate collection to ensure high-quality recycling.
- **Clear Labelling:** Clearly label all containers to ensure staff place the correct materials in the right bins. Identify all waste materials produced by your business to determine what can be reused or recycled.

Hazardous/Special Waste

- **Special Management:** Wastes classified as hazardous are very harmful to human health and the environment and must be stored, handled, and disposed of differently. Examples include solvents, asbestos, oils, and certain electronics (WEEE).
- **No Mixing:** You must not mix different types of hazardous waste, nor mix hazardous with non-hazardous waste. Mixing any hazardous waste with general waste means the entire mixture must be treated as hazardous.

Waste Disposal

- **Authorised Carriers:** You must only use a registered and authorised waste carrier to remove your waste. It is your responsibility to check their credentials and confirm that the disposal site they use is authorised to accept your specific type of waste.

Documentation and Record Keeping:

- **Waste Transfer Note (WTN):** A WTN is legally required for every transfer of non-hazardous waste. It provides an audit trail with details about the waste, carrier, and destination. You must keep a copy of the WTN for at least two years.
- **Consignment Note:** A consignment note must accompany every movement of hazardous waste. These documents must be kept for at least three years.
- **Transporting Your Own Waste:** If you choose to transport your own business waste, you must first register with your environmental regulator.

More Information: You can check if a waste carrier is licensed via the Environmental Protection Agency (EPA) website.

Preparation and Planning

Risk Assessment

Take time to assess all areas of your premises and identify where things could go wrong, considering risks such as fire, flooding, accidents, vandalism, leaks, spills, and the movement of materials and waste.

Incident Response Plan (IRP)

A well-managed premises is less likely to have problems, but planning is key to coping with emergencies. Create and implement a structured, documented incident response plan that provides a roadmap for your teams when working under pressure. The plan should outline procedures, roles, responsibilities, and include a copy of your site's drainage plan

Minimising Disruption

Preparing an IRP and being well-prepared can significantly reduce downtime, save time, effort, and the cost of dealing with an incident.

Contractor Responsibility

You are responsible for any contractors working on your behalf, so ensure you provide them with clear instructions and appropriate supervision.

Plan Implementation and Training

- **Accessibility:** Ensure everyone on site, including visitors and contractors, knows what to do in an emergency. Keep a copy of the plan off-site for accessibility in any situation.
- **Training and Review:** Regularly train staff on the plan and the use of equipment, and conduct drills to test readiness. Review and update the plan regularly to ensure it remains fit for purpose, especially after changes to the premises, materials, or processes.

Managing Specific Risks

- **Flooding:** You can check your premises' flood risk on flood maps provided by your environmental regulator and sign up for free flood warnings. These maps help you understand potential risks but may not be specific to an individual property.

- Fire: Contact your local Fire and Rescue Service for advice on fire safety, prevention, and to help you develop a fire response plan.
- Spill Kits and Equipment:
 - Placement: Keep spill kits and appropriate pollution control equipment close to high-risk areas.
 - Maintenance: Ensure kits are maintained and restocked after any use.
 - Training: Train staff on when and how to deploy the equipment effectively.

Reporting Incidents: If an incident occurs, notify the relevant authority immediately. The Environmental Protection Agency (EPA) can offer advice on what to do and inform other necessary agencies

Appendix H- Emergency Response & Environmental Plan

Contractor Spillage Response Procedure

The main contractor is responsible for both the preparation and implementation of the site-specific spillage response procedure. Key considerations for this procedure include:

- **Adapt Standard Procedures:** If the main contractor already has a standard operating procedure (SOP), it should be amended to reflect the specific local site conditions.
- **Notification Protocol:** The Environmental Manager must be notified of all incidents involving a breach of agreed environmental management procedures.
- **Emergency Principles:** In the event of an environmental emergency, the following general principles apply:
 - **Stop the Source & Raise Alarm:** If safe to do so, stop the source of the spill and alert personnel in the vicinity to potential dangers. Inform the Engineer immediately.
 - **Contain the Spill:** If safe and using appropriate PPE, contain the spill using provided absorbent materials. Do not spread the spill or flush it away. Bund off or cover any vulnerable areas as appropriate.
 - **Clean Up:** Clean up as much of the spill as possible using absorbent materials. Do not use detergents or hose the area down.
 - **Contain Used Materials:** Securely contain all used absorbent materials to limit further contamination.
 - **Dispose of Materials:** Notify the Construction Project Manager and Environmental Officer so that a specialist contractor can dispose of the used hazardous materials correctly.
- **Testing and Training:**
 - The Construction Manager and the contractor's Environmental Manager will develop and test the emergency spillage procedure through practical exercises to ensure effective prevention and mitigation measures are in place.
 - Testing of the procedure must be formally recorded on the relevant environmental control form.
- **Personnel Awareness:**
 - Inform all personnel about the spill response procedure via toolbox talks or induction training. Consider refresher training for long-term projects.
 - Use reminder posters identifying key elements of the procedure in appropriate high-risk areas (e.g., fuel storage, mess cabins, security points).
- **Pollution Control:** Table 6 below provides further examples of control and containment measures for various pollutants.

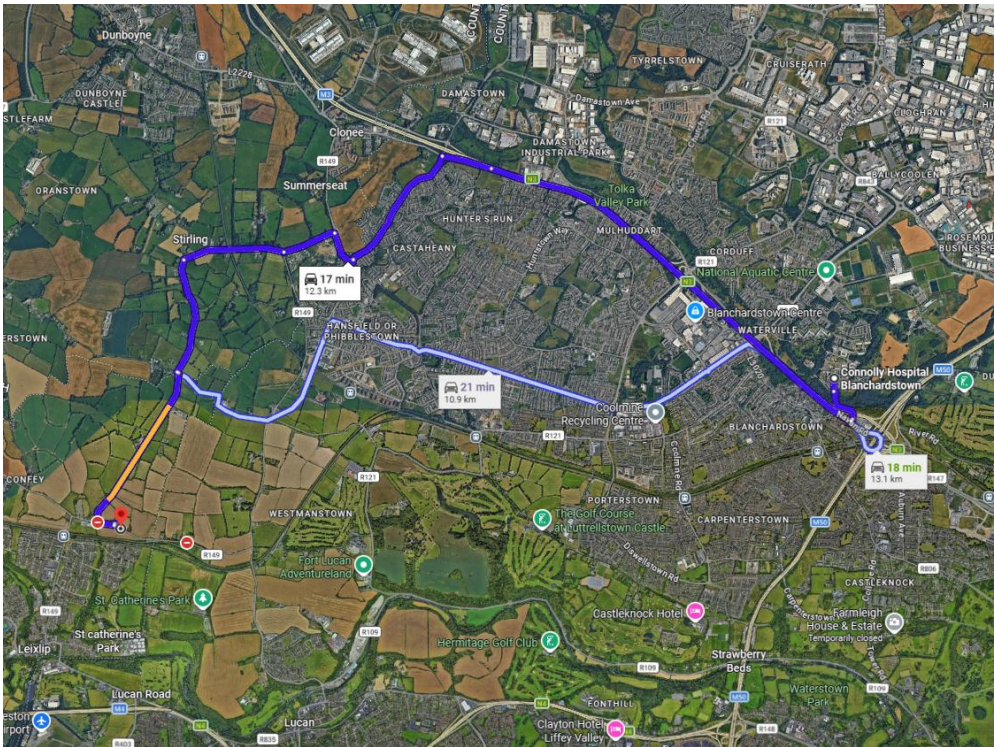
Table 6: Control Containment Measures for Different Pollutants

Control/Containment Measure	Pollutants				
Spill on ground	Concrete / cement	Paints	Oils	Silt	Detergents
Sand	✓	✓	✓	x	✓
Straw bales	x	x	✓	✓	x
Absorbent granules	x	x	✓	x	x
Geotextile fence	✓	x	x	✓	x
Drip trays	x	✓	✓	x	x
Pads/rolls	x	x	✓	x	x
Drain seal	✓	✓	✓	✓	✓
Earth bunds	✓	✓	✓	✓	✓
Spill in water					
Straw bales	x	x	✓	✓	x
Pads/rolls	x	x	✓	x	x
Booms	x	x	✓	x	x
Stop further spill contain and inform appropriate personnel immediately	✓	✓	✓	✓	✓

Significant Spills and Emergency Planning

- ✓ **Immediate Notification:** In the event of a significant spill, contact the relevant environmental authority immediately. For the EPA in Ireland, use the low-call number: 0818 33 55 99.
- ✓ **Response Plan Contacts:** The spillage response plan must clearly list all names and telephone numbers of individuals to be informed, including out-of-hours contact details, and specify who is responsible for making those calls.
- ✓ **Further Planning Considerations:** When preparing the emergency spill response plan, the main contractor should also consider:
 - **24-Hour Clean-up Service:** Include details and contact information for a professional 24-hour call-out clean-up service (e.g., Ancorra Environmental Services (Ireland). Tel: 01 6330002.
 - **Equipment Availability:** Ensure sufficient quantities and types of spill response equipment are readily available on site. Place spill kits in high-risk areas such as refuelling points or where plant machinery operates near watercourses.
 - **Hazard Assessment:** Use Material Safety Data Sheets (MSDS) and COSHH assessments to determine the appropriate spill measures for dealing with specific hazardous materials.
 - **Proper Disposal:** Dispose of all used spill response materials correctly. For example, place used oily pads or granules in designated, appropriate waste skips or containers.

Emergency Services & Important Telephone Numbers

Emergency Contact Details	
Emergency Services	999
Nearest hospital – Connolly Hospital Blanchardstown, Mill Rd, Abbotstown Dublin D15 X40D	
EPA Low Call Number	0818 33 55 99

Contractor Contacts: (Out of Hours)	
Construction Director	
Construction Manager/Site Manager	
Environmental Manager	

Incident Response Plan Key Points

Procedure	Included ?
Clearly define when you will activate the plan, dependent on your site and the incident type.	
Ensure all relevant staff know how and when to contact other emergency responders, such as emergency services, the environmental regulator, local authority, and sewage undertaker.	
Agree contact procedures with nearby properties, downstream abstractors, agricultural land, or environmentally sensitive sites that could be affected by an incident on your site.	
Put in place staff evacuation procedures, which your local authority emergency planning department can assist with.	
Identify any special methods needed to deal with substances posing particular health or environmental risks.	
Train your staff in the use of spill kits, drain blockers and other pollution control equipment and the operation of pollution control devices.	
Identify procedures for recovering spilled product and the safe handling and legal disposal of any waste associated with the incident.	
Have staff available who are trained to deal with media enquiries.	

Print Out And Display Sign on Site

STOP

- Stop work immediately
- Stop the leak or eliminate the source of the spill
- Eliminate ignition sources and provide natural ventilation

CONTAIN

- Use pollution control equipment (e.g. spill kits, drip trays, bunds of earth and sand) to contain the spill
- Check the spill has not reached any drains, water courses or other sensitive areas
- Cover all drains / manholes to prevent the spill from entering the drainage system

NOTIFY

- Once the spill has been contained notify your emergency contact. Details at the bottom of the page.

CLEAN-UP

- Attempt to soak up the spill using absorbent material
- Always follow your Duty of Care for waste when disposing of contaminated materials including spill kit/equipment.

EMERGENCY CONTACT DETAILS (Complete with your business details)

NAME	TELEPHONE	NEAREST SPILL KIT

**National Environmental Complaints Line
(NECL)**

1800 365 123