



SCRAGH BOG CYCLING ROUTE: CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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ON BEHALF OF;

WESTMEATH COUNTY COUNCIL

FOR THE CONSTRUCTION OF THE EXTENSION OF NORTHERN CYCLING ROUTE TO SCRAGH
BOG.

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OAKWIN LTD Annascaul,

County Kerry.

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1 Introduction

1.1 Overview

This Construction Environmental Management Plan (CEMP) has been prepared by Maurice O'Connor, OAKWIN Ltd., on behalf of Westmeath County Council, (WMCC). This CEMP applies to all works associated with the extension of Northern Cycling Route to Scragh Bog car park. This CEMP details the proposed works and defines the environmental measures that shall be implemented for the construction works to manage, minimize, or mitigate any potential environmental impacts that may arise as a result of the Proposed Development. The implementation of the requirements of the CEMP will ensure that the construction phase of the project is carried out in accordance with the commitments made by WMCC in the planning application process for the project, and as required under the planning approval. A detailed description of the proposed development is provided in Section 2.

1.2 Objective/Purpose

The objective/purpose of this document is to set out and communicate the procedures, standards, management responsibilities and key environmental obligations that apply to all contractor organisations, their sub-contractors and employees in order to address and prevent potential environmental effects that may arise from the construction of the proposed development.

1.3 Scope of the CEMP

This CEMP defines the approach to environmental management implementation and roll-out of the project. Compliance with the CEMP, the procedures, work practices and controls **will be mandatory** and must be adhered to by all personnel and contractors employed on the construction / roll-out phase of the proposed development. This CEMP seeks to promote best environmental practices onsite for the duration of the construction phase.

1.4 Live Document

This CEMP is considered a 'live' document and as such will be reviewed on a regular basis. Updates to this CEMP may be necessary due to any changes in environmental management practices and/or contractors. In addition to further mitigation measures that may be identified as part of detailed design and review in terms of Environmental Impacts.

As detailed in the later sections, the procedures agreed in this CEMP will be audited throughout the project roll-out phase to ensure compliance.

1.5 Statement of Authority

This CEMP has been prepared by Maurice O Connor, Senior Environmental Consultant with Envirico Ltd. Maurice holds BSc (Hons) degree in Wildlife Biology from Institute of Technology Tralee and an MSc in Ecological Assessment from National University of Ireland Cork (UCC). Maurice is an experienced ecological consultant with over 8 years' professional experience in Ireland, working both independently and within consultancy. He has strong generalist ecology field skills in terrestrial and riparian environments and through his experience can demonstrate undertaking a range of ecological surveys including habitat, invasive and protected species survey, delivering initial site appraisals and identification of ecological constraints to inform Ecological Impact Assessments (EIA) and AA.

Maurice has undertaken ecological assessments and surveys on a variety of project types (e.g. road schemes, waste, water, forestry, energy and housing) involving survey, mitigation and enhancement. Throughout his career, Maurice has completed numerous ecological assessments for both plans and projects.

2 Proposed Development

2.1.1 Proposed Development Site Overview

The proposed development is Extension of Northern Cycling Route to Scragh Bog car park which comprises of an extension of the cycleway at Cullion Levington with a combination of primarily local roads but also off-road routes terminating at Scragh Bog car park , where the existing car park will be expanded and upgraded. The propose of the project is to provide a scenic link from Mullingar through the County Westmeath countryside along existing suitable local roads while also utilising possible off road routes that will also link up tourist attractions and facilities in North Westmeath which includes Lakes, Historical Sites and Scragh Bog.

Figure 1: Location Map



2.1.2 Provision of cycle track through Council owned lands along L1773

The first section of the proposed new cycleway will be a continuation from where the existing cycleway ends on the L1773 on approach to the level crossing gates at Cullion Levington. The extended route will continue along the L5813 road for approximately 300 metres where it will then divert off road into Council owned lands. From here the new cycle track will traverse through Council Lands for approximately 380 metres. Works will involve the formation of 2 no. openings in the existing hedge row to include installation of staggered gateway entrances at either end. A new post and rail fence with wire mesh and native hedging will be installed on both sides of the new cycle way along this section. A 3m wide cycleway will be constructed within these lands complete with Macadamed surface and markings. This section of off road cycle way finishes opposite the junction of the L1773 and the L5706 where the cycle track moves onto local roads from here all the way to Scragh bog car park.

2.1.3 Provision of signage along the local roads linking to Scragh bog Car park.

Signage will be provided along the local roads 3.6km linking from the junction of the L1773 and the L5706 to the carpark entrance at Scragh bog to indicate to road users the presence of cyclists and to direct cyclists along the intended cycle trail. It is intended that cyclist will share the existing local roads along this section with other road traffic without the provision of a dedicated cycle lane.

2.1.4 Upgrade, expansion and resurfacing of existing car park to Scragh bog

The current car park arrangement at Scragh bog is a stoned area with no regulated parking arrangements. The current capacity caters for up to a maximum of 9 cars with any additional cars being forced to park along the grass verges on approach.

It is proposed to increase the capacity of this carpark cater for up to 18 cars along with the provision of a bicycle set down area/bike stand.

Initial works will require the removal by permit of a limited number of Coillte owned trees on the South-western side of the existing parking area. A perimeter post and rail fence will be provided around the new carpark area incorporating pedestrian access point to the Scragh bog Amenity.

The new carpark area will be excavated to formation and granular fill (100mm down) installed and compacted to include drainage measures to deal with carpark surface water run-off to local water course. The entire carpark area will be blinded with well compacted Clause 804 stone and then surfaced with Clause 942 SMA to depth of 50mm. Car park lining and appropriate road markings and signage will be installed.

A number of bicycle stands will be installed and 2 no. picnic benches.

3 Environmental Management Framework

3.1 Overview

This document will be used to develop the CEMP by the contractor to meet the requirements of ISO 14001 and all site works will be undertaken in compliance with the CEMP. The CEMP will include details of the topics listed below:

- Environmental Policy;

- Environmental Aspects Register;
- Project Organisation and Responsibilities;
- Project Communication and Co-ordination;
- Training;
- Operational Control;
- Checking and Corrective Action;
- Environmental Control Measures;

The CEMP will detail all the environmental aspects and impacts associated with this contract such as waste management, pollution prevention and protection of flora and fauna with particular emphasis on nearby European Sites and water quality in the adjoining watercourse. The Register of Impacts provides the framework for identifying the potential environmental impacts generated by

construction and the associated works. The Environmental Operational Control Procedures and activity specific method statements will detail the working methods necessary for managing and mitigating these impacts, whether it is by prevention or mitigation. Prior to the commencement of construction activities, the Environmental Operational Control Procedures and activity-specific method statements will be completed so as to conform to precise site-specific requirements at the location of the proposed cycle route.

3.2 Project Roles and Responsibilities

3.2.1 Employer

WMCC will be the employer responsible for ensuring that competent parties are appointed to undertake construction and that adequate resources are made available to ensure that risks to the environment are appropriately managed.

3.2.2 Project Ecological Clerk of Works (ECoW)

A Project Ecological Clerk of Works will be appointed for the duration of the Construction phase. The Project Ecological Clerk of Works will be responsible for producing all environmental reporting procedures. The Project Ecological Clerk of Works will be trained and qualified in the field of Environmental Management. The principal duties of the Project Ecological Clerk of Works will include:

- Ensure development of the CEMP and that environmental procedures, method statements and work instructions are adequately executed and adhered to with respect to environmental requirements on site on a daily basis;
- Advise and guide site management (e.g.: Construction Manager) on environmental issues;
- Liaise with WMCC during the finalisation of the CEMP to assign individual duties and responsibilities bearing in mind the overall organisational structure, the nature of the Environmental Commitments and Requirements and the proposed project development specific characteristics;
- Liaising with WMCC Environmental Manager on all Method Statements, any alterations to live documents and any other works to ensure protection of water quality;
- Being familiar with the information in the pre-construction surveys, construction requirements, the competent authority's decision and all relevant Method Statements;
- Being familiar with the contents, environmental commitments and requirements contained within the reference documentation listed in this CEMP;
- Being familiar with the baseline data collated during the compilation of the Part 8 Planning Report;
- Ensuring that all relevant works are undertaken in accordance with the relevant legislation in the Republic of Ireland and bringing any legal constraints that may occur during certain tasks to the attention of management;

- Ensuring that environmental induction training is carried out on all personnel on site and ensuring that toolbox talks include aspects of environmental awareness and training;
- Respond to all environmental incidents in accordance with legislation, the CEMP and company policy/procedures;
- Carrying out regular documented inspections of the site to ensure that work is being carried out in accordance with the Environmental Control Measures and relevant site-specific Method Statements;

3.2.3 Project Manager

The Project Manager assigned to the project is Mr Pat Kavanagh and Mullingar Municipal District staff will act as the Construction Management Team (CMT) and therefore will manage the project from design to Construction. Mullingar Municipal District staff will ensure that overall planning and coordination of information and site construction work including day to day running of the site for quality and coordination comply with planning permission, health and safety legislation and other agreements between relevant state bodies. The Project Manager will be responsible for the overall execution and organisation of all environmental related activities, as appropriate. Some of the principal duties and responsibilities of this role include;

- Overall responsibility for the implementation of the CEMP;
- Allocating the correct resources in order to ensure the successful implementation of the CEMP;
- and assist in the management review of the CEMP for suitability and effectiveness.

3.2.4 Construction Manager/Works Supervisor

The Construction Manager/Works Supervisor will be a member of Westmeath Councils Mullingar Kinnegad Municipal District Engineering Staff. The Construction Manager is directly responsible to the Project Manager in assisting with the successful execution of the Proposed Development. The principal duties and responsibilities of this role in respect of the CEMP include:

- To support and liaise with the Ecological Clerk of Works in the performance of his duties and responsibilities;
- To report to the Project Manager on the ongoing performance and development of the CEMP;
- To discharge his/her responsibilities as per the CEMP; and
- To support and augment the Construction Team through the provision of adequate resources and facilities for the duration of the implementation of the CEMP.

It is the intention of WMCC to construct the cycle track using its own direct labour and may use a number of sub-contractors to assist, however WMCC will maintain overall responsibility and control of the Project.

3.2.5 Environmental Incidents and Complaints

The Construction Manager will be responsible for maintaining a register of any incidents/events that may occur on site. The Construction Manager will also develop and implement an appropriate complaints procedure, and all follow up actions on the construction site will be managed by the CMT. The Project Manager and the CMT will be responsible for responding to any issues or complaints that may be raised by the public in relation to the construction phase of the project, they will also liaise with the ECoW on community concerns relating to the environment.

3.2.6 Monitoring, Continual Improvement and Review

This CEMP will be reviewed and updated as necessary for the duration of the construction phase. This will ensure that the developments environmental commitments will be continuously monitored in order to mitigate any potential forthcoming risks and to continue best practice.

4 Construction Works Management

4.1 Construction Phase

The construction phase sequence of operation will be as follows;

- Light excavation machinery will be used to prepare the path to the levels proposed and for the excavation of small pad foundations associated with the Bike track and Activity wall features.
- No interference with any natural riparian boundary. A temporary fence will be erected to prevent contractors unintentionally depositing or damaging any natural boundary.
- Stockpiling subsoil and topsoil will be on levelled ground and kept to a minimum height to prevent runoff.
- Areas cleared for hardcore will be filled for transporting materials on site, to pre identified locations for storage of construction materials, located away from the riparian habitat in the interest of pollution prevention.
- After delivery materials for the first phase, machinery used daily will comprise of a Mini Excavators, small dumpers, Mini surface paver, hand tools, wheelbarrows etc. Possible sources of runoff are the active mixing area and exposed areas of soils.
- The final stage is landscaping bare soils, no stockpiles of soils to be left on site, any remaining construction/demolition waste to be removed appropriately.

4.2 Site Security Arrangements, Public Health and Safety and Site Access and Egress

4.2.1 Overview

The Proposed Development area will have barriers that prevent access and egress. A site compound and will also be set up before any construction work commences on site. Hoarding/temporary fencing will be erected to delineate all site works from public areas located adjacent to the development. Security of the site is an important issue with respect to restricting site entry to personnel solely involved in the construction process during working hours and preventing unauthorised access out of hours. Site access for all personnel and visitors will be strictly controlled and all visitors will report to the site offices prior to entering the construction area. Regular inspections of the hoarding will be undertaken to ensure that the safety of any vehicles or pedestrians is not compromised. Site accommodation including offices and welfare facilities will be provided on the existing site area within the construction site boundary.

4.2.2 Lifting Gear

All lifting tackle and machines, which include cranes, hoists, pulley blocks, chains, ropes, slings, eyebolts, hooks, etc., must be marked with their safe working load, be regularly inspected, and maintained in good condition. Every item of equipment must carry a means of identification so that the regular inspections can be recorded.

- NEVER overload or misuse lifting tackle of any sort
- NEVER use improvised hooks or slings, etc.
- NEVER take chances with lifting gear

These inspections, except for cranes, are to be carried out by the site supervisor and recorded in CR.4.

4.2.3 Identified Hazards

Table 1 Identified hazards

WORK	Risks M/H	POTENTIAL HAZARD - MITIGATION
Public Safety	M	Moving transport, unsecured Materials, Collisions, Traffic Management, Open edges, pedestrians. Provision of fencing to be located at entrances to the site.
Working with Power Tools	M	Hand abrasions/Vibration White Finger. All personnel to be fully ticketed for equipment.
Handling of heavy sections	M	Full PPE shall be worn including gloves, dust masks, safety glasses, etc. Staff will be trained in manual handling.

Electricity	M	Goal posts will be erected as per ESB requirements.
Machinery/Equipment	M	Personal Injuries, breakdown, noise. All personnel to have appropriate training.
Manual Handling	M	Back injury/Sprains. Manual Handling training supplied to all staff.
Working close to water	H	All staff involved shall wear life jackets. Several life buoys will be placed along the work areas.
Weather Conditions	M	Sun Burn, Windy conditions can cause materials to fly around, excessive rain. No working in bad weather, PPE provided.
Traffic Management / Pedestrian	M	Serious injury or fatality as a result of collisions. The area involved will be secured with safety barrier.

4.3 Road Safety & Car Parking

The development proposed does not provide for any additional vehicular access. The proposal is in accordance with the Design Manual for Urban Road and Streets (2019) (DMURS) and will be subject to Road Safety Audits from design stage through to construction and completion.

The nature of the proposal and in accordance with policy on sustainable transport modes and in encouraging the promotion of a modal shift, it is considered that no additional car parking is required in respect of this development at this time. A report received from the District Engineer expresses no outstanding issues in relation to road safety and car parking

4.3.1 Parking of vehicles

- Vehicles will be always parked in a safe manner on site.
- Road Hazard lamps shall be hung on fences and on traffic cones where necessary.
- We do not anticipate any exposure to combustion gases from plant or from naturally decaying matter.
- The last half hour of the working day should be spent putting all safety measures into place and securing the work site.

5 Environmental Management

5.1 Appropriate Assessment

The Stage 1 Screening for Appropriate Assessment concluded that in the context of the development proposed, including both construction and operational stages, 'there will be no impacts on the conservation condition of the Natura 2000 sites within the zone of influence' and concluded 'that

there is no potential for significant effects on the integrity of the Lough Owel SAC, Lough Ennell SAC, Scragh Bog SAC, Lough Owel SPA and Lough Ennell SPA from the proposed development, either alone or in-combination with other plans and/or projects’.

Having regard to the Appropriate Assessment Screening prepared in association with proposed development and given the nature, type, scale and location of the proposed works within a built-up urban area, remote from any Natura 2000 site(s), it is considered that the proposed development, including construction stage works, either in combination or alone, will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 sites having regard to their conservation objectives.

5.2 Environmental Impact Assessment

The development works do not fall within the scope of the infrastructure project types prescribed. In this regard and having considered the appropriate criteria, the project is unlikely to give rise to significant environmental impacts and an Environmental Impact Assessment Report for this development is not required.

Routine inspections of construction activities will be carried out on a daily and weekly basis by the Site Environmental Manager and the Construction Manager to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place.

Environmental inspections will ensure that the works are undertaken in compliance with this Construction Environmental Management Plan and any consent conditions. Only suitably trained staff will undertake environmental site inspections.

The environmental control measures that will be implemented during the construction phases are detailed in the below sections.

5.3 Noise & Vibration

5.3.1 Hazards:

- Exposure to noise levels in excess of 85db (A) can result in hearing damage
- Vibration white finger.

5.3.2 Risks:

- Noise induced hearing loss. High risk
- Vibration white finger. Medium risk

5.3.3 Control measures:

- Breakers if required will be fitted with mufflers
- Other plant and machinery will be fitted with silencers where practicable
- Employees will wear ear protection if they have to work in very noisy surroundings or operate noisy machinery or tools

- All operators & employees in the vicinity of operational rock breaker will wear earmuffs
- Where noise levels reach 85db(A) ear protection will be provided
- Where noise levels reach 90db(A) ear protection zones will be set up & persons will be

5.4 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e. soil, sand, overburden, etc. and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Construction traffic movements also have the potential to generate dust.

Proposed measures to control dust include:

- The roads adjacent the site will be regularly inspected by the Site Environmental Manager for cleanliness, and cleaned as necessary;
- The transport of soils or other material, which has significant potential to cause dust, will be undertaken in tarpaulin-covered vehicles where necessary;
- When necessary, sections of the site will be swept using a street cleaner and / or damped down with water.

5.5 Environmental Constraints

- During the course of construction, fuels, oils, greases and hydraulic fluids will not be stored on site. Refuelling of large machinery, etc., shall be carried out off site. Small machinery such as the cement mixer will be stored in a temporary bunded area.
- During the course of construction, runoff from machine service and concrete mixing areas must not enter any groundwater or surface water in the proximity.
- During the excavation construction phase, all machinery entering the site will be checked for invasive species by a competent person.
- During the course of construction, stockpile areas for bare soils, sands and gravel will be kept to minimum size, well away from any watercourse and stores where necessary in a compound.
- During the course of construction filter channels/silt traps should be used where necessary and inspected daily and maintained regularly.
- As part of the initial site set up works the filter channels/silt traps shall be the first works to take place prior to any earth moving.

- All works shall adhere to best practice and will conform to the Inland Fisheries Ireland Requirements for the protection of Fisheries Habitat during construction and development works at River sites (www.fisheriesireland.ie section relating to construction stage).
- During the course of construction, run off from concrete mixing areas must not enter the surface water groundwater in the proximity.
- The offsite disposal of construction and demolition waste, topsoil, subsoil, vegetation and particularly hazardous waste material associated with the project to a licensed landfill site.
- Site specific details regarding the quantities of waste materials that will be generated on site and the authorised disposal destination shall be recorded in the site management plan.
- Best practice management plans on the preparation of waste management plans for construction and demolition projects.

5.6 Biosecurity Measures

Biosecurity measures will include the following;

- Each site vehicle must carry a 'disinfection box'. These will contain Virkon Aquatic 1% (disinfectant), clean freshwater, a spray bottle, cloths or sponges, a scrubbing brush and protective gloves. Protective gloves must be worn at all times when preparing and using disinfectants. Disinfectants must be used with care and in strict accordance with the manufacturer's instructions. They are to be disposed of safely and never in close proximity to open waters.
- Footwear and waders must be dipped in or scrubbed with a 1% solution of Virkon Aquatic, rinsed with clean water, and thoroughly dried before entering the site.
- All equipment must be suitably disinfected before it is used onsite. Staff are requested to sign a prepared form declaring that this was done and the date on which this was conducted.
- All PPE is to be visually inspected and any attached vegetation or debris removed. Where appropriate, wipe the gear down with a cloth soaked in 1% solution of Virkon Aquatic. Protective gloves must be worn when undertaking this procedure.
- Persons/machinery entering or working within an area infested with an invasive alien species must take certain precautions to prevent the spread of that species. These guidelines must be strictly adhered to at all times.
- In the event of any IAS plant species being present, exclusion zones must be clearly marked or fenced off in order to prevent accidental incursion. Exclusion zones should also be set up to keep machinery and personnel away from any stored contaminated clay or plant material.
- Any personnel or machinery entering within an exclusion zone of an IAS is entering a potentially contaminated area and as such must be subject to strict biosecurity protocols.
- All equipment and machinery to enter an exclusion zone must be thoroughly clean before entering. The number of machines that enter exclusion zones or come into contact with contaminated material should be kept to a minimum.

- Personnel are at all times to be mindful of the threat posed by the spread of IAS and to take all possible precautions to ensure that their actions do not result in the accidental movement of contaminated material.
- All PPE to enter an exclusion zone must be thoroughly clean before entering.
- Before leaving an infested area, individuals must thoroughly inspect their clothing, PPE, any equipment and their footwear for rhizomes, or other plant fragments that may be stuck on.

5.7 Pollution control

Mitigation measures proposed to avoid release of hydrocarbons at the site are as follows:

- Oils, fuel and all potentially harmful materials will be stored within an impermeable proprietary container.
- Mobile storage such as fuel bowsers will be bunded to prevent spills. Tanks for bowsers and generators shall be double skinned.
- Refuelling will only take place at distances greater than 50 metres from nearest water courses.
- No hazardous substance shall be permitted to be left unattended at any time when taken outside the secured storage.
- Potential impacts caused by spillages etc. during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site.
- All construction vehicles will be regularly checked and maintained prior to arrival at the site to prevent hydrocarbon leakage.
- Hoses and valves will be checked regularly for signs of wear and will be closed and securely locked when not in use.
- Fuels, lubricants and hydraulic fluids for equipment used on the construction site should be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment in accordance with current best practice.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling.
- All pumps using fuel or containing oil will be locally and securely bunded where there is the possibility of discharge to waters.
- Refuelling will only be carried out by trained personnel
- Oil booms and oil soakage pads will be kept on site to deal with any accidental spillage.

5.8 Waste Control/Waste Management Hierarchy

The waste management hierarchy sets out the most efficient way of managing waste in the following order:

- **Prevention and Minimisation:** The primary aim of the WMP will be to prevent and thereby reduce the amount of waste generated at each stage of the project.

Reuse of Waste: Reusing as much of the waste generated on site as possible will reduce the quantities of waste that will have to be transported off site to recovery facilities or landfill.

- **Recycling of Waste:** There are a number of established markets available for the beneficial use of Construction and Demolition waste such as using waste concrete as fill for new roads. At all times during the implementation of the WMP, disposal of waste to landfill will be considered only as a last resort.

The excavation phase of the proposed development will require the removal and management of the materials from the pathway. All the material to be excavated will be subsoils which will be removed to an authorised waste recovery facility. Where possible, excavated topsoil will be reused on site for landscaping. It is anticipated that any additional soil will be removed from the site for reuse, recovery and/or disposal as there are limited suitable onsite re-use options. Record keeping and monitoring of import and export of materials shall be carried out in accordance with the Waste Management Act.

The waste types arising from the construction phase of the proposed development are outlined in Table 2 below.

Table 2 Possible waste types arising during construction

Type of Material	Example	EWIC Code
Cardboard	Boxes, cartons	15 01 01
Composite packaging	Containers	15 01 05
Metals	Copper, aluminium, lead, iron and steel	17 04 07
Inert materials	Sand, stones, plaster, block etc.	17 01 07
Mixed municipal waste	Daily canteen waste from construction miscellaneous workers,	20 03 01
Plastic packaging	Packaging with new materials	15 01 02
Wooden packing	Boxes, pallets	15 01 03
Soil and stone	Soils and subsoils	17 05 04

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Plant will not be serviced onsite and so the likelihood of generating hazardous wastes is low. Hazardous wastes that may occur on site during the construction phase of the proposed development may include oil, diesel fuel, chemicals, paints, preservatives etc. Any hazardous wastes will be stored in bunded containers before being collected by an authorised waste contractor and brought to an EPA licensed waste facility.

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the construction waste arisings on site. A copy of the Waste Collection Permits, Certificates of Registration, Waste Facility Permits and IED or Waste Licences will be maintained on site at all times.

The waste manager or designate will record the following:

- Waste removed for reuse off-site;
- Waste removed for recycling;
- Waste removed for disposal;
- Recovered waste materials brought on-site for reuse; and
- By-product material brought onto site.

For each movement of waste on or off-site, a signed docket will be obtained by the waste manager from the contractor, detailing the weight and type of the material and the source and destination of the material. This will be carried out for each material type. This system will also be linked with the delivery records.

A review of all the records for the waste generated and transported on or off-site should be undertaken mid-way through the project. If waste movements are not accounted for, the reasons for this should be established in order to see if and why the record keeping system has not been maintained.

5.9 Water Quality and Water Quality Mitigation Measures

No water/wastewater connection is required to serve the proposed development save for requirements of water supply for firefighting purposes. Further engagement with IW to be undertaken in relation to potential requirements for diversion works of existing services, where required.

5.10 Surface Water Infrastructure

Surface water runoff during construction stage can be potentially contaminated. The most likely forms of contamination are “siltation” and spillage. Siltation is where soil and particulate matter are washed away in the storm by rainwater.

As fuels and oils are required in construction it is necessary to mitigate the possibility of there being an accidental leakage of these liquids to a water course. As per the construction methodology and legislative requirements all fuels stored on site will be bunded and all chemicals will be stored in an appropriate chemical storage tank. Should a spillage of fuel occur on site during construction it is likely that there will be a localised moderate impact on the environment which will be short in duration.

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A constraints zone will be identified and implemented at construction area adjacent to the river Royal Canal. The purpose of the constraint zone is to:

- Avoid physical damage to surface water channels;
- Provide a buffer against hydraulic loading by additional surface water run-off;
- Avoid the entry of suspended sediment and associated nutrients into surface waters from excavation and earthworks;
- Provide a buffer against direct pollution of surface waters by pollutants such as hydrocarbons; and,
- Construction plant materials used during construction and chemicals or waste associated with temporary on-site sanitary facilities.

General Pollution Prevention Measures will also include:

No stockpiling of construction materials will take place within the constraints zone. No refuelling of machinery or overnight parking of machinery is permitted in this area;

- No concrete truck chute cleaning is permitted in this area;
- Works shall not take place at periods of high rainfall, and shall be scaled back or suspended if heavy rain is forecast;
- Plant will travel slowly across bare ground at a maximum of 5 km/hr.
- Machinery deliveries shall be arranged using existing structures along the existing road;
- All machinery operations shall take place from the stream bank;
- Any excess construction material shall be immediately removed from the area and sent to an authorized waste recovery facility;
- Spill kits shall be available in each item of plant required;
- Silt fencing will be erected on ground sloping towards watercourses at the stream crossings if required.

5.11 Emergency Planning and Response

5.11.1 Environmental Emergency

An Integrated Management System will be employed for the project site. This Management System will include a suite of procedures which ensure effective emergency planning and response. These procedures will be as follows:

- Emergency preparedness and response procedure;
- Incident investigation procedure;
- Nonconformity, Corrective Action and Preventative Action;

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- Spillage Containment Procedure; and
- Pollution Prevention Programme

The project team appreciates that occasionally incidents arise whereby it is impossible or impractical to comply with all the requirements. In these emergency situations, as much notice as possible about the works will be given to the appropriate authorities and neighbours.

5.11.2 Spill Control Measures

Strict controls will be in place to prevent an environmental incident during the construction and operational phase of the proposed project. Oil/Fuel spillages are one of the main environmental risks that can occur on the proposed site which will require an emergency response procedure. The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. The following steps provide the procedure to be followed in the event of such an incident.

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers;
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident;
Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill;
- If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats;
- If possible, clean up as much as possible using the spill control materials;
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited;
- Notify the Environmental Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action;
- The Environmental Manager will inspect the site and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The Environmental Manager will notify the appropriate regulatory body such as Westmeath County Council, The Department of Communications, Climate Action and Environment and the Department of Housing, Planning and Local Government, if deemed necessary.

Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.

- The Environmental Manager must be immediately notified.

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- If necessary, the Environmental Manager will inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident.
- The details of the incident will be recorded on an Environmental Incident Form which will provide information such as the cause, extent, actions and remedial measures used to follow the incident. The form will also include any recommendations made to avoid reoccurrence of the incident.
- If the incident has impacted on an ecologically sensitive receptor, such as a sensitive habitat, protected species or designated conservation site (pSPA or cSAC), the Environmental Manager will liaise with the Project Ecologist.
- If the incident has impacted on a sensitive receptor such as an archaeological feature the Environmental Manager will liaise with a Project Archaeologist.
- A record of all environmental incidents will be kept on file by the Environmental Manager and the Main Contractor. These records will be made available to the relevant authorities such as Westmeath County Council, DCENR and DEHLG if required.

The Environmental Manager will be responsible for any corrective actions required as a result of the incident e.g. an investigative report, formulation of alternative construction methods or environmental sampling, and will advise the Main Contractor as appropriate.

5.12 Inspection and Monitoring

The ECoW will carry out inspections and monitoring of the construction activities to increase the effectiveness of environmental mitigation, as this addresses any environmental problems that may be occurring and assists in intervention and response at an early stage.

The responsibilities and duties of the Ecological Clerk of Works (ECoW) will include the following:

- Review and input to the final construction phase CEMP in respect of ecological matters;
- In liaison with EM, oversee and provide advice on all relevant ecology mitigation measures set out in the CEMP and EclA including the identification of all Annex I habitat for the incoming contractor;
- Supervision of the necessary phases of construction and provide ecological advice.

5.13 Conclusions

This CEMP describes the specific environmental measures that are to be implemented for the proposed Construction of an extension of the Northern Cycling Route to Scragh Bog, Co. Westmeath. It highlights the procedures to be followed for the scope of construction works for the Proposed Development and, in order to effectively manage, reduce and/or mitigate any potential environmental impacts that may arise as a result of the development.

This CEMP effectively communicates the roles and responsibilities of those in charge of the construction element of the Proposed Development and will require regular monitoring and updates post detailed design and through the construction period in order to effectively and adequately manage and control potential risks or impacts to the environment.

Appendix 1 Mitigation Measures

The Mitigation Measures are presented in the following pages. Any conditions attached to the Part 8 Planning Grant will be incorporated into the audit list including an addition or regulatory amendment or standard changes prior to or during construction.

By presenting the mitigation proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the future phases of the project. The tabular format in which the below information is presented, can be further expanded upon during the course of future project phases to provide a reporting template for site compliance audits.

Mitigation Measure	Mitigation Measure	Audit Result	Action Required
Pre-Construction Phase			

1	All site activities will be provided for in a Construction Environmental Management Plan, prepared prior to the commencement of any operations onsite. The CEMP will set out all measures to be adhered to during the precommencement, construction and operational phases of the proposed development.		
2	The main contractor will be required to engage a Construction Manager that will also fulfil the role of Environmental Manager (EM), and to monitor all site works and to ensure that methodologies and mitigation are followed throughout construction to avoid negatively impacting on the receiving environment.		
3	A suitably qualified Ecologist will be appointed to act as Ecological Clerk of Works (ECOW) in advance of any works being undertaken to report to the EM and is responsible for the protection of sensitive habitats and species encountered during the construction phase of the works. The Ecological Clerk of Works will not be full time on site but will visit the site as necessary.		
Construction Phase			
4	Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. No batching of wet cement products will occur on site.		
5	No washing out of any plant used in concrete transport or concreting operations will be allowed on-site;		
Fuel and Oil Control			
6	<ul style="list-style-type: none"> ▪ All plant and machinery will be serviced before being mobilised to site. ▪ No refuelling of machinery or overnight parking of machinery is permitted 		

	<p>in areas adjacent to watercourses or on-site drainage infrastructure.</p> <ul style="list-style-type: none"> ▪ On-site refuelling will only take place at distances greater than 50 metres from nearest water courses or site drainage infrastructure. ▪ On-site refuelling of machinery will be carried out using an oil company vehicle sourced from a local supplier. Only dedicated trained and competent personnel will carry out refuelling operations. A spill kit and drip tray shall be on site at all times and available for all refuelling operations. <p>Equipment shall not be left unattended during refuelling.</p> <ul style="list-style-type: none"> ▪ Spill kits shall be available in each item of plant required. ▪ Care will be taken at all times to avoid contamination of the environment with contaminants other than hydrocarbons, such as uncured concrete or other chemicals. The plant refuelling procedures described above shall be detailed in the contractor’s method statements. 		
Surface Water Mitigation			
<p>8</p>	<p>Works shall not take place at periods of high rainfall, and shall be scaled back or suspended if heavy rain is forecast;</p> <ul style="list-style-type: none"> ▪ Plant will travel slowly across bare ground at a maximum of 5 km/hr. ▪ Machinery deliveries shall be arranged using existing structures along the existing road; ▪ All machinery operations shall take place from the canal bank; ▪ Any excess construction material shall be immediately removed from the area and sent to an authorized waste recovery facility; ▪ Spill kits shall be available in each item of plant required; ▪ Silt fencing will be erected on ground sloping towards watercourses if required. 		
Air Quality and Dust Control			

9	<ul style="list-style-type: none"> ▪ The site track will be regularly inspected by site management for cleanliness and cleaned as necessary. ▪ The transport of crushed stone or other material, which has significant potential to cause dust, will be undertaken in tarpaulincovered vehicles where necessary. 		
	<ul style="list-style-type: none"> ▪ When necessary, sections of approach roads to the site will be swept using a street cleaner and / or damped down with water. 		
Noise			
10	<ul style="list-style-type: none"> ▪ Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts. ▪ Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1998, and any subsequent amendments. ▪ Regular maintenance of plant will be carried out in order to minimise noise emissions. ▪ All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works. ▪ Compressors will be of the “sound reduced” models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. ▪ Machines, which are used intermittently, will be shut down during those periods when they are not in use. ▪ Training will be provided by the site management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation. 		