



APPENDIX 4-3

DRAINAGE DRAWINGS

Decommissioning Plan

Umma More Renewable
Energy Development





DOCUMENT DETAILS

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Prepared By: **MKO
Tuam Road
Galway
Ireland
H91 VW84**



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1.

INTRODUCTION

This Decommissioning Plan has been prepared by MKO on behalf of Umma More Ltd. for the decommissioning of the proposed Umma More renewable energy development which will comprise 9 No. wind turbines, and associated infrastructure in the townland of Umma More, and adjacent townlands, in Co. Westmeath, and a 110kV on-site substation and associated works, including underground 110kV cabling to connect to the national grid at Thornsberry 110kV substation, in the townland of Derrynagall or Ballydaly, near Tullamore, Co. Offaly.

This document is being prepared alongside an Environmental Impact Assessment Report (EIAR) as part of an application for planning permission for the Proposed Development to An Bord Pleanála. Decommissioning of the Proposed Development will be scheduled to take place after the proposed 30-year lifespan of the project.

As detailed in Section 1.1.1 in Chapter 1 of the EIAR, for the purposes of this Decommissioning Plan, the various project components are described and assessed using the following references: 'Proposed Development', 'the Site', 'Wind Farm Site' and 'Grid Connection'.

This report provides the environmental management framework to be adhered to during the decommissioning phase of the Proposed Development and it incorporates the mitigating principles to ensure that the work is carried out in a way that minimises the potential for any environmental impacts to occur.

1.1

Scope of the Decommissioning Plan

This report is presented as a guidance document for the decommissioning of the Proposed Development. Where the term 'Site' is used in the Decommissioning Plan it refers to all works associated with the Proposed Development including enabling works. The Decommissioning Plan clearly outlines the mitigation measures and monitoring proposals that are required to be adhered to in order to complete the works in an appropriate manner.

The report is divided into eight sections, as outlined below:

Section 1 provides a brief introduction as to the scope of the report.

Section 2 outlines the Site and Project details, detailing the targets and objectives of this plan along with providing an overview of works methodologies that will be adopted throughout decommissioning.

Section 3 sets out details of the environmental controls to be implemented on site including the mechanisms for implementation. A waste management plan is also included in this section.

Section 4 outlines the Emergency Response Procedure to be adopted in the event of an emergency in terms of site health and safety and environmental protection.

Section 5 sets out a programme for the timing of the works.

Section 6 consists of a summary table of all mitigation measures to be adhered to during the operational and decommissioning-phases.

Section 7 consists of a summary table of all monitoring requirements for the operational and decommissioning-phases.

Section 8 outlines the proposals for reviewing compliance with the provisions of this report.

2. SITE AND PROJECT DETAILS

2.1 Site Location and Description

The Wind Farm Site is located approximately 2 kilometres southwest of Ballymore, Co. Westmeath, 6.6 kilometres to the north of Moate, Co Westmeath and 12.2 kilometres northeast of Athlone, Co. Westmeath. It is proposed to access the Wind Farm Site via an existing access track off the L5363 Local Road to the northwest of the Wind Farm Site. The Wind Farm Site is served by a number of existing agricultural roads and tracks.

The Grid Connection includes for underground 110kV cabling from the proposed onsite 110kV substation within the Wind Farm Site to the existing Thornsberry 110kV substation in the townland of Derrynagall or Ballydaly, County Offaly. The underground cabling route, measuring approximately 31 km in length, is primarily located within the public road corridor.

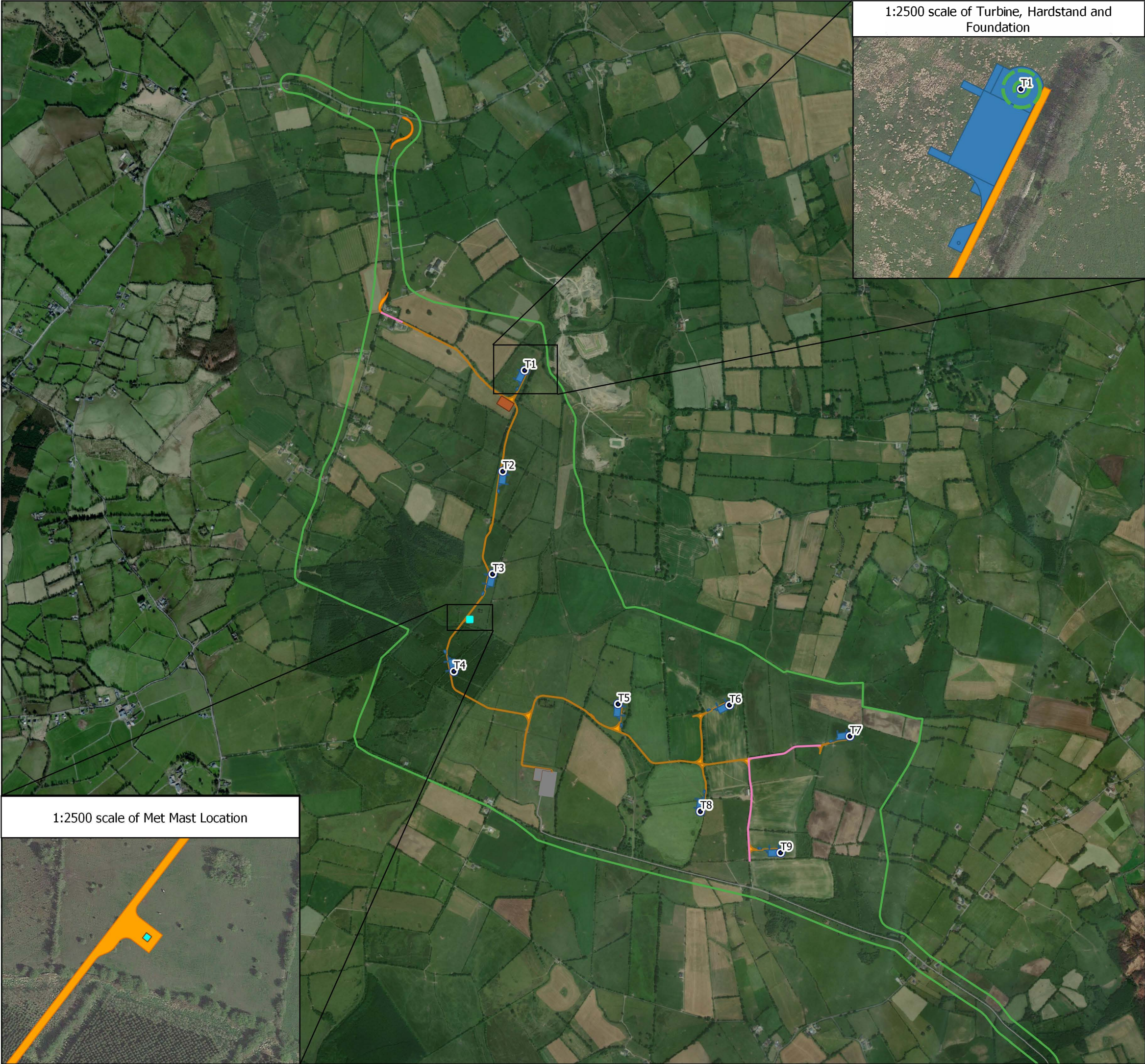
Current land-use on the Wind Farm Site comprises coniferous forestry and agriculture. Current land-use along the Grid Connection comprises of public road corridor, public open space, discontinuous urban fabric and agriculture. Land-use in the wider landscape of the Site comprises a mix of agriculture, peat cutting, low density housing, quarries and commercial forestry.

2.2 Description of the Proposed Development

The Proposed Development will comprise the construction of 9 No. wind turbines with a blade tip height of 185 metres and all associated works, and a 110 kV substation and associated works, including underground 110kV cabling to connect to the national grid at Thornsberry 110kV substation. The design life of the project is expected to be 30 years. The full description of the Proposed Development is detailed in Chapter 4 of the EIAR.

- Where the 'Proposed Development' is referred to, this relates to all the project components described in detail in Chapter 4 of this EIAR i.e Wind Farm Site and Grid Connection as detailed below.
- Where 'the Site' is referred to, this relates to the primary study area for the EIAR, as delineated by the EIAR Site Boundary in green as shown on Figure 1-1.
- Where the 'Wind Farm Site' is referred to, this refers to turbines and associated foundations and hard-standing areas, meteorological mast, junction accommodation works, access roads, temporary construction compound, underground cabling, spoil management, site drainage, tree felling and all ancillary works and apparatus. The planning application for the Wind Farm Site is made to An Bord Pleanála in accordance with the provisions of Section 37E of the Planning and Development Act 2000, as amended.
- Where 'Grid Connection' is referred to, this refers to the temporary construction compound and 110kV onsite substation, and associated underground 110kV cabling connecting to the existing Thornsberry 110kV substation, subject to a future planning application under Section 182A of the Planning and Development Act, 2000, as amended.

The site layout of the Wind Farm Site and Grid Connection are shown in Figures 2-1 and 2-2 below.



1:2500 scale of Turbine, Hardstand and Foundation

Map Legend

- EIAR Site Boundary
- Proposed Turbine Layout
- Proposed Turbine Hardstands
- Proposed Turbine Foundation
- Proposed Met Mast Location
- Proposed New Roads
- Proposed Upgrades to Existing Roads
- Temporary Construction Compound
- Grid Connection - Subject to a Separate Application



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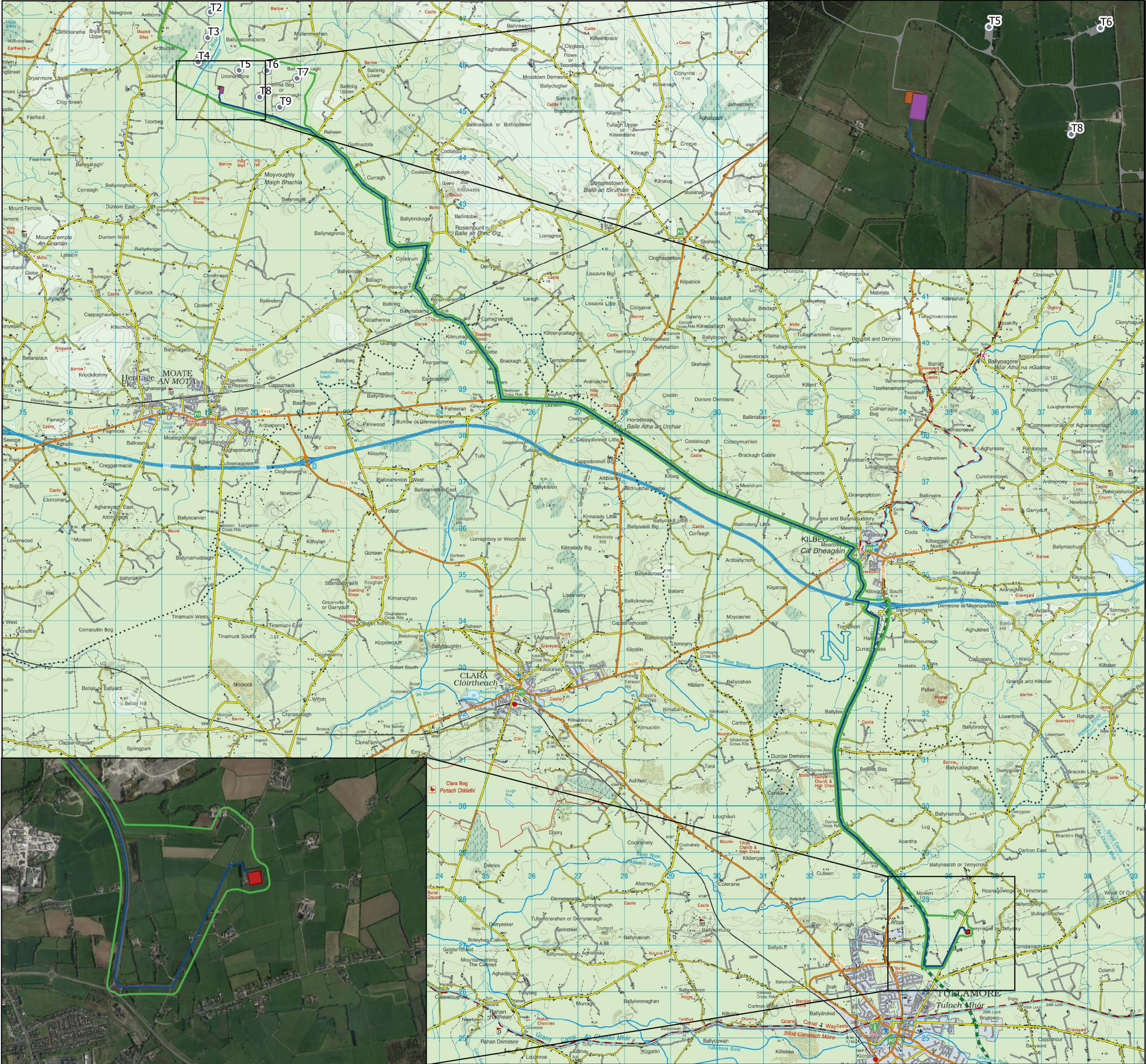
Drawing Title
Wind Farm Site Layout

Project Title
Umma More Renewable Energy Development

Drawn By	BT	Checked By	EC
Project No.	201050	Drawing No.	Figure 2-1
Scale	1:20,000	Date	2023-01-31



MKO
Planning and
Environmental
Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkoireland.ie
Website:www.mkoireland.ie



Map Legend

- EIAR Site Boundary
- Proposed 110kV Onsite Substation
- Proposed Temporary Construction Compound
- Proposed Underground Electrical Cabling Route
- Existing Thornsberry 110kV Substation
- Wind Farm Site Infrastructure - Subject to Separate Application



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Drawing Title	
Grid Connection Layout	
Project Title	
Umma More Renewable Energy Development	
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MKO
Planning and
Environmental
Consultants
Tuam Road, Galway
Ireland, H91 VW84
+353 (0) 91 735611
email:info@mkofireland.ie
Website: www.mkofireland.ie

Wind Farm Site:

As construction will be completed, elements of the project that will be developed as a temporary facilitator will either be removed, restored to its original condition or will naturally revegetate. These include the temporary construction compound and the spoil management areas. All access roads and hardstanding areas forming part of a site roadway network will be required by the ongoing farming and forestry operations, and therefore will be left in situ for future use. It is intended that decommissioning will remove all above ground components and underground cabling from the Wind Farm Site, and reinstate areas where infrastructure is removed. The following elements are included:

- Wind turbines dismantling and removal off site.
- Underground cabling removal (ducting remaining)
- Turbine foundation backfilling (Underground reinforced concrete remaining in-situ)
- Turbine Delivery Route Accommodation Works.

Grid Connection:

As construction will be completed, the Grid Connection temporary construction compound that was developed as a temporary facilitator will either be removed and restored to its original condition or will naturally revegetate. The Grid Connection underground electrical cabling route and onsite substation will remain in place as it will be under the ownership and control of the ESB and EirGrid.

2.3

Targets and Objectives

The decommissioning phase works will be completed to approved standards, which include specified materials, standards, specifications and codes of practice. This decommissioning plan has considered environmental issues and this is enhanced by the works proposals as part of decommissioning.

The key site targets are as follows:

- Ensure decommissioning works and activities are completed in accordance with mitigation and best practice approach presented in the accompanying Environmental Impact Assessment Report (EIAR) and associated planning documentation.
- Ensure decommissioning works and activities have minimal impact/disturbance to local landowners and the local community.
- Ensure decommissioning works and activities have minimal impact on the natural environment.
- Adopt a sustainable approach to decommissioning; and,
- Provide adequate environmental training and awareness for all project personnel.

The key site objectives are as follows:

- Using recycled materials if possible, e.g. soil and overburden material for backfilling and reinstatement.
- Ensure sustainable sources for materials supply where possible.
- Avoidance of any pollution incident or near miss as a result of working around or close to existing watercourses and having emergency measures in place.
- Avoidance of vandalism.
- Keeping all watercourses free from obstruction and debris.
- Correct implementation of the sustainable drainage system (SuDS) drainage design principles.
- Keep impact of decommissioning works to a minimum on the local environment, watercourses, and wildlife.
- Correct fuel storage and refuelling procedures to be followed.
- Good waste management and housekeeping to be implemented.

- Air and noise pollution prevention to be implemented.
- Monitoring of the works and any adverse effects that it may have on the environment.
Decommissioning methods will be altered where it is found there is the potential to have an adverse effect on the environment.

2.4 Decommissioning Methodologies Overview

2.4.1 Introduction

An experienced main contractor will be appointed to undertake the of the decommissioning of the Proposed Development. The main contractors will comply with the Construction and Environmental Management Plan (CEMP) prepared for the construction phase and any Operation and Environmental Management Plan implemented during operation and any revisions made to those documents throughout the phases in which they were adopted. An overview of the anticipated decommissioning methodologies is provided below.

2.4.2 Decommissioning Methodology

The proposed anticipated decommissioning methodology is summarised under the following main headings:

- Wind turbines
- Turbine Foundations.
- Underground Cabling.
- Turbine Delivery Route Accommodation Works.

2.4.2.1 Wind Turbines

Prior to any works being undertaken on wind turbines, they will be disconnected from the grid by the site operator in conjunction with ESB Networks and EirGrid. The dismantling and removal of wind turbines of this scale is a specialist operation which will be undertaken by the turbine supplier or competent subcontractor. Turbine dismantling will be undertaken in reverse order to the methodology employed during their construction. Cranes will be brought back to the Wind Farm Site utilising the hardstand areas that will be present after the construction phase. The dismantling of turbines will be bound by the same safety considerations as will be the case during construction in terms of weather conditions where works will not be undertaken during adverse weather conditions and in particular not during high winds.

The turbines will likely be removed from the Wind Farm Site using the same transport methodology adopted for delivery to the Wind Farm Site initially. Transport will involve the usage of extended articulated trucks, which are detailed in Chapter 14 of the EIAR which accompanies this application. The disassembled turbine materials will then be separated and transferred to a suitable recycling or recovery facility.

The transport of disassembled turbines from the Wind Farm Site will be undertaken in accordance with a Transport Management Plan which will be issued to and agreed with the competent authority at that time as part of a permit application for the delivery of abnormal loads using the local roads under the Road Traffic (Special Permits for Particular Vehicles) Regulations 2007. The Transport Management Plan will provide for all necessary safety measures, including a convoy and Garda escort as required, off-peak turning/reversing movements and any necessary safety controls.

2.4.2.2 Turbine Foundations

On the dismantling of turbines, it is not intended to remove the concrete foundation from the ground. It is considered that its removal will be the least preferred options in terms of having potential effects on

the environment. Therefore, the 9 No. turbine foundations will be backfilled and covered with soil material. If there is usable soil or overburden material on the Wind Farm Site after construction, this material will be used. Alternatively, where material is not readily available on site, soil will be sourced locally and imported to the Wind Farm Site on heavy good vehicles (HGVs). The imported soil will be spread and graded over the foundation using a tracked excavator and revegetation enhanced by spreading of an appropriate seed mix to assist in revegetation and accelerate the resumption of the natural drainage management that will have existed prior to any construction.

2.4.2.3 **Underground Cabling**

The electrical and fibre optic cabling that connects each turbine to the proposed onsite 110kV electrical substation will be removed from the cable ducting. The cabling will be pulled from the cable duct using a mechanical winch which will extract the cable and re-roll it on to a cable drum. This will be undertaken at each of the joint bays/pull pits along the cable. The original pulling pits will be excavated using a mechanical excavator and will be fully re-instated once the cables are removed.

The cable ducting will be left in-situ as it is considered the most environmentally prudent option, avoiding unnecessary excavation and soil disturbance for an underground element that is not visible with no environmental impact associated with leaving the ducting in-situ.

2.4.2.4 **Transport Route Accommodation Works**

During the construction of the Proposed Development, a number of road and junction temporary works will be completed to provide access to the Wind Farm Site during turbine delivery. All these accommodation areas will be re-used during decommissioning and turbine component removal. On completion of the turbine component removal from the Wind Farm Site, the temporary accommodation area will be fully re-instated.

3. ENVIRONMENTAL MANAGEMENT

The following sections give an overview of the drainage design, dust and noise control measures, a waste management plan for the Site and the implementation of the environmental management procedures for the Site.

3.1.1 Site Drainage

The site drainage features for this Site during its construction and operation are outlined in the EIAR which accompany this application. As this Decommissioning Plan is a working document and is presented as an Appendix to the EIAR, the drainage measures are not included in this document. When the final plan is prepared prior to decommissioning and presented as a standalone document, all drainage measures will be included in that document as required. The drainage proposals will be developed further prior to the commencement of decommissioning if deemed necessary. However, it should be noted that by the time decommissioning is undertaken after the planned 30-year lifespan of the Proposed Development, the areas within the Wind Farm Site will have revegetated resulting in a resumption of the natural drainage management that will have existed prior to any construction. It is not anticipated that the decommissioning phase will interrupt this restored drainage regime in any way with the works proposed. As a minimum measure, areas where freshly placed soil material as part of turbine foundation reinstatement will be surrounded by silt fencing if deemed necessary until the area has naturally revegetated.

3.1.2 Refuelling, Fuel and Hazardous Materials Storage

The plant and equipment used during decommissioning will require refuelling during the works. Appropriate management of fuels will be required to ensure that incidents relating to refuelling are avoided. Re-fuelling will take place in an area which will consist of a bunded refuelling and containment area, the details of which will be clarified prior to decommissioning. The following mitigation measures are proposed to avoid release of hydrocarbons at the Site:

- Road-going vehicles will be refuelled off site wherever possible;
- Fuels volumes stored on site should be minimised. Any fuel storage areas will be bunded appropriately for the fuel storage volume for the time period of the construction and fitted with a storm drainage system and an appropriate oil interceptor;
- The electrical substation compound will be bunded appropriately to the volume of oils likely to be stored, and to prevent leakage to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;
- Oils or fuels stored in turbines will be placed within an appropriately sized bunded unit to prevent leakage to groundwater or surface water;
- The plant used will be regularly inspected for leaks and fitness for purpose; and,
- An emergency plan for the construction phase to deal with accidental spillages will be developed (refer to Section 5) Spill kits will be available to deal with and accidental spillage in and outside the refuelling area.
- A programme for the regular inspection of plant and equipment for leaks and fitness for purpose will be developed at the outset of the decommissioning phase.

3.2 Dust Control

Dust can be generated from on-site activities during decommissioning such as backfilling of foundations and travelling on site roads during prolonged periods of dry weather. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e. soil, and the weather.

In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Site traffic movements also have the potential to generate dust as they travel along the haul route. If necessary, haul roads and other areas of hardstanding will be damped down by water spray or water misting to prevent the generation of dust.

Proposed measures to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions;
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by the ECoW for cleanliness, and cleaned as necessary;
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind;
- Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods;
- Water misting or bowsers will operate on-site as required to mitigate dust in dry weather conditions;
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary;
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph;
- Daily inspection of construction sites to examine dust measures and their effectiveness.
- The site access roads will be checked weekly for damage/potholes and repaired as necessary.

3.3

Noise Control

The operation of plant and machinery, including site vehicles, is a source of potential impact that will require mitigation at all locations within the Site. To avoid unsociable hours where possible, decommissioning works will be restricted to occur between 07:00hrs and 19:00hrs Monday to Saturday, which are the same as those proposed during the construction phase. Proposed measures to control noise include:

- 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 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.
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers.
- 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 Manager to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation; and,
- Local areas of the haul route will be condition monitored and maintained, if necessary.

3.4 Invasive Species Management

The soil material that will be imported to the Wind Farm Site as part of the foundation backfilling will be free of any invasive species (listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)). The site manager will take steps to ensure this sourcing suitably clean material and verify the quality of the material by having it inspected prior to bringing it to Site by a suitably qualified ecologist.

3.5 Traffic Management

A Traffic Management Plan will be prepared in advance of any decommissioning works. The removal of turbines from site will be undertaken for a specialist haulier. The traffic management arrangements although similar to those that will be implemented for turbine delivery as outlined in the EIAR will be agreed in advance of decommissioning with the competent authority.

3.6 Waste Management

This section of the Decommissioning Plan provides a waste management plan (WMP) which outlines the best practice procedures during the decommissioning of the Proposed Development. The WMP will outline the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of decommissioning. Disposal of waste will be a last resort.

3.6.1 Legislation

The Waste Management Act 1996 and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling and recovery. The Act also provides a regulatory framework for meeting higher environmental standards set out by other national and EU legislation.

The Act requires that any waste related activity has to have all necessary licenses and authorisations. It will be the duty of the Waste Manager on the site of the Umma More Renewable Energy Development to ensure that all contractors hired to remove waste from the site have valid Waste Collection Permits. It will then be necessary to ensure that the waste is delivered to a licensed or permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits and authorisations.

The Department of the Environment provides a document entitled, '*Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects*' (2021). It is important to emphasise that no demolition will take place at this site, however, this document was referred to throughout the process of completing this WMP.

3.6.2 Waste Management Hierarchy

The waste management hierarchy sets out the most efficient way of managing 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 several 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.

3.6.3 Waste Arising from Decommissioning

The relevant components will be removed from site for re-use, recycling or waste disposal. Any structural elements that are not suitable for recycling will be disposed of in an appropriate manner. All lubrication fluids will be drained down and put aside for appropriate collection, storage, transport and disposal. Any materials which cannot be re-used or recycled will be disposed of by an appropriately licenced contractor.

The waste types arising from the decommissioning of the Proposed Development are outlined in Table 3-1 below.

Table 3-1 Expected waste types arising during the Decommissioning Phase

Material Type	Example	LOW Code
Cables	Electrical wiring	17 04 11
Metals	Copper, aluminium, lead and iron	17 04 07
Fibreglass	Turbine blade component	10 11 03
Hydrocarbons	Oils and lubricants drained from the turbines	13 01 01,13 02 04

3.6.3.1 Reuse

Many construction materials can be reused several times before they have to be disposed of:

- Electrical wiring can be reused on similar wind energy projects
- Elements of the turbine components can be reused but this will be determined by the condition that they are in.

3.6.3.2 Recycling

If a certain type of construction material cannot be reused onsite, then recycling is the most suitable option. The opportunity for recycling during decommissioning will be limited and restricted to components of the wind turbines.

All waste that is produced during the decommissioning phase including dry recyclables will be deposited in the on-site skip initially and sent for subsequent segregation at a remote facility. The anticipated volume of all waste material to be generated at the Umma More Renewable Energy Development is low which provides the justification for adopting this method of waste management.

3.6.3.3 Implementation

3.6.3.3.1 Roles and Responsibilities

Prior to the commencement of the decommissioning, a Construction Waste Manager will be appointed by the Contractor. The Construction Waste Manager will oversee the implementation of the objectives of the plan, ensuring that all hired waste contractors have the necessary authorisations and that the waste management hierarchy is adhered to. The person nominated must have sufficient authority so that they can ensure everyone working on the decommissioning adheres to the management plan.

3.6.3.3.2 Training

It is important for the Construction Waste Manager to communicate effectively with colleagues in relation to the aims and objectives of the waste management plan. All employees working on site during the decommissioning phase of the project will be trained in materials management and thereby, should be able to:

- Distinguish reusable materials from those suitable for recycling.
- Ensure maximum segregation at source.
- Co-operate with site manager on the best locations for stockpiling reusable materials.
- Separate materials for recovery; and
- Identify and liaise with waste contractors and waste facility operators.

3.6.3.3.3 Record Keeping

The WMP will provide systems that will enable all arisings, movements and treatments of construction waste to be recorded. This system will enable the contractor to measure and record the quantity of waste being generated. It will highlight the areas from which most waste occurs and allows the measurement of arisings against performance targets. The WMP can then be adapted with changes that are seen through record keeping.

The fully licensed waste contractor employed to remove waste from the site will be required to provide documented records for all waste dispatches leaving the site. Each record will contain the following:

- Consignment Reference Number
- Material Type(s), EWC Code(s) and LOW Code(s)
- Company Name and Address of Site of Origin
- Trade Name and Collection Permit Ref. of Waste Carrier
- Trade Name and Licence Ref. of Destination Facility
- Date and Time of Waste Dispatch
- Registration no. of Waste Carrier vehicle
- Weight of Material
- Signature of Confirmation of Dispatch detail
- Date and Time of Waste Arrival at Destination
- Site Address of Destination Facility

3.6.3.4 Waste Management Plan Conclusion

The WMP will be properly adhered to by all staff involved in the project which will be outlined within the induction process for all site personnel. The waste hierarchy should always be employed when designing the plan to ensure that the least possible amount of waste is produced during decommissioning. Reuse of certain types of construction wastes will cut down on the cost and requirement of raw materials therefore further minimising waste levels.

This WMP has been prepared to outline the main objectives that are to be adhered to and it will be updated as required prior to decommissioning.

3.7 Environmental Management Implementation

3.7.1 Roles and Responsibilities

The Site Manager and/or Environmental Clerk of Works (ECoW) are the project focal point relating to decommissioning-related environmental issues.

In general, the ECoW will maintain responsibility for monitoring the decommissioning works and Contractors/Sub-contractors from an environmental perspective. The ECoW will act as the regulatory interface on environmental matters. The Site Manager will be responsible for reporting to and liaising with Westmeath County Council and other statutory bodies as required.

The Site Manager in consultation with the ECoW will be responsible for employing the services of a suitably qualified ecologist and any other suitably qualified professionals as required throughout the decommissioning works.

4.

EMERGENCY RESPONSE PLAN

An Emergency Response Plan (ERP) is presented in this section of the Decommissioning Plan. It provides details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection.

4.1

Emergency Response Procedure

The site ERP includes details on the response required and the responsibilities of all personnel in the event of an emergency. The ERP will require updating and submissions from the contractor/PSCS and sub-contractors as decommissioning progresses. Where sub-contractors that are contracted on site are governed by their own emergency response procedure a bridging arrangement will be adopted to allow for inclusion of the sub-contractor's ERP within this within this document.

This is a working document that requires updating throughout the various stages of the project.

4.1.1

Roles and Responsibilities

The chain of command during an emergency response sets out who is responsible for coordinating the response. The Site Supervisor/Construction Manager will lead the emergency response which makes him responsible for activating and coordinating the emergency response procedure. The other site personnel who can be identified at this time who will be delegated responsibilities during the emergency response are presented in Figure 4-1. In a situation where the Site Supervisor/ Construction Manager is unavailable or incapable of coordinating the emergency response, the responsibility will be transferred to the next person in the chain of command outlined in Figure 4-1. This will be updated throughout the various stages of the project.

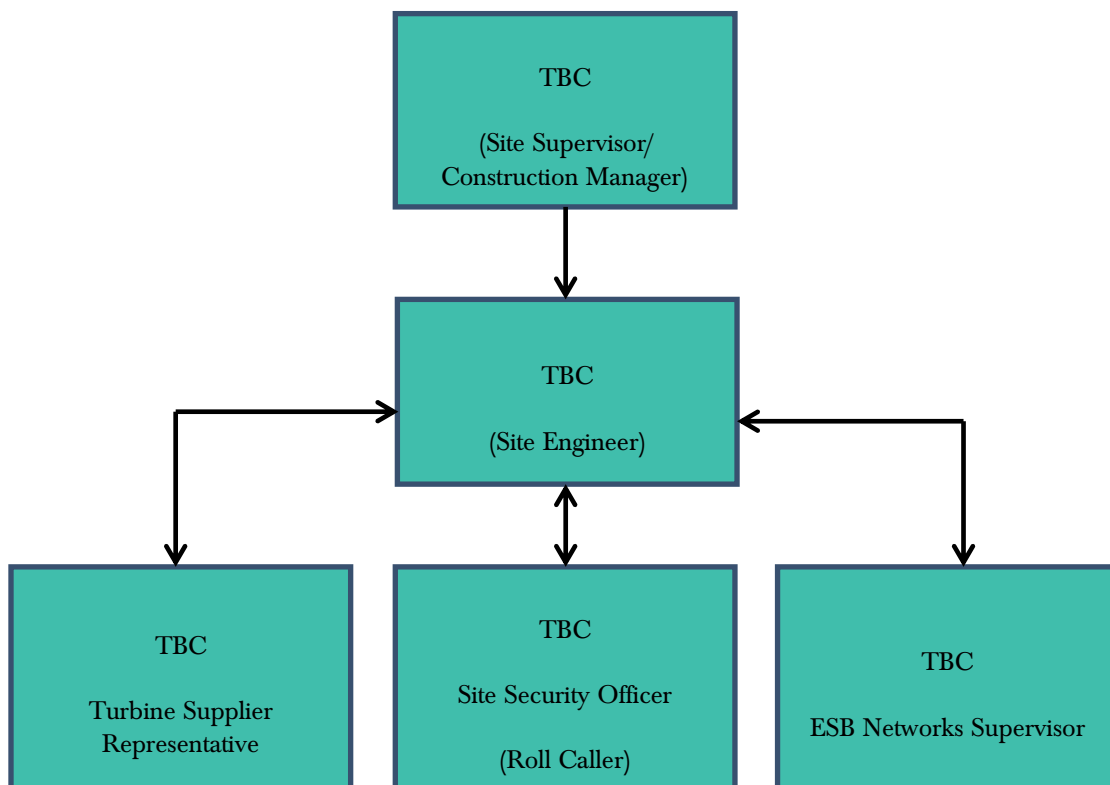


Figure 4-1 Emergency Response Procedure Chain of Command

4.1.2

Initial Steps

To establish the type and scale of potential emergencies that may occur, the following hazards have been identified as being potential situations that may require an emergency response in the event of an occurrence.

Table 4-1 Hazards associated with potential emergency situations

Hazard	Emergency Situation
Construction Vehicles: Dump trucks, tractors, excavators, cranes etc.	Collision or overturn which has resulted in operator or third-party injury.
Abrasive wheels/Portable Tools	Entanglement, amputation or electrical shock associated with portable tools
Contact with services	Electrical shock or gas leak associated with an accidental breach of underground services
Fire	Injury to operative through exposure to fire
Falls from heights including falls from scaffold towers, scissor lifts, ladders, roofs and turbines	Injury to operative after a fall from a height
Sickness	Illness unrelated to site activities of an operative e.g. heart attack, loss of consciousness, seizure
Turbine Specific Incident	This will be included the turbine manufacturers' emergency response plan.

In the event of an emergency situation associated with, but not restricted to, the hazards outlined in Table 4-2 the Site Supervisor/Construction Manager will carry out the following:

- Establish the scale of the emergency situation and identify the number of personnel, if any, have been injured or are at risk of injury.
- Where necessary, sound the emergency siren/foghorn that activates an emergency evacuation on the site. The Site Supervisor/Construction Manager must proceed to the assembly point if the emergency poses any significant threat to their welfare **and if there are no injured personnel at the scene that require assistance**. The Site Supervisor/Construction Manager will be required to use their own discretion at that point. In the case of fire, the emergency evacuation of the site should proceed, without exception. The site evacuation procedure is outlined in Section 4.1.3.
- Make safe the area if possible and ensure that there is no identifiable risk exists with regard to dealing with the situation e.g. if a machine has turned over, ensure that it is in a safe position so as not to endanger others before assisting the injured.
- Contact the required emergency services or delegate the task to someone. If delegating the task, ensure that the procedures for contacting the emergency services as set out in Section 4.2 is followed.
- Take any further steps that are deemed necessary to make safe or contain the emergency incident e.g. cordon off an area where an incident associated with electrical issues has occurred.
- Contact any regulatory body or service provider as required e.g. ESB Networks the numbers for which as provided in Section 4.3.
- Contact the next of kin of any injured personnel where appropriate.

4.1.3 Site Evacuation/Fire Drill

A site evacuation/fire drill procedure will provide basis for carrying out the immediate evacuation of all site personnel in the event of an emergency. The following steps will be taken:

- Notification of the emergency situation. Provision of a siren or foghorn to notify all personnel of an emergency situation.
- An assembly point will be designated in the construction compound area and will be marked with a sign. All site personnel will assemble at this point.
- A roll call will be carried out by the Site Security Officer to account for all personnel on site.
- The Site Security Officer will inform the Site Supervisor/Construction Manager when all personnel have been accounted for. The Site Supervisor/Construction Manager will decide the next course of action, which be determined by the situation that exists at that time and will advise all personnel accordingly.

All personnel will be made aware of the evacuation procedure during site induction. The Fire Services Acts of 1981 and 2003 require the holding of fire safety evacuation drills at specified intervals and the keeping of records of such drills.

4.1.4 Spill Control Measures

Every effort will be made to prevent an environmental incident during the decommissioning phase of the project. Oil/fuel spillages are one of the main environmental risks that will exist on the 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 ECoW immediately giving information on the location, type and extent of the spill so that they can take appropriate action.
- The ECoW 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 ECoW will notify the appropriate regulatory body such as Westmeath County Council or Offaly County Council, and the Environmental Protection Agency (EPA), if deemed necessary.

The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.

- The ECoW must be immediately notified.
- If necessary, the ECoW 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 following the incident. The form will also include any recommendations made to avoid reoccurrence of the incident.
- If the incident has impacted on a sensitive receptor such as an archaeological feature the ECoW will liaise with the Project Archaeologist.
- A record of all environmental incidents will be kept on file by the ECoW and the Main Contractor. These records will be made available to the relevant authorities such as Westmeath County Council, Offaly County Council or the EPA if required.

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

4.2

Contact the Emergency services

In the event of requiring the assistance of the emergency services the following steps should be taken:

Stay calm. It is important to take a deep breath and not get excited. Any situation that requires 999/112 is, by definition, an emergency. The dispatcher or call-taker knows that and will try to move things along quickly, but under control.

Know the location of the emergency and the number you are calling from. This may be asked and answered a couple of times but do not get frustrated. Even though many emergency call centres have enhanced capabilities meaning they are able to see your location on the computer screen they are still required to confirm the information. If for some reason you are disconnected, at least emergency crews will know where to go and how to call you back.

Wait for the call-taker to ask questions, then answer clearly and calmly. If you are in danger of assault, the dispatcher or call-taker will still need you to answer quietly, mostly "yes" and "no" questions.

If you reach a recording, listen to what it says. If the recording says your call cannot be completed, hang up and try again. If the recording says all call takers are busy, WAIT. When the next call-taker or dispatcher is available to take the call, it will transfer you.

Let the call-taker guide the conversation. He or she is typing the information into a computer and may seem to be taking forever. There is a good chance, however, that emergency services are already being sent while you are still on the line.

Follow all directions. In some cases, the call-taker will give you directions. Listen carefully, follow each step exactly, and ask for clarification if you do not understand.

Keep your eyes open. You may be asked to describe victims, suspects, vehicles, or other parts of the scene.

Do not hang up the call until directed to do so by the call taker.

Due to the location of the site it may be necessary to liaise with the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services. This should form part of the site induction to make new personnel and sub-contractors aware of any such arrangement or requirement if applicable. A list of emergency contacts is presented in Table 4-3.

Table 4-2 Emergency Contacts

Contact	Telephone no.
Emergency Services – Ambulance, Fire, Gardaí	999/112
Doctor – Moate Medical Centre	090 648 1206
Hospital – Midland Regional Hospital - Mullingar	044 934 0221
ESB Emergency Services	1850 372 999
Gas Networks Ireland Emergency	1850 20 50 50
Gardaí – Glasson Garda Station	090 648 5102
Health and Safety Co-ordinator - Health & Safety Services	TBC
Health and Safety Authority	1890 289 389
Inland Fisheries Ireland (IFI)	1890 347 424
Project Supervisor Construction Stage (PSCS): TBC	TBC
Project Supervisor Design Stage (PSDS): TBC	TBC
Client: Umma More Ltd.	021-7336034

4.3

Procedure for Personnel Tracking

All operatives on site without any exception will have to undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.

In the event of a site operative becoming in an emergency situation where serious injury has occurred and hospitalisation has taken place, it will be the responsibility of the Site Manager or next in command if unavailable to contact the next of kin to inform them of the situation that exists.

4.4

Induction Checklist

Table 4-3 provides a list of items highlighted in this ERP which must be included or obtained during the mandatory site induction of all personnel that will work on the site. This will be updated throughout the various stages of the project.

Table 4-3 Emergency Response Plan Items Applicable to the Site Induction Process

ERP Items to be included in Site Induction	Status
All personnel will be made aware of the evacuation procedure during site induction	
Due to the remoteness of the site it may be necessary to liaise with and assist the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services. This	

ERP Items to be included in Site Induction	Status
should form part of the site induction to make new personnel and sub-contractors aware of any such arrangement or requirement if applicable.	
All operatives on site without any exception will have undergone a site induction where they will be required to provide personal contact details which will include contact information for the next of kin.	

5. PROGRAMME OF WORKS

5.1 Decommissioning Schedule

The decommissioning phase will take approximately 3 – 6 months to complete from commencing the removal of turbines to the final reinstatement of the Wind Farm Site.

At this time, it is not possible to determine when decommissioning will take place.

The phasing and scheduling of the main decommissioning task items are outlined in Figure 5-1 below, where the 1st January has been shown as an indicative start date for decommissioning to commence.

ID	Task Name	Task Description	Q1			Q2			Q3			
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	Site Health & Safety											
2	Turbine Decommissioning	Disconnect power output										
3	Turbine Dismantling	Disassemble turbine components										
4	Turbine Removal	Transport of all turbine components off site										
5	Cable Removal	Remove underground cables from ducting										
6	Turbine Foundations Backfill	Reinstate foundation areas by covering with soil material										
7	Accommodation Areas Reinstatement	Reinstate soil berm and boundary treatments										

Figure 5-1 Indicative Decommissioning Schedule

6.

MITIGATION PROPOSALS

All mitigation measures relating to the pre-commencement, construction and operational phases of the Proposed Development were set out in the various sections of the Environmental Impact Assessment Report (EIAR) and NIS prepared as part of the planning permission application to An Bord Pleanála.

This section of the Decommissioning Plan groups together all of the mitigation measures presented in the above documents. The Mitigation Measures are presented in the following pages.

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 decommissioning phase of the project.

Table 6-1 Mitigation Measures

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
<i>Decommissioning Phase</i>				
MM1	EIAR Chapter 4	Prior to the end of the operational period the Decommissioning Plan (Appendix 4-6 of the EIAR) will be updated in line with decommissioning methodologies that may exist at the time and will be agreed with the competent authority at that time.		
MM2	DP Section 3	Prior to decommissioning, a suitably qualified ecologist will complete an invasive species survey of the material proposed for turbine foundation backfilling.		
MM3	EIAR Chapter 4 DP Section 2	On removal of turbines, the covering of the foundation will be completed using material imported to site as the required quantity of material does not currently exist at the site. The imported soil will be spread and graded over the foundation using a tracked excavator and revegetation enhanced by spreading of an appropriate seed mix to assist in revegetation and accelerate the resumption of the natural drainage management that will have existed prior to any construction		
MM4	EIAR Chapter 4 DP Section 3	<p>The following mitigation measures are proposed to avoid release of hydrocarbons at the site:</p> <ul style="list-style-type: none"> ➤ Road-going vehicles will be refuelled off site wherever possible; ➤ On-site refuelling will be carried out using a mobile double skinned, banded fuel bowser. The fuel bowser, a double-axel custom-built refuelling trailer will be re-filled off site and will be towed around the site by a 4x4 jeep to where machinery is located. It is not practical for all vehicles to travel back to a single refuelling point, given the size of the cranes, excavators, etc. that will be used during the construction of the Proposed Development. The 4x4 jeep will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction when not in use. Refuelling operations will be carried out only 		

Ref. No.	Reference Location	Mitigation Measure	Audit Result	Action Required
		<p>by designated trained and competent operatives. Mobile anti-pollution measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.</p> <ul style="list-style-type: none"> ➤ Only designated trained and competent operatives will be authorised to refuel plant on site. ➤ Fuel volumes stored on site should be minimised. Any fuel storage areas will be bunded appropriately; ➤ The plant used will be regularly inspected for leaks and fitness for purpose; and, ➤ An emergency plan for the decommissioning phase to deal with accidental spillages will be developed (refer to Section 4) Spill kits will be available to deal with and accidental spillage in and outside the refuelling area. <p>A programme for the regular inspection of plant and equipment for leaks and fitness for purpose will be developed at the outset of the decommissioning phase.</p>		
MM5	EIAR Chapter 14	In the event that the Proposed Development is decommissioned after the 30 years of operation, a decommissioning plan, will be prepared for agreement with the local authority, as described in Section 4.11 of Chapter 4. This plan will include a material recycling / disposal and traffic management plan will be prepared for agreement with the local authority prior to decommissioning.		

7. **MONITORING PROPOSALS**

All monitoring proposals relating to the pre-commencement, construction and operational phases of the Proposed Development were set out in various sections of the ELAR and NIS prepared as part of the planning permission application to An Bord Pleanála.

This section of the Decommissioning Plan groups together all of the monitoring proposals presented in the planning documentation. The monitoring proposals are presented in the following pages.

By presenting the monitoring proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the decommissioning phase of the project.

Table 7-1 Schedule of Monitoring Proposals

Ref. No.	Reference Location	Monitoring Measure	Frequency	Reporting Period	Responsibility
<i>Decommissioning Phase</i>					
MX1	DP Section 3	The Site Manager in consultation with the ECoW will be responsible for employing the services of a suitably qualified ecologist and any other suitably qualified professionals as required throughout the decommissioning works.	As required	As required	Site Manager
MX2	EIAR Chapter 6 DP Section 3	Prior to decommissioning, a suitably qualified ecologist will complete an invasive species survey of any material proposed for use as part of foundation backfilling.	As required	As required	Project Ecologist
MX3	EIAR Chapter 7	Decommissioning monitoring surveys will be undertaken prior to works associated with decommissioning at the wind farm. The survey will include a thorough walkover survey to a 500m radius of the Proposed Development footprint and all works areas, where access allows. If winter roosting or breeding activity of birds of high conservation concern is identified, the roost or nest site will be located and earmarked for monitoring at the beginning of the first winter or breeding season of the decommissioning phase. If it is found to be active during the decommissioning phase, no works shall be undertaken within a disturbance buffer (Forestry Commission Scotland, 2006; Ruddock and Whitfield, 2007) in line with industry best practice. No works shall be permitted within the buffer until it can be demonstrated that the roost/nest is no longer occupied.			

8. COMPLIANCE AND REVIEW

8.1 Site inspections and Environmental Audits

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

Environmental inspections will ensure that the works are undertaken in compliance with this Decommissioning Plan and all other planning application documents. Only suitably trained staff will undertake environmental site inspections.

8.2 Auditing

Environmental audits will be conducted at planned intervals to determine whether the Decommissioning Plan is being properly implemented and maintained. The results of environmental audits will be provided to project management personnel. In contrast to monitoring and inspection activities, audits are designed to shed light on the underlying causes of non-compliance, and not merely detect the non-compliance itself. In addition, audits are the main means by which system and performance improvement opportunities may be identified. Environmental audits will be carried out by the ECoW on behalf of the appointed contractor. It is important that an impartial and objective approach is adopted.

Once the Proposed Development has been decommissioned and all identified infrastructure removed from the site, a report of compliance with decommissioning works mitigation measures will be prepared.

8.3 Environmental Compliance

The following definitions shall apply in relation to the classification of Environmental Occurrences during decommissioning of the renewable energy development:

Environmental Near Miss: An occurrence which if not controlled or due to its nature could lead to an Environmental Incident.

Environmental Incident: Any occurrence which has potential, due to its scale and nature, to migrate from source and have an environmental impact beyond the site boundary.

Environmental Exceedance Event: An environmental exceedance event occurs when monitoring results indicate that limits for a particular environmental parameter (as indicated in the Environmental Monitoring Programme) has been exceeded.

An exceedance will immediately trigger an investigation into the reason for the exceedance occurring and the application of suitable mitigation where necessary.

Exceedance events can be closed out on achieving a monitoring result below the assigned limit for a particular environmental parameter.

Environmental Non-Compliance: Non-fulfilment of a requirement and includes any deviations from established procedures, programs and other arrangements related to the EMP.

8.4

Corrective Action Procedure

A corrective action is implemented to rectify an environmental problem on-site. Corrective actions will be implemented by the Site Supervisor/Construction Manager, as advised by the Site Environmental Clerk of Works. Corrective actions may be required as a result of the following.

- Environmental Audits.
- Environmental Inspections and Reviews.
- Environmental Monitoring.
- Environmental Incidents; and,
- Environmental Complaints.

A Corrective Action Notice will be used to communicate the details of the action required to the main contractor. A Corrective Action Notice is a form that describes the cause and effect of an environmental problem on site and the recommended corrective action that is required. The Corrective Action Notice, when completed, will include details of close out and follow up actions.

If an environmental problem occurs on site that requires immediate attention direct communications between the Site supervisor/Construction Manager and the ECoW will be conducted. This in turn will be passed down to the site staff involved. A Corrective Action Notice will be completed at a later date.

8.5

Decommissioning Plan Review

This Decommissioning Plan will be reviewed and updated prior to commencement of any decommissioning works. Further updates will be completed to the plan during decommissioning works to adapt to specific situations or site conditions that are encountered that need to be considered by the plan.