



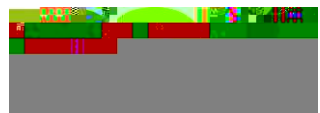
Perigus Energy Ireland Midco Limited

Greenhills Renewable Energy Park

Decommissioning and Restoration Plan

605444

AUGUST 2026



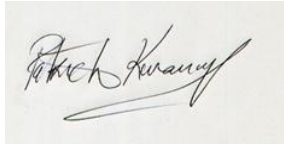


RSK GENERAL NOTES

Project No.: 605444 R5 01

Title: Decommissioning and Restoration Plan

Client: Perigus Energy

Author	<u>Catherine McQuillan</u>	Reviewer	<u>Paddy Kavanagh</u>
Signature		Signature	
Date:	<u>12/08/2026</u>	Date:	<u>12/08/2026</u>

RSK Ireland Ltd (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Ireland Ltd.



CONTENTS

1	INTRODUCTION	3
1.1	Introduction	3
1.2	Statement of Authority	4
2	SITE AND PROPOSED DEVELOPMENT DESCRIPTION	5
2.1	Site Location and Plan	5
2.2	Description of the Proposed Development	6
2.3	Decommissioning of the Proposed development	8
2.3.1	Use of the site following development and decommissioning	8
2.4	Summary of environmental effects of decommissioning (assessed in the PER and NIS)	8
2.4.1	Habitats and Ornithology	9
2.4.2	Traffic and Transport	9
2.4.3	Water Environment	10
2.4.4	Soils and Geology	10
2.4.5	Landscape and Visual	10
2.4.6	Noise and Vibration	11
2.4.7	Archaeological, Architectural and Cultural Heritage	11
3	DECOMMISSIONING OBJECTIVES	12
3.1	Objectives	12
3.2	Project Programme	12
3.3	Decommissioning Methodology	12
3.3.1	Site Clearance and Earthworks	13
3.3.2	Solar Arrays and BESS	13
3.3.3	Site Access tracks	14
3.3.4	Underground cabling within the Proposed Development	14
3.3.5	Electrical Substation	14
4	ROLES AND RESPONSIBILITIES	15
4.1	The Client	15
4.2	Site Manager / Site Supervisor	15
4.2.1	All Staff	16
4.3	Ecological Clerk of Works (ECoW)	16
4.4	Environmental Clerk of Works	17
4.5	The Community Liaison Officer	17
5	ENVIRONMENTAL MANAGEMENT OF SITE ACTIVITIES	18
5.1	Ecological mitigation	18
5.1.1	Invasive Species Management	18
5.1.2	Biodiversity Enhancement Management Plan	18
5.2	Best Practice Guidance	19
5.3	Environmental training and awareness	20
5.4	Temporary stockpiles	21
5.5	Release and transport of suspended solids	21
5.6	Refuelling: fuel and hazardous materials storage	21
5.7	Release of wastewater sanitation contaminants	22
5.8	Noise and vibration	22



5.9 Air Quality and Dust.....	23
5.10 Waste management	24
5.10.1 Tracking and Documentation for Off-Site Waste.....	26
6 EMERGENCY PREPAREDNESS AND EMERGENCY RESPONSE	27

TABLES

Table 5-1: Typical waste types generated and EWCs.	25
Table 5-2: Licensed waste facilities in the vicinity of the Project	25

FIGURES

Figure 2-1: Proposed Development Area	5
Figure 2-2: Location of Solar Array, 220kV Substation and BESS location	7



1 INTRODUCTION

1.1 Introduction

RSK Ireland Ltd. has been commissioned by Perigus Energy Ireland Midco Limited (the Developer) to prepare this Decommissioning and Restoration Plan (DRP) for the Greenhills Renewable Energy Park (the Proposed Development) in Co. Cork in support of the Planning Application.

At the end of its operational life (40 years), the Proposed Development will be decommissioned unless, prior to decommissioning, the Developer makes a new planning application to extend the life of the solar farm or repower it.

As with construction, decommissioning works may result in potential significant effects on identified sensitive receptors. The potential for effects during the decommissioning phase of the Project has been fully assessed in the Planning and Environmental Report (PER) and Natura Impact Statement (NIS).

The mitigation measures in the following sections of this DRP have been taken from the PER chapters. This DRP should be read in conjunction with the PER and the NIS for the Proposed development. With the implementation of the Proposed Development design and successful application of mitigation measures within the PER Chapters no likely Significant effects have been identified.

This DRP is presented as a guidance document and does the following:

- provides the environmental management framework to be adhered to during the decommissioning phase of the Proposed Development
- provides information on the removal of the Renewable Energy Park infrastructure
- incorporates the mitigating measures to ensure that the work is carried out in a way that minimises the potential for any environmental impacts to occur and
- details the environmental management mitigation outlined in the ER [and NIS] which will be undertaken during end of life decommissioning of these.

The DRP will also ensure works and activities have minimal impact/disturbance to local landowners and the local community.

The DRP is based on the scope of decommissioning and restoration activities as currently understood and that are set out and assessed within the PER and NIS for the Proposed Development. Given that the DMP is written 40 years in advance of any decommissioning, preferred approaches are likely to change and for that reason best practice is not to limit options too far in advance of decommissioning (SNH, 2013).

Mitigation measures detailed in the Construction Environmental Management Plan (CEMP) submitted as part of Appendix F to the Planning and Environmental Report are included in the DRP. The CEMP will also be reviewed and updated prior to the decommissioning phase having regard to relevant policies and legal requirements at the time, to be submitted to the Local Authority for agreement.



This DRP will be updated once the site has been surveyed near it's end of life to reflect conditions, reflecting the specific dismantling activities, location of waste facilities for recovery or disposal, relevant policies and legal requirements which may have been updated during the 40 year lifetime of the Proposed Development including any requirements at this time for additional permits or consents.

The updated DRP will include a final assessment of the condition and implementation of the various habitat prescriptions as detailed in the Biodiversity Enhancement Management Plan (PER Appendix D).

The updated DRP will be submitted to the Local Authority for agreement with the local authority prior to the end of the operational life of the Proposed Development.

In the meantime, the DMP will be updated in the usual way to include any planning conditions in the event of a grant of permission for the Proposed Development and will be expanded and updated by the appointed Contractors prior to decommissioning works commencing.

1.2 Statement of Authority

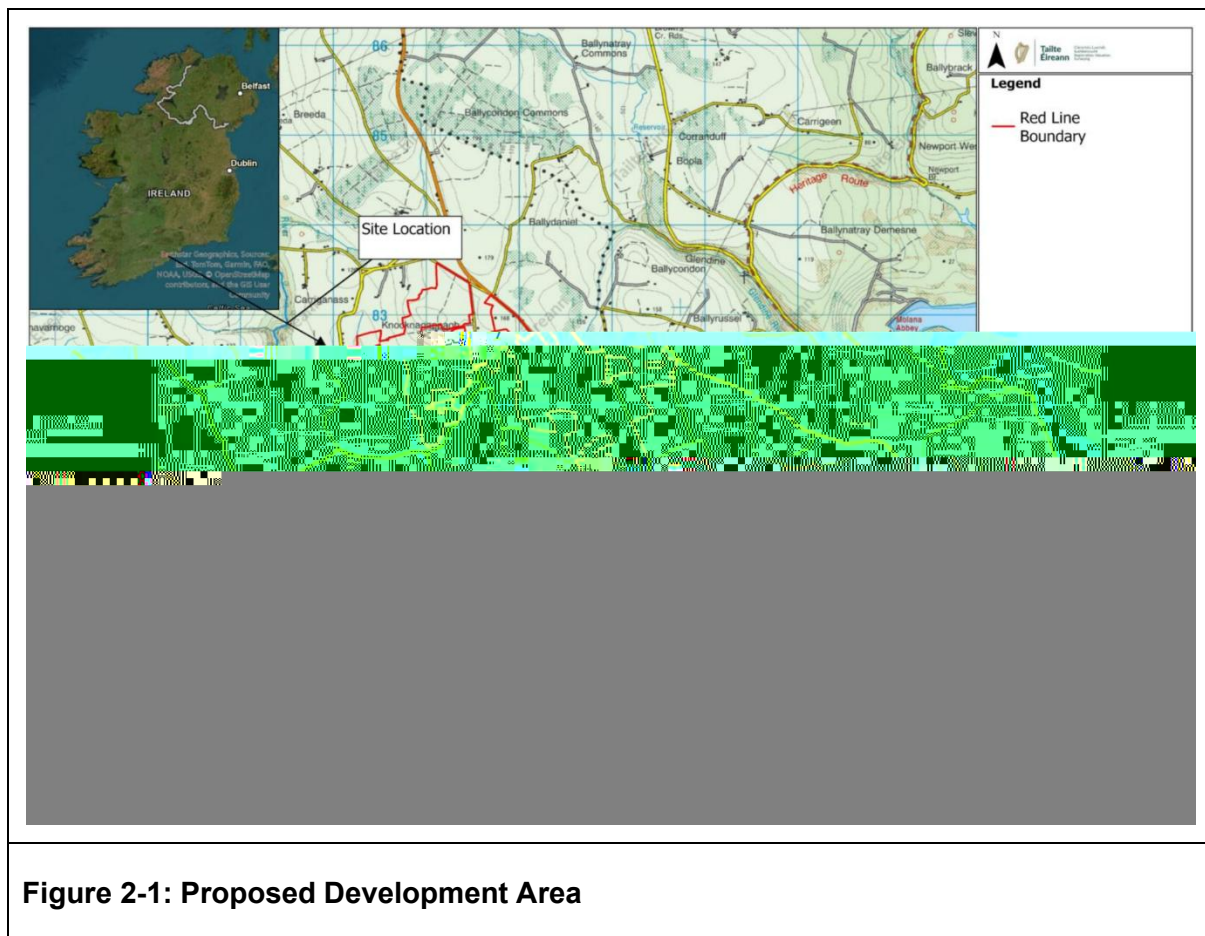
This DRP has been completed by Catherine McQuillan. Catherine is a Chartered water and environmental manager and Chartered Scientist with over 17 years' experience in environmental assessment. She holds a Masters in Applied Environmental Geology and BSc Geology with Physical Geography. She also holds a Postgraduate Certificate in environmental management which included environmental impact assessment, and a Postgraduate Certificate in environmental toxicology and pollution monitoring. She has been involved in producing EIAs for renewable Proposed Developments (wind and solar) across the island of Ireland for almost 10 years.



2 SITE AND PROPOSED DEVELOPMENT DESCRIPTION

2.1 Site Location and Plan

The Proposed Development comprises a solar farm, battery energy storage system, 220kV AIS substation and loop-in grid connection in the townlands of Knocknagappagh, Barnaviddane, Ballyneague, Ballydaniel, Youghalpark, Ballydaheen and Cornaveigh in County Cork, see Figure 2-1 below.



The Proposed Development is adjacent to the R634 road approximately 7km north-west of the settlement of Youghal and 6.5km north-east of Killeagh, Co. Cork.

The site area is relatively flat and comprises agricultural lands in a rural setting with low population density. The high level of solar irradiance in the southern region of the country makes it ideal for the development of renewable solar photovoltaic projects.

2.2 Description of the Proposed Development

A detailed description is included in the Planning and Environmental Report **Chapter 4 Description of the Proposed Development**. In summary, the Proposed Development area is circa 320 ha and will comprise the following elements:

- Solar array
- Inverter/transformer stations
- New site entrances and access tracks
- All ancillary development such as drainage infrastructure, security fencing, CCTV, weather stations and storage containers for spare parts.
- Temporary construction compound(s)
- Landscaping
- Biodiversity enhancement
- Battery energy storage system (BESS)
- 220kV substation & loop in grid connection

The layout is provided in Figure 2-2. A 10-year planning permission and 40-year operational life from the date of commissioning of the entire Proposed Development is being sought.



Figure 2-2: Location of Solar Array, 220kV Substation and BESS location



2.3 Decommissioning of the Proposed development

As stated in the PER, **Volume II, Chapter 4 Proposed Development** at the end of its operational life, the Proposed Development will be decommissioned. Decommissioning of the solar farm elements will involve:

- removal of solar panels, supporting frames and piles
- removal of the Inverter/Transformer infrastructure such as the concrete plinths at the Inverter/Transformer base, crane hardstand and geogrid material
- Cranes will be used to disassemble each Inverter/Transformer and they will be removed from the site. The foundations of the Inverter/Transformer plinths will be removed as will the fill material and geogrid in the crane hardstand areas, and the ground will be covered by soils typical of the surrounding environment and then reseeded or left to re-vegetate according to ecological requirements.
- Cranes will be used to disassemble the BESS units and ancillary infrastructure at the BESS site.
- It is proposed that site access tracks will remain to allow access through the site for farm access, as considered appropriate at the time.
- It is proposed that site entrances will remain to allow access through the site for farm access, as considered appropriate at the time
- Underground cables will be cut back at the solar farm termination points, pulled through ducting and will be removed from site for recycling.

Decommissioning will take approximately 2 months to complete.

It is envisaged that the Proposed 220kV AIS Substation and loop-in grid connection will be handed over to the Network Operator (EirGrid/ESB Networks) and will not be decommissioned.

2.3.1 Use of the site following development and decommissioning

The land on which the proposed development will be located is agricultural land for tillage and grazing. It is proposed that site access tracks and site entrances will remain to allow access through the site for farm access, as considered appropriate at the time. Following development, the hardstands and crane pads will be grassed over, and the internal access tracks will be utilised to access farmlands.

As stated in the PER **Chapter 4 Description of the Proposed** the land on which the solar farm and BESS will be located is agricultural land for tillage and grazing. It is envisaged that the land will return to its existing agricultural use post-decommissioning. Land will be reinstated to its pre-construction condition and reseeded with suitable grass mix.

2.4 Summary of environmental effects of decommissioning (assessed in the PER and NIS)

The criteria used to assess whether an effect is significant or not, are given in the EPA Guidelines 2022.



2.4.1 Habitats and Ornithology

Decommissioning works will likely result in short-term disturbance (for an approximate 2 month period) as a result of increased noise, removal of the plinths and human presence to Ornithology (PER Chapter 9 Ecology and Appendix K), which could lead to energetic stress and a reduction in breeding success of certain bird species. However, such impacts would be experienced on a **temporary basis** only and would not be expected to affect the population status of any bird populations within the Zone of Influence. Disturbance effects on birds from decommissioning are considered **not significant**.

Habitats are discussed in the PER Chapter 9 Ecology. The Biodiversity Enhancement Management Plan (PER Appendix D).

Before decommissioning takes place, a final assessment of the condition and success of the various habitat prescriptions will be undertaken (in year 35).

The programme of decommissioning works will include a timeline for an ECoW to survey and monitor the site the year before decommissioning commencing. The role and responsibilities of the ECoW is discussed further in Section 4. A management and monitoring regime has been proposed in the Biodiversity Enhancement Management Plan (PER Appendix D).

Decommissioning is also projected to have no significant long-term adverse impacts on equine welfare or issues arising for staff working with horses with the implementation of the mitigation measures detailed in the PER.

2.4.2 Traffic and Transport

Traffic and transport are discussed in Chapter 10 Traffic and Transport of the PER. The traffic impact associated with the decommissioning phase will be similar to the construction phase. The Preliminary Construction Traffic Management Measures presented therein will be updated once waste facilities have been agreed, with a timetable of decommissioning from the specialist dismantler and in agreement with the waste manager. This will detail traffic movements.

Machinery will be kept on established hardstands, and no vehicles will be permitted outside of the footprint of the development. No vehicular movement will be permitted in archaeological buffers (refer also to PER Chapter 14 Archaeology, Architecture & Cultural Heritage).

2.4.2.1 Decommissioning Traffic Management Plan

A Decommissioning Traffic Management Plan (TMP) will be prepared for the Project, prior to decommissioning and agreed with the Planning Authority prior to decommissioning. This will include details on traffic management and will be updated to reflect the chosen waste handling and disposal facilities for the dismantled components during decommissioning.

No temporary accommodation works will be required for the decommissioning.

Letter drops will be carried out to notify members of the public living near the proposed work locations to advise them of any particular upcoming traffic related matters during decommissioning works.

Following decommissioning, there will be no residual effects on the road network associated with the Proposed Development.



2.4.3 Water Environment

All anticipated effects expected during decommissioning are similar in nature to those already highlighted during the construction phase of the development (PER Chapter 11 Land, Soils, Geology, Hydrology and Hydrogeology), i.e., release of hydrocarbons, wastewater / sanitation and suspended solids through the temporary facilities present during the decommissioning phases and the excavation of materials.

The mitigation measures outlined in PER Chapter 11 Land, Soils, Geology, Hydrology and Hydrogeology will be implemented during the decommissioning phase to reduce the potential for such effects. No new unique or additional effects are anticipated to arise during the decommissioning phase of the Project on the hydrological and hydrogeological environment.

Potential impacts could arise from the movement of plant, vehicles and equipment is expected to be required during the decommissioning phase. As a result, there remains a risk of elevated suspended solids being discharged in surface water run-off to the downstream receiving environment during the decommissioning phase. Additionally, the potential risk remains for spills of fuels hazardous chemicals which is a common risk to all developments. The mitigation measures outlined in PER Chapter 11 Land, Soils, Geology, Hydrology and Hydrogeology and CEMP (Appendix F to the PER) will be implemented during the decommissioning phase to reduce the potential for such effects.

Implementation of the mitigation measures in will also protect the local surface water and ground water supply in surrounding Equine facilities.

Underground cables will be cut back at the termination points with the cables pulled through the ducts and sent for recycling.

The drainage system during the decommissioning phase will align with that of the operational phase. With the passage of time, the constructed drainage network will likely become full of deposited sediment and revegetation will naturally occur which has the potential to render the drainage system less effective over time. The site will therefore revert over time to a more natural drainage regime. Prior to the commencement of any decommissioning works, the drainage network of the site will be inspected by a hydrologist (specialist in Sustainable Drainage Systems (SuDS)).

2.4.4 Soils and Geology

No new effects are anticipated during the decommissioning phase of the Project in comparison to the construction phase as detailed in PER Chapter 11 Land, Soils, Geology, Hydrology and Hydrogeology. The potential environmental effects contamination by fuel leaks will remain during decommissioning. Mitigation is detailed in Section 5 below and are similar to those detailed in the CEMP (Appendix F to the PER).

The likely effects to the land, soils and geology during the decommissioning phase were considered in PER Chapter 11 Land, Soils, Geology, Hydrology and Hydrogeology. The mitigated residual effects associated with decommissioning includes waste generation, potential hydrocarbon leakage and erosion of soil.

Following reinstatement and decommissioning the land will continue to be used for farming.

2.4.5 Landscape and Visual

During decommissioning, the activities and temporary features with the potential to cause an effect on landscape and visual amenity include:



- Installation and use of cranes for decommissioning purposes
- Reinstatement of hardcored areas at the Inverter/Transformer locations and BESS location
- HGV collections from the site and movement of vehicles on site.

These are considered short-term activities and effects as detailed in the PER Chapter 12 Landscape and Visual.

The decommissioning of the site will involve the removal of all solar panels and associated fencing, storage and operation facilities. The site will be restored to agricultural use (aside from the substation, loop-in grid connection, access tracks and site entrances through reseeding of appropriate grass species to reflect the grass sward mix in the immediate vicinity).

Existing hedgerow field boundaries, which will have been maintained and reinforced with additional planting during the construction and operational phases, will remain intact following the restoration phase. Indeed, due to the supplementary planting proposed as part of the landscape mitigation the field boundaries are likely to be more consistent and consolidated than they are at present.

2.4.6 Noise and Vibration

Noise and vibration are discussed in PER Chapter 15 Noise and Vibration.

Noise levels during decommissioning are predicted to exceed threshold levels and the duration of the decommissioning phase is considered to be sufficient to result in significant adverse noise effects without mitigation.

No vibration impacts are anticipated during the decommissioning phase.

2.4.7 Archaeological, Architectural and Cultural Heritage

The assessment detailed in PER Chapter 14 Archaeology and Cultural Heritage determined that there will be no direct physical effects from the Proposed Development on any World Heritage Site, National Monument, Architectural Conservation Area, Protected Structure, Recorded Monument or Historic Building Recorded by the National Inventory of Architectural Heritage during the decommissioning phase of the Proposed Development. Decommissioning works will have a No Change direct or indirect effect on these types of heritage assets with the significance of effect being neutral.

A predicted slight adverse effect on a protected structure (Roisin, a 19th century vernacular house (39/47), which is recorded on land within 5 m of the Site boundary and its curtilage) will be reversed once the Proposed Development is decommissioned.

Similarly, the predicted imperceptible to not significant effects on four National Inventory of Architectural Heritage structures resulting from changes in views during the construction and operational phases of the Proposed Development will be reversed once the Proposed Development is decommissioned.



3 DECOMMISSIONING OBJECTIVES

3.1 Objectives

The decommissioning phase works will be carried out to approved standards, which include specified materials, standards, specifications, and codes of practice.

Prior to dismantling and disposal, the material composition and the masses, weights, dimensions or volumes of the individual components and infrastructure/balance-of-plant equipment will be surveyed.

The key objectives of the decommissioning will be:

- Avoiding any pollution incident or near miss as a result of working around or close to existing drainage features and having emergency measures in place.
- Keeping all watercourses free from obstruction and debris and correct implementation of the sustainable drainage system (SuDS) drainage design principles.
- Ensuring that there is no impact from decommissioning works on the local environment, watercourses, habitat, wildlife and community.
- Reusing materials where possible, e.g. soil and overburden material for backfilling and reinstatement.
- Correct fuel storage and refuelling procedures to be followed for equipment brought onto site to assist with decommissioning.
- Ensure good waste management and housekeeping are implemented.

3.2 Project Programme

A procurement process will be undertaken to appoint a competent and experienced Contractor for the Project decommissioning.

The programme of decommissioning works will include a timeline for an ECoW to survey and monitor the site as detailed in the Biodiversity Enhancement Management Plan (PER Appendix D).

Decommissioning the proposed development will take approximately 2 months to complete.

The Contractor, once appointed (and contractually obliged) will develop a detailed work programme incorporating the suite of mitigation measures in the PER and NIS, to manage potential risks to construction workers and local residents from dust, noise and vibration and to watercourses from potential pollution during the decommissioning phase of the Project, addressing any restrictions with regards to undertaking certain tasks within sensitive bird breeding seasons/ retention of existing hedgerow etc. to manage the potential impact on the identified species which use the site and its environs.

3.3 Decommissioning Methodology

Decommissioning of the solar array elements will involve the complete removal of above ground components, including panels, frames, piles and electrical cabling. Decommissioning of the Inverter/Transformer equipment and BESS components will require the use of cranes on existing hardstands.



Prior to any decommissioning works the solar array and BESS will be disconnected from the grid by the site operator.

3.3.1 Site Clearance and Earthworks

It is likely that vegetation will have established itself along installed drainage / Sustaining Drainage Systems (SuDS) implemented to manage run off from the construction of the development. The drainage network of the site will be inspected by a Sustainable Drainage Systems (SuDS) hydrologist, prior to any decommissioning works commencing. Where possible, decommissioning will not interfere with the established drainage system. Culverts and crossings installed as part of the construction process will not be removed and will remain in-situ.

At the BESS location where cut and fill operations occurred during the construction phase once the BESS components (Battery units and containers, fencing, cabling and ancillary infrastructure) have been removed, the BESS footprint area will be contoured and covered over with a layer of subsoil and topsoil and reseeded with appropriate grassland species. Any excavated material will only be moved short distances from the point of extraction (as far as practicable). Mitigation measures for excavated materials are as follows:

- Storage of excavated soils will be kept outside of any sensitive buffers.
- Materials are located away from drains.
- Materials will be limited in height (1.5m for topsoil and 2m for subsoil) and shall have side slopes battered back to a safe angle of repose and covered in plastic sheeting during periods where works have temporarily ceased (e.g., weekends / overnight) and ahead of heavy rainfall / storm alerts.

Materials will be managed by the contractor in accordance with the CEMP (PER Appendix F).

If required, silt fencing will be utilised to provide protection during decommissioning, such as where the BESS area is covered with topsoil until vegetation has established. Silt mitigation measures are further discussed in Section 5.

3.3.2 Solar Arrays and BESS

The dismantling and removal will be undertaken by a competent subcontractor(s) who will be confirmed in the updated DRP towards end of life. The specialist dismantling company will be brought onto site and method statements produced in the updated DRP will clearly set out the sequence of removal. The dismantling crew will work closely with the waste manager.

A competent waste manager/representative and a training programme will be organised, incorporated into typical onsite inductions to give an awareness of waste segregation on the site. This will outline how best to manage waste produced on site to ensure it is being handled in compliance with the Resource and Waste Management Plan, submitted as part of the CEMP (PER Appendix F), relevant legislation and policy in place at that time and in a manner that prevents any impact to human health or the environment.

Cranes will be brought back to site, utilising the hardstand areas adjacent to the inverter/transformer locations and BESS location to disassemble these with the equipment subsequently be removed from the site.

The CTMP prepared for the Construction Phase will be reviewed and updated prior to decommissioning in agreement with the Local Authority. This will include input from the specialist decommissioning company detailing how and where the equipment is to be transported to a waste



recovery destination intact. The updated CTMP will detail the transport of the dismantled infrastructure on site using the local roads).

The updated CTMP will provide for all necessary safety measures.

3.3.3 Site Access tracks

It is proposed that site access tracks will remain *in situ* to allow access through the site for farm access, as considered appropriate at the time.

3.3.4 Underground cabling within the Proposed Development

It is intended that underground electric and fibre optic cabling between the solar array areas and the onsite electrical substation and BESS and the onsite electrical substation will be cut back at the termination points, removed from ductwork and recycled. The ductwork will be left in place.

3.3.5 Electrical Substation

The on-site substation will become an EirGrid/ESB Networks Asset and part of the ESB Network. It will not be decommissioned as part of the Project decommissioning.



4 ROLES AND RESPONSIBILITIES

The appointed decommissioning specialist Contractor and all sub-contractors will be responsible for ensuring that the potential risks to the environment and local community are adequately avoided or controlled by the application of measures documented within this DRP. The main organisations and persons involved in the decommissioning are set out below.

The Contractor will be contractually obliged to implement the mitigation measures as set out in the PER Chapter 9 Ecology and PER Chapter 10 Traffic and Transport , Chapter 11 Hydrology, Hydrogeology, Land , Soils and Geology, Chapter 12 landscape and Visual Impact, Chapter 13 Glint and Glare, Chapter 14 Archaeology and Cultural Heritage and Chapter 15 Noise and Vibration.

4.1 The Client

Perigus Energy Ireland Midco Limited shall be responsible for:

- Appointment of the Contractor and
- Review and comment on the DRP.

4.2 Site Manager / Site Supervisor

All Contractors and Subcontractors will be required to provide induction training, setting out the requirements of the DRP, PER and NIS, with respect to protection of the environment before commencement of decommissioning activities.

Periodic toolbox talks will be held if any non-compliance incidents as a result of audit are identified which require updating of the DRP, if complaints are received as a result of activities and when changes of legislation occur which trigger an update of the DRP.

All Contractors and Subcontractors will be required to comply fully with the Health and Safety requirements as set out in national legislation in place at the time.

The Site Manager shall be responsible for:

- Undertaking weekly Site Checks and appointing persons to supervise refuelling of tanks and bowsers for any equipment required on site during decommissioning.
- Ensuring environmental and waste requirements are included on requisitions and in subcontracts and orders.
- Ensuring Waste Transfer Notes / Waste Consignment Notes are checked against invoices before payment to the waste management company.
- Ensuring employees, contractors and subcontractors receive Induction Training (including Project environmental issues) and Toolbox Talks, as appropriate.
- Ensuring personnel needed for audits are available when required.
- Verifying actions resulting from Corrective Action Requests and Observations raised during audits are completed by the deadlines.
- Reporting incidents immediately to the client, and to statutory authorities where required.



- Logging and monitoring incidents and non-conformances and ensuring all records are retained and readily available.
- Identifying employees who require environmental training and maintain training records in line with the contract for the works.
- Providing advice and dealing with queries and correspondence on environmental issues.
- Appointing any third-party specialists as required.

4.2.1 All Staff

All staff have responsibility for the environment, responsibilities include but are not limited to:

- In the case of an incident, stopping work, implementing control procedures and reporting it to the Site Manager.
- Contacting the Waste Representative when waste needs collecting and ensuring that all wastes are quantified and documented.
- Passing any queries or correspondence on public health or environmental issues to the Site Manager.
- Working in accordance with environmental procedures, the CEMP and Method Statements.
- Working in accordance with instructions issued by the Ecological Clerk of Works and/or the Environmental Clerk of Works.

4.3 Ecological Clerk of Works (ECoW)

An Ecological Clerk of Works (ECoW) will be appointed to address any questions relating to ecological features during the decommissioning phases. Their responsibilities will include:

- Undertaking a pre-decommissioning survey to confirm ecological features the Proposed Development as outlined in a management and monitoring regime that has been proposed in the Biodiversity Enhancement Management Plan (PER Appendix D) and in the Invasive Alien Species Management Plan.
- Oversee management of any ecological issues during the decommissioning period and advise on ecological issues as they arise.
- Oversee management of any ornithological issues during decommissioning period and advise on ornithological issues as they arise.
- Inform and educate site personnel of sensitive ecological features within the Project site and how effects on these features could occur.
- Provide guidance to contractors to ensure legal compliance with respect to any protected habitats and species on site.
- Provide guidance to contractors to ensure legal compliance with respect to any Invasive Alien Species on site.
- Liaise with officers from consenting authorities and other relevant bodies and contractors with regular updates in relation to decommissioning progress.



The appointed ECoW will have responsibility for monitoring activities that have the potential to impact on ecology or biodiversity associated with the site or linked to the site. The Contractor will be contractually obliged to adhere to the guidance by the appointed ECoW.

The ECoW will ensure that all the mitigation measures set out in PER Chapter 9 Ecology and its Appendices and in the NIS are being fully implemented.

The appointed ECoW will have the authority to issue Stop Work Orders until such time that issues which may impact on ecology or biodiversity are resolved.

4.4 Environmental Clerk of Works

The Environmental Clerk of Works (ENVCoW) will advise on any environmental issues and compliance but will not be responsible for implementing measures.

The ENVCoW will have the authority to temporarily stop works in a particular area of the site to ensure corrective measures are implemented and adverse environmental effects are minimised if not avoided.

4.5 The Community Liaison Officer

The Community Liaison Officer shall be responsible for:

- Responding to telephone and email queries.
- Sharing key contact information associated with site decommissioning with key stakeholders and updated these details as required.
- As a general courtesy, alerting the community to any disruptive works one week in advance of commencement, where reasonably practicable.
- Arranging any necessary meetings that may be requested by community representatives regarding any on-site issues.
- Circulating updates as required on the Projects decommissioning and habitat restoration progress to include information of relevance and interest to the local community.



5 ENVIRONMENTAL MANAGEMENT OF SITE ACTIVITIES

5.1 Ecological mitigation

5.1.1 Invasive Species Management

Japanese knotweed was identified in two locations in a stretch of hedgerow on the L308 local road. It is located on private property and therefore eradication may not be possible during the construction or operational phases. As such its presence must remain a possibility at the decommissioning stage and a precautionary approach must be taken. Any soil excavated within a 7m radius of the location of the Japanese knotweed must be treated as biohazardous material due to the potential for presence of rhizomes. Any vehicles used within this precautionary 7m must undergo Check, Clean, Dry protocol after leaving the marked area to prevent potential spread of any seeds.

Cherry Laurel is present with the ecological baseline and, although is considered as a high-impact invasive species, it is not listed on any schedule within the legislation. Therefore, there is no legal obligation to control this species, despite its high impact status. It is avoided by grazing animals due to the cyanide content in its leaves, seeds and flowers giving it a significant advantage over native species and if required to be cut back during decommissioning care should be taken in the disposal of the waste material.

Management of invasive species will have commenced prior to construction of the Proposed Development as per the requirements of Section 5 of the Invasive Species Report (see PER Appendix L).

In proximity of the locations of Japanese knotweed and Cherry Laurel an ECoW will inspect the area prior to any decommissioning topsoil excavation or disturbance around infrastructure to be removed to confirm the absence of any newly established plants.

5.1.2 Biodiversity Enhancement Management Plan

A Biodiversity Enhancement Management Plan (PER Appendix D) has been prepared to ensure that the solar farm site is managed in the interests of biodiversity and that ongoing management is successful in achieving a biodiversity net gain as described.

Habitat creation and enhancement proposals included within the BEMP are presented on Figure 3.2 in the BEMP PER, Appendix D) and on the drawings pack submitted as part of this planning application (PER Appendix E):

- LD.Greenhills 1.1
- LD.Greenhills 1.2
- LD.Greenhills 1.3
- LD.Greenhills 1.4
- LD.Greenhills 1.5
- LD.Greenhills 1.6
- LD.Greenhills 1.7



Assessment of effects undertaken in PER Chapter 9 Ecology identified no potentially significant effect on ecological features during the decommissioning phase of the Proposed Development.

The BEMP (PER Appendix D), outlines the objectives and targets of the enhancement plan along with prescriptions for management and monitoring. A reassessment of the Proposed Development site will be carried out at the end of the first-year post-decommissioning (as stated in PER, Chapter 9 Ecology) to assess the site's progression over the previous year in relation to vegetation status, drainage management, and general site appearance to ensure the Proposed Development site remains favourable to biodiversity.

5.2 Best Practice Guidance

The Contractor will be contractually obliged to adhere to best practice guidance and requirements detailed in the Construction Environmental Resource and Waste Management Plan for the Project (see PER Appendix F CEMP).

The decommissioning will also adhere to the requirements set out in the Inland Fisheries Ireland guidance document Requirements for the Protection of Fisheries Habitat. Guidance includes:

- PPG 1: Understanding your environmental responsibilities - good environmental practices.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/485211/LIT_1404.pdf
- GPP 2: Above ground oil storage tanks.
<https://www.netregs.org.uk/media/1899/guidance-for-pollution-prevention-3-2022-update-v2.pdf>
- PPG 3: Use and design of oil separators in surface water drainage systems.
<https://www.netregs.org.uk/media/1899/guidance-for-pollution-prevention-3-2022-update-v2.pdf>
- GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer. <https://www.netregs.org.uk/media/1887/guidance-for-pollution-prevention-4-2022-update.pdf>
- GPP 5: Works and maintenance in or near water.
<https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf>
- PPG 6: Working at construction and demolition sites Pollution Prevention Guidelines.
<https://www.netregs.org.uk/media/1672/ppg-6.pdf>
- PPG 7: Safe storage - The safe operation of refuelling facilities.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/485206/pmho0711btzl-e-e.pdf
- GPP 8: Safe storage and disposal of used oils.
<https://www.netregs.org.uk/media/1900/guidance-for-pollution-prevention-8-2022-update.pdf>
- GPP 19: Vehicles: Service and Repair. <https://www.netregs.org.uk/media/1417/gpp-19-vehicles-service-and-repair-no-e.pdf>

- 
- GPP 21: Pollution incident response planning.
<https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/gpp-21-pollution-incident-response-planning/>
 - GPP 22: Dealing with spills.
<https://www.netregs.org.uk/media/1643/gpp-22-dealing-with-spills.pdf>
 - GPP 26 Safe storage - drums and intermediate bulk containers.
<https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/gpp-26-safe-storage-drums-and-intermediate-bulk-containers/>
 - PPG 27: Installation, decommissioning and removal of underground storage tanks.
<https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/gpp-27-installation-decommissioning-and-removal-of-underground-storage-tanks/>
 - Inland Fisheries Ireland (2016): Guidelines on Protection of Fisheries During Construction Works Adjacent to Waters,
<https://www.fisheriesireland.ie/sites/default/files/migrated/docman/2016/Guidelines%20Report%202016.pdf>,
 - EPA, BEST PRACTICE GUIDELINES for the preparation of resource & waste management plans for construction & demolition Projects (2021)
<https://www.epa.ie/publications/circular-economy/resources/CDWasteGuidelines.pdf>
 - TII: Guidelines for the Protection And Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes, <https://www.tii.ie/technical-services/environment/construction/Guidelines-for-the-Protection-and-Preservation-of-Trees-Hedgerows-and-Scrub.pdf>
 - Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads Revision 1, December 2010,
<https://www.tii.ie/technical-services/environment/construction/Management-of-Noxious-Weeds-and-Non-Native-Invasive-Plant-Species-on-National-Road-Schemes.pdf>

5.3 Environmental training and awareness

All Project personnel and sub-contractors shall receive an Environmental Induction Presentation, prior to commencement of decommissioning works onsite. No personnel, including sub-contractors, shall be permitted to commence employment on site without prior attendance at an induction.

Environmental topics covered in the induction shall include but will not be limited to:

- Emergency response procedures and incident reporting.
- Waste management and housekeeping.
- Management structure, duties and responsibilities, working in accordance with procedures the DRP, CEMP and method statements.
- Ecologically sensitive areas and working in accordance with instructions issue by the ECoW and ENVCoW.



5.4 Temporary stockpiles

Where shallow excavations are required the materials will be contained within the development footprint and avoid geo-constraints which have been assessed within the PER Chapter 11 Land, Soils, Geology, Hydrology and Hydrogeology.

- Mitigation measures to be followed during decommissioning are:
- Storage of excavated soils will be kept outside of any sensitive buffers. This will be discussed with the Site Manager and the Project ENVCow).
- The excavated materials will be limited in height (1.5m for topsoil and 2m for subsoil) and shall have side slopes battered back to a safe angle of repose.
- The material will be covered in plastic sheeting during periods where works have temporarily ceased (e.g., weekends / overnight) and ahead of heavy rainfall / storm alerts.
- Excavated topsoil will be re-laid as soon as possible, thereby reducing the need for double handling and reducing the potential for soil erosion and will be regularly inspected to ensure that erosion of the material is not taking place as assessed within PER Chapter 11 Land, Soils, Geology, Hydrology and Hydrogeology.
- Silt fences and silt mats will be employed to minimise sediment levels in run-off, of required.

5.5 Release and transport of suspended solids

In order to mitigate the effect posed by release of suspended solids to the surface water environment during decommissioning vehicular movements will be restricted to the footprint of the tracks.

The mitigation installed during construction such as silting ponds and check dams will provide the same mitigation during the decommissioning phase.

5.6 Refuelling: fuel and hazardous materials storage

Any vehicles coming onto the Proposed Development site will be required to be inspected and cleaned. Wherever possible, vehicles will be refuelled off-site, particularly for regular road-going vehicles.

Heavy plant and machinery will be refuelled on-site by a fuel truck that will come to the Site as required on a scheduled and organised basis. On-site refuelling of machinery will be carried out at designated refuelling areas at various locations throughout the Site. The designated refuelling area will be located a minimum distance of 50m from any surface water or site drainage features.

Other refuelling will be carried out using mobile double skinned fuel bowser. The fuel bowser will be parked on a level area on-site when not in use. All refuelling will be carried out outside designated watercourse buffer zones.

Only designated and trained competent operatives will be authorised to refuel plant onsite. Mobile measures such as drip trays and fuel absorbent mats will be used during refuelling operations as required. All plant and machinery will be equipped with fuel absorbent material and pads to deal with any event of accidental spillage.

Notwithstanding the management of refuelling and fuel storage at the designated refuelling area, the potential risk of hydrocarbon spills from plant and equipment or other general chemical spills



at other areas of the site remains. As a precautionary measure, to mitigate against potential spills at other areas of the site, the following mitigation measures will be implemented:

- Oil absorbent booms and spill kits will be available adjacent to all surface water features associated with the Project. Oil booms deployed will have sufficient absorbency relative to the potential hazard.
- Spill kits will contain a minimum of oil absorbent pads, oil absorbent booms, oil absorbent granules, and heavy-duty refuse bags for collection and appropriate disposal of contaminated matter.
- Should an accidental spill occur during the construction or operational phase of the Project, such incidents will be addressed immediately, this will include the cessation of works in the area of the spillage until the issue has been resolved and reporting incidents to the relevant authorities.
- A detailed spill response plan is detailed in Section 6.
- For large machinery such as cranes, a drip tray will be used, and spill kits will be on hand.

5.7 Release of wastewater sanitation contaminants

Staff welfare facilities are required for decommissioning. The wastewater/sewerage will be collected and held in a sealed storage holding tank, fitted with a high-level alarm. The high-level alarm is a device installed in the storage tank that is capable of sounding an alarm during a filling operation when the liquid level nears the top of the tank.

All wastewaters will be emptied periodically and tankered off-site by a licensed waste collector to an authorised wastewater sanitation plant for treatment. There will be no onsite treatment of wastewater. A wastewater or sewerage leakage is not anticipated in a properly managed site.

Routine inspection of the temporary facilities required during decommissioning will be carried out to ensure no overloading and no leakages are occurring.

5.8 Noise and vibration

Best Practicable Means as defined in BS 5228-1 will be employed at all times to reduce noise and vibration to a minimum. The client and the chosen contractor will ensure that the following guidelines will be applied where applicable:

- The quietest reasonably available equipment will be selected for use on site. The methods of works will be carefully considered, and appropriate noise and vibration control measures put in place to ensure that the relevant noise/vibration criteria are achieved.
- As far as reasonably practicable, the noise from reversing alarms will be controlled or limited through the following measures:
- Banksmen will be utilised to avoid so far as reasonably practicable the use of reversing alarms.
- Reversing alarms will incorporate where reasonably practicable features such as broadband signals or 'smart alarms' to reduce the level of noise.
- Where reasonably practicable, vehicles and mechanical plant associated with the construction works will be fitted with effective exhaust silencers and shall be maintained in good working order.



- Machines and vehicles in intermittent use will be shut down or throttled down to a minimum during periods between works.
- The movement of delivery materials outside of normal working hours will be kept to a minimum and handled in a manner that minimises noise.
- All plant, equipment and noise control measures applied to plant and equipment will be maintained in good working order and operated such that noise emissions are minimised as far as reasonably practicable.
- All employees will be provided with an appropriate induction and ongoing briefings regarding the management of environmental issues. This will involve emphasising the need for employees to show consideration to nearby sensitive receptors, including residential neighbours. They will be briefed on not generating unnecessary noise when on site or when leaving and arriving to the solar farm site.
- The hours of decommissioning activity will be limited to avoid unsociable hours where possible. Operations shall generally be restricted to between 07:00hrs and 19:00hrs weekdays and between 08:00hrs and 14:00hrs on Saturdays.

5.9 Air Quality and Dust

There will be limited requirement for activities such as concrete breaking or earth moving during the decommissioning phase. These activities will be associated with the BESS and transformer pads decommissioning as all other elements will remain in place. Prior to commencement of decommissioning activities, this DRP will be updated agreed with the Local Authority to control dust emissions.

Control measures include:

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner and record the measures taken.
- Make the complaints log available to the Local Authority if requested.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off site, and the action taken to resolve them in the logbook.
- Undertake regular on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, and record inspection results in a log which will be made available to the local authority if requested. Monitoring should, where possible, include regular dust soiling checks of surfaces in agreement with the relevant homeowners / landowners.
- Keep site fencing, barriers and scaffolding clean.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Produce a logistics plan to manage the sustainable collection of goods and materials.
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction (e.g., suitable local exhaust ventilation systems).
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible.



- Use enclosed chutes and conveyors and covered skips.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Project.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect site access tracks for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook.
- Implement a washout station wheel washing system.

Any emissions from Non-Road Mobile Machinery (NRMM) will be reduced by ensuring that any plant used on-site comply with the nitrogen oxides (NO_x), particulate matter and carbon monoxide emissions standards specified in the Regulation (EU) 2016/1628 (as amended)¹ as a minimum, where they have net power of between 37kW and 560kW. The emissions standards vary depending on the net power the engine produces.

5.10 Waste management

The Resource and Waste Management Plan for the Project (see PER Appendix F CEMP) will be updated prior to decommissioning.

Site materials will be reused, recycled or otherwise recovered where practicable or disposed of in accordance with waste legislation and best practice guidelines at the time of decommissioning.

Solar PV falls under the Waste Electrical and Electronic Equipment directive (WEEE) and cannot be disposed of in landfill. Solar panels are made of various materials, such as glass, aluminium, silicon, copper, and plastic and will be sent for materials recovery and reuse to specialised licensed waste facilities. By the time of decommissioning significant development will have been made in recycling of solar photovoltaic panels see:

https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2016/IRENA_IEAPVPS_End-of-Life_Solar_PV_Panels_2016.pdf

The authorised waste facilities utilised during decommissioning of the Project will depend on the contractors appointed and will depend on the capacity of the various facilities at the time decommissioning.

All infrastructure including solar photovoltaic panels will be separated and removed off-site for re-use and recycling where practicable or disposed of in accordance with waste legislation and best practice guidelines at the time of decommissioning.

The main non-hazardous and hazardous waste streams that could be generated are shown in Table 5-1 below. The List of Waste (LoW) Code (also referred to as the European Waste Code or EWC) for each waste stream is outlined in Table 5-1.

¹ European Union, 2016. Regulation (EU) 2016/1628 (as amended) of the European Parliament and of the Council of 14 September 2016 on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/2012 and (EU) No 167/2013, and amending and repealing Directive 97/68/EC.



Table 5-1: Typical waste types generated and EWCs.

Waste Material	EWC Code
Cables	12 04 11
Electrical and electronic components	20 01 35-36
Metals - copper, aluminum, including their alloys	17 04 01-07 & 09-10
Industrial waste from electrical and electronic Equipment. Discarded equipment containing hazardous components	16 02 14 16 02 13
Hydrocarbons (oils, lubricants)	12 01 01, 12, 02 04
Concrete, bricks, tiles, ceramic	17 01 01, 17 01 02, 17 01 03, 17 01 06* & 17 01 07
Wood, glass, and plastic	17 02 01-04
Bituminous mixtures, coal tar, and tarred products	17 03 01-03
Gypsum-based construction material	17 08 02
Mixed Construction and Demolition waste	17 09 04
Batteries and accumulators	20 01 33-34
Liquid fuels	13 07 01-03
Insulation materials	17 06 04
* Indicates a hazardous substance	

A list of existing licensed waste facilities in proximity to the Proposed Development site is presented in Table 5-2 below. These facilities were identified at the time of the preparation of the PER and will be updated prior to the decommissioning phase of the Project.

Site materials will be recycled where practicable or disposed of in accordance with waste legislation and best practice guidelines at the time of decommissioning.

Table 5-2: Licensed waste facilities in the vicinity of the Project

Licensed Waste Facility Location	Type of Waste
Starrus Eco Holdings Limited (Munster), Sarsfield Court Industrial Estate, Sarsfieldcourt, Glanmire, Cork.	Recycling of cardboard, paper, wood, plastics, metals, glass and storage for transhipment
Country Clean Recycling Unlimited Company, Churchfield Industrial Estate, John F. Connolly Rd, Cork, Cork.	Recycling of organic substances not used as solvents. Recycling/Reclamation of metals and metal compounds. Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.
ERAS ECO Ltd, Foxhole, Youghal, Cork.	Commercial and Industrial waste. Non Hazardous sludges from on-site effluent treatment



5.10.1 Tracking and Documentation for Off-Site Waste

All waste will be weighed (on-site or at receiving facility) and documented prior to leaving site. Records will be kept at the site and at the relevant waste facility. Movement of waste will be in accordance with relevant regulations and guidelines.

The fully licensed waste contractor will be responsible for:

- the disposal of the materials and material flows resulting from the dismantling of the BESS, Solar Arrays and Transformer/Inverters.
- waste disposal logistics: all logistical measures for the preparation and implementation of waste disposal (this includes all corresponding planning and implementation activities);
- compliance with the requirements and conditions with regards to the proper and complete disposal of the various materials and issuing the corresponding qualified proof of disposal (incl. weighing slip).

The fully licensed waste contractor employed to remove waste from the Project 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) and EWC Code(s)/LOW Codes(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.



6 EMERGENCY PREPAREDNESS AND EMERGENCY RESPONSE

An emergency response plan has been developed as part of the CEMP (PER Appendix F).

The emergency response plan will be updated towards the end of life, reflecting site conditions, any updates in legislation, policies, guidelines and best practice as well as learnings from construction and operation of the project.