

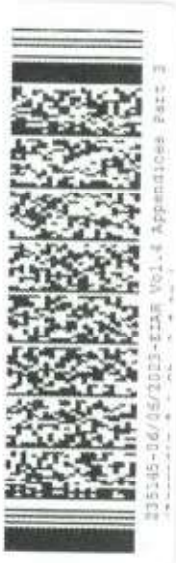
Works required at the site entrance will include the following:

- Clearing visibility splays of vegetation / soil to a level surface;
- Extending the entrance to allow HGVs turn left into the site from the N22;
- Excavating to solid formation level;
- Installing roadside drainage features;
- Placing entrance sub-base with rockfill material;
- Placing capping layer;
- Providing surface dressing where necessary to prevent rutting of existing road surface.

The detailed construction method statement for site entrance preparation is included in **Table 3.4**.

**Table 3.4: Site Entrance Preparation CMS**

Activity	Notes
Video Road Condition Survey.	The Contractors will arrange and provide a video survey to establish the condition of the road prior to mobilisation to site.
Prepare a Traffic Management Plan (TMP) in coordination with Cork County Council and An Garda Síochána and implement.	The Contractors will agree an approved TMP with the Roads Section at Cork and Kerry County Councils and An Garda Síochána and the Developer.
Set out the alignment of the site entrance using GPS equipment.	Wooden pegs/posts or similar to be used in setting out, following a site walkover by the Ecological Clerk of Works.
Archaeology Requirements.	The Site will be accessible to the appointed archaeologist at all times during working hours. The nominated archaeologist will monitor all invasive works.
Install drainage treatment features as per the Surface Water Management Plan.	Required to minimise the transportation of suspended solids generated during the construction stage.
Excavate and/or clear the area which is required to	The top layer of vegetated material is set aside for re-use as a sealing layer to prevent sediment runoff and reduce visual impact.



Activity	Notes
accommodate the visibility splays.	
Re-align private fences as required by the visibility splays and detailed design.	Required for stock control, security, and sight line visibility requirements.
Excavate to track formation level along the extent of the site entrance and accommodate drainage.	The Contractors shall provide that soil is carefully distributed and banked adjacent to the entrance within the construction boundary. Soil will be managed as per the spoil management plan. Any storage of material will be located to see that no interference with visibility splays occurs.
Installation of stone foundation and surfacing of apron to be installed.	In the interests of road safety, appropriate construction measures will be implemented to see that site debris is not deposited on the carriageway. In the unlikely event of same occurring, the Contractors shall see that all material is removed immediately in accordance with the provisions of the TMP to be agreed with Cork and Kerry County Council.
Installation of security gates/hut (where required), tied into the re-aligned fence.	Required for site security.

### Contractors Compound and Welfare Facilities

The temporary site compound will be in place for the duration of the construction works only. The compound will be used as a secure storage area for construction materials and to contain temporary site accommodation units for sealed type staff welfare facilities. The compound will contain cabins for offices space, meeting rooms, canteen area, a drying room, parking facilities, and similar personnel type facilities.

An area within the compound will be used for the storage of fuel and oils and this will be suitably bunded to 110% of the storage volume. The bund will be lined with an impermeable membrane in order to prevent any contamination of the surrounding soils, vegetation and water table. Double protection containers / equipment will be used along with drip trays and details.

During the construction phase, water will be supplied by water bowser. The maximum wastewater production is estimated to be the same as the maximum water consumption (1,000 litres per day). The Development will include an enclosed wastewater management system at the temporary compound capable of handling the demand during the construction phase with 25 construction workers on site at peak. A holding tank is proposed for wastewater management. Wastewater which will be removed off-site and disposed at an appropriate licenced facility.

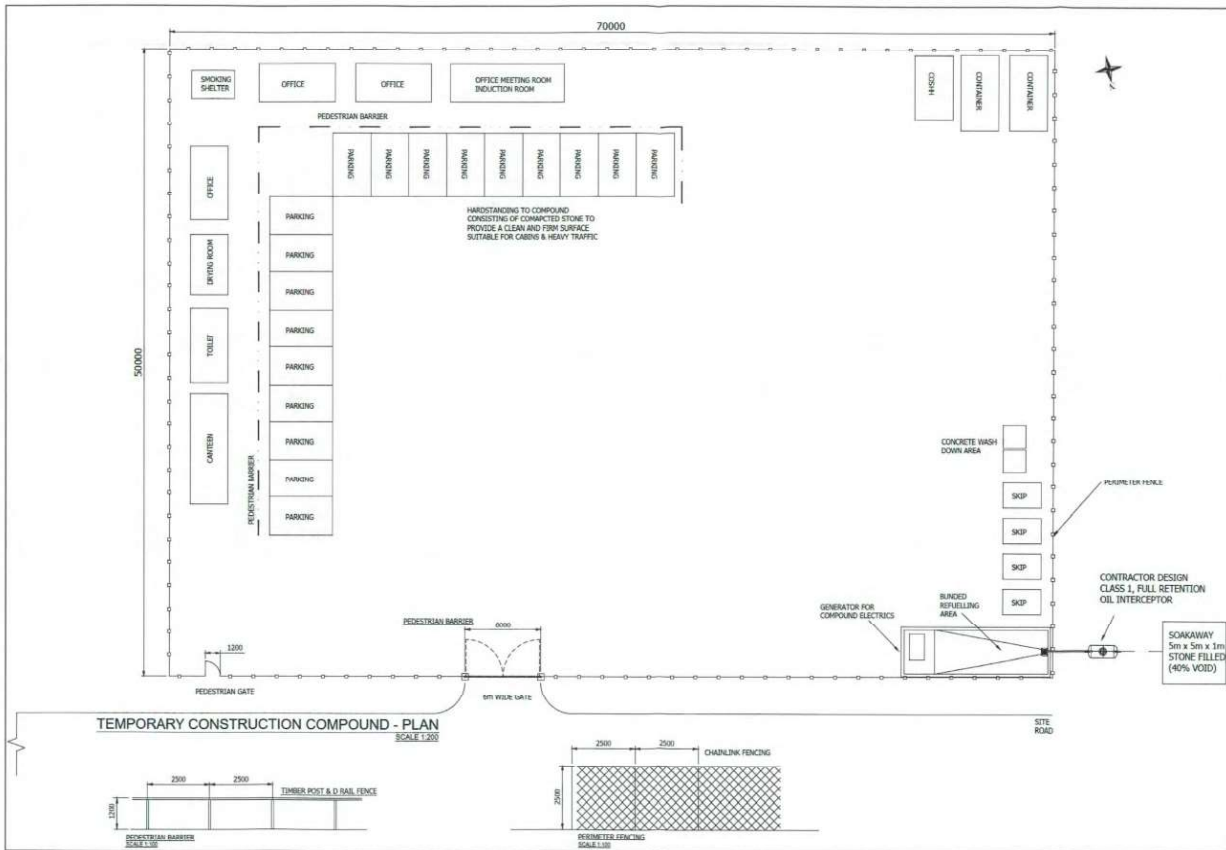


Figure 3.3 Contractors Temporary Compound Plan (Excerpt from Drawing No. 6226-PL-803)

The proposed construction method statement for the construction compound / storage area is detailed in **Table 3.5**.

**Table 3.5: Contractors' Compound and Welfare Facilities CMS**

Activity	Notes
Set out the perimeter of the site compound using GPS equipment following a site walkover by the Ecological Clerk of Works	Setting out must be undertaken to Irish Transverse Mercator co-ordinates and to sub-centimetre accuracy in the X, Y and Z plane.
Archaeology	The Site will be accessible to the appointed archaeologist at all times during working hours. The nominated archaeologist will monitor all invasive works.
Install drainage treatment and flow attenuation features as per the detailed design	Required to minimise the transportation of suspended solids generated during the construction stage.
The top layer of vegetated material will be stripped and stored for re-use onsite.	The top layer of vegetated material is set aside for re-use as a sealing layer to prevent sediment runoff and reduce visual impact. The location for storage of these vegetated turves will be around the perimeter of the site compound away from any sensitive habitats.
Stone will be placed in layers to form the hardstanding area for the site compound.	Hardcore area with Clause 804 stone on geotextile layer (Netlon SS30 or similar) for temporary site offices and for vehicle movements / parking.
The accommodation, eating and sanitary cabins will be installed in accordance with the construction drawings.  The site office will be located in the temporary storage area.	Foul drainage from site welfare accommodation will discharge to a holding tank. The holding tank will be fully enclosed with no discharge outlet. The toilets will be the 'portaloo' chemical toilet type.  The holding tank will be emptied as required by a licenced waste disposal operator.  Temporary power supply and telecommunications will be connected to the relevant cabins.
Construct covered bunded area for oil tanks.  Construct Plant refuelling Area.	Bund to absorb 110% of potential spill volume.  Non-permeable concrete refuelling area with petrol interceptor.

Activity	Notes
Storage units for hazardous products and covered waste skips will be installed as per best industry practice.  Complete temporary service provisions – electrical, telecommunications, etc.	All storage units for hazardous products will be fully lockable and bunded proprietary steel containers.
Provide measures for waste management.	Waste segregation skips will be deployed for optimum recycling and re-use of materials. Skips will be covered with lid.
Construct an impervious bunded area for plant refuelling and plant maintenance and cleaning operations.	An oil interceptor will be installed on the drainage outlet from the bunded area to separate any oils from the surface run off. Generators and associated diesel tanks are to be installed on such an area.
Parking	Parking areas shall be identified by signage with a handrail system or barrier separating pedestrian areas and vehicle routes.
Reinstatement	Compound areas to be restored to pre-construction condition at completion and demobilisation stage.

### 3.10.4 Site Security

From an operational point of view, for control of site access and for proper site management, all access to the Site will require passage through a controlled safety barrier/gate or hut. The exact location(s) shall be decided by the Contractors with primary responsibility for safety on the Site. It is proposed that the barrier(s) be located at the entrance to the Site so that no unauthorised traffic can enter the Site and to check that all personnel are permitted / inducted on the Site. The barrier will be set back sufficiently so that HGVs can enter the Site without stopping.

The Contractors shall be responsible for securing each area of work, so as to ensure the safety and health of all affected persons (Contractors' personnel, site supervision staff, members of the general public, traffic, etc.). The Contractors will provide details to the Developer of security arrangements for the following:

- Fencing specification.
- Provision of personnel to man site access point(s).
- Signage; and
- Signing in/out procedures.

### 3.11 Site Clearance and Construction Methods

The management of earthworks will be of paramount importance throughout the construction of the Development. The general principles that will apply to earthworks include:

- Excavations to only take place following implementation of setting out the working corridor, drainage treatment and flow attenuation provisions.
- Archaeological supervision works will be undertaken.
- Vegetation within the construction corridor shall be cleared as part of the excavation works.
- Suitable plant to be used, particularly when working off road i.e., use of geotextile mats.
- Machinery and vehicles used in access track construction are operated from the track only as it is constructed.
- Vegetated top-mat layer to be removed separately and set aside from other spoil and place around the excavations for use in reinstatement. Spoil storage areas will be around turbine bases and within borrow pits as per the attached Peat and Spoil Management Plan.
- Topsoil stockpiles shall be no more than 1 m in height, smoothed to prevent erosion, and watered to prevent them drying out.
- Apply the vegetated capping layer to permanently exposed excavations or storage areas to mitigate against movement and to avoid sediment run-off. Input from the appointed ecologist will be used to apply the appropriate species of the immediate environment in the capping layer.
- No permanent stockpiles will remain on site after completion of the construction phase.
- Borrow pits will be utilised on site to reduce the requirement for imported fill.
- Monitor all rock breaking activities and survey areas for indicators of peat/soil movement/slide. The appropriate remedial action will be taken.

The construction method statement for excavation and spoil management is shown in **Table 3.6**.

**Table 3.6: Excavation and Spoil Management Method Statement**

Activity	Notes
Archaeology	The Site will be accessible to the appointed archaeologist at all times during working hours. The nominated archaeologist will monitor all invasive works.
Install drainage treatment and flow attenuation features as per the detailed design, which includes recommendations of an expert ecologist	Required to minimise the transportation of suspended solids generated during the construction stage. Temporary and permanent ponds and outflow buffers will be constructed as per the attached Surface Water Management Plan.
Spoil locations to be identified to machine drivers	Spoil storage areas/borrow pits to be mapped and pegged out prior to excavation commencing.
A Risk Assessment shall be developed for each and every excavation location to be carried out on site.	Control measures to mitigate safety, stability and environmental risks specific to the local conditions.
The vegetated layer will always be removed and set aside separately from any spoil material.	Required to enhance revegetation.
Excavated material will only be stored to a maximum height of 1.0 m along access tracks.	Prevent movement of stored material and protect watercourses.
Excavated material will not be stored in areas which have been identified as unsuitable for spoil storage.	Prevent movement of stored material and protect watercourses against harmful run offs.
Excavated material will be separated and stored so that it is not left exposed to the elements. This will be provided for through the immediate application of a vegetated capping layer.	No spoil is permitted to be stored on areas identified as sensitive or high value habitats. Other material will be used for landscaping or to rehabilitate the borrow pits.
Interim (temporary) material storage during the construction stage will be kept to a minimum by the implementation of a continuous construction cycle: 1) Excavate material.	Return and re-vegetate the Site to its original state as soon as possible.



Activity	Notes
2) Handle material. 3) Permanently store material.	
Permanent excavated or spoil surfaces shall be re-vegetated without undue delay using seed collected pre-construction, final details of which will be approved by the ecologist. Reseeding will occur within the growing season.	To encourage growth of locally-common habitats
Material from excavations in rock, suitable sands and gravels will be carefully managed and re-used as structural fill in the locality of the excavation where possible.	To minimise the volume of imported material required and ensure no impact on the local pH level. No spoil will be permitted to be stored on areas identified as sensitive or high value habitats.

### 3.11.1 New Site Access Roads

Carrying capacity will be based on the weight restriction for the installation crane, which typically has a maximum 20 tonne axle weight with a minimum of 12 tonnes.

Prior to advancing any construction works, final road design shall take into account the following:

- Existing Ground Profile
- Existing Ground Soil Type
- Bearing Capacity
- Natural Drainage
- Proposed Turbine Delivery Specification
- Existing Environmental Buffers

As the Project will most likely be advanced as Design & Build, the Contractors will be obliged to form the design and construction works with reference to the above and seek final approval from the Engineer for their design prior to advancing any work on site. In any event, it is proposed that the roads are built as follows:

- The alignment of the new Site Access Roads will be established and the centrelines will be marked out with ranging rods or timber posts.

- Any trees/hedgerow within the construction corridor shall be cleared prior to any construction works. All works will be undertaken outside of the breeding season.
- The first phase of drainage will then be installed in accordance with the detailed drainage design. Road construction will likely require the crossings of a number of cut drains and minor drainage paths.
- The angle of repose of the cut face of excavations shall be battered back approximately 45 degrees. However, where peat is encountered, it will be increased to 26.5 degrees.
- Slopes will not be undercut or excavations left unsupported for periods in excess of 24 hours.
- Soil excavation shall be observed by a qualified archaeologist, in accordance with the approved scheme of archaeological monitoring in order to respond appropriately to identification of any potential archaeological remains.
- The access road will be excavated to a suitable formation level. Roadside berms will be developed as 0.6 m in height and 1 m in width.



**Figure 3.4 Roadside Berm**

- Where necessary, stone will be delivered to site by tipper trucks from approved local quarries (please see **EIAR Figure 15.3**) and will be placed, spread and compacted in layers to form the running surface. The compaction will be carried out using a dead weight roller.
- Imported stone will be used throughout for the final surfacing layer.
- Well-graded granular fill (quarry sourced clean stone) will be spread and compacted in layers to provide a homogeneous running surface. The thickness of layers and amount

of compaction required will be decided by the Site Manager based on the characteristics of the material and the compaction plant to be used.

As is typical with wind farm roads, the construction method will be Cut and Fill.

### 3.11.2 Cut and Fill (Excavated) Roads

This form of road construction is a traditional method whereby the final road construction is formed on a firm bearing strata. This is generally found following removal of the initial vegetation layer and more than likely the underlying layer of soft material found between the topsoil layer and the firm strata. Typically, this form of road construction could be founded on relatively shallow excavations. However, if soft spots are encountered locally, they will be excavated out and in-filled with selected excavated. Rock will be extracted from the borrow pits on site and turbine bases. Imported rock will be chemically compatible with the existing geology. It will be tested for compatibility prior to entering the Site. This involves using rock that is similar to the geology of the Site and locally sourced i.e., sandstone till. Construction of Cut and Fill road sections will be carried out in accordance with detailed design. This system will consist of either 1 or 2 layers of stone depending on the load bearing capacity of base layer and the design loading required with construction traffic. Where the underlying layer is clay, 2 layers of stone are used. In areas where the load bearing layer is rock, the capping layer is omitted, and the running layer is installed directly onto the rock surface.

If the vertical alignment requires local infilling for the formation of the road, the above process of exposing a firm strata is followed and infill material is employed to raise the road profile in a local embankment.

### 3.11.3 Road Drainage

A vegetative filter strip and under-road drainage will allow discharge in a controlled manner downslope of the works.

Any crossing of field drains, man-made drains and vegetated drains will be piped directly under the road through appropriately sized drainage pipes. Where appropriate, a lateral drainage ditch (interceptor drain) will be cut along the uphill side of the road to intercept the natural runoff. This lateral drain will be drained under the road at regular intervals through correctly sized cross drains. In cases where the roads must run significantly downhill, transverse drains ('grips') will be constructed where appropriate in the surface of the roads to divert any runoff down the road into the drainage ditch. Where the crossing of ditches, field

drains, man-made drains and vegetated drains cannot be avoided, the design of the crossing, (in this case culverts) shall be prepared in line with the drainage design philosophy. This is further detailed in **Management Plan 3: Surface Water Management Plan** and **Management Plan 2: Water Quality Management Plan**.

Under road drainage will be provided under the excavated roads at all locations where existing land drainage passes under the proposed roads. Conventional cross drains will be 150 mm diameter and increased to 300 mm diameter (minimum) at points for land drainage or natural drainage paths. The spacing of the cross drains will be dependent upon whether the roads run parallel or tangential with the general contours of the Site.

The detailed design of all under-road drains in areas near flushes will have the input from the Ecological Clerk of Works to see that there is sufficient flow connecting the upstream and downstream habitats. These will be inspected by the Ecological Clerk of Works during construction.

All existing site drainage channels and culverts shall be maintained, and any additional drainage design required on-site shall be carried out as per the detailed design. Any such additional requirements will be reviewed by the Engineer and Ecological Clerk of Works prior to site clearance activities taking place on-site.

There are three proposed water crossings on site and the methodologies are discussed in **Management Plan 2: Water Quality Management Plan**.

#### **3.11.3.1 Borrow Pit**

One separate Borrow Pit is proposed on-site which will curtail the impact on the existing local authority road network by reducing the volumes of traffic importing materials to the Site. The borrow pit is permitted on site and will be used to extract siltstone for surfacing the Site Access Roads. The location of all infrastructure required for the borrow pits shall be set out by GPS equipment to the permitted detail as noted on the drawings.

Further details on the borrow pit including extraction methodology can be found in **Management Plan 4: Peat and Spoil Management Plan**.

### 3.11.3.2 Turbine Bases/Foundations

Foundation requirements will be provided by the wind turbine supplier, and appropriate factors of safety will be applied to these in accordance with Draft Revised Wind Energy Development Guidelines, 2019. The turbine towers will be anchored to the concrete foundation using a bolt assembly which shall be cast into the concrete.

Each turbine will be constructed on a cast in-situ concrete foundation requiring approximately 590 m<sup>3</sup> of concrete which, for the most part, is buried in the ground. The turbine foundations will be constructed so that the top of the foundation is at the existing ground level, with an acceptable tolerance of +/- 1 m. The turbine foundation is estimated to be between 2.8 m and 3.2 m deep and therefore the formation level is 2.8 m to 3.2 m below existing ground level.



Plate 3.1: Turbine Foundation under Construction with Adjoining Crane Pad<sup>5</sup>

There are two options for design and Construction of Turbine Foundations as follows:

- **Option 1 – Turbine Foundation constructed directly on in-situ ground:**

<sup>5</sup> SSE Renewables, [Accessed online 30/03/2023 <https://www.sserenewables.com/news-and-views/2021/09/concrete-poured-for-first-of-103-wind-turbine-bases-at-viking-wind-farm/>]

The Contractors shall demonstrate that the soil/rock properties at the formation level are in compliance with the turbine Foundation Design limiting criteria for a ground bearing base.

- **Option 2 –Turbine Foundation constructed on engineering fill:**

If it cannot be demonstrated that Option 1 is achievable, the Contractors shall establish and demonstrate a suitable bearing stratum at a lower level, design and construct engineering fill to the formation level of the foundation and demonstrate that the fill properties at the formation level are in compliance with the Turbine Foundation Design limiting criteria for a ground bearing base.



Plate 3.2: Wind Turbine Foundation<sup>6</sup>

<sup>6</sup> <https://www.grousemountwindfarm.ie/documents/downloads/EIS%20Vol%201%20-%20Section%203%20-%20Text%20-%20Project%20Implementation.pdf> [Accessed 15/02/2022]

The construction method statement for the turbine bases will generally follow the sequence as defined in **Table 3.7**.

**Table 3.7: Turbine Base Construction Method Statement**

Activity	Notes
Set out the turbine location with the use of GPS (RTK) equipment.	The Contractors shall tape off buffer zones with assistance from the Ecological Clerk of Works and Ecological Clerk of Works, and toolbox talks will be used to inform site staff of the importance of the buffer zones.
Archaeology	The Site will be accessible to the appointed archaeologist at all times during working hours. The nominated archaeologist will monitor all invasive works.
Set out and install drainage treatment and flow attenuation features.	Required to minimise the transportation of suspended solids generated during the construction stage.
Remove and locally store the top layer of vegetated material over the excavation area.	This material will be stored for re-use to cover and promote natural re-vegetation of the inorganic spoils that will be deposited at the nearest suitable location to the excavation, monitored by the Ecological Clerk of Works.
Excavate remaining material to 1 m depth and segregate organic material from mineral material.	Selected excavated organic material will be considered for re-use as backfilling material.
Excavate to formation level.  Complete plate bearing tests.	Any excavated inorganic material will be re-used as structural ballast to minimise the required volumes of spoil and imported stone.
A reinforcement steel cage for the foundation will be assembled after insertion of the turbine foundation insert arrangement (required for fixing steel tower) and formwork will be fixed to surround the cage.	

Activity	Notes
Reinforcement steel for the top section of the foundation is fixed along with the required number of cable ducts.	Reinforcing steel shall be checked for design compliance and signed off upon acceptance.
Erect the formwork to contain the concrete pour.	Formwork will be re-used and removed offsite when foundation construction is complete.
The foundation anchorage system will be checked both for level and line prior to the concrete being installed in the base. These checks will be passed to the appointed Turbine Contractors for their approval.	
The foundation will be backfilled with a cohesive material.	Using the material arising during the excavation and landscaped using the vegetated soil set-aside during the excavation.



Plate 3.3: Wind Turbine Erection<sup>7</sup>





**Plate 3.4: Assembly of Wind Turbine Blades <sup>7</sup>**

### **3.11.3.3 Turbine Hardstands/Crane Pads**

A crane pad hardstand area will be required at each turbine. The hardstands must allow for two cranes (including outriggers) to operate in the vicinity of the turbine to allow for turbine erection. The hardstand must also provide storage and set down areas for turbine components. The hardstand requirements are specified by the turbine supplier and require strict compliance so that there are no stability issues during erection of the turbine sections.

All Turbine Hardstands will be designed to take account of the loadings which will be provided by the appointed turbine and installation Contractors and will consist of a compacted stone structure which is to be installed in accordance with the Transport Infrastructure Ireland (TII) Specification 800 2013.

Two types of hardstands are facilitated:

- Locations that will require a turning head.
- Standard Hardstand arrangement where delivery vehicles do not require a turning area.

Hardstand formation will consist of either 1 or 2 layers of stone depending on the properties of the underlying load bearing layer. Where the underlying layer is clay, 2 layers of stone formation are used, the stone capping layer and, the running layer. In areas where the load bearing layer is rock, the capping layer is omitted, and the running layer is installed directly onto the rock surface (in this case siltstone). The crane pad layout measures c.74 m by 58 m. The proposed Turbine Hardstand design is shown on **Figure 3.5**.

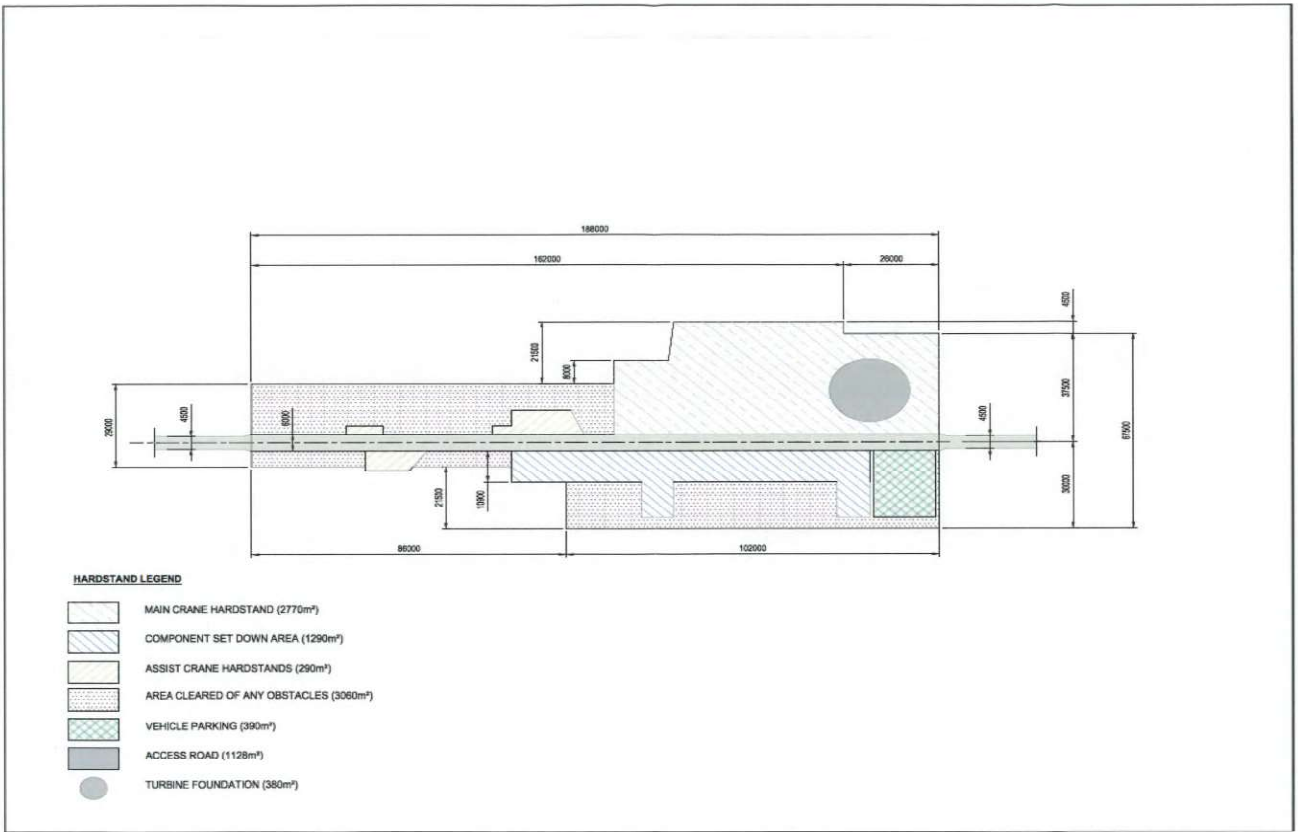


Figure 3.5 Crane Pad Hardstand Design (Excerpt from Drawing No. 6226-PL-601)

The hardstand area will be excavated to a formation level of weathered rock where possible or on stiff bearing strata on overlaying material.

Following completion of the hardstands, a series of plate load tests will be undertaken to demonstrate compliance with the turbine supplier requirements of 260 kN/m<sup>2</sup>.

Excavated material will be used for side slope formation local to the hardstands. Material from the excavation of the hardstands will be used to dress exposed areas around the hardstand with the remainder being used for landscaping around the turbine base or for the rehabilitation of the proposed borrow pits in accordance with **Management Plan 4: Spoil Management Plan**. A Hardstand construction method statement is set out in **Table 3.8**.

**Table 3.8: Typical Hardstands Construction Method Statement**

Activity	Notes
Set out the crane hardstands with the use of GPS (RTK) equipment.	The Contractors shall see that buffer zones and areas of restricted working width are taped off with assistance from the ECoW and toolbox talks used to inform site staff of the importance of the buffer zones with identification of areas on drawings and maps.
Archaeology	The site will be accessible to the appointed archaeologist at all times during working hours.
Set out and install drainage treatment and flow attenuation features around the crane hardstand and turbine area.	In areas of peat only 'bog master' low ground pressure excavators will be used to minimise the impact on the vegetation layer. Temporary and permanent ponds and outflow buffers will not be constructed in sensitive habitats or buffer zones. Liaison with the ECoW at the detailed design stage will assist in the identification of suitable locations.
Remove and locally store the top layer of vegetated material over the area of the crane hardstand excavation.	This material will be stored for re-use to cover and promote natural re-vegetation of the amorphous peat and /or inorganic spoils that will have to be deposited at the nearest suitable location to the excavation.

Activity	Notes
Excavate remaining material to 1 m depth and segregate organic material from mineral material.	Selected excavated organic material will be considered for re-use as backfilling material.
Excavate material to the required formation level.	The formation level for the crane hardstands will be on weathered rock or stiff overlaying material. Where suitable, the excavated material will be re-used as structural backfill material to minimise the required volumes of spoil and stone.
Place rock fill in accordance with the design to form the crane hardstand structure. Where appropriate, geotextile and/or geogrid should be used to help reduce the volume of stone. Fence off steep edges.	Special consideration will be given towards the stone placement and compaction so that the structural integrity meets the loading requirements.
Plate bearing tests will be undertaken following completion of the hardstand structure.	The number and location of the plate bearing tests shall be specified by the Contractor's designer.



Plate 3.5: Crane for Wind Turbine Erection <sup>7</sup>

#### 3.11.3.4 Handling/Disposal of Excavated Material

Details of spoil management methodology are outlined in the attached **Spoil Management Plan**. Excavated soil will be used for landscaping and to reinstate the borrow pit.

### 3.12 Planning Conditions and Outline Method Statements

This CEMP and its future versions/revisions will form part of the Contract for Inchamore Wind Farm. It will therefore be updated and revised during the different stages of the Development. Where the Development is granted planning permission all the planning conditions associated with the Planning Application, applicant Inchamore Wind DAC will be listed in **Table 3.9**.

**Table 3.9: Relevant Planning Conditions and Related Documentation**

Condition No.	Planning Condition	Reason
Planning Ref: <b>INSERT NUMBER</b>		

The Contractors will address all of the mitigation measures and best practice construction methods detailed within the above consent in his design and in any detailed environmental plans as required by this CEMP or the Contract.

### 3.13 Scheme Amendments

Scheme Amendments will be recorded in **Table 3.10**. These amendments do not include changes to the scheme design which are completed in accordance with the existing planning consent. Instead, this refers to changes in the design of the wind farm for which additional approvals and / or consents may be required from Cork and Kerry County Council. For example, amendments to layouts or in accordance with the current grant of planning permission.

**Table 3.10: Scheme Amendments**

Reference	Date	Scheme Amendment Description	Environmental Sensitivities potentially

**3.14 Register of Variations**

Where any variations to the Management Plans and CEMP are required (either as a result of Scheme Amendments or through corrective actions or improvements noted and undertaken on site) these will be recorded in **Table 3.11**, Register of Variations. Furthermore, all changes to construction methods, design, mitigation and the implications of these changes and authorising personnel will be recorded in **Table 3.11**.

**Table 3.11: Register of Variations**

No.	Variation Description	Authorising Personnel	Completion Date

## 4 COMMUNICATION PLAN

### 4.1 Introduction

Both the Contractors and the Client will appoint Project Managers to the Project. These Project Managers will be the main points of contact between the two parties. This includes the Contractors Construction Project Manager and the Client.

It is envisaged that main Development communications will take the form of structured reporting arrangements and meetings.

All issues in relation to environmental management/monitoring will be reported to the Ecological Clerk of Works. The Contractors Ecological Clerk of Works will report to the Contractors and Client on a regular basis.

### 4.2 Contact Sheets

**Table 4.1** provides a list of Inchamore Wind DAC., Contractors and relevant third-party contact details. This table will be updated and maintained by the Contractors for the duration of the Contract.

**Table 4.1: Contact Sheets**

Company	Position	Name	Telephone
Inchamore Wind DAC	Client Project Manager		
Contractors	Site Manager / EM		
Contractors	Contracts Manager		
Contractors	General Manager		
Contractors	Foreman		
Inchamore Wind DAC	Construction Project Manager		



#### 4.3 Meetings Reports and Consultations

**Table 4.2** lists all meetings and consultations as required by the Contract. The table also provides details on the schedule/frequency, scope & objectives and attendees / responsibility for each meeting.

#### 4.4 Roles & Responsibilities

Roles and responsibilities for environmental management, monitoring and reporting are detailed in **Table 4.3**. The Ecological Clerk of Works Contractors will be responsible for the delivery of all elements of the Environmental Management Plan. The Ecological Clerk of Works Contractors will retain all responsibility for issuing, changing and monitoring the Environmental Management Plan.

#### 4.5 Reporting Procedures

**Figure 4.1** provides a diagrammatic outline of the general tasks and communication lines, based on the roles described in **Tables 4.2** and **4.3** and tasks detailed in the Management Plans. The Contractors will update this information as part of the construction stage CEMP.

**Management Plan (1) Emergency Response Plan** includes the communications plan for reporting procedures for all potential environmental risks, hazards or incidents which may relate to ecology, water quality, dust, noise or archaeology. Environmental reporting to statutory bodies, such as Cork County Council, Kerry County Council will be managed by the relevant Contractors in accordance with an agreed reporting schedule.

**Table 4.2: Meetings, Reports and Consultations**

Meeting/ Report	Schedule/ Frequency	Scope & Objective	Attendees/Responsibilities
A Record of all meetings, checks, permissions and licenses will be retained within Section 4 of this CEMP			
Site Inductions	All new site personnel and visitors		Contractors to organize and maintain records
Weekly environmental meetings	Weekly	To provide updates on environmental mitigation measures and performance and identify actions for improvement. The Ecological Clerk of Works Contractors is required to maintain a Pollution Prevention Measures Register in which mitigation measures put into place will be listed and checked weekly to assess the requirement for maintenance. The results of these checks will be discussed at the meeting and corrective actions agreed as required.	Attendance required: Ecological Clerk of Works Contractors Site Manager, and any other relevant personnel or statutory consultees where necessary.
Monthly Environmental Report & Monthly Environmental Management Group Meeting	Monthly	To provide a compiled record of weekly meeting minutes and environmental performance and monitoring results (e.g., air, noise or water quality monitoring as appropriate). To identify any areas / action for improvement.	To be prepared by Ecological Clerk of Works. Report to be issued to the Contractors and Construction Project Manager before the end of each calendar month. Report to be discussed at the monthly meeting with recommendations for improvement passed to the Contractors in written format

Meeting/ Report	Schedule/ Frequency	Scope & Objective	Attendees/Responsibilities
Final Environmental Report	Upon completion of construction works	The final report will document the environmental and ecological effects of the construction period. The evidence for effects will be based on findings included in the minutes of weekly meetings and monthly meetings, together with other recording information maintained by the Ecological Clerk of Works. The report will relate results to residual effects predicted in the EIAR.	The Final Report will be prepared by the Ecological Clerk of Works. The report will be made available to the Contractors, Construction Project Manager and Planning Authority, if required.
Environmental Checks and Monitoring of Mitigation Works	As required in advance of construction works regular checks will also be made at least every 14 days.	Environmental Checks are to be carried out in advance of construction works. This will comprise an on-site meeting / inspection to confirm the appropriate use of identified mitigation measures and highlight any further issues / measures which may be relevant prior to commencement of works in any area. As a minimum, Environmental Checks will be completed at each main piece of site infrastructure (turbine	Environmental checks will be undertaken by the Contractors Ecological Clerk of Works. The Ecological Clerk of Works may also undertake regular checks, either independently or in conjunction with the Contractors checks as required. The Contractors and Ecological Clerk of Works will retain a record of all inspections / findings of Environmental Checks within Section 4 of this CEMP. All records will be made available for audit / review. All records will also be made available for discussion during regular meetings as scheduled herein.

Meeting/ Report	Schedule/ Frequency	Scope & Objective	Attendees/Responsibilities
		<p>bases, construction compounds, sub-station, control room) prior to works commencing in that area.</p> <p>Environmental Checks will include:</p> <ul style="list-style-type: none"> <li>• Checks for visual evidence of contamination / sediment alongside watercourses, nearby working areas and in areas of surface water discharge.</li> <li>• Regular checks of all plant and equipment to identify any oil or fuel leaks to confirm the condition of the plant.</li> <li>• Inspection of drainage and erosion and sediment control measures. Additional checks will be made before, during (where safe to do so) and immediately following anticipated storm events or periods of continuous or heavy intermittent rainfall over one or more days.</li> </ul>	

Meeting/ Report	Schedule/ Frequency	Scope & Objective	Attendees/Responsibilities
		<ul style="list-style-type: none"> <li>• Environmental checks will also encompass a review of:               <ul style="list-style-type: none"> <li>- Waste management procedures</li> <li>- General site tidiness</li> <li>- Temporary materials storage (extracted materials stockpiles) and restoration works and</li> <li>- Soil stability</li> <li>- Signs of any mammal activity on site</li> <li>- Buffer zones (if any) are being maintained</li> </ul> </li> </ul>	
Environmental Audit	At least once every month.		<p>Environmental Audits may be carried out by the Contractors, or Inchamore Wind DAC. at any time during the works.</p> <p>Audit procedures and forms are included within Section 4 and TS1. These will be followed / completed by the Employer when undertaking environmental audits and may also be adopted by the Contractors, unless alternative procedures and forms are submitted and approved</p>

Meeting/ Report	Schedule/ Frequency	Scope & Objective	Attendees/Responsibilities
			as part of the Contractors' construction stage CEMP.
Liaison with regulator / statutory Consultees	As Required	Provide regular updates to relevant authority on environmental performance and maintain good working relationships with the regulatory bodies.	Contractors and Ecological Clerk of Works where required. Meetings will be initiated as required by Planning Conditions, Management Plans or as agreed throughout the duration of the construction phase. The Contractors is responsible for obtaining all relevant permissions, consents, licenses and permits. Some permits may require application and implementation by an appropriately qualified person. In these instances, the Contractors will consult with the other specialist Environmental Consultants where required.

**Table 4.3: Roles and Responsibilities**

Position	Roles and Responsibilities
Construction Project Manager	The Construction Project Manager will: Ensure that the Contractors has obtained the relevant approvals and licenses and consents from regulatory bodies and statutory consultees where required. Ensure that the Contractors has submitted all relevant documentation liaise with the Site Manager and the Ecological Clerk of Works and ensure that corrective actions and variations to the CEMP have been instigated.
Project Site Manager/ Engineer	The Site Manager will provide liaison between the Ecological Clerk of Works and the Contractors where environmental sensitivities, instruction for environmental performance improvements or corrective actions are requested by the Ecological Clerk of Works or other appropriate person(s) as a result of environmental checks or audits conducted by these person(s). The Site Manager will ensure that all notifications of environmental sensitivities and incidents as well as other general

Position	Roles and Responsibilities
	<p>observations on environmental performance are reported back to the Construction Project Manager. The Project Site Manager is responsible for review and further development of the CEMP.</p>
<p>Environmental Manager/Ecological Clerk of Works</p>	<p>The Ecological Clerk of Works will be a member of the Environmental Management group and will work with the Contractors to ensure compliance with best practice and with all environmental mitigation and monitoring requirements as detailed within the relevant planning conditions, compliance documents and CEMP during both the pre-construction and construction phases. The main roles of the Ecological Clerk of Works are as follows:</p> <ul style="list-style-type: none"> <li>• Organise start-up meeting / Toolbox talks with the Contractors to agree working methods, specifically including communications; schedules; monitoring of data storage; and preparation of plans indicating location of key features including mitigation measures, monitoring points and sensitive habitats (where not previously highlighted and approaches agreed).</li> <li>• Give tool box talks as agreed with the Contractors to address key areas, including water pollution prevention, protected species management, and on-site biodiversity. Highlight to staff the requirement for compliance with planning conditions.</li> <li>• Undertake a pre-construction walkover with the Site Engineer / Site Manager to confirm that access routes remain appropriate to the conditions present at the time of construction</li> <li>• Delineate any sensitive habitats or features with wooden stakes and high visibility tape</li> <li>• Undertake or delegate to an appropriately qualified person, a pre-construction Invasive Alien Species survey along the works route</li> <li>• Monitor the installation of poles and infrastructure</li> <li>• Inspect pollution control measures during the works</li> <li>• Maintain a presence on site during the pre-construction and construction works, including setting out of access routes.</li> <li>• Organise a minimum of weekly meetings with the Site Environmental Supervisor and / or Foreman, to allow briefing on the programme of works on site and to provide on-site guidance during construction.</li> <li>• Identify environmentally sensitive areas and ecological hazards for demarcation by the Contractors.</li> <li>• Develop written reports / audits and submit to the Contractors and present findings at meetings as required. Prepare updated reports and a final report on mitigation measures, procedures and monitoring.</li> </ul>

Position	Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• Monitor potential environmental impacts and the successful implementation of all mitigation as detailed in the NIS and this CEMP.</li> <li>• Maintain a weekly presence on site during the main construction works</li> <li>• Prepare a pre-construction Invasive Alien Species survey along the works route</li> <li>• Identify environmentally sensitive areas and ecological hazards for demarcation by the Contractors.</li> <li>• Produce written reports to the Contractors following site visits and meetings. This includes monthly reports and a final report.</li> </ul> <p>The Contractors will provide comprehensive information on all proposed works and all scheduling to the Ecological Clerk of Works in advance, in order to anticipate and address any issues, especially access to new areas including areas where Invasive Alien Species may occur, vegetation clearance, setting out of buffer zones, excavation and silt mitigation measures, temporary compound works and vegetation reinstatement.</p>
Ecological Clerk of Works and/or Water Quality Specialist	<p>The Ecological Clerk of Works will work with Inchamore Wind DAC., the Contractors to see that compliance is achieved with best practice and with all environmental mitigation and monitoring requirements as detailed within the NIS and CEMP, relevant planning conditions and CEMP. The Ecological Clerk of Works will delegate and oversee the work to ensure competency of tasks achieved.</p> <p>Where a particular ecological concern exists at the Site, or specific habitat management activities are to be undertaken in conjunction with the main civils construction works, a Specialist Ecologist / Environmental Consultant may also be required unless the Ecological Clerk of Works is suitably qualified to undertake the particular ecological responsibilities. The main roles of the Ecological Clerk of Works are as follows:</p> <ul style="list-style-type: none"> <li>• Organise start-up meeting / Tool box talks with the Contractor to agree working methods, specifically including communications; weekly schedules; monitoring of data storage; and preparation of plans indicating location of key features including mitigation measures, monitoring points and sensitive habitats.</li> <li>• Maintain a weekly presence on site during the main construction works.</li> <li>• Organise a minimum of weekly meetings with the Site Manager and / or Foreman, to allow briefing on the programme of works on site and to provide on-site guidance during construction. Note: It is essential</li> </ul>



Position	Roles and Responsibilities
	<p>that the Contractor supplies information on works and scheduling to the ECoW in advance in order to anticipate and address any issues, specifically including drainage, buffer /protection zones, silt mitigation measures, cabling, roads, turbine bases, met masts, compounds, landscaping, topsoil removal, storage and replacement, vegetation reinstatement and restoration works, planting, felling and habitat management.</p> <ul style="list-style-type: none"> <li>• Highlight the need for compliance with planning conditions.</li> </ul> <p>Contractors Note: If failures occur and actions are taken which contravene legislation then the Project Ecologist has the power to stop works in the affected area with immediate effect. These actions will only be taken where appropriate. Notification to stop works will be by verbal means, followed up with written confirmation recording the time and date of the instruction, personnel involved and reasons for the instruction. Upon recommencement of works, details of any corrective actions and / or remedial measures implemented will be recorded within Section 4.</p> <ul style="list-style-type: none"> <li>• Give toolbox talks as agreed with the site contractor to address key areas, including water pollution prevention, protected species management, and on-site biodiversity.</li> <li>• Monitor potential environmental impacts, including:             <ul style="list-style-type: none"> <li>- Use of and storage of oils and toxic chemicals on site, e.g., cement</li> <li>- Dewatering of excavations (including turbine bases)</li> <li>- Silt control</li> <li>- Water management, including working in or close to watercourses</li> <li>- Protection of ecological interests, e.g. protected species and habitats</li> </ul> </li> <li>• Identify environmentally sensitive areas and ecological hazards for demarcation by the Contractor.</li> <li>• Produce written reports to the Contractor following site visits and meetings. This includes monthly reports and a final report.</li> </ul>
Specialist Ecologist/ Environmental Consultant	<p>Where a Specialist Ecologist / Environmental Consultant is employed, this person(s) will:</p> <ul style="list-style-type: none"> <li>• Provide advice and maintain regular liaison with the Project Site Manager, Project Manager, Ecological Clerk of Works and Contractors and / or another specialist Environmental Consultant as and when required.</li> <li>• Undertake specific monitoring activities and reporting as defined in agreed documentation prepared as part of the planning process.</li> </ul>

Position	Roles and Responsibilities
	<ul style="list-style-type: none"> <li>• The Ecological Clerk of Works or a Water Quality Specialist will be appointed. They will have responsibility for fulfilling the requirements of the Water Quality Management Plan, including:               <ul style="list-style-type: none"> <li>- Daily visual inspection of access roads for signs of ground damage or solids escape to nearby watercourses in vicinity of construction works</li> <li>- The ground between the structure under construction and the nearest downslope watercourse for signs of solids escape or ground damage</li> <li>- Surface water features in vicinity of construction works</li> <li>- Any pollution control measures at structures and along access roads (e.g., silt fences, drain or stream crossings etc.) for evidence of contaminated run-off or mitigation failure</li> <li>- Attendance at the critical work phases including, access road construction, foundation excavation, watercourse crossings, concrete pouring and back-filling.</li> <li>- Collection and analysis of water samples at a number of monitoring locations (i.e., upstream &amp; downstream of the 5 no. instream work locations) before, during (if potential pollution visually identified) and after construction works at that location.</li> <li>- EPA Q Value Biological Monitoring at monitoring locations (i.e., upstream &amp; downstream of instream construction work locations) before and after construction works.</li> </ul> </li> </ul>
Archaeological Clerk of Works	<p>The main roles of the Archaeological Clerk of Works (licenced) are as follows:</p> <ul style="list-style-type: none"> <li>• Maintain regular liaison with the Project Site Manager, Project Manager, Ecologist and Ecological Clerk of Works as appropriate.</li> <li>• Maintain liaison with officers of the Planning Authority, specifically the Council Archaeologist and Planning Officers as appropriate.</li> <li>• Where applicable apply for licence application; the Minister for Dept of Culture Heritage and Gaeltacht can approve and issue a licence under Section 26 of the National Monuments Act 1930.</li> <li>• Facilitate compliance with planning conditions and agreed Archaeological Programme of Works.</li> <li>• Demarcate any archaeologically sensitive areas and set up exclusion zones as required on site.</li> <li>• Immediately notify the relevant authorities in the event of the discovery of archaeological finds or remains and suspend works in the immediate</li> </ul>

Position	Roles and Responsibilities
	<p>area pending consultation. Allowance will also be made for full archaeological excavation if required.</p> <ul style="list-style-type: none"> <li>• Complete a full report for submission to the Planning Authority and the Department of Arts, Heritage and the Gaeltacht on completion of the works.</li> </ul>
<p>Geotechnical Clerk of Works or Appointed Geotechnical Consultant</p>	<p>The Geotechnical Clerk of Works will be responsible for preparation and monitoring of a geotechnical risk register as well as specific duties relating to geotechnical issues as they may arise during site construction works. Soil instability and the potential for slide even can have a significant impact on environmental receptors. In completing the geotechnical risk register, the Geotechnical Clerk of Works will work with the Contractors to identify suitable mitigation and monitoring methods. Where possible, construction works will avoid causing change to local hydrological and hydrogeological flow patterns and water levels.</p>
<p><b>Contractors Appointments</b></p>	
<p>Construction Manager</p>	<p>[The Contractors is required to specify roles and responsibilities for each individual below]</p>
<p>Site Agent</p>	<p>[To Be Confirmed]</p>
<p>Foreman</p>	<p>[To Be Confirmed]</p>
<p>Other Nominated Person(s)</p>	<p>[To Be Confirmed]</p>

Environmental Management Group will meet monthly and will comprise the ECoW, Environmental Manager and other site representatives from the Employer and Contractor who have a role on the Site Management. Advice will be provided as required from specialist consultants.

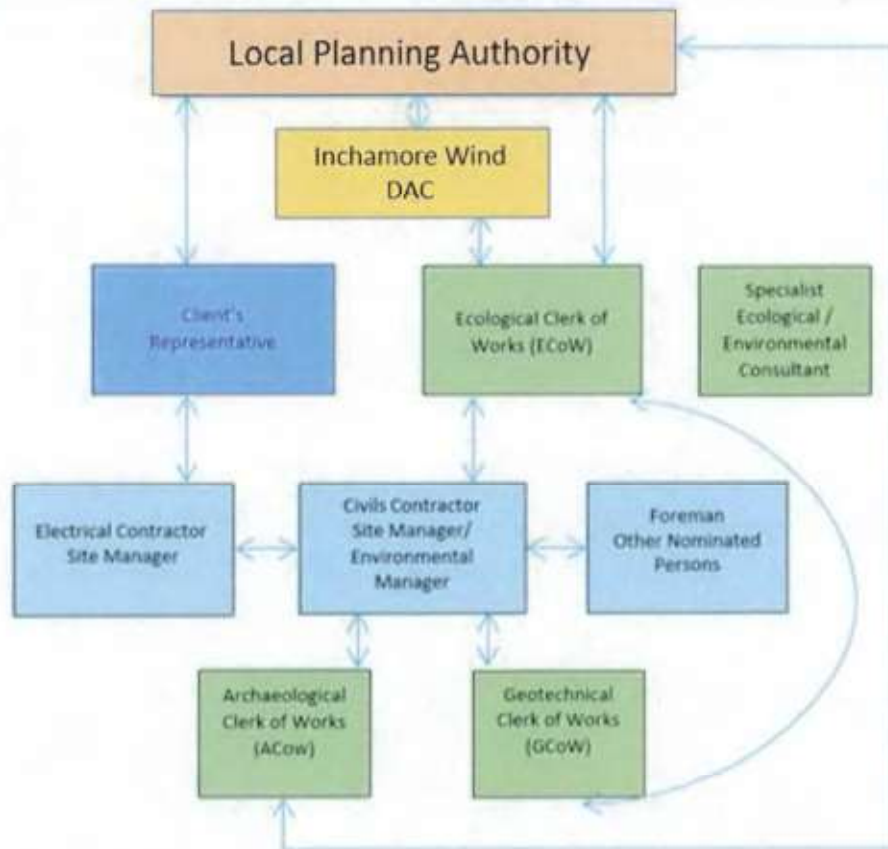


Figure 4.1 General Communication Plan

**4.6 Training, Awareness and Competence**

All site personnel will receive environmental awareness information as part of their initial site briefing. The detail of the information will be tailored to the scope of their work on site. This will ensure that personnel are familiar with the environmental aspects and impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures.

The CEMP will be posted on the main site notice board during the Development. The environmental performance at the Site will be on the agenda of the monthly project management meetings for the Development. Elements of the CEMP will be discussed at these meetings including objectives and targets, the effectiveness of environmental procedures etc. Two-way communication will be encouraged by inviting all personnel to offer their comments on environmental performance at the Site.

#### 4.7 Emergency Preparedness and Response

An emergency preparedness and response procedure are required to prevent environmental pollution incidents. Suitable spill kits and absorbent material for dealing with oil spills will be maintained on-site. In the event of pollution or potential risk of pollution, Cork and Kerry County Council will be informed immediately. In the case of water pollution, in addition to Cork and Kerry County Council, Inland Fisheries Ireland will also be informed immediately. Further details in relation to emergency responses are provided at **Management Plan 1: Emergency Response Plan**.

## 5 CORRESPONDENCE, RECORDS & REPORTS

### 5.1 Requirements

The Contractors will insert / file all communication records and reports associated with Environmental Management and implementation of this CEMP under this Section 5. As a guide, the following sub-sections of filed information will be required (at a minimum):

- 5-A) Meeting minutes and attendance record
- 5-B) Weekly Environmental Reports
- 5-C) Monthly Environmental Reports
- 5-D) Environmental Checks
- 5-E) Audit Reports
- 5-F) Ecology documentation and monitoring records
- 5-G) Pollution Prevention, including a Pollution Prevention Measures Register
- 5-H) Water Quality documentation and monitoring records
- 5-I) Archaeology documentation and monitoring records
- 5-J) Ground Risk, including a Geotechnical Risk Register
- 5-K) Waste Management documentation
- 5-L) Licensing and Consents: copies of all permissions, consents, licenses and permits and related correspondence. A summary record of all such documents shall also be provided in accordance with **Table 5.1** of this CEMP.
- 5-M) General Correspondence: all other relevant internal and external communication records relating to environmental management issues and implementation of the CEMP.
- 5-N) Training Records
- 5-O) Toolbox Talk Records
- 5-P) Ecological Clerk of Works Reports

All of these documents and records will be made available for inspection in the site office. The documentation will be maintained and will be reviewed on a regular basis with revisions controlled in accordance with the site quality plan.

### 5.2 Environmental Audits

The Contractors Ecological Clerk of Works will consult and assist with the Client in evaluating compliance with applicable legislation by means of a monthly Environmental Audit. A blank Environmental Audit Report form is included in **Management Plan 1: Emergency Response Plan**. All completed audit report forms and records of corrective actions (and close outs) must be filed within this section of the CEMP.

### 5.3 Environmental Consents, Licenses & Permits

The Contractors Ecological Clerk of Works (or otherwise nominated responsible person(s)) will complete the summary record for all applicable permissions, consents, licenses and permits obtained for the Site. This record will follow the format provided in **Table 5.1**.

**Table 5.1: Record of Environmental Consents, Licenses and Permits Issued**

Consents, Licenses & Permits	Governing Legislation	Licensed Activity
<b>Pollution Control &amp; Hydrology</b>		
<b>Biodiversity</b>		
<b>Waste Management / Contaminated Land</b>		
<b>Noise / Vibration</b>		
<b>Archaeology</b>		
<b>Transport</b>		
<b>Other</b>		

### 5.4 Environmental Monitoring and Measuring

All of the mitigation measures outlined in Section 3.0 will be monitored, where applicable. The Contractors will put in place a program of monitoring for dust, noise, vibration and water sampling in accordance with the requirements of this CEMP.

Copies of all records will be maintained in the site office and will be reviewed by the Contractors.

## 5.5 **Non-Conformance, Corrective and Preventative Action**

Non-Conformance Notices will be issued where there is a situation where limits associated with activities on the Development are exceeded, or there is an internal/external complaint associated with environmental performance.

Non-Conformance is the situation where essential components of the CEMP are not met, or where there is insufficient control of the activities and processes to the extent that the functionality of the CEMP, is compromised in terms of the policy, objectives and management programmes.

Correction will be required in order to improve the identified non-conformance. The CEMP must conform to its objectives and targets and the requirements of the ISO 14001 management standard. In the event of non-conformance with any of the above, the following must be undertaken:

- Investigate the non-compliance.
- Develop a plan for correction of the non-compliance.
- Determine preventive measures and ensure they are effective.
- Verify the effectiveness of the correction of the non-compliance.
- Ensure that any procedures affected by the corrective action taken are revised accordingly.

Responsibility must be designated for the investigation, correction, mitigation and prevention of non-conformance.



## 6 MANAGEMENT PLANS & AVAILABLE INFORMATION

### 6.1 Management Plans

Various Management Plans have been prepared, as listed in **Table 6.1**. These are intended to provide a benchmark for best practice and to define Inchamore Wind DAC's minimum requirements for environmental management and mitigation.

### 6.2 Contractors Requirements

The Contractors is required to further develop the Management Plans into detailed site and works specific environmental plans, method statements and procedural documents. Table 6.1 provides a summary of the content of the Management Plans and the Contractor's obligations for their further development.

**Table 6.1: List of Management Plans**

No.	Name	Details
MP1	Emergency Response Plan	The Contractors will further develop the Environmental Response Plan. This will include procedures for dealing with containment of accidental chemical or fuel spills, potential overload of the drainage system by silt during unforeseen adverse weather conditions etc. The Contractors will prepare a Communication Plan for emergency response in the event of a spillage. Detailed procedures will be outlined in this document.
MP2	Water Quality Management Plan	The Contractors is obliged to implement the water quality monitoring proposals set out therein. The Contractors is obliged to implement the water crossing proposals set out therein.
MP3	Surface Water Management Plan	The Contractors is obliged to implement the water quality monitoring proposals set out therein. Where changes to the plan are required, the Contractors must consult with the Ecological Clerk of Works.
MP4	Peat and Spoil Management Plan	The Peat and Spoil Management Plan has estimated the volume of spoil that will be generated during the construction phase, and it

No.	Name	Details
		outlines the locations where the material can be re-used on site. The Peat and Spoil Management Plan is a live document and can be amended by the Contractors where required.
MP5	Waste Management Plan	The Contractors will further develop the Waste Management Plan. The detailed plan will specify the licensed waste facilities that will be used for the duration of the Project.
MP6	Decommissioning Plan	The Contractors will further develop the Decommissioning Plan. Where changes to the plan are required, the Contractors must consult with the Ecological Clerk of Works.
MP7	Traffic Management Plan	The Contractors will further develop the Traffic Management Plan. Where changes to the plan are required, it can be amended by the Contractors.

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## MANAGEMENT PLAN 1 - EMERGENCY RESPONSE PLAN

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**INCHAMORE WIND DAC**

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**INCHAMORE WIND FARM  
CO. CORK**

**CONSTRUCTION ENVIRONMENTAL  
MANAGEMENT PLAN  
(CEMP)**

**MANAGEMENT PLAN 1  
EMERGENCY RESPONSE PLAN**

**MAY 2023**

**Inchamore Wind DAC,**  
C/O FuturEnergy Ireland,  
27/28 Herbert Place,  
Dublin 2,  
D02DC97,  
Ireland.



**Jennings O'Donovan & Partners Limited,**  
Consulting Engineers,  
Finisklin Business Park,  
Sligo.  
Tel.: 071 9161416  
Fax: 071 9161080  
email: [info@jodireland.com](mailto:info@jodireland.com)

 **ENGINEERS  
IRELAND**  
CPD



**JENNINGS O'DONOVAN & PARTNERS LIMITED**

Project, Civil and Structural Consulting Engineers,  
FINISKLIN BUSINESS PARK,  
SLIGO,  
IRELAND.



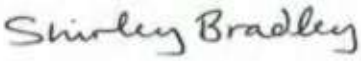

Telephone (071) 91 61416  
Fax (071) 91 61080

Email [info@jodireland.com](mailto:info@jodireland.com)  
Web Site [www.jodireland.com](http://www.jodireland.com)

**DOCUMENT APPROVAL**

<b>PROJECT</b>	Inchamore Wind Farm	
<b>CLIENT / JOB NO</b>	Inchamore Wind DAC	6226
<b>DOCUMENT TITLE</b>	Construction Environmental Management Plan (CEMP) Emergency Response Plan	

**Prepared by****Reviewed/Approved by**

Document Final	Name Shirley Bradley	Name David Kiely
Date May 2023	Signature 	Signature 

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**Directors:** D. Kiely, C. McCarthy  
**Regional Director:** A. Phean  
**Consultants:** C. Birney, R. Gillan

**Senior Associates:** R. Davis, M. Forbes, S. Gilmarin, J. Healy, S. Lee, J. McElvaney, T. McGloin, S. Molloy  
**Associates:** B. Coyle, D. Gullfoyle, L. McCormack, C. O'Reilly, M. Sullivan

Company Reg No. 149104 VAT Reg. No. IE6546504D



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## 1 INTRODUCTION

### 1.1 Why have an Emergency Response Plan?

Many construction and industrial sites intrinsically have the potential to cause significant environmental harm which could threaten water supplies, public health and wildlife in the event of an environmental incident. The aim of this plan is to see that in the event of an emergency, quick action will limit any impacts on humans and the local environment.

This response plan forms part of the conditions of work for staff, and for every contractor or sub-contractor at the site.

### 1.2 Outline of this Environmental (Incident & Emergency) Response Plan

The information contained in this plan forms the Emergency Response Plan (ERP), part of the Construction Environmental Management Plan (CEMP) for Inchamore Wind Farm.

It contains details of:

- Who should be contacted in an emergency?
- Procedures to be followed in an emergency
- Staff responsibilities in an emergency

### 1.3 What is an Environmental Incident?

This plan should be instigated once there has been an emergency or environmental incident on site or elsewhere, linked to the construction of Inchamore Wind Farm. Such an incident is a discharge to air, land or water that could cause environmental damage.

Causes of environmental incidents on this site include:

- Leaking plant or equipment
- Containment Failure
- Fire
- Land Slide
- Vandalism
- Overfilling of containment vessels
- Flooding on site
- Leaking Portaloo
- Discharge of raw or partially treated effluent

- Wind-blown waste, litter or dust
- Fuel drips or spills during refuelling
- Leak from fuel or chemical containers
- Contaminated water or sediment/silt entering a water course or drain
- Failure of pumps and pipelines
- Blade throw (results from wind turbine failure and may include the splintering of rotor blades and detachment of debris)

Any of these incidents could affect drainage systems, surface waters, aquatic ecosystems, groundwater and soil. These incidents could also affect air quality by producing toxic fumes and airborne pollutants which may damage human health, wild and domestic animals and ecosystems. The emergency procedures to be followed for each of the incidents listed above are detailed in **Section 6.1**.

#### 1.4 Reference Documents

Current legislation including the Safety, Health and Welfare at Work Act 2005 and the Safety Health and Welfare at Work (Construction) Regulations 2013, has been taken into account into the production of this Plan and will be accounted for in the further development of the Contractor's Construction Management Plan.

This plan has been developed alongside other Management Plans that form part of the Construction Environmental Management Plan (CEMP) including a:

- Water Quality Management Plan
- Surface Water Management Plan
- Peat and Spoil Management Plan
- Waste Management Plan
- Decommissioning Plan
- Traffic Management Plan

## 2 GENERAL REQUIREMENTS OF AN ERP

As mentioned, environmental incidents may include flooding, spillages (oil and chemicals), contaminated run-off, riverbed disturbance, damage to underground services, damage to habitats, poor waste disposal and storage.



This Emergency Response Plan:

- Identifies key staff and 24-hour contact details to be contacted in the event of an emergency (**Section 6.5**)
- Identifies key external bodies and emergency response numbers who should be contacted in the event of an emergency (**Section 6.4**)
- Details an Inventory of Chemical Products and Waste Inventory on Site (**Section 6.6**)\*
- Details an Inventory of Pollution Prevention Equipment (**Section 6.7**)
- Provides details of staff trained in the use of spill kits and booms etc. (**Section 6.8**)
- Provides details of reporting requirements (**Sections 6.3 to 6.9**)
- Provides detailed procedures to be followed in the event of an emergency (Sections
- Provides a Communication Plan for operatives outlining key actions in the event of an emergency (**Section 6.2**). This will be available to all operatives on site.

*\*Because of the nature of wind farm construction operations and the nature of works on site, the potential pollutants will vary.*

### 3 INCIDENT & HAZARD REPORTING

A blank Environmental Incident Report Form for reporting environmental incidents or hazards for the site is attached in **Section 6.9**. A blank Site Environmental Audit Form is attached in **Section 6.10** to record audit results. The details recorded in these forms will be regularly reviewed and will form part of the response plan procedural review.

### 4 WASTE DISPOSAL AFTER ENVIRONMENTAL INCIDENCES

If spill kits etc. are used in the event of a pollution incident, operatives need to carefully dispose of used equipment by carefully placing them in a sealed bag or container. They should then be removed from site by a licensed waste contractor as per the **Waste Management Plan**. Contaminated soil also needs to be disposed of as hazardous waste by a permit holder. This is also further detailed in the **Waste Management Plan** of this CEMP.

## 5 SITE INDUCTION AND TOOLBOX TALKS

It is imperative that all contractors, sub-contractors and staff on site are fully familiar with this emergency response plan and it will be detailed regularly in Toolbox Talks. During these talks, they will also receive regular reminders of the importance of the local environment and of the necessary environmental controls that are in place on site.

## 6 PROCEDURE AND COMMUNICATION PLAN IN EVENT OF AN INCIDENT

### 6.1 Procedures to be followed in the event of an incident:

The following procedures are intended as a guide in dealing with incidents. Health & Safety guidance should be followed at all times applying common sense and ensuring the health & safety of yourself and others:

#### 6.1.1 Spillages/Leaks/Containment Failure

1. Identify the source of the spillage and cut off source, if possible, e.g., by closing valve, righting container etc.
2. Work on site will cease and all operatives will assist in placing spill mats on the affected area. Site Manager/ Main Contact must be notified.
3. Identify where spillage may go. If spillage is near a watercourse (drainage/ditch/river) divert spillage away from the watercourse through the use of absorbent materials from the spill kit.
4. Notify all parties in the order listed in **Sections 6.4 and 6.5**. Notification should be made by one member of staff whilst remainder of staff present deal with the spill/incident.
5. Dig up all contaminated ground as soon as possible/immediately. All contaminated materials should be placed in sealed polythene bags/containers and disposed of appropriately by an appropriate licensed waste contractor.
6. Complete required record of incident and response into reporting system

### 6.1.2 Contamination of Watercourse Suspended Solids

7. If watercourse is at risk of contamination from suspended solids from a slope failure the Site Manager/ Main Contact must be notified and the following actions must be implemented:
  - a) Place straw bales wrapped in geotextile or sand/gravel bags with geotextile curtains **immediately** in the watercourse(s) at regular intervals downstream from the incident. These sand/straw bags and bales will be removed and replaced with stone filters once water quality is stabilised.
  - b) Stone check dams faced with a layer of geotextile will be constructed at critical points along the watercourse.
  - c) Small sumps will be formed intermittently between the check dams to reduce the amount of suspended solids contained in the water.

### Oil Spill in Watercourse

8. If spill has reached the watercourse the Site Manager/ Main Contact must be notified and the following actions must be implemented:
  - a) Place flexible absorbent booms across watercourse, ahead of the contamination within a quiet stretch of water.
  - b) Place absorbent cushions in the water immediately upstream of these booms as well as downstream of the booms.
  - c) Remove and replace saturated absorbent material as required. Please ensure removed cushions are placed in sealed polythene bags/containers and disposed of by the principal waste contractor.

### 6.1.3 Land Slide

9. Please see EIAR Figure 8.6 a and b Mapped Landslide Susceptibility for further detail of flow routes and storage locations for excavated materials to be re-used for reinstatement works. Where the unlikely event that the onset or actual detachment of peat (e.g., cracking, surface rippling) occurs:
  - a) All activities in the area will cease and all available resources will be diverted to assist in the required mitigation procedures.
  - b) The Site Manager/ Main Contact must be notified
  - c) All relevant authorities will be notified if a peat slide event occurs on site and this Emergency Response Plan (ERP) followed.

- d) Where peat slides do not represent a risk to a watercourse and have stopped moving, they will be stabilised using rock infill, if required. The failed area and surrounding area will then be assessed by the engineering staff and a stabilisation procedure implemented. The area will be monitored, as appropriate, until movements have stopped.
- e) Where possible, check barrages (comprises the placement of rock fill across a watercourse which allows the passage of water but will prevent peat debris from passing through) will be constructed on land using rock fill to prevent a peat slide reaching any watercourse.
- f) If peat reaches a watercourse a check barrage will need to be constructed across the watercourse preventing the peat from moving downstream. The check barrage will allow water to flow through it, but the peat will be trapped.
- g) The size of the check barrage will depend on the scale of the peat slide to be contained and the geometry of the watercourse at the location of the barrage.
- h) All measures to contain the peat slide must be approved by the Cork County Council or Inland Fisheries Ireland (IFI).

#### 6.1.4 Fire

- 10. In the unlikely event of a fire at a turbine or at the substation, all personnel on site will meet at a designated fire point and emergency services will be contacted.

#### 6.1.5 Blade Throw

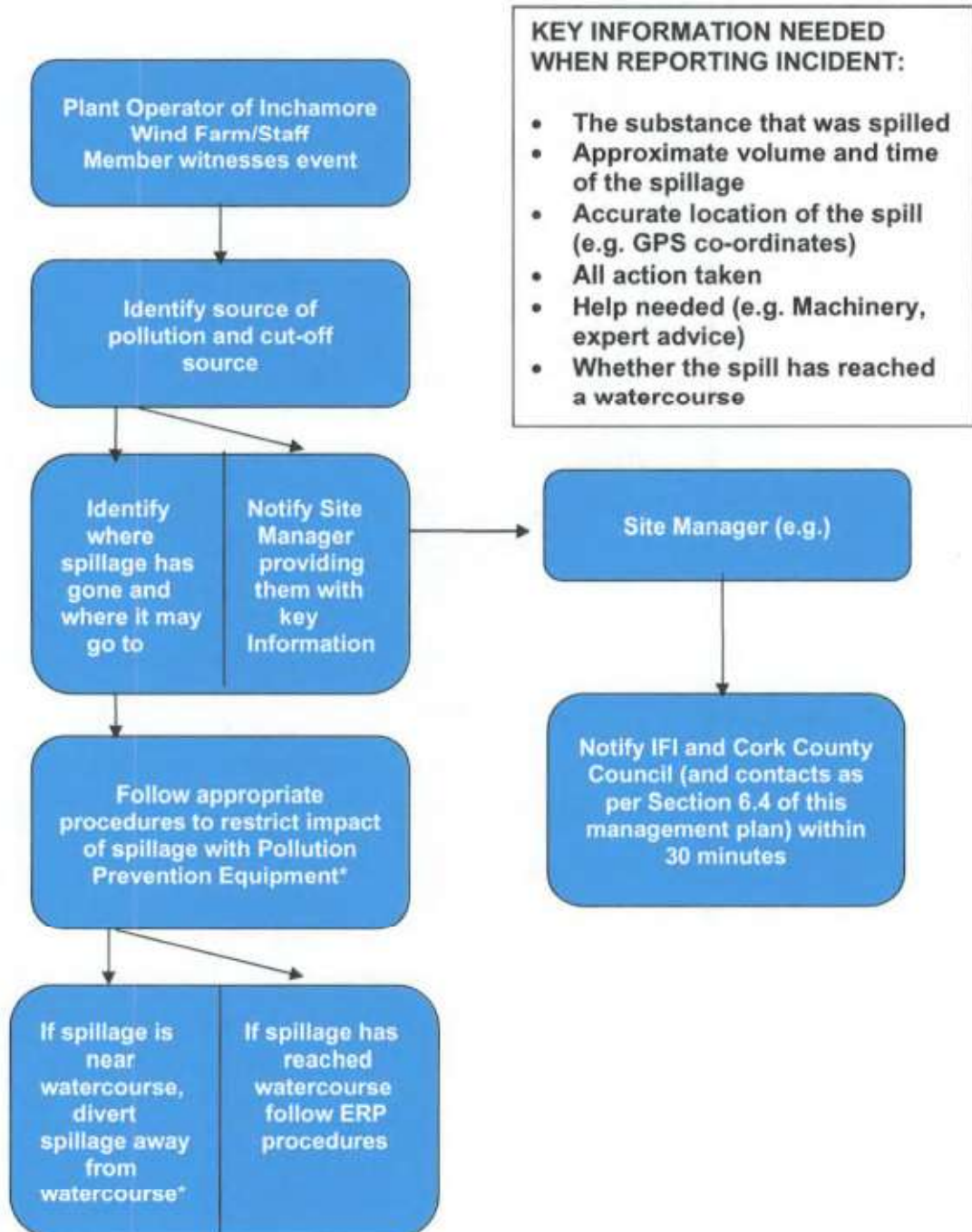
- 11. In the unlikely event of ice throw from blades, all activities in the area will cease and site personnel will stand clear of turbines where possible until they have been shut down completely.

#### 6.1.6 Vandalism

- 12. In the event of a vandalism at the site, all personnel on site will be notified and An Garda Síochána will be contacted.

## 6.2 Communication Plan

A Communication Plan (to be followed in the event of an incident) will be provided by the Contactor, in liaison with relevant stakeholders and will be included in the updated ERP prior to commencement of site development works. An outline Communication Plan is proposed below:



### 6.3 Environmental Response Plan for Inchamore Wind Farm

<b>INCIDENT RESPONSE PLAN FOR INCHAMORE WIND FARM</b> <i>Based on template provided in GPP 21 – Pollution Prevention Guidelines.</i>	
<b>Site Address:</b> Inchamore Wind Farm, Ballyvourney, Co. Cork  <b>Official Company Address:</b> Inchamore Wind DAC C/O FuturEnergy Ireland, 27/28 Herbert Place, Dublin 2, D02DC97, Ireland.  <b>KEY HOLDERS FOR SITE – NAME &amp; CONTACT NUMBERS:</b>	ITM: 516,843 E, 572,156 N  <b>Map references:</b> OSI Discovery Sheet 79  <b>Link to Map:</b>
<b>Overview of the activities on site:</b> <b>Include number of employees at different time of the day:</b>  Daylight Hours:  Dusk to Dawn:  Weekend Dusk to Dawn:  Bank Holidays:	
<b>Date &amp; Version of the plan:</b>	<b>Name &amp; position of person responsible for compiling/approving the plan:</b>
<b>Review Date</b>	<b>Date of next exercise:</b>
<b>Objectives of the plan:</b> To limit any potential harmful impact to the local environment through swift and appropriate actions in the event of an emergency.	
<b>List of external organisations consulted in the preparation of this plan with contact details</b>	
<b>Distribution list of who has received this plan and which version. Please note that it is recommended that you review and revise this plan regularly:</b>	

## 6.4 External Contacts

Contact	Office Hours	Out of Office
Emergency Services (Fire/Police/Ambulance)	999 or 112	999 or 112
<b>Local Garda Station</b> Ballyvourney	026 45002	
Local Hospital. Bantry Hospital	027 50133	
Environment Directorate, Inniscarra, Co. Cork	021 4532700	
<b>EPA</b>	053-916 0600	1850 365 121
<b>Inland Fisheries Ireland</b>	01 8842600	<b>1890 347 424 (24 hours a day)</b>
Roads Service (Blocked/Flooded Roads)	0300 2000 100	0300 2000 100
ESB- Electricity Company	01 8529534	
Telecommunications – Eircom	1800 475 475	

## 6.5 Internal Contacts

Names and position of staff authorised and trainers to activate and co-ordinate the plan.  
 Staff to be contacted if need to move or evacuate the site

Other Staff:

Managing Director		
Site Manager		
Environmental Manager		
Health & Safety Manager		

### 6.6 Chemical Product & Waste Inventory

Trade name/ substance	Solid/liquid/ gas or powder	UN number	Max amount	Location marked on site plan	Type of Containment	Relevant health & Environmental properties



**6.7 Pollution Prevention Equipment Inventory (On/Off-Site Resources)**

Type	Location	Amount	Staff contact

For example:

- Personal protective Equipment (PPE) available that should be worn
- absorbents
- drain mats/covers
- pipe blockers
- booms
- pumps
- sandbags
- silt fencing
- over drums

IF ANY OF THIS EQUIPMENT REQUIRES SPECIALIST TRAINING – STATE WHO HAS BEEN TRAINED IN ITS USE AND DATE OF TRAINING (attach evidence where possible).

**6.8 List of Staff Trained in the Use of Spill kits and Booms**

Name	Date of Training

### 6.9 Site Environmental Incident Report Form

Site		Date	
Time		Weather:	
Report By:		Position:	
Inchamore Wind Farm personnel present:		Position:	
Contractor Personnel Present:		Position:	

Description of Incident
-------------------------

Item Spilled	
Estimate of Volume of Spillage	

List of actions followed once incident was noted	Time	Corrective Action By	
		Action	By
Who first observed incident?			
First action			
Next Action			
Time Pollution Hotline was contacted			
Other			

Details of Clean-Up contractor or how contamination was removed from site:

Details of how this could be avoided in future:	
Details of review of internal procedures as result of this incident:	

DATE REPORT COMPLETED \_\_\_\_\_

### 6.10 Site Environmental Audit Form

Site:		Date:	
Time:		Weather conditions:	
Report by:		Position:	
Inchamore Wind Farm personnel present:		Position:	
Contractor personnel present:		Position:	

Item	Questions	Yes	No	Corrective Action Required	
				Action	By
<b>1. Miscellaneous</b>					
1.01	Does the contractor carry out regular internal environment audits on the site? Are recommendations recorded and is corrective action monitored?				
1.02	Have any environment incidents occurred and have these been reported as per on site procedure?				
1.03	Does the site induction contain a section on environmental requirements, including spill procedures, and is this communicated effectively?				
<b>2. Land</b>					
2.01	Are areas of hard standing (excluding bunded and refuelling areas) appropriately drained?				
2.02	Have local roads been inspected and cleaned where necessary?				
2.03	Has all test pitting and soil stripping been monitored by an archaeologist?				
2.04	Have all site clearance works been checked by an ecologist prior to works?				

Item	Questions	Yes	No	Corrective Action Required	
				Action	By
<b>3. Material and equipment</b>					
3.01	Is there knowledge of the IFI [Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016) and OPW Environmental Guidance: Drainage Maintenance & Construction (2019)				
3.02	Are transformers/ generators located in secondary containment bunds?				
3.03	Are all bunds capable of containing 110% of the volume of the largest container?				
3.04	Is refuelling carried out in a designated refuelling bay?				
3.05	Does all site drainage on hard standing drain to an oil interceptor?				
3.06	Is the designated area for oil, fuel and chemical storage appropriately sited (i.e. on hard standing at least 10m from a watercourse)?				
3.07	Are there procedures in place to monitor bund integrity and manage bund rainwater levels?  Are these followed and recorded?				
3.08	Is there awareness that oil or residue from contaminated water removed from bunds should be disposed of as special waste and not discharged to land or the water environment? (oil absorbent materials (pads etc.) should be used first)				
3.09	Are all drums and mobile plant (e.g. generators) placed on drip trays more than 10m from any watercourse?				
3.10	Is all plant maintained in a good state of leaks? Are there records of this?				
3.11	Are there adequate spill kits available and stored in close proximity to potential risks?				
3.12	Are all refuelling browsers double skinned, locked when not in use, and in a good state of repair?				
3.13	Is there evidence of unmanaged/ unrecorded fuel / oil spillages on site?				
3.14	Are dry or wet wheel washing facilities fully operational and effective?				
3.15	If wet wheel washing facilities are required, are these closed systems				

Item	Questions	Yes	No	Corrective Action Required	
				Action	By
	with no discharge to the water environment?				
3.16	Are there laboratory certificates (accredited by the Irish National Accreditation Board) to confirm that imported material stone aggregate brought onto site is free from any contamination?				
<b>4. Noise, Dust and Light</b>					
4.01	Are there facilities to dampen stockpiles and site working areas/roads to suppress dust?				
4.02	Are vehicles carrying loose material sheeted at all times?				
4.03	Are construction works, or deliveries of materials to and from the development, audible at noise sensitive premises?				
4.04	Has all external construction lighting received the approval of the planning authority?				
<b>5. Waste</b>					
5.01	Is the site tidy and free from litter?				
5.02	Is there evidence of waste beyond the site boundary?				
5.03	Is waste segregated and kept securely in containers in clearly designated areas?				
5.04	Does all waste leaving the site have the appropriate duty of care paperwork?				
5.05	Is all waste leaving the site being taken to an appropriately licenced site?				
5.06	Does all special/ hazardous waste (e.g. oil contaminated soils, waste oil) have the appropriate Special Waste Consignment Note?				
5.07	Is material re-used/recycled on site where possible?				
5.08	Are waste management practices in line with the site waste management plan?				
5.09	Are relevant Waste Management Exemptions in place for use of waste on site (e.g. use of waste concrete to create foundation sub-base)?				
5.10	Is there any evidence of burning on site?				

Item	Questions	Yes	No	Corrective Action Required	
				Action	By
5.11	Is there any evidence of unlicensed burial of waste?				
<b>6. Water</b>					
6.01	Do all discharges to land or watercourses have appropriate authorisation from Local Authorities /IFI?				
6.02	Does all watercourse engineering (bank protection, crossing etc.) have the appropriate authorization from Local Authorities / IFI?				
6.03	Do any abstractions from a watercourse or groundwater body have the appropriate authorization from Local Authority / IFI?				
6.04	Has confirmation for the SUDS design for access roads been gained from Local Authority / IFI?				
6.05	Are cut-off ditches installed on the uphill side of the working area to avoid contaminated surface water run-off?				
6.06	Have field drain been diverted where necessary?				
6.07	Is adequate treatment (e.g. settlement tank/lagoons/discharge to land) provided to prevent silt contaminated water entering watercourses and groundwater?				
6.08	Has vegetation removal/ clearance of the site been minimised to avoid unnecessary areas of bare ground?				
6.09	Have buffer-strips been left between working area and watercourses?				
6.10	Is plant operating in the watercourse?				
6.11	Have all culverts been installed at the base of stockpiles situated within close proximity to watercourses?				
6.12	Have silt fences been installed at the base of stockpiles situated within close proximity to watercourses?				
6.13	Are there adequate controls on site construction roads to minimize sediment runoff into watercourses (in particular, are there adequate flow attenuation measures within surface drain)?				
6.14	Are there any sign of decaying straw bales in water courses? (this could lead to organic pollution of the water course)				



Item	Questions	Yes	No	Corrective Action Required	
				Action	By
6.15	Are silt traps regularly maintained?				
6.16	Has ease of maintenance been considered in the design of permanent drainage features?				
6.17	Is there evidence of contamination of any watercourse (e.g. with oil, sediment, concrete, waste) in the vicinity of the works?				
6.18	Is monitoring of potential impacts on watercourses carried out on a regular basis and fully recorded?				
6.19	Are dewatering operations being carried out in such a way to minimise sediment contamination?				
6.20	Is drainage and run off in concrete batching areas adequate?				
6.21	Are adequate pollution prevention measures considered and put in place during concrete pours?				
<b>7. Landscape</b>					
7.01	Have earthworks been designed to promote successful re- instatement of vegetation?				
7.02	Are reinstatement and restoration works being implemented in a timely manner as per the requirements of the Contract?				
<b>8. Ecology</b>					
8.01	Have storage sites (soil, plant etc.) been sited on areas of lower quality habitat where possible?				
8.02	Is the ECoW a member of the institute of Ecology and /or Environmental management as required by planning conditions?				
8.03	Have buffer zones been constructed and maintained around designated protected species exclusion areas (e.g. red squirrel dreys, water vole habitats, otter holts, badger holts etc.)?				
8.04	Have toolbox talks on the subject of ecology and environmental responsibilities on site been delivered?  Have attendance record been maintained for these?				

Item	Questions	Yes	No	Corrective Action Required	
				Action	By
<b>9. Documentation Check</b>					
9.01	Start-up meeting record				
9.02	Full contacts list in Section 3, Table 3.0 of CEMP				
9.03	Induction records				
9.04	Pollution Prevention Measures Register				
9.05	Geotechnical Risk Register				
9.06	Weekly meeting minutes				
9.07	Records of environmental checks and routine monitoring of mitigation measures				
9.10	Water Quality Monitoring Results				
9.11	Safety and Environmental Awareness Reports (SEARs). Filed and entered on database?				
9.12	Safety and Environmental Audit Reports for the site.  (If yes, insert date of last audit )				
9.13	Contractor's Environmental Plans (or Construction Method Statements):				