Kilmannock Battery Storage Ltd

Construction Environmental Management Plan

Great Island, Kilmokea, Co. Wexford

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IE CONSULTING
WATER-ENVIRONMENTAL-CIVIL

Construction Environmental Management Plan

Client: Kilmannock Battery Storage Ltd

Location: Great Island, Kilmokea, Co. Wexford

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Contents

Appendices

Appendix A. Drawings

Appendix B. Typical Wheel Wash Details

1. Introduction

IE Consulting was requested by Entrust Planning and Environmental, on behalf of Kilmannock Battery Energy Storage Ltd, to undertake a preliminary planning stage Construction Environmental Management Plan (CEMP) for a proposed development at Great Island, Co. Wexford.

The development as proposed comprises the construction of an electrical infrastructure installation and associated underground grid connection (UGC) on lands within the townland of Great Island measuring approximately 2.58Ha./25812 square metres in overall area. The installation would consist of an 110kV tailfed substation and underground grid connection measuring approximately 838m in overall length. The 110kV substation would consist of an 110kV transformer; house transformer; disconnect, individual current and voltage transformers, combined current/voltage transformer, surge arrestors; circuit breakers and cable sealing end; a blastwall measuring 8.00m in overall height; 4no. lightning masts measuring 18.00m in overall height; palisade fencing measuring 2.60m in overall height; pole-mounted security cameras and lamp posts. An Eirgrid substation building with an overall footprint of approximately 180.00sqm and overall height of 4.20m would be located at the western end of the substation area. An IPP substation with an overall footprint of 132sqm and height of overall 4.20m would be located at the eastern end. The typical UGC installation would consist of standard ESB ducting details of the following 1no. trench (0.82m wide; 1.31m deep) measuring approximately 838m in overall length to carry 3no. 160mm power ducts and 2no. communication ducts and an ECC duct, connecting the proposed substation to an existing 110kV Eirgrid substation at Great Island. The typical trefoil trench will need to be adapted to a flat formation to accommodate for any service crossings encountered along the route. A typical width of trench for a flat formation trench would be approx. 1.60m with varying depths. A temporary construction compound would be constructed within the site boundary for construction phase of the development, after which it would be removed.

The purpose of this CEMP is to identify and define the specific environmental aspects of the project, the measures that are to be put in place and the procedures to be followed for the duration of the works. The CEMP assesses key environmental features, including water, noise, ecology, dust and the potential of pollution during the construction and decommissioning phases of the development, and identifies potential pollution receptors and proposes suitable mitigation measures as necessary.

This CEMP has been undertaken in consideration of the following guidance documents:-

'CIRIA C532 – Control of Water Pollution from Construction Sites – Guidance for Consultants & Contractors' – CIRIA-2001'

Section 4 of this CEMP outlines the potential sources of pollution with *Section 5* identifying the potential receptors.

Section 6 details the Construction Plan for the site incorporating an inspection schedule to be implemented at pre-construction stage, construction stage and post construction stage.

Section 7 details the Decommissioning Phase for the site.

2. Proposed Site Description

2.1. General Hydrological, Hydrogeological and Ecological Setting

The site of the proposed development is located at Great Island, Co. Wexford.

The proposed development site is bounded to the north by an area of undeveloped land and the Rosslare to Wexford railway line, to the east and south-east by agricultural lands and to the south-west and west by the Great Island Power Station facility site. The total area of the site of the proposed development is approximately 2.58 hectares.

The location of the site of the proposed development is illustrated on *Figure 1* below and is shown on *Drawing Number IE2816-001-C, Appendix A*.

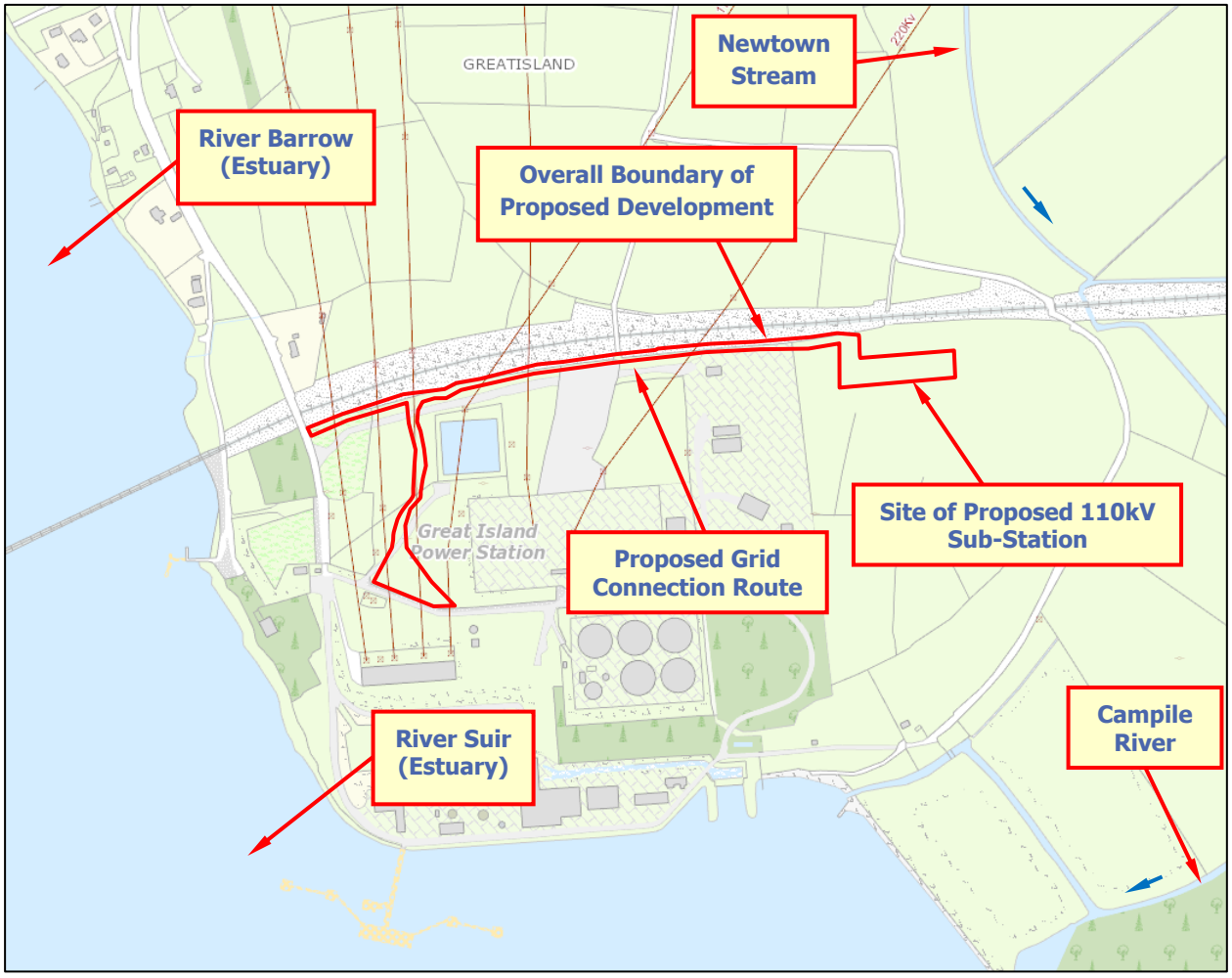


Figure 1 – Site Location

As illustrated in *Figure 1* above, the most immediate and significant hydrological features in the vicinity of the site of the proposed development are the River Barrow Estuary, which flows in a north to south direction approximately 253m beyond the western boundary of the site, the River Suir Estuary, which flows in a north to south direction approximately 255m beyond the western boundary of the site, the Campile River, which flows in an east to west direction approximately 914m beyond the southern boundary of the site and the Newtown Stream, which flows in a north to south direction 132m beyond eastern boundary of the site.

The catchment area of the River Barrow Estuary was delineated and found to be approximately 3,025km^2 to a point downstream of the site. An assessment of the River Barrow Estuary upstream catchment area indicates that the catchment is predominantly rural in nature with the urban fraction in the upstream catchment area accounting for 1.6% of the total catchment area.

The catchment area of the River Suir Estuary was delineated and found to be approximately 3,520km^2 to a point downstream of the site. An assessment of the River Suir Estuary upstream catchment area indicates that the catchment is predominantly rural in nature with the urban fraction in the upstream catchment area accounting for 0.8% of the total catchment area.

The catchment area of the Campile River was delineated and found to be approximately 28.213km^2 to a point downstream of the site. An assessment of the Campile River upstream catchment area indicates that the catchment is predominantly rural in nature with the urban fraction in the upstream catchment area accounting for 0.1% of the total catchment area.

The catchment area of the Newtown Stream was delineated and found to be approximately 7.173km^2 to a point downstream of the site. An assessment of the Newtown Stream upstream catchment area indicates that the catchment is predominantly rural in nature with the urban fraction in the upstream catchment area accounting for 0.1% of the total catchment area.

There are no other significant natural fluvial watercourses or hydrological features mapped within or immediately adjacent to the boundary of the site.

The bedrocks underlying the location of the proposed development are part of the Campile Formation that are characterised as Rhyolitic volcanic grey and brown slates, which comprise bedrock aquifers that are classified as Regionally Important Aquifer-fissured bedrock. Regionally Important Aquifer-fissured tend to comprise bedrock which is cable of supplying regionally important abstractions.

The GSI classifies vulnerability of the bedrock aquifer underlying the location of the proposed development as ranging from Extreme (E) to Extreme (X) vulnerability. Groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Where the subsoil thickness is 0-3 m, the vulnerability is rated as Extreme (depending on the nature and thickness of the subsoil).

A detailed map of all of the hydrological features at and in the immediate vicinity of the proposed development site is presented on *Drawing Number IE2816-CEMP-102-B, Appendix A*.

There are no significant sensitive hydrogeological or groundwater features or resources within or in the immediate vicinity of the sites of the proposed development, such as public or group groundwater supply sources. Existing properties in the vicinity of the proposed development are supplied either via public mains supply or via individual private wells.

Mitigation measures are discussed in *Section 6* of this CEMP to ensure that there are no adverse negative negative impacts on the existing hydrological, hydrogeological and ecological features within and in the vicinity of the sites of the proposed development. This CEMP is primarily presented in consideration of the the proposed 110kV substation development site. The proposed grid connection route is not located adjacent to any surface watercourses and does not transfer any surface watercourses, therefore it is considered specific CEMP requirements relative to the proposed grid connection works are not required.

In addition to the mitigation measures listed in this CEMP, the project shall incorporate and adopt all mitigation measures listed in the accompanying Ecological Impact Statement (Moore Group Environmental Services – September 2023).

2.2. Proposed Construction Programme – Sequencing of Work

The proposed 110kV Substation development will consist of the construction of the following;

- Route preparation and clearance (only where necessary);
- Widening of site entrance and access road (only where necessary);
- Construction of internal access road;
- Construction of Stone Areas;
- Site preparation and clearance (only where necessary);
- Erection of security fencing/perimeter fencing and CCTV;
- Setting up a secure construction compound within the development site;
- Setting up low voltage feed to construction compound;
- Trenching, ducting and DC cable laying;
- Construction of 110kV Substation Building
- Installation of 110kV Substation;
- Backfilling trenching;
- Commissioning and testing;
- Decommissioning and Site restoration.

2.3. Project Operational Lifespan

The proposed development is anticipated to have an operational lifespan of approximately 40 years. Following this lifespan there are two possible scenarios that can be considered, subject to gaining the relevant approvals and agreement from the appropriate parties and regulatory authorities;

1. The infrastructure may be upgraded or replaced and continue operation for a further specified timeframe;
2. The infrastructure may be left in-situ for future development, as the technology advances, at a future unknown date, or alternatively;
3. The infrastructure will be decommissioned and the site will be restored and rehabilitated.

3. Objectives

The objective of this preliminary CEMP is:

- To identify the specific environmental aspects of the project and implement specific mitigation measures, environmental controls and procedures to be followed for the duration of the construction works;
- To provide detailed proposals for site restoration following the decommissioning of activities at the sites of the proposed development.

4. Potential Sources of Pollution

The potential sources of pollution which may arise during the construction phase of the proposed development are summarised below:-

Construction Phase

- Stripping of overburden material within the proposed areas of site works, the construction compound and to create an access route within the development site; Stripping of overburden is to be kept to the very minimum.
- Cut and fill earthworks within the area of the proposed 110kV Substation
- Stockpiling of minimal volumes of overburden material (sub-soils, gravel, etc.);
- Excavation works for construction of foundations and trenches for the laying of ducts and cables;
- Stockpiling of specific building materials (sand, crushed stone, etc);
- Concreting works;
- Construction equipment on-site (fuel, leaks, etc);
- Storage of fuel on-site;
- Vibration, from the machinery (excavation and construction equipment).

Operational Phase

- On-going maintenance and management of the 110kV substation facility;
- Clearing areas within the site (vegetation);
- Storage of materials on-site (spare parts, etc);
- Inspection and Maintenance of 110kV substation facility;

Decommissioning and Restoration

The proposed development will consist of the decommissioning and site restoration of the following;

- Disassembling of substation and other electrical equipment;
- Breaking up of any concrete foundations and removal from site;
- Excavation works for construction of trenches for the removal of poles, ducts and cables;
- Backfilling trenching;
- Removal of security fencing/perimeter fencing;
- Removal of CCTV poles and cameras;
- Reinstate access route or road not required for other use to original conditions;
- Setting up a secure compound within the development site for the duration of the decommissioning phase for temporary storage – to be fully restored or remediated when the decommissioning of the facility is complete;
- Site restoration, landscaping and re-vegetation as required.

Decommissioning activities, particularly the removal of project components and materials could cause environmental effects similar to those of the construction phase. The Decommissioning phase of the facility is discussed in more detail in *Section 7 below.*

5. Potential Pollution Receptors

In consideration of the proposed 110kV substation development site and existing topography at the location of the proposed works, the primary and most immediate potential hydrological and hydrogeological pollution receptor is the underlying groundwater aquifer.

No other receptors such as turloughs or sinkholes were identified or are mapped within or in the immediate the vicinity of the proposed development site.

The proximity of residential properties to the proposed development site is considered to be the primary potential noise pollution receptors.

6. Pre-Construction Pollution Mitigation Measures & Environmental Control

Construction of the proposed 110kV substation development is envisaged to commence once final planning permission has been obtained. The proposed total construction duration is approximately 16 months.

An Environmental Clerk of Works (ECoW) will complete routine inspections and monitoring of all construction activities and oversight of the mitigation measures in the EMP to ensure environmental compliance. A key function of the ECoW will be to provide first-hand onsite identification, direction for intervention and immediate resolution of environmental issues as they arise

A project ecologist will prepare subject specific management plans e.g. Surface Water Management Plan.

Reporting of all monitoring will be retained onsite with the Main Contractor or ECoW, or with the responsible specialist consultant.

The proposed potential pollution mitigation measures outlined below shall be implemented in accordance with;

- *'CIRIA C532 – Control of Water Pollution from Construction Sites – Guidance for Consultants & Contractors' – CIRIA-2001.*
- *'CIRIA C648 – Control of Water Pollution from Linear Construction Projects – Technical Guidance – CIRIA 2006'*
- *Waste Management Act, 1996*
- *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects. 2006*

6.1. Pre-Construction Pollution Mitigation Measures

Prior to the undertaking of any construction works associated with the proposed 110kV development the following pollution mitigation measures shall be implemented:-

6.1.1. Temporary Construction Works Compound and Designated Storage Areas

A temporary construction works compound with designated areas for the storage of building materials (sand, cement, additives, etc.), plant machinery and for delivery of materials shall be provided within the overall 110kV substation development site.

The general location of the temporary construction works compound is illustrated on *Drawing Number IE2816-CEMP-102-B, Appendix A.*

The proposed layout and general arrangement of the temporary construction works compound is illustrated on *Drawing Number IE2816-CEMP-104-A, Appendix A.*

The temporary works compound area shall be temporarily re-surfaced by placing a geotextile membrane onto the existing surface onto which a 200mm hardcore surface shall be placed. All hardcore surface areas shall be underlain by a simple drainage system that shall divert and discharge any surface water runoff to a drainage outfall point as illustrated on *Drawing Number IE2816-CEMP-104-A, Appendix A*. A small temporary 0.5m wide x 0.5m high earthen bund shall be formed along the boundary of the works compound.

The location of the temporary works compound is proposed as it allows for easy access to the site with minimum disruption to the nearby commercial operations.

As illustrated on *Drawing Number IE2816-CEMP-104-A, Appendix A*, the following elements and designations shall be contained within the temporary construction work compound:-

- Diesel generator;
- Temporary site office – Portakabin or similar;
- Employee Parking;
- Portaloo' type toilet facilities with suitable welfare and washing facilities. Any wastewaters generated from the construction works compound shall be discharged to self-contained storage tanks and shall be removed via a licenced contractor to a suitable wastewater disposal facility. No wastewaters generated within the works compound shall discharge to surface watercourses or to ground;
- Bunded re-fuelling area. It is not proposed to store any fuel, oils or chemicals within the construction works compound areas or any other area within the site. Where re-fuelling of plant or machinery is required fuel will be delivered to site via a standard commercial fuel vehicle or a mobile fuel browser. Re-fuelling shall only be undertaken within the designated bunded re-fuelling area;
- Potable water supply to site office and welfare facilities to be provided by temporary on-site potable water storage tanks. A water tanker to supply water used for other purposes;
- Designated areas for gravel, subsoil, topsoil and sand stockpiling;
- Contractor lock-up facility;
- Wheel Wash System. As illustrated on *Drawing Number IE2816-CEMP-004-A, Appendix A,* a vehicular wheel wash system shall be installed at the main ingress and egress point to the construction works compound. All commercial vehicles entering and existing the works compound shall pass through the wheel wash system;
- The wheel wash system shall be a self-contained and recycling system – there shall be no discharge from the wheel wash system to any receiving watercourse or any other location within the site. Typical examples of the proposed wheel wash system are presented in *Appendix B*.

The above mitigation measures associated with the construction works compound shall remain in place until completion of all construction and commissioning works and shall be inspected on a regular basis by the on-site ecological supervisor.

6.2. Construction Stage Environmental Mitigation Plan

The construction of the 110kV substation facility and associated 110kV underground grid connection forms part of a wider electrical infrastructure installation comprising a 110kV Battery Energy Storage System (BESS) and 38kV BESS, substation and underground grid connection that are subject to different consent regimes. Engineering and landscaping works to prepare the site in its entirety were submitted to Wexford County Council under planning application Ref. 20231294.

6.2.1. Site Preparation Works

The site of the proposed 110kV substation facility currently slopes moderately from south-west to north-east. In order to provide suitable level ground platforms for the construction of the 110kV substation facility it is proposed to undertake cut and fill earthworks within the boundary of the site. The specific details of the proposed cut and fill earthworks are presented on the drawings and details prepared by TLI Group and submitted to Wexford County Council under planning application Ref. 20231294. Construction mitigation was submitted as part of this application. To avoid overlapping of grants of planning permission and any planning conditions arising, site preparation works have been limited in this application to those necessary for construction of the 110kV substation compound. The main elements of the construction stage works and proposed construction stage pollution mitigation measures and environmental controls are summarised below.

6.2.2. Existing Site Entrance and Internal Access Road

The proposed 110kV substation development will involve the construction of a 5m wide access road and entrance to the substation compound. The access road works will consist of excavation works and the construction of tarmac road surfaces. In consideration of the access road works, excavated subsoil material arising from the formation base of the road is expected to be inert in nature and where required will be utilised for general landscaping works within the overall site boundary.

Any excess subsoil material that cannot be utilised or reused within the site shall be disposed of at suitable licenced facility. Excavated subsoil material shall be inspected by the on-site ecological supervisor.

Any surface water runoff from the access road shall discharge to stoned areas.

6.2.3. 110kV Substation Building

As illustrated on the layout drawings the 110kV substation building structure shall primarily be onto a concrete base placed above existing ground levels. The concrete base shall be supported on a 0.25m deep compacted hardcore formation base that shall be constructed below existing ground levels.

In consideration of the switchgear and control room building works, the total volume of excavated subsoil material arising from the formation base of the structure will be approximately 45m^3.

It is expected that this subsoil material will be inert in nature and where required will be utilised for general landscaping works within the overall site boundary. Any excess subsoil material that cannot be utilised or reused within the site shall be disposed of at suitable licenced facility. Excavated subsoil material shall be inspected by the on-site ecological supervisor.

Concrete and cements required for the construction of the structure shall be brought to site by an external supplier as and when required. No mixing or production of concrete or cements shall take place on-site.

6.2.4. IPP Building

As illustrated on the layout drawings the IPP building structure shall primarily be constructed onto a concrete base placed above existing ground levels. The concrete base shall be supported on a 0.25m deep compacted hardcore formation base that shall be constructed below existing ground levels.

In consideration of the switchgear and control room building works, the total volume of excavated subsoil material arising from the formation base of the structure will be approximately 33m^3.

It is expected that this subsoil material will be inert in nature and where required will be utilised for general landscaping works within the overall site boundary. Any excess subsoil material that cannot be utilised or reused within the site shall be disposed of at suitable licenced facility. Excavated subsoil material shall be inspected by the on-site ecological supervisor.

Concrete and cements required for the construction of the structure shall be brought to site by an external supplier as and when required. No mixing or production of concrete or cements shall take place on-site.

6.2.5. Trenching Methodology

This method of laying cables involves the excavation of a trench. Initially the trench width will be marked with line marking spray paint, for the areas where the cables are to be placed. The width of the trench vary depending on the number of cables running in parallel - it is anticipated that the width of the trench will range from 500mm to 1250mm.

To avoid extensive portions off ground being excavated at one time, a method of cut and cover will be used, whereby section by section of the site will be excavated; the cables are put in place; the trench backfilled, at a time.

A small excavator will be required to excavate a trench of depth 600mm. The topsoil (top 150mm) will be kept separate from other subsoil material. The excavated soil material can be temporarily placed along the side of the trench, the topsoil on one side of the trench and the other subsoil material on the other side of the trench.

The trench is then lined with a 100mm layer of sand, the cables are then placed along the trench, an additional 100mm layer of sand is used to cover the cables and then the trench is backfilled with the previously excavated material, first the subsoil material and finally the topsoil.

Any disturbance to the soil will require adequate backfilling and grading to match the contours of the surrounding land. If necessary the area will be reseeded or re-vegetated appropriately. Any surplus soil material will be removed to a designated storage area within the construction compound.

Care will be taken close to any watercourses. No excavated material will be placed near or within the buffer zone allocated to the Newtown Stream. This will prevent material or water runoff from entering the watercourse.

A minimum 15m buffer zone from defined natural watercourses will be maintained within the boundary of the site for any trenching and cabling works.

6.2.6. Dust Minimisation

- Overburden material shall only be stockpiled within a designated construction works compound area. This area is located beyond and is sufficiently distant from the Newtown Stream watercourse. Separate stockpiles will be designated for different materials.
- Stripped overburden material that is to be temporary stored shall be stockpiled to no more than 2m in height, to ensure anaerobic conditions do not occur and that the soil will remain fertile and capable of being re-seeded. All stockpiles on site will be covered with a waterproof cover to prevent mobilisation of the stockpile material.
- Excavated material arising from the construction of the existing access road widening, transformer enclosures, and internal access tracks will be temporarily stockpiled in the designated storage area for reuse within the site or appropriately categorised in accordance with the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a licensed waste facility.
- Building materials (crushed stone, sand, etc) shall only be stockpiled within a designated area at the proposed temporary construction compound within the proposed site boundary and laid out to minimise exposure to wind. Sand and other aggregates will be stored in bunded areas and will not be allowed to dry out, unless this is required for a particular process. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. Bulk cement and other fine powder materials will be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

- No concrete production will take place on-site due to the sensitivity of the watercourses in the vicinity of the works. Concrete will be supplied to the site using ready mix lorries. No washing down of lorries or any other construction vehicles shall take place on-site.
- Where possible, concrete will be carefully placed by the use of a hydraulic pump to minimise the risk of concrete spillages. The ends of pump hoses will be secured during concreting to prevent the discharge hose accidentally depositing concrete away from the pour site.
- The delivery point for concrete will be within the bunded designated area. This will prevent potential concrete spillage from truck mixers contaminating the ground and leaching out into the groundwater. Compressors or generators used for connecting operations will be fitted with drip trays to collect fuel and oil spills that might otherwise contaminate the groundwater and lead to pollution of the watercourses.
- Concrete delivery vehicles will be precluded from washing out at or in the environs of the works, or at such location as would result in a discharge to surface waters.
- Site roads will be regularly cleaned and maintained as appropriate.
- Dry sweeping of large areas is to be avoided.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads will be restricted to essential site traffic only.
- Any road with the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- Vehicles using site roads will have speeds restricted where there is a potential for dust generation.
- Vehicles delivering material with dust potential to an off-site location will be enclosed or covered with tarpaulin at all times to restrict the escape of dust
- Access gates will be located at least 10m from receptors.
- Public roads outside the site will be regularly inspected for cleanliness, and cleaned as necessary. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
- Inspection of onsite haul routes for integrity and instigation of necessary repairs to the surface will be effected as necessary. A record will be kept of all inspections of the haul routes and any subsequent action in a site log book.

6.2.7. Control of Noise

- Environmental Noise arising from activities on site will be controlled in accordance with the requirements of *British Standard BS5228* (refer to accompanying Noise Assessment Report which accompanies this planning application).

- The following noise control measures for generated noise shall be implemented during the construction works:
    a. The hours of construction will be subject to the requirements and prior agreement with Wexford County Council.
    b. All contractors will ensure that the plant and construction methods employed are the quietest available for the required purpose insofar as practicable.
    c. Engines, vehicles and equipment will be switched off when not in use.
    d. Machinery having rotating parts will be serviced according to supplier recommendations to prevent friction induced sound.
    e. Site roads will be maintained in a clean condition and the site speed limit of 15 km/hr will be strictly adhered to.
    f. Materials should be lowered, not dropped, insofar as practicable and safely.
    g. Use of enclosures and screens around noise sources.
    h. Liaison with the public

6.2.8. Protection of Soil, Surface Waters and Groundwater During Construction Stage

- All liquids, solids and powder containers will be clearly labelled and stored in sealable containers;
- All liquid and hazardous material will be stored in a designated and temporarily bunded area with appropriate signage. The temporary bunded area shall be located within the designated storage area located in the southern area of the site.
- There will be no discharge of effluent to groundwater or surface water during the construction phase. All wastewater from the construction facilities will be stored before removal off site for disposal and treatment – temporary portable toilet facilities only shall be used at the site.
- Spill kits will be provided in areas where liquids are stored and refuelling area.
- Contractors will be responsible for ensuring the regular maintenance of construction plant and equipment, to prevent leaks.
- A wheel wash system shall be provided at the main site exit location. The wheel wash shall be a self-contained or recycling type system and will not require any wash waters to be discharged to receiving water bodies at the site. All sludge collected within the wheel wash facility shall be removed via a vacuum type tanker and disposed off-site to a suitable licenced facility.
- Refuelling of plant during construction will not be carried out at the location of the proposed works but instead only within a designated refuelling area within the proposed temporary construction compound, the location of which is illustrated on *Drawing Number IE2816-CEMP-002-B ,Appendix A.* Only emergency breakdown maintenance will be carried out at the location of the works. The

refuelling area will be furnished with fuel absorbent material and pads in the event of any accidental spillages.

- The fuel bowser/tank will be located on a level area in the construction compound when not in use and only designated trained and competent operatives will be authorised to refuel plant. Drip trays and spill kits will be kept available on site to ensure that any spills from vehicles are contained and removed off site. Fuels stored on site will be minimised. Any storage areas will be bunded appropriately for the fuel storage volume for the time period of the construction
- Spill kits will be available to deal with accidental spillages.
- A regular review of weather forecasts for heavy rainfall will be required and the contractor will be required to prepare a contingency plan for before and after such events.
- All materials shall be stored at the temporary compound and transported to the works zone immediately prior to construction;
- Weather conditions will be taken into consideration when planning construction activities to minimise risk of run off from site;
- If dewatering is required as part of the proposed works e.g. in wet areas, water will be treated prior discharge;
- If very wet ground must be accessed during the construction process bog mats/aluminium panel tracks will be used to enable access to these areas by machinery. However, works will be scheduled to minimise access requirements during winter months;
- The contractor shall ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts of heavy rainfall is required, and the Contractor is required to prepare a contingency plan for before and after such events;
- The contractor will carry out visual examinations of local watercourses from the proposed works during the construction phase to ensure that sediment is not above baseline conditions. In the unlikely event of water quality concerns, the Environmental Manager and ECoW will be consulted;
- Excavations will be left open for minimal periods to avoid acting as a conduit for surface water flows.
- Concrete or potential concrete contaminated water run-off will not be allowed to enter any watercourses. Any pouring of concrete (delivered to site ready mixed) will only be carried out in dry weather. Washout of concrete trucks shall not be permitted on site.
- Entry by plant equipment, machinery, vehicles and construction personnel into watercourses or wet drainage ditches shall not be permitted. All routes used for construction traffic shall be protected against migration of soil or wastewater into watercourses;
- Cabins, containers, workshops, plant, materials storage and storage tanks shall not be located near any surface water channels and will be located beyond the 50m hydrological buffer at all times.
- The delivery point for concrete will be within the bunded designated construction compound areas. Any compressors or generators used for connecting operations will be fitted with drip trays to collect any potential fuel and oil spills.

- Concrete washing of machines will take place off-site at an appropriate dedicated wash facility that will pose no threat to surface waters.
- A surface water management plan will be developed to minimise potential impacts on surrounding or downstream watercourses during construction or operation. The design of the surface water management plan will maintain the existing drainage regime as reasonably as possible. Drainage design, earthworks and environmental measures shall at all times ensure that the water quality and water levels of the on-site drainage channels are not adversely affected. Construction of the site drainage system will only be carried out during periods of low rainfall, and therefore minimum runoff rates.
- Where the removal of woody vegetation is required to facilitate the proposed development, vegetation removal will, where possible, take place outside the bird breeding season (March to August inclusive). Woody vegetation clearance will only occur during the breeding season following surveys which confirm the absence of breeding birds. In instances where nest sites are identified then clearance will not take place until the nest is vacated.

6.2.9. Protection of Flora and Fauna

There shall be on-going monitoring of wildlife in the vicinity of the construction works and any unusual species, dead species or damaged habitats should be reported immediately to the Construction Manager and/or Environmental Officer. This will be co-ordinated with the appointed Ecologist for the project.

Please refer to the accompanying NIS for further details. The spread and introduction of invasive species and noxious weeds will be avoided by adopting appropriate mitigation measures as per guidance issued by the NRA (2010) and the Irish Water Guidance (2016).

Where unexpected ecological habitats are uncovered the habitats protection protocol will be adhered to by site contractors.

Protection Protocol

This protocol is designed to ensure that ALL persons working on the construction works are fully aware of their legal obligations under the Wildlife Act 1976, as amended.

This Act affords protection to a range of wildlife in Ireland including wild birds, animals and plants. Whilst the project has received permission from the Government to proceed, this does not override certain laws that prevent wilful harm to protected species.

The following is applicable to the proposed 110kV substation development site:-

- Weather conditions shall be considered during all construction operations and no plant will enter within 100 metres of the Newtown Stream during or following heavy rain or other conditions likely to lead to large-scale or additional water flow that would carry soil or silt into the watercourses.

- Any removal of scrub, hedgerow or delimbing required will be carried out outside of the bird breeding season (1st March to 31st August inclusive).
- Contractors may discover bat roosts and if any bats are found, the Construction Manager and/or Environmental Officer are to be contacted immediately.
- Prior to arrival on site, contractor's vehicles and equipment will be thoroughly cleaned and then dried using high-pressure steam cleaning, with water >65 °C, in addition to the removal of all vegetative material. Items difficult to soak/spray will be wiped down with a suitable disinfectant (e.g. solution of 1% Virkon® Aquatic);
- Evidence that all machinery has been cleaned will be required to be on file for review by the statutory authorities. The level of evidence required of the Contractor will be actual registration plates of vehicles onsite and a register of when, how and where each of these were cleaned before they arrived on site;
- Visual inspections will be carried out on all machinery and equipment for evidence of attached plant or animal material, or adherent mud or debris. Any attached or adherent material will be removed before entering or leaving the site, securely stored (away from traffic) for removal to an appropriate waste storage area the end of the work day;
- No removed material or run-off will be allowed to enter a water body of any sort;
- Following cleaning, all equipment and vehicles will be visually inspected to ensure that all adherent material and debris has been removed manually;
- Each field vehicle must carry a 'disinfection box'. This will contain Virkon Aquatic or another proprietary disinfectant, a spraying mechanism, cloths or sponges, a scrubbing brush and protective gloves. Protective gloves must be worn when using any disinfectant solution;
- Records of supplies and cleaning of delivery vehicles will be kept and regularly inspected by the ECoW;
- Spot checks on the adequacy of cleaning will be carried out by the ECoW;
- It is recommended to apply disinfectant to the undercarriage and wheels of any vehicles used after cleaning if the vehicles have been used in streams or rivers. (This does not apply to vehicle or machinery use in wetlands or peatland areas). Disinfectants must be used strictly in accordance with the manufacturer's instructions. They must be disposed of safely and never close to open waters such as drains etc.
- For any material entering the site, the supplier must provide an assurance that it is free of invasive species;
- Ensure all site users are aware of invasive species management plan, biosecurity and treatment methodologies. This can be achieved through "toolbox talks" before works begin on the site;
- Adequate site signage, hoarding and fencing will be erected in relation to the management of non-native invasive species.

Procedure for Protection of Potential Bat Roosts

Whilst no bat roosts are expected at this location, there is a chance that bats could occupy roosts prior to the commencement of works. If bat roosts or bats are found during site clearance, works will cease and the National Parks and Wildlife Service (NPWS) will be contacted to avoid an offence being committed by disturbing a bat roost. Works will be suspended if bats are found to avoid further risk of direct harm to bats.

Landscaping with native species within the project location is suggested. This vegetation will be planted to maintain the nutrient quality of the soil and manage weed growth. The project location will be returned to its original or future anticipated land use after decommissioning.

6.2.10. Refuelling

- Construction plant and equipment shall only be parked over-night within the proposed temporary construction compound, the location of which is illustrated *on Drawing Number IE2816-CEMP-102-B, Appendix A*. Construction plant and equipment shall be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.
- Fuel will not be stored on-site for the duration of the construction phase. Fuel will only be brought to site via a mobile double skinned fuel bowser. For any liquid other than water, this shall include storage in suitable tanks and containers which shall be housed in the designated area surrounded by bund walls of sufficient height and construction so as to contain 110 per cent (110%) of the total contents of all containers and associated pipework. The floor and walls of the bunded areas shall be impervious to both water and oil. The pipes should vent downwards into the bund.
- All liquids, solids and powder containers will be clearly labelled and stored in sealable containers.
- Where contractors are required to refuel vehicles on-site, this will be carried out at the designated refuelling location by competent personnel. All refuelling areas will be on areas of hard standing at designated areas agreed by an appropriately qualified person. Spill kits will be provided in areas in all areas where liquids are stored and any refuelling areas.
- The local authority shall be informed immediately of any spillage or pollution incident that may occur on-site during the construction phase.
- All small plant will be positioned as far as practicable from watercourses. All small plant such as generators and pumps will be stood in drip trays, capable of holding 110% of their tank contents.
- All small plant will be positioned as far as practicable from the watercourses.
- Waste oils, empty oil containers and other hazardous wastes will be disposed of in accordance with the requirements of the Waste Management Act, 1996.

6.2.11. Site Tidiness & Housekeeping

- Construction works will be carried out according to a defined schedule agreed with the client and the relevant contractors, with regard to the hours of work outlined above. Any delays or extensions required will be notified at the earliest opportunity to the client and contractors;
- Contractors will ensure that road edges and footpaths are swept on a regular basis, this includes the local roadway adjacent to the northern boundary of the proposed development site;
- All contractors shall be responsible for the clearance of their plant, equipment and any temporary buildings upon completion of construction. The site will be left in a safe condition.

6.2.12. Inspection & Environmental Control & Monitoring

For the duration of the construction works a suitably qualified environmental clerk of works shall be employed to monitor the performance of prescribed mitigation measures.

The environmental clerk of works shall be independent of the main contractor and shall ensure that all proposed pollution control mitigation measures and environmental control measures are fully implemented and adhered to.

In addition, the Environmental Clerk of Works will complete routine inspections and monitoring of all construction activities and oversight of the mitigation measures in the Environmental Management Plan to ensure environmental compliance.

Regular inspections of all installed drainage systems will be undertaken, especially after heavy rainfall, to check for blockages, and ensure there is no build-up of standing water in parts of the systems where it is not intended.

A key function of the Environmental Clerk of Works will be to provide first-hand onsite identification, direction for intervention and immediate resolution of environmental issues as they arise.

Any drainage ditches within and adjacent to the boundary of the site are to be visually inspected on a bi-annual basis and additionally following the occurrence of any significant or extreme floods.

Surface water quality assessment and analysis of the Newtown Stream watercourse shall be undertaken for the duration of the construction stage and specifically following heavy rainfall events (i.e., weekly, monthly and event-based).

This shall involve the acquisition of surface water grab samples in the Newtown Stream just upstream and just downstream of the site. Surface water samples shall be sent to an accredited laboratory for analysis for the following parameters:-

BOD_5 (mg/l)

Total Suspended Solids (mg/l)

Total Petrol Hydrocarbons (TPH – mg/l)

pH

DO (mg/l)

Electrical Conductivity (S/m)

Temperature (°C)

Turbidity

It is proposed that water sampling and laboratory analysis shall be undertaken on a weekly basis for the duration of the construction stage of the project.

If any laboratory sample analysis results indicate that any of the above parameters are in exceedence of the 2009 Surface Water Regulations then all construction works shall be ceased immediately and the source of potential contamination shall be investigation. The local authority and Inland Fisheries Ireland shall also be informed if this scenario arises.

A project ecologist will prepare subject specific management plans to feed into the CEMP e.g. Invasive Species Mapping and Preparation of an Invasive Species Management Plan.

A critical early task of the CEMP will be to develop templates for the monitoring and reporting of environmental monitoring results, auditing, inspections and non-compliances. Reporting of all monitoring will be retained onsite with the Main Contractor or ECoW, or with the responsible specialist consultant

The CEMP will also establish templates for the reporting/auditing of mitigation measures, including: drawings and methodology for implementation of any necessary infrastructure (e.g. SuDS silt traps), frequency of inspection, details of personnel carrying out inspections, staff training details, reporting details (frequency/reporting chain and responsibilities).

A mobile 'Siltbuster' or similar equivalent specialist treatment system will be available on-site for emergencies in order to treat sediment polluted waters from any construction process should that occur. Siltbusters are mobile silt traps that can remove fine particles from water using a proven technology and hydraulic design in a rugged unit. The mobile units are specifically designed for use on construction-sites. They will be used as final line of defence if needed.

6.2.13. Wastewater Management Plan

The expected uses of water during the construction phase are for the following purposes;

- Welfare use, maximum of 15 to 20 employees on the site at any one time;

For the duration of the construction phase, portable WC units or portable WC cabins will be in place within the proposed temporary construction compounds for welfare use as shown on *Drawing Number IE2816-CEMP-104-A, Appendix A*. These portable units or portable cabins will be self-contained and will be maintain on a weekly basis by an external licenced contractor. Disposal of wastewater from any portable WC unit or portable WC cabin will be the responsibility of the external licenced contractor.

There will be no discharge of effluent to groundwater or surface water during the construction phase. All wastewater from the construction facilities will be stored before removal off site for disposal and treatment. Disposal of the wastewater collected will be in accordance with the requirements of the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a suitable licensed waste facility.

The details of the contractor who will be responsible for the removal of wastewater from the proposed development site will be provided to Wexford County Council on request.

6.2.14. Training and Toolbox Talks

The supervising ecologist / ECoW will prepare and deliver site induction or toolbox talks and training to all personnel, in liaison with the Resident Engineer or Site Manager. The ECoW will carry out supervision of all works during the construction phase of the project, together with pre-construction and construction phase ecological monitoring that may be required.

To this end, the ECoW will undertake a confirmatory site walkover survey, with the contractor site manager, in advance of the proposed works to determine and identify the following:

- Works deemed to be most at risk of rutting or ground compaction and resultant habitat loss;
- Suitability of works and access tracks for QI / SCI species such as waterbirds, and otter (not exhaustive);
- Suitability of works locations and access tracks for QI habitats and protected plant species particularly along the wet side of the embankment;
- Presence of invasive plant species along the proposed access tracks, construction locations and all ancillary works locations;

6.2.15. Biosecurity Invasive Species Best Practice Measures

Biosecurity is the prevention of disease causing agents entering or leaving any place where they can pose a risk to farm animals, other animals, humans, or the safety and quality of a food product.

There is potential that aquatic and/ or terrestrial invasive species (e.g. Japanese knotweed or giant hogweed) or pathogens (e.g. crayfish plague) may be accidentally introduced to a location via contaminated vehicles and equipment, in particular tracked vehicles, which were previously used in locations that contained invasive species. Adapted from the Irish Water Guidance (2016), the following

best practice avoidance measures will help to contain and/or prevent the introduction of invasive species on a site as follows:

- Prior to arrival on site, the contractor's vehicles and equipment will be thoroughly cleaned and then dried using high-pressure steam cleaning, with water >65 °C, in addition to the removal of all vegetative material. Items difficult to soak/spray will be wiped down with a suitable disinfectant (e.g. solution of 1% Virkon® Aquatic);
- Evidence that all machinery has been cleaned will be required to be on file for review by the statutory authorities. The level of evidence required of the Contractor will be actual registration plates of vehicles onsite and a register of when, how and where each of these were cleaned before they arrived on site;
- Visual inspections will be carried out on all machinery and equipment for evidence of attached plant or animal material, or adherent mud or debris. Any attached or adherent material will be removed before entering or leaving the site, securely stored (away from traffic) for removal to an appropriate waste storage area the end of the work day;
- No removed material or run-off will be allowed to enter a water body of any sort;
- Following cleaning, all equipment and vehicles will be visually inspected to ensure that all adherent material and debris has been removed manually;
- Each field vehicle must carry a 'disinfection box'. This will contain Virkon Aquatic or another proprietary disinfectant, a spraying mechanism, cloths or sponges, a scrubbing brush and protective gloves. Protective gloves must be worn when using any disinfectant solution;
- Records of supplies and cleaning of delivery vehicles will be kept and regularly inspected by the ECoW;
- Spot checks on the adequacy of cleaning will be carried out by the ECoW;
- It is recommended to apply disinfectant to the undercarriage and wheels of any vehicles used after cleaning if the vehicles have been used in streams or rivers. (This does not apply to vehicle or machinery use in wetlands or peatland areas). Disinfectants must be used strictly in accordance with the manufacturer's instructions. They must be disposed of safely and never close to open waters such as drains etc.
- For any material entering the site, the supplier must provide an assurance that it is free of invasive species;
- Ensure all site users are aware of invasive species management plan, biosecurity and treatment methodologies. This can be achieved through "toolbox talks (See Section 6.3.6) "before works begin on the site;
- Adequate site signage, hoarding and fencing will be erected in relation to the management of non-native invasive species.

6.3. Construction Stage Waste Management

Waste generated as part of the construction stage is expected to be completely inert in nature and of minimal volume and will generally comprise of waste construction bricks and blocks and timber off-cuts. This material shall be temporally stored within designated area within the temporary construction works compounds and shall be removed to a suitable licenced disposal facility.

No potentially contaminated waste shall be generated during the construction stage.

6.4. Operational Controls

It is not expected that any significant waste would be generated during the operation phase of the proposed 110kV development.

6.5. Drain & Watercourse Management Plan

For the duration of the operational lifetime of the proposed development, a Drain and Watercourse Management Plan shall be implemented.

The purpose of this management plan is to maintain the existing conveyance capacities of all drains and watercourses so as to ensure that any vegetation overgrowth or vegetation debris does not result in an increase flood risk to the site. The drain and watercourse management plan shall be implemented as follows:-

- *All drainage ditches adjacent to or beyond the boundary of the proposed 110kV substation development site to be visually inspected on a bi-annual basis and additionally following the occurrence of any significant or extreme flood events.*
- *Any vegetation overgrowth or vegetation debris within the drainage ditches that may impede flows in the ditches will be manually removal and disposed of as green waste.*
- *Where any vegetation debris (fallen trees, etc) is observed in the Newtown Stream following any extreme flood event, and where this debris cannot be manually removed, then the local authority and/or the OPW watercourse maintenance section shall be informed.*

The Drain and Watercourse Maintenance plan is intended to be a simple visual inspection plan and manual vegetation maintenance plan and will not involve any re-grading, re-profiling or any other excavation works within the existing drainage ditches nor will it involve any construction machinery. The activities undertaken as part of the Drain and Watercourse Management Plan shall therefore not result in any adverse impact to the receiving hydrological environment.

7. Decommissioning Process, Site Restoration and Monitoring Program

The following section presents elements of the decommissioning process, site restoration and implementation of a monitoring program to ensure works undertaken and completed at the decommissioning phase are successful.

The proposed potential pollution mitigation measures outlined below shall be implemented in accordance with the documentation below or more up to date documentation at the time of the decommissioning of the development site;

- *'CIRIA C532 – Control of Water Pollution from Construction Sites – Guidance for Consultants & Contractors' – CIRIA-2001.*
- *'CIRIA C648 – Control of Water Pollution from Linear Construction Projects – Technical Guidance – CIRIA 2006'*
- *Waste Management Act, 1996*
- *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects. 2006*

7.1. Decommissioning Process and Time Scale

The following section outlines the infrastructure to be decommissioned, any potential environmental impacts and the options available for the materials arising. An estimated timeframe of the required work to be carried out is also presented.

110kV Substation & Associated Building

It is recommended that a designated area for the storage of materials (blocks, roofing material and electrical fittings, etc.) arising from the substation building during the decommissioning phase be constructed close to the western area of the site, using hardcore material laid on a suitable geotextile membrane. It is not anticipated that waste materials will be left on site.

The materials will be transported to the designated storage area and elements will be separated for recycling or reuse and temporarily stockpiled before being moved off-site.

Where feasible and applicable, the various materials can be sold for further use. If possible waste material will be sold, recycled or re-used. Materials that cannot be recovered will be appropriately categorized in accordance with the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a licensed waste facility.

Care will be taken to ensure that dust and debris will be kept to a minimum and will not enter any watercourse nearby.

Any excavated area will be graded as required to reflect the natural contours of the land, if required, inert topsoil will be brought in from local sources, to backfill any voids. Any soil imported onto the site will be sourced from a certified supplier, in accordance with the Waste Management Act, 1996. The area will then be reseeded or re-vegetated with appropriate native species. This will also act in minimising the risk of soil erosion.

Timescale of work to be completed: 1 - 2 months.

IPP Building

It is recommended that a designated area for the storage of materials (blocks, roofing material and electrical fittings, etc.) arising from the IPP building during the decommissioning phase be constructed close to the western area of the site, using hardcore material laid on a suitable geotextile membrane. It is not anticipated that waste materials will be left on site.

The materials will be transported to the designated storage area and elements will be separated for recycling or reuse and temporarily stockpiled before being moved off-site.

Where feasible and applicable, the various materials can be sold for further use. If possible waste material will be sold, recycled or re-used. Materials that cannot be recovered will be appropriately categorized in accordance with the Waste Management Act, 1996 and European Waste Catalogue (EWC) codes and be disposed of at a licensed waste facility.

Care will be taken to ensure that dust and debris will be kept to a minimum and will not enter any watercourse nearby.

Any excavated area will be graded as required to reflect the natural contours of the land, if required, inert topsoil will be brought in from local sources, to backfill any voids. Any soil imported onto the site will be sourced from a certified supplier, in accordance with the Waste Management Act, 1996. The area will then be reseeded or re-vegetated with appropriate native species. This will also act in minimising the risk of soil erosion.

Timescale of work to be completed: 1 - 2 months.

Underground Cabling and Ducting

Excavation of the underground cabling and ducting will be completed in a manner that will minimise impact to the surrounding environment. A small excavator will be required to excavate the area surrounding the cables. The cables and ducts will be separate and where feasible material will be sold, recycled or reused.

It is expected to strip at least 0.5m width of topsoil to unearth the ducting and cables. The topsoil will be kept separate from other material whilst the ducting and cables are removed and the area will be backfilled using the excavated material. Any disturbance to the soil will require adequate backfilling and grading to match the contours of the surrounding land.

If required, inert clean topsoil and soil will be brought in from local sources, and the area will then be reseeded or re-vegetated with appropriate native species. Any soil imported onto the site will be sourced from a certified supplier, in accordance with the Waste Management Act, 1996.

Timescale of work to be completed: 1 - 2 months.

CCTV Cameras and Poles

The CCTV cameras will be dismantled from the mounted poles and removed to the designated area for classification and then onward for recycling, reuse or disposal at a licensed waste facility. Materials that cannot be recovered will be appropriately categorised in accordance with the Waste Management Act, 1996.

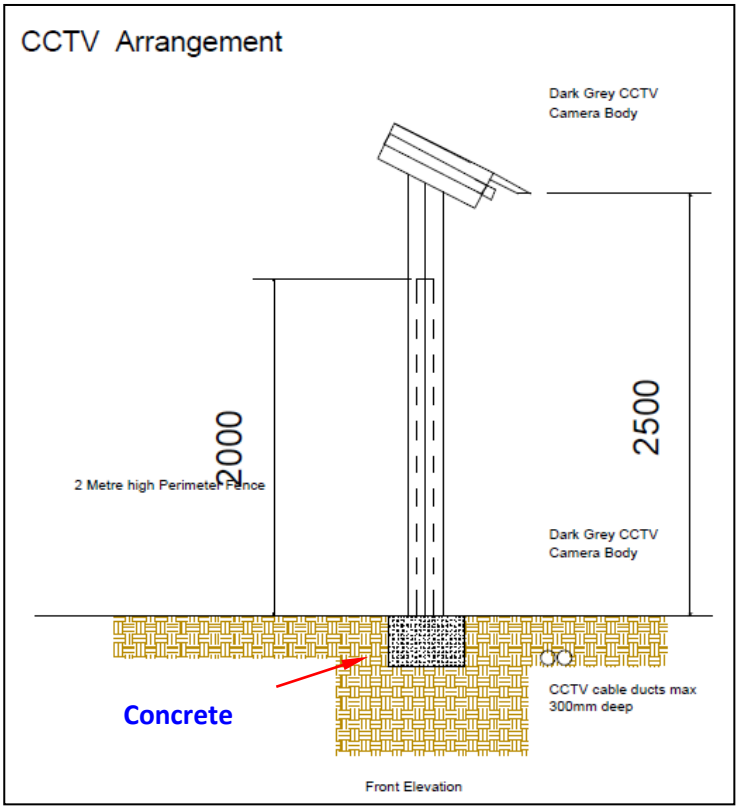


Figure 4 – CCTV Pole & Concrete Base

Similar to the removal of the steel stanchion, the support poles for the CCTV will be excavated and brought to the designated area for removal.

The concrete used at the base of the CCTV support pole, as illustrated in *Figure 4* above, will be crushed and temporarily stockpiled in the designated area before removal. CCTV ducting and cabling will be removed as per the section discussing underground cabling above.

Any disturbance to the soil will require adequate backfilling and grading to match the contours of the surrounding land. If required, inert topsoil will be brought in from local sources, and the area will then be reseeded or re-vegetated with appropriate native species.

Timescale of work to be completed: 1 month.

Perimeter Fencing

Any fencing that is not required for other future use on site will be dismantled and removed. The perimeter fencing will have small holes of between 250 and 300mm to allow for small mammals to enter and leave the site. All fencing materials will be separated and temporarily stored in the designated area for removal off-site. The separated material will be categorized for recycling, reuse and disposal as necessary.

Any disruption to the soil condition in the removal of the fencing will be backfilled and restored to its appropriate condition.

Timescale of work to be completed: 1 month.

Site Entrance, Stoned Area and Access Road

In the event that sections of the access road and stoned areas are to be decommissioned, the areas will be graded to match the surrounding contours. Any fill material that is required will be sourced locally and clean for use. Any soil imported onto the site will be sourced from a certified supplier, in accordance with the Waste Management Act, 1996. The area will also be reseeded or re-vegetated using appropriate native species.

Timescale of work to be completed: 1 month

Contamination

Strategies and mitigation measures similar to those employed during the construction phase as discussed in the relevant sections above, will be implemented for any potential disturbance (sedimentation, fuel spills, etc.) to key environmental features.

Where possible, materials will be reused or recycled. Waste materials for disposal will be removed by a licensed contractor and will be disposed of in accordance with the requirements of the Waste Management Act, 1996.

For the duration of the decommissioning phase any materials (eg. concrete, oils, fuels, cleaning agents, etc.) that require temporary storage will be stored in designated bunded areas.

Timescale of work to be completed: Duration of Decommissioning Period

Designated Storage Area and Sedimentation Protection

Following the removal of all materials related to the proposed development the designated storage area will be cleared, any base membrane will be removed for recycling or disposal and ground that is compacted or disturbed will be re-vegetated and graded to match the contours of the surrounding area.

Any area of contamination found (i.e oil spills etc.) will be assessed and remediated accordingly. Waste materials for disposal will be removed by a licensed contractor and will be disposed of in accordance with the requirements of the Waste Management Act, 1996.

Timescale of work to be completed: 1 month.

7.2. Site Restoration

Measures will be taken during the decommissioning phase to restore the sites of the proposed development to a state similar to its former condition or to a condition that is required for the future intended land use.

Due to the longevity of the project changes to habitat and vegetation may occur. Prior to the Decommissioning Phase, a site assessment will be completed to map and establish any sensitive areas or changes in habitat on the site that may potentially be impacted upon during the decommissioning phase. Measures can then be taken to minimise any detrimental effects that may occur.

Section 7.1 above outlines the elements required in decommissioning the various components of the proposed development, the anticipated restoration works that will need to be implemented and the approximate timescale for this work to be carried out.

Key restoration processes applicable during and post decommissioning of the proposed development are summarised in *Table 1* below;

Category	Action
Excavated areas	Any disturbances to the soil will be backfilled with clean inert soil. Topsoil will be placed over the area and graded to reflect the contours of the surrounding ground
Compacted ground	Areas that may become compacted by machinery are to be re-established through the reinstatement of topsoil and graded to match the contours of the surrounding ground.
Re-vegetation or reseeding of disturbed areas	Any areas that require re-vegetation are to be reseeded with native species consistent with the surrounding area.
Contamination	It is not expected that the lands surrounding the proposed development will require any special remediation since any hazardous materials (i.e. oil, fuel, cleaning fluids) used will be contained with adequate spill protection.
Erosion control	Measures to prevent soil erosion and runoff to sensitive watercourse can be implemented to assist with rehabilitation of the proposed development. This may include; 1. Adequate levelling and contouring of restored areas. 2. Appropriate use of vegetation to stabilise and enhance soil conditions.
Drainage system	The decommissioning of the proposed development will not require any alteration to existing drainage ditches, watercourses or any other hydrological features during the operation phase. Therefore there is no requirement to restore the pre-development drainage system.
Watercourse (e.g. Newtown Stream)	Decommissioning activities would not need to include the restoration of any water bodies.

Table 1 – Restoration Processes

7.3. Monitoring Programme

A periodic monitoring programme will be undertaken after the decommissioning of the proposed development to ensure that the above site restoration works discussed in *Section 7.1 and 7.*2 are successful.

It is anticipated that the monitoring will be undertaken for at least two years after the decommissioning the substation development is complete. A suitable qualified environmental professional will be engaged to oversee the monitoring program and initiated any further restoration works that will be required.

7.4. Inspection

Inspections by an appropriately qualified person will be carried out during decommissioning phase to certify that the measures detailed above are being implemented effectively and, if required, removal of materials from the site will be halted and corrective action taken.

8. Summary Conclusions & Recommendations

This preliminary planning stage Construction Environmental & Management Plan (CEMP) has been prepared in order to ensure that the highest feasible level and robust methods of pollution mitigation and environmental control measures are implemented before and during the construction stage of the proposed 110kV substation development and during the operational and decommissioning phase.

For the duration of the construction works a suitably qualified ecological supervisor shall be employed.

The ecological supervisor shall be independent of the main contractor and shall ensure that all proposed pollution control mitigation measures and environmental control measures are fully implemented and adhered to.

On-going inspection of all pollution mitigation measures and environmental controls shall be undertaken by the ecological supervisor.

In consideration of the proposed mitigation measures presented in this preliminary CEMP, the impact to the existing environment due to the proposed development shall be negligible.

It is recommended that updates be made to the CEMP every five years from the date of preparation until decommissioning and site restoration is complete. Review and revision of the Construction Environmental Management Plan is the responsibility of the facility operators, or any subsequent owners of the facility.

9. References

BS5228-1:2009 - Code of practice for noise and vibration control on construction and open sites – Part 1: Noise – British Standard (2009)

CIRIA C532 – Control of Water Pollution from Construction Sites – Guidance for Consultants & Contractors' – CIRIA (2001)

'CIRIA C648 – Control of Water Pollution from Linear Construction Projects – Technical Guidance – CIRIA 2006'

Ecological Impact Statement (September 2023) Great Island Power Development – Moore Group Environmental Services

TLI Group – Construction Methodology – Kilmannock 110kV Grid Connection & Substation (September 2023)

Environmental Protection Agency (EPA), http://gis.epa.ie/map. Accessed: October 2020

Geological Survey of Ireland, www.gsi.ie. Accessed: September 2023

Waste Management Act, 1996

Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects. (2006)

Appendices

Appendix A. Drawings

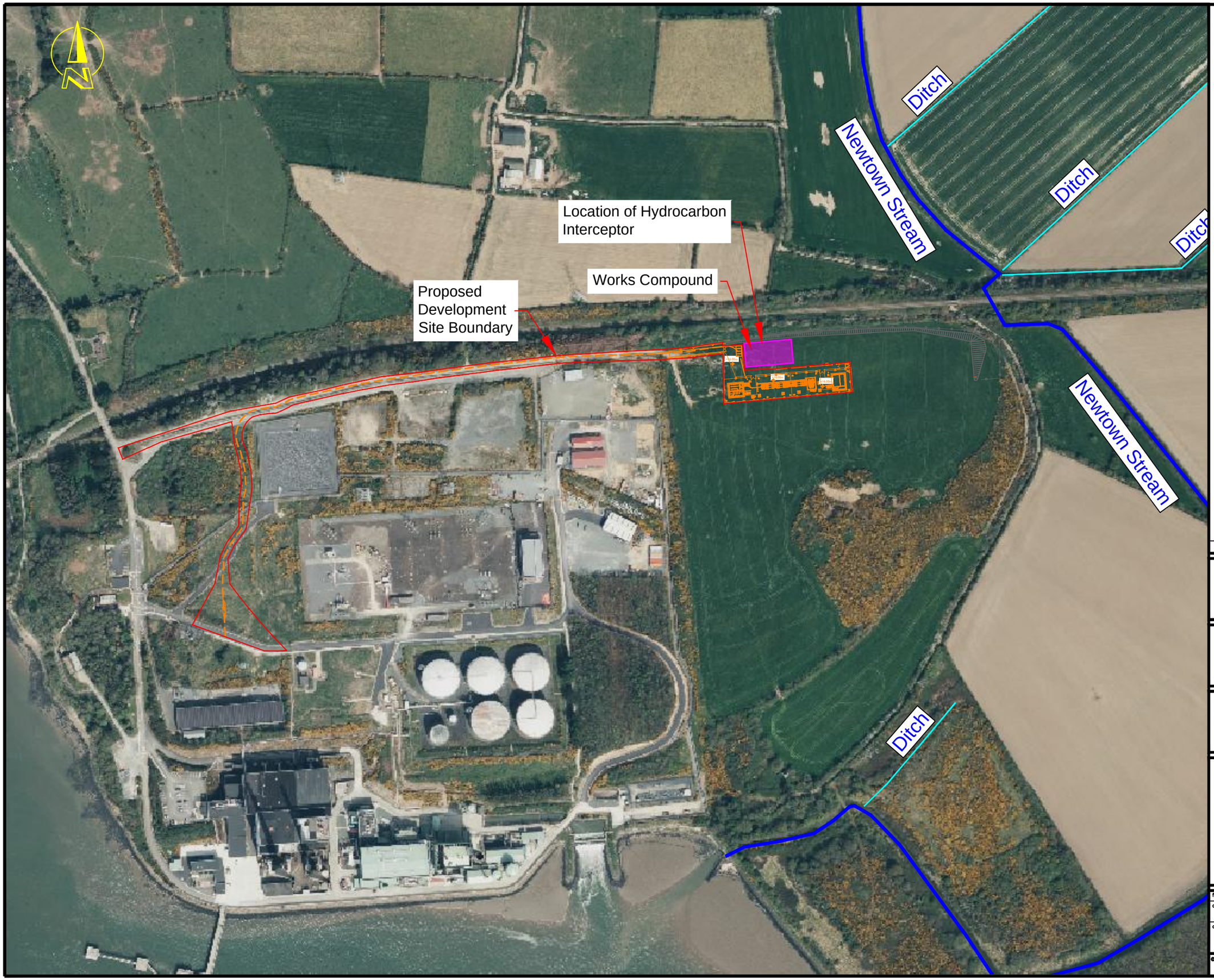
IE2816-001-C	Site Location
IE2816-CEMP-102-B	Location of Designated Watercourse
IE2816-CEMP-104-A	Temporary Construction Compound Layout Plan

IE Consulting Innovation Centre, Green Road, Carlow, R93 W248.
Ph: 059-9133084
E-mail: info@iece.ie
Web: www.iece.ie

IE CONSULTING
WATER-ENVIRONMENTAL-CIVIL

Project Title:	CEMP
Project Address:	GREAT ISLAND, LIKMOKEA, CO. WEXFORD
Client:	KILMANNOCK BATTERY STORAGE LTD.
Drg. Title:	SITE LOCATION MAP

Dwg.Scale:	Date:	Dwg.No:	Job No:	Revision:	Dwg.By:
1:50,000	13/12/23	IE2816-001	IE2816	C	LMc



LEGEND

- SITE BOUNDARY
- WORKS COMPOUND
- RIVER
- EXISTING DRAINAGE DITCH

rev.	date	amendment	drn	ckd
B	14.12.23	PLANNING	LMc	PMS
A	19.09.23	PLANNING	LMc	PMS

PROPOSED DEVELOPMENT AT
GREAT ISLAND, LIKMOKEA,
CO. WEXFORD

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

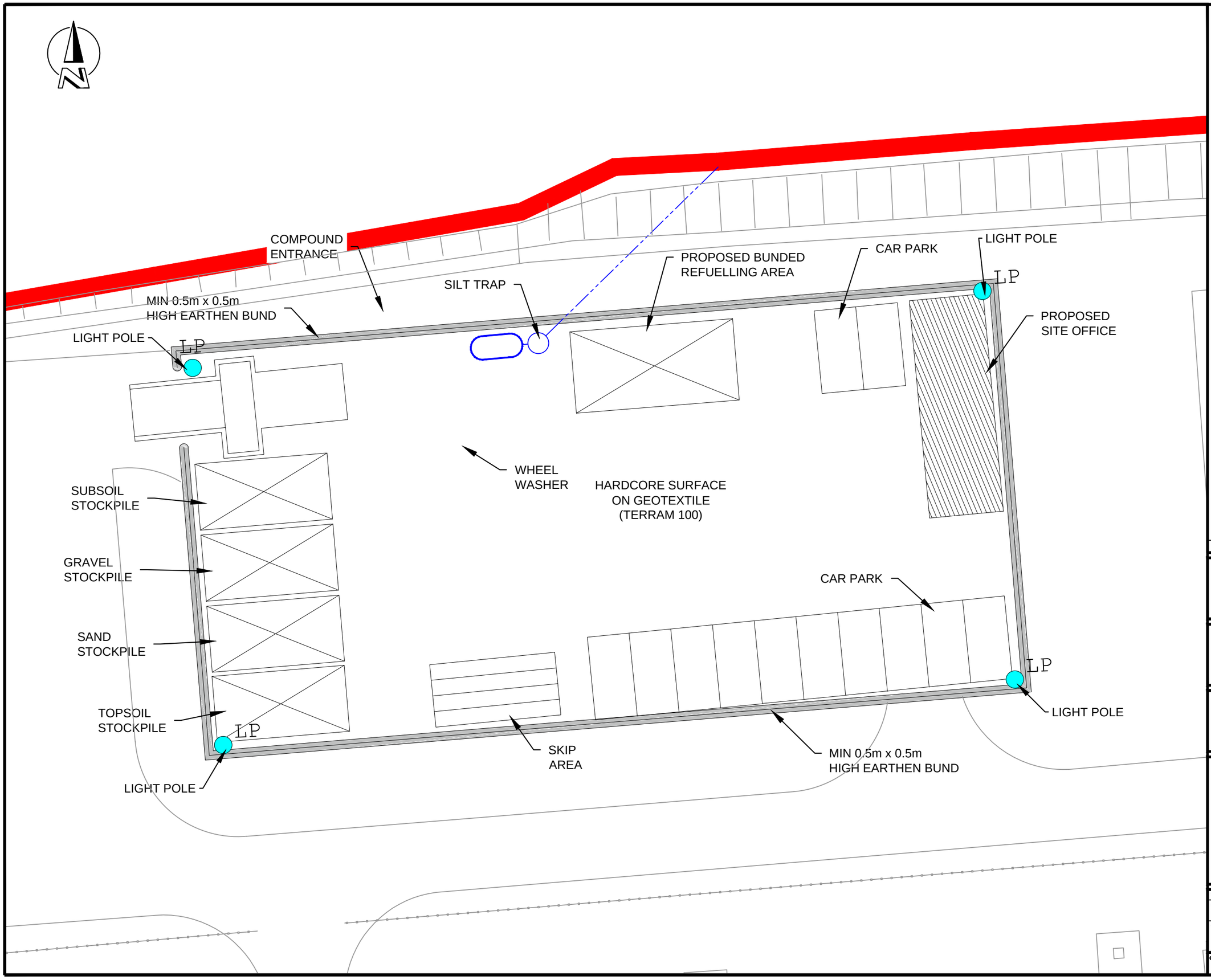
PROPOSED LOCATION OF DESIGNATED STORAGE AREA AND WATERCOURSES

IE CONSULTING
WATER-ENVIRONMENTAL-CIVIL

CARLOW OFFICE:
INNOVATION CENTRE
GREEN ROAD
CARLOW, R93 W248

NEWRY OFFICE:
7 LINENHALL
WIN BUSINESS PARK
NEWRY, BT35 6PH

file location: N:\IE2816\DRAWINGS	scale: 1:3,500 @ A3
drawing status: PLANNING	datum: MALIN
	drawn: LMc
drawing no. IE2816-CEMP-102	rev B
	checked: PMS
	approved: PMS
	date: 19.09.23



LEGEND

rev.	date	amendment	drn	ckd
A	20.09.23	PLANNING	LMc	PMS

PROPOSED DEVELOPMENT AT
GREAT ISLAND, LIKMOKEA,
CO. WEXFORD

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

PROPOSED CONSTRUCTION COMPOUND LAYOUT

IE CONSULTING
WATER-ENVIRONMENTAL-CIVIL

CARLOW OFFICE:
INNOVATION CENTRE
GREEN ROAD
CARLOW, R93 W248

NEWRY OFFICE:
7 LINENHALL
WIN BUSINESS PARK
NEWRY, BT35 6PH

file location: N:\IE2816\DRAWINGS	scale: 1:200 @ A3
drawing status: PLANNING	datum: MALIN
	drawn: LMc
drawing no. IE2816-CEMP-104	rev A
	checked: PMS
	approved: PMS
	date: 20.09.23

Appendix B. Typical Wheel Wash Details

Wheel Washing

Keeping roads clear of dirt and debris is essential for the safety of road users and the environmental control of mud and other substances. Powerful and heavy-duty wheel-wash solutions from Garic guarantee an efficient, sanitary and recyclable wash to keep your roads clear and your wheels clean.

Enviro Wheel Wash

Dims (L X W) (Feet) Total Area Required Excluding Entry And Exit Of Wash	Min Hire Period
22 X 24 Without Ramps	1 Week
66 X 24 With Ramps	1 Week

Our fully automated and totally self-sufficient enviro wheel wash is perfect for sites where sticky clay and mud can be a big problem. As vehicles pass through the wheel wash, exceptionally powerful jets spray water onto the wheels, chassis and undersides, cleaning the vehicles without them even needing to stop. The enviro wash recycles and re-circulates 100% of water separating the muck and debris in the lagoon area for easy removal and cleaning.

- Powered heavy duty wheel wash
- Steel fabricated wash area
- Removable rumble road sections
- Heavy duty lifting and lashing points
- Lagoon with vertical spray jets
- Magic eye system

ADD ONS
- ✓ Electric pumps
- ✓ Water tanks

Elevated Enviro Wheel Wash

The Enviro wheel wash can also be elevated and placed directly onto a surfaced area with ramps; perfect for quick set-up and removal on short-term contracts or sites that require heavy duty wheel washing. The Enviro wash recycles and re-circulates 100% of water separating the muck and debris in the lagoon area for easy removal and cleaning.

- Powered heavy duty wheel wash
- Steel fabricated wash area
- Surface mounted no excavation required
- Removable rumble road sections
- Heavy duty lifting and lashing points
- Lagoon with vertical spray jets
- Magic eye system
- Interceptor drip tray as standard
- 30' ft. external galvanised steel ramps

ADD ONS
- ✓ Electric pumps
- ✓ Water tanks

Dims (L X W) (Feet)	Min Hire Period
22 X 24 Without Ramps	1 Week
82 X 24 With Ramps	1 Week

Drive Through Bath

Dims (L X W) (Feet)	Min Hire Period
35 X 12 Without Ramps	1 Week
77 X 12 With Ramps	1 Week

Garic's unpowered drive through bath is an inexpensive yet very efficient vehicle wash system. It is ideal for sites that have moderate mud and dirt and is quick and easy to install.

Trucks, dumpers and lorries are cleaned as they drive over a series of rumble strips which shake off the heaviest earth. They are then washed as the wheels, chassis and undersides pass through a water lagoon to provide a quick, safe and effective cleaning system. If required, extra road rumble strips are available.

- Steel fabricated wash area
- Removable rumble road sections
- Heavy duty lifting and lashing points

ADD ONS
- ✓ Ramps
- ✓ Water tanks