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Outline Construction Environmental Management Plan

Electricity Transmission Development



Client: EdgeConneX Ireland Ltd

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CONSULTING ENGINEERS

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1 INTRODUCTION

This Outline Construction Environmental Management Plan (CEMP) has been prepared by Clifton Scannell Emerson Associates (CSEA) in support of a planning application as part of the Strategic Infrastructure Development (SID) to An Bord Pleanála (ABP) for the provision of underground 110Kv transmission line connections between the Gas Insulated Substation (GIS) Aungierstown – Castlebaggot underground 110Kv transmission line, Grange Castle South, Baldonnel Co. Dublin, and the permitted Kishoge110Kv GIS Substation permitted by South Dublin County Council Reg. Ref.: SD19A/0042 and ABP Ref.: 305948-19, as amended under Reg. Ref.: SD22A/0105 on a site within the townland of Ballymakailly, West of Newcastle Road (R120), Lucan, Co. Dublin.

This Outline CEMP defines the approach to environmental management at the site during the construction phase. It provides a basis for achieving and implementing the construction related mitigation measures identified in the Environmental Impact Assessment Report (EIAR, Chapter 1, Appendix 1.1, Schedule of Mitigation) and promotes best environmental on-site practices for the duration of the construction phase.

The outline CEMP provides a framework from which a final CMP will be developed to avoid, minimise, or mitigate any construction effects on the environment prior to commencement on site.

The contractor will prepare specific method statements which should identify perceived risks to the environment and detail mitigation measures to be employed which will negate the risk to the environment.

The main issues that have been considered within this document are as follows;

- Description of works.
- Construction programme and phasing.
- Site logistics.
- Workforce.
- Public relations and community liaison.
- Construction traffic and access
- Safety, health, and environmental management.

Preparation of the final CEMP should comply with the Schedule of Mitigation Measures presented in the EIAR (EIAR, Chapter 1, Appendix 1.1 Schedule of Mitigation) and all additional measures may be added to following consultation with relevant consultees in preparation of specific method statements prior to commencement of works.

2 DESCRIPTION OF THE PROJECT

Overview

The proposed comprises the provision of underground 110kV transmission lines to provide a connection between the Permitted Kishoge 110kv Gas Insulated switchgear (GIS) substation, and the existing Aungierstown – Castlebaggot underground 110kV transmission line, which runs between the Aungierstown 110kV substation and Castlebaggot 110kV / 220kV substation.

The proposed development will provide for transmission line connections between the Kishoge substation and the Aungierstown-Castlebaggot transmission line. The development will thereby provide for a loop-in connection to serve the Kishoge substation via the creation of a new Aungierstown-Kishoge 110kV circuit and a new Castlebaggot-Kishoge 110kV circuit.

The project is designed to support the power demand of development on lands adjoining the 110kV Kishoge substation permitted under South Dublin County Council Reg. Ref.: SD19A/0042 (with amendments to the substation permitted under Reg. Ref: SD22A/0105) and ABP Ref.: 305948-19.

Under the same permission (Reg. Ref.: SD19A/0042 and ABP Ref.: 305948-19) as the Kishoge substation, permission on adjoining lands has been granted for a data storage facility (referred as DUB04) and temporary gas-powered generation development, and a further data storage facility (referred as DUB05), and energy centre development recently permitted by South Dublin County Council under Reg. Ref.: SD21A/0042.

Additionally, on the same site another planning application have been submitted for construction of 2 adjoined single storey data centres with associated offices under SDCC Reg. Ref. SD22A/0333.

Description of the Site of the Permitted Kishoge Substation

The site of the Permitted Kishoge 110kV GIS substation is located on lands within the townland of Ballymakaily to the west of the Newcastle Road (R120).

The R120 road to the east of the Kishoge substation was recently realigned, while the eastern boundary of the wider landholding at this location was previously subject to a compulsory purchase order by the Local Authority to facilitate the construction of a roads scheme (Adamstown / Newcastle Road). The Grand Canal is located to the north of the wider landholding in the ownership of the prospective applicant at this location. The substation site is greenfield in nature.

The wider area surrounding the substation site is defined by existing industrial and data storage facility development to the east and southeast, with greenfield lands to the south and west, and the Grand Canal to the north. The Kishoge substation site is located c. 750m from the Adamstown SDZ. The site of the Kishoge substation is located within a significant landbank of Enterprise and Employment zoned lands, much of which has yet to be developed.

The eastern side of the R120 opposite the subject landholding is defined by a number of detached houses, behind which is an existing and permitted data storage facility development delivered by the applicant.

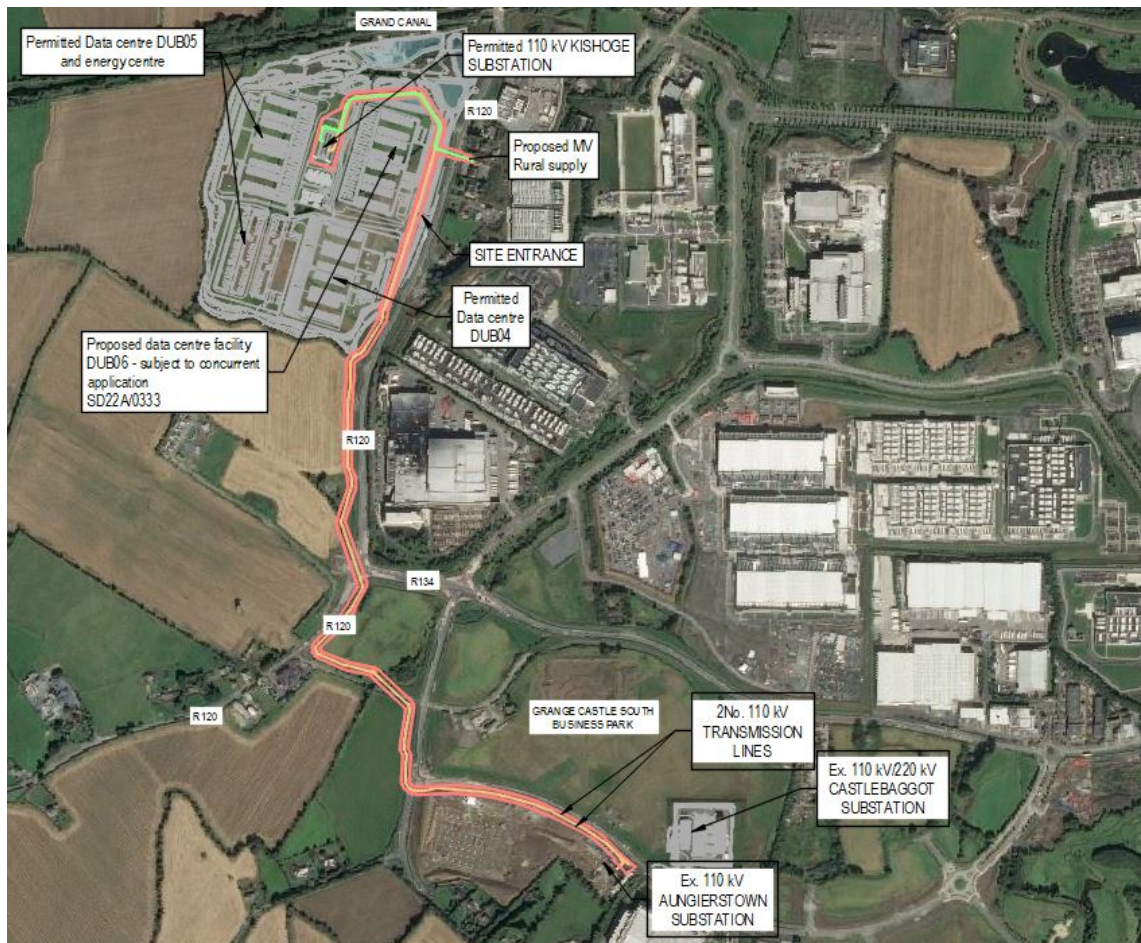


Figure 2.1: Location of the Kishoge substation

Site of the Aungierstown Substation and Aungierstown-Castlebaggot Transmission Line

The permitted Aungierstown Substation is located on a site which is currently under development to provide for data centre development under Reg. Ref.: SD18A/0134 and ABP Ref.: 302813-18 (as amended by SD20A/0295). There was also permission for a temporary substation on the wider site, under Reg. Ref.: SD19A/0300.

This site is located to the northwest of the existing Google datacentre campus, and to the southwest of a campus operated by Microsoft. The Castlebaggot 220kV / 110kV substation is located opposite the site, across an estate roadway.

The permitted Aungierstown substation also provides for connection with the existing Castlebaggot substation, comprising of an underground 110kV double circuit transmission line, which the current proposed transmission line will break into and provide a loop-in to one circuit of (the Aungierstown-Castlebaggot circuit).

The permitted underground 110kV transmission line connection between the Aungierstown and Castlebaggot substations crosses the estate road separating the two substations, linking to the GIS substation buildings within each of the two substation compounds.



Figure 2.2: Location of the Aungierstown substation

Proposed 110 kV transmission line

The proposed 110kV underground transmission line connections extend northwards from the Kishoge 110kV substation, before proceeding to the east and then to the south, along the periphery of the lands in the ownership of the applicant and continuing alongside the R120 towards the newly built entrance to Grange Castle West Business Park where it will cross junction with New Nangor Road (R134) by the way of Horizontal Directional Drill (HDD) and enter greenfield area of Polly hops lands East of R120. It will then proceed southward along R120 and eastward alongside the Old Nangor Road, crossing the Griffeen River by HDD and proceeding eastwards and then south before crossing the Baldonnel Road and proceeding eastward within lands to the south of the Grange Castle South Park access road, before reaching and connecting to the Aungierstown – Castlebaggot underground transmission line. In total this will cover 2.2 Kilometres.

Proposed MV installation

The development also includes provision of a medium voltage electricity connection to serve the Kishoge substation from an existing ESB substation to the east of the R120, which will follow the same route as the proposed underground electricity transmission lines within the applicant's landholding, before branching eastward across the R120 and reaching an existing ESB substation which will be connected to in order to service the Kishoge substation buildings as a 'house' connection.

3 CONSTRUCTION PROGRAMME AND PHASING

Subject to grant of planning permission, construction work is anticipated to commence at Q3 2023 with completion of construction and commissioning scheduled for the end of Q3 2024.

The construction works associated with the development consist of the following principal elements:

The construction of the 110kV transmission line and MV cable installation will comprise three main stages, namely;

- Site preparation works
- Excavation, Cable installation, jointing and testing
- Reinstatement.

Site Preparation

Currently on client's site there are enabling works under construction as per permit SD19A/0004. The construction commencement of the permitted data storage facility on site DUB04 (Reg. Ref.: SD19A/0042 and ABP Ref.: 305948-19) is scheduled to start at Q3/2022 with estimated completion of the project scheduled for Q4 2023. Additional data centre facility (DUB05) permitted under SDCC Reg. Ref.: SD21A/0042 will be in construction at Q1 2023 with estimated completion by Q3 2024.

It is proposed that the accesses and haul roads for vehicles, the contractors' compound and fencing that have been established for the construction of data centre developments will be utilised for the proposed development, where possible.

The construction compound will facilitate office, portable sanitary facilities, equipment storage, parking etc. for contractors. It will be used for the duration of the works.

The primary activities that will be required during the site preparation phase for the 110kV transmission line will be site clearance, excavations and levelling of the, surveying and setting out for structures and any rerouting of services/connections to services.

A combination of bulldozer, excavators, trucks and other soil shifting plant will commence the main site clearance and levelling aspects.

The site preparation required for the 110kV transmission line, and the MV cable installation and will be limited with minimal site clearance required.

Excavation, Cable installation, jointing and testing

Contractors will be required to submit and adhere to a method statement (including the necessary risk assessments) and indicating the extent of the areas likely to be affected and demonstrating that this is the maximum disturbance necessary to achieve the required works.

Along the R120 and Grange Castle South entrance road, works will be staged (to include approximately 100m sections at a time) to facilitate the works.

Reinstatement

Reinstatement will be as current, i.e. grassed in greenfield areas and hardstand along paved and road areas.

Excavation, installation and reinstatement will be undertaken in stages to minimise traffic disruption.

4 EXCAVATION

4.1 *Archaeological and Architectural Heritage*

The archaeological, architectural and cultural heritage impact at the site can be summarised as follows:

- There are no recorded archaeological sites or monuments within the proposed development lands, as listed in the Record of Monuments and Places for Co. Dublin.
- There are three recorded archaeological sites within the study area. None of these sites will be impacted, either directly or indirectly, by the proposed development works.
- There are no recorded archaeological finds from the site, though a stone axe found in the area suggests settlement in the Neolithic Period.
- Archaeological excavations in the area in advance of development works over the past two decades has also revealed a number of previously unrecorded archaeological sites. The results of the excavation of these sites further indicate prehistoric and medieval settlement and activity in the area.
- There are no architectural heritage structures within the site boundary. There are nine within the wider study area, recorded in the National Inventory of Architectural Heritage. None of these will be impacted on by the proposed development.
- The survey indicated that the majority of the site of the proposed development has been extensively and significantly impacted by previous development.
- However, the proposed development will traverse areas of previously undisturbed greenfield. In these areas, given the density of archaeological discoveries in the wider area, that previously unrecorded archaeological features survive. If such features exist, they could be impacted on by the proposed development.

Although no features of archaeological or architectural heritage were identified along the route of the proposed development, and the majority of the land required for the proposed development been extensively and significantly developed in the past, the route traverses a number of greenfield areas. In these areas, there is the potential for previously unrecorded archaeological features to survive. To mitigate against the potential impact of the proposed development on these features, should they exist, a programme of archaeological monitoring by a suitably qualified archaeologist under license to the National Monuments Service is recommended.

5 SITE LOGISTICS

5.1 *Site Establishment and Security*

The site office and welfare facilities will be situated in an onsite compound. All the sub-contractors as well as the main contractor and project managers will occupy offices in the same area. The site parking for all staff, contractors and visitors will also be located in this area.

5.2 *Consents and Licences*

All statutory consents and licences required to commence on-site construction activities will be obtained ahead of works commencing, allowing for the appropriate notice period. These will include, but are not limited to:

- Site notices;
- Construction commencement notices; and
- Licence to connect to existing utilities and mains sewers, where required.
- Road opening licences.

5.3 Service and Utilities

Welfare facilities (canteens, toilets etc.) will be available within the construction compound on site. The watermain from the Nangor Road will be utilised in order to serve the proposed development during the construction.

5.4 Material Handling and Storage

Key materials will include cables, reinforced steel, concrete and ducting, apart from cables which are ordered by specific order for the project, a 'Just in Time' delivery system will operate to minimise storage of materials, the quantities of which are unknown at this stage.

Where possible it is proposed to source general construction materials from the Dublin area to minimise transportation distances.

Aggregate materials such as sands and gravels will be stored in clearly marked receptacles in a secure compound area within the contractors' compound on site. Liquid materials will be stored within temporary bunded areas, doubled skinned tanks or bunded containers (all bunds will conform to standard bunding specifications – BS EN 1992-3:2006) to prevent spillage.

Construction materials will be brought to site by road. Construction materials will be transported in clean vehicles. Lorries/trucks will be properly enclosed or covered during transportation of friable construction materials and spoil to prevent the escape material along the public roadway.

The majority of construction waste materials generated will be soil from excavation works. Soil requiring removal offsite will be removed from site regularly to ensure there is minimal need for stockpiling.

5.5 Visitor Management

Visitors will only be allowed to enter the main site compound at the eastern boundary of the Kishoge site from the R120 Road or via designated pedestrian access gates. A dedicated, secured footpath to the security office is established at the gate for registration and obtaining PPE prior to entering the site. A log will be maintained by security to control access to the site. Visitors will be required to attend a site-specific induction to allow access to the site unless being accompanied by an inducted member of the site team.

Visitors will then be taken by an inducted member of the construction team to the required area of the site.

5.6 Site Working Hours

Construction of the proposed development would take place over a period of approximately 11 months from the commencement of construction for site development works.

Majority of works are to be done off-road, with the exception of a short section of the route of the 110 kV transmission line crossing by HDD junction of R120 and New Nangor Road (R134), and along Grange Castle South entrance road, which may require the incremental closure of one or more lanes. This will be managed via the T2 road opening licence application process with South Dublin County Council and SDCC access licence for Grange Castle Business Park, which will inform the construction methodology and timing for these works.

The off-road section of the transmission line (approximately 2.2km in length) will be installed between the hours of 8am and 6pm. During installation, staff will arrive on site at approximately 7am and take circa 1 hour to mobilise before commencing works.

The on-road section of the route involves the crossing of the Baldonnell Road and the R120 with a small section beneath an old disused roadway adjacent to the R120. Traffic management measures will be put in place such that one lane will remain open during this element of work.

If relevant all works requiring the closure of one or more traffic lanes will be carried out at night, between the hours of 7pm and 6am.

5.7 Employment and Management Workforce

In general, the civil works element of work will require a higher number of staff and construction vehicles compared to the cable installation, jointing and testing. The following construction data has been used to estimate peak daily construction traffic:

- Average construction staff: 10-16;
- Peak construction staff (peak staff levels during Civil Works): 30;

All employees working on the site will be required to have a Safe Pass Card (or similar approved Construction Health & Safety card), manual handling training and the necessary certificates to operate machinery, as required. The details of training required, records maintained, and induction procedures will be outlined in the Main Contractor's Health and Safety Plan(s).

A summary of the proposed target dates (earliest possible dates) for the proposed development are as follows:

- Application for Planning Permission – August 2022
- Commence Site Construction works (subject to grant of planning permission) – End Q3 2023
- Completion of Construction – Q2 2024
- Complete Commissioning Works– End Q3 2024

6 CONSTRUCTION TRAFFIC AND SITE ACCESS

6.1 During Construction

While construction is taking place there will be short-term, negative impact which due to its short nature shouldn't be significant with regards to potential offset traffic impacts. During the operational phase there should be a neutral, long-term effect and falls below the TII Guidelines for Traffic and Transport Assessments.

6.2 Traffic Queuing

Material deliveries and collections from site will be planned, scheduled, and staggered to avoid any unnecessary build-up of construction works related traffic.

6.3 Site Hoarding and Security Fencing

Adequate separation and protection from the road and other dangers will be ensured through fencing and other hoarding measures as per *Safety, Health and Welfare at Work (Construction) Regulations 2013*⁵. Site access will be strictly restricted by dedicated security personnel who will verify all incoming and outgoing vehicles and workers.

7 SAFETY, HEALTH, AND ENVIRONMENTAL CONSIDERATIONS DURING CONSTRUCTION WORKS

The appointed main contractor will be required to prepare a Construction Health & Safety Plan which will be put in place prior to commencement of the works. At a minimum, this plan will include:

- Construction Health & Safety training requirements;
- Induction procedures;
- Emergency protocols; and
- Details of welfare facilities.

7.1 Air Quality

This section describes the site policy with regard to dust management and the specific mitigation measures which will be put in place during construction works. The objective of dust control at the site is to ensure that no significant nuisance occurs at nearby sensitive receptors. In order to develop a workable and transparent dust control strategy, the following measures have been formulated by drawing on best practice guidance from Ireland, the UK and the US, such as:

- Department of Environment, Heritage and Local Government (DOEHLG), Quarries and Ancillary Activities, Guidelines for Planning Authorities (2004)¹
- US Environment Protection Agency (USEPA), Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition (periodically updated) (1986)²;
- The Scottish Office – Development Department, Planning Advice Note PAN50 Controlling the Environmental Effects Of Surface Mineral Workings Annex B: The Control of Dust at Surface Mineral Workings (1996)³; and
- Institute of Air Quality Management (IAQM), Guidance on the Assessment of Dust from Demolition and Construction (2014)⁴.

7.1.1 Site Management

The site activities will be undertaken with due consideration of the surrounding environment and the close proximity of sensitive receptors such as watercourses, residents and pedestrians. Dust management during the construction phase will be the most important aspect in terms of minimising the impacts of the project on the surrounding air quality. The following measures will also be implemented to ensure impacts are minimised:

- Complaint registers will be kept detailing all telephone calls and letters of complaint received in connection with construction activities, together with details of any remedial actions carried out;
- Equipment and vehicles used on site will be in good condition such that emissions from diesel engines etc. are not excessive; and
- Pre-start checks will be carried out on equipment to ensure they are operating efficiently and that emission controls installed as part of the equipment are functional.

7.1.2 Dust Control Measures

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design, planning and effective control strategies. The siting of construction activities and the limiting of stockpiling will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance. In addition, good site management will include the ability to respond to adverse weather conditions by either

restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs.

During working hours, technical staff will be available to monitor dust levels as appropriate; and at all times, the dust management procedures put in place will be strictly monitored and assessed.

The dust minimisation measures should be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust generation. In the event of dust nuisance occurring outside the site boundary, site activities should be reviewed, and procedures implemented to rectify the problem. Specific dust control measures to be employed are presented below.

Site Roads

Site access routes (particularly unpaved routes) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25% to 80%.⁶

- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles;
- Bowsers will be available during periods of dry weather throughout the construction period. Research shown found that the effect of surface watering is to reduce dust emissions by 50%⁶. The bower will operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use;
- Access gates to the site shall be located at least 10m from sensitive receptors where possible; and
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.

Land Clearing/Earth Moving

Land clearing/earth-moving works during periods of high winds and dry weather conditions can be a significant source of dust.

- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust;
- During periods of very high winds (gales), activities likely to generate significant dust emissions should be postponed until the gale has subsided.

The movement of truck containing materials with a potential for dust generation to an off-site location will be enclosed or covered.

Stockpiling

The location and moisture content of rubble stockpiles are important factors which determine their potential for dust emissions. The following measures will be put in place:

- Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible;
- Regular watering will take place during dry/windy periods to ensure the moisture content is high enough to increase the stability of the soil and suppress dust;
- There will be no storage of soil along the cable route; and

- Where feasible, hoarding will be erected around site boundaries to reduce visual impact. This will also have an added benefit of preventing larger particles from impacting on nearby sensitive receptors.

Site Traffic on Public Roads.

Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures:

- Vehicles delivering or collecting material with potential for dust emissions shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust;
- At the main site traffic exits, a wheel wash facility shall be installed if feasible. All trucks leaving the site must pass through the wheel wash; and
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.

General

The pro-active control of fugitive dust will ensure that the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released, will contribute towards the satisfactory management of dust by the construction contractor.

7.2 Ecology

The proposed development will have a neutral imperceptible effect on designated sites within the zone of impact of the development site. The proposed development is located in an area of low ecological value and as such predicted to have a neutral imperceptible effect on biodiversity.

There will be no impacts on water courses. The use of HDD methodology removes the potential for hydrological pathways in terms of aquatic impacts.

The key strategies to be undertaken to minimise impact on the local flora and fauna during site clearing and construction are as follows.

- All site clearance and landscaping works will comply with current legislative requirements and best practice;
- Where possible, the removal of trees and tree lines suitable for use by nesting birds will be undertaken outside the bird nesting season (avoiding the period 1st March to 31st August);
- Should any trees or tree lines be removed that contain features suitable for roosting bats, such work will only be done during the autumn months;
- Taking measures to limit the working area during the construction phase will reduce the impacts of the development on adjacent areas. The construction area will be clearly delimited by the site boundary and machinery should operate only within this allocated site area;
- The single badger sett recorded outside the redline boundary of the proposed development area will be addressed as part of the site preparation works for that development.
- All re-fuelling of plant, equipment and vehicles will be carried out at the construction compound in the area of future development adjacent to proposed 110 kV Substation. All fuels, chemicals, liquid and solid waste will be stored in areas bunded in accordance with established best practice guidelines at the construction compound.

- Provision of a water and sediment management plan, providing for means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local water courses or drains.
- The measures outlined in Section 7.5 will ensure that silt run-off and potential flooding risks are minimised which will protect any ecological receptors associated with the site.

7.3 Noise and Vibration

Noise impacts arising from earthworks and construction activities have the potential to cause annoyance or nuisance to local residents in the area.

The earthworks will generate typical construction activity related noise and vibration sources from use of a variety of plant and machinery such as rock breakers (where required), excavators, lifting equipment, dumper trucks, compressors and generators.

The noise limits to be applied for the duration of the infrastructure works are those specified in the B Category of BS 5228. These limits are summarised below and will be applied at the nearest sensitive receptors to the works.

- Night (23:00-07:00) = 55dB
- Evening (19:00-23:00) = 65dB
- Day (07:00-19:00) = 70dB
- At the commercial property = 75dB

The total noise (LAeq) which should not be exceeded during daytime is therefore 70dB. Vibration limits to be applied for the infrastructure works are those specified in the TII document Guidelines for the Treatment of Noise and Vibration in National Road Schemes (TII, Revision 1, 2004). These limits are outlined below:

Allowable Vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of;

- Less than 11Hz - 3mm/s
- 11 to 50 Hz - 3 to 8mm/s
- 50 to 110 Hz (and above) - 8 to 11mm/s

Any noise complaints related to activities at the site will be logged and investigated and, where required, measures taken to ameliorate the source of the noise complaint.

A designated noise liaison should be appointed to site during construction works. Any complaints should be logged and followed up in a prompt fashion. In addition, prior to particularly noisy construction activity, e. e.g. excavation close to a property, etc., the site contact should inform the nearest noise sensitive locations of the time and expected duration of the works.

All works on site shall comply with BS 5228 2009+ A1 2014 (Parts 1 & 2) which gives detailed guidance on the control of noise and vibration from construction activities. In general, the contractor shall implement the following mitigation measures during the proposed infrastructure works:

- Avoid unnecessary revving of engines and switch off equipment when not required.
- Keep internal haul roads well maintained and avoid steep gradients.
- Minimise drop height of materials.
- Start-up plant sequentially rather than all together

More specifically the Contractor shall ensure that:

- In accordance with "Best Practicable Means", plant and activities to be employed on site are reviewed to ensure that they are the quietest available for the required purpose.

- Where required, improved sound reduction methods are used e.g., enclosures.
- Site equipment is located away from noise sensitive areas, as much as physically possible.
- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery.
- Hours are limited during which site activities likely to create high levels of noise and vibration are carried out.
- A site representative responsible for matters relating to noise and vibration will be appointed prior to construction on site.

The noise associated with the construction activities is to be negative and minor and it is unlikely that work will take place outside of normal working hours.

7.4 Waste management

This section outlines the measures that will be undertaken to minimise the quantity of waste produced at the site and the measures to handle the waste in such a manner as to minimise the effects on the environment.

Chapter 13 of EIAR contains a detailed description of waste management relating to construction of the proposed development. A site-specific Construction and Demolition Waste Management Plan is included as Appendix 13.1 of the EIA Report. This C&D Waste Management Plan will be refined and updated in advance of the works to ensure best practice is followed in the management of waste from the proposed development.

Adherence to the C&D Waste Management Plan prepared for the construction works will ensure that the management of waste arising is dealt with in compliance with the provisions of the Waste Management Acts 1996 as per the February 9th (2022) amendment and associated Regulations⁷, the Litter Pollution Act of 1997 as amended April 27th 2022⁸, and the Eastern-Midlands Region Waste Management Plan 2015 – 2021⁹, and achieve optimum levels of waste reduction, re-use, and recycling.

Typical waste materials that will be generated from the construction works will include:

- Soil and stones.
- Biodegradable/Green waste
- Bituminous mixtures, coal tar and tarred products.

The management of all hazardous waste materials, if they occur, shall be coordinated in liaison with Health and Safety Management.

7.4.1 Waste Minimisation

Waste minimisation measures proposed are summarised as follows:

- Materials will be ordered on an 'as needed' basis to prevent over supply;
- Materials will be correctly stored and handled to minimise the generation of damaged materials;
- Materials will be ordered in appropriate sequence to minimise materials stored on site; and
- Sub-contractors will be responsible for similarly managing their wastes.

All wood waste generated by site works will be inspected and examined and will be segregated as re-useable wood and scrap wood waste.

7.4.2 Waste Storage

A dedicated and secure compound containing bins, and/or skips, and storage areas, into which all waste materials generated by construction site activities are to be stored, is to be established within proposed Kishoge site compound.

Waste materials generated will be segregated on the site compound, where it is practical. Where the on-site segregation of certain waste types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source. All waste receptacles leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled.

The site construction manager will ensure that all staff are informed of the requirements for segregation of waste materials by means of clear signage and verbal instruction. Appointed employees will be made responsible for ensuring good site housekeeping.

7.4.3 Responsibility

It will be the responsibility of the construction manager to ensure that a written record of all quantities and natures of wastes removed from the site are maintained on-site in a waste file (in hardcopy or electronically).

It is the responsibility of the project manager or his/her delegate that all contracted waste haulage drivers hold an appropriate waste collection permit for the transport of waste loads and that all waste materials are delivered to an appropriately licenced or permitted waste facility in compliance with the relevant Regulations.

The contractor, as part of regular site inspection audits, will determine the effectiveness of the waste management strategy and will assist the project manager in determining the best methods for waste minimisation, reduction, re-use, recycling and disposal as the construction phase progresses and waste materials are generated.

Prior to commencement of the excavation and construction activity and removal of any waste off-site, details of the proposed destination of each waste material will be provided to SDCC.

7.5 Surface Water Management

Run-off into excavations/earthworks cannot be prevented entirely and is largely a function of prevailing weather conditions. Earthwork operations will be carried out such that surfaces, as they are being raised, shall be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. Correct management will ensure that there will be minimal inflow of shallow/perched groundwater into any excavation. Due to the very low permeability of the Dublin Boulder Clay and the relative shallow nature for excavations, infiltration to the underlying aquifer is not anticipated.

Care will be taken to ensure that exposed soil surfaces are stable to minimise erosion. All exposed soil surfaces will be within the main excavation site which limits the potential for any offsite impacts. No significant dewatering will be required during the construction phase which would result in the localised lowering of the water table. No discharge of construction water is anticipated during the construction of the proposed underground single circuits 110 kV underground transmission cable installation. There may be localised pumping of surface run-off from the excavations (up to 3m) during and after heavy rainfall events to ensure that the trenches are kept relatively dry.

The following measures will be put in place during the construction phase to ensure protection of surface waterbodies.

These measures follow the following relevant CIRIA guidance documents:

- Control of Water Pollution from construction Sites, Guidance for consultants and contractors (C532)¹⁰; and Environmental Good Practice on Site (3rd edition) (C692)¹¹.

7.6 River Crossing

The proposed development will involve the crossing underneath of Griffen River by the way of Horizontal Directional Drill (HDD).

The proposed HDD technique was selected specifically to reduce possible negative environmental and ecological impacts to the Griffen river, and HDD methodology has devised a series of measures to mitigate risks.

8 SUMMARY

This Outline CEMP sets out the overall management strategy for construction works for underground 110 kV transmission lines and associated medium voltage connection .

The Outline CEMP aims to ensure the management of construction activity is carried out in a planned, structured and considerate manner which minimises the impacts of the works on the local environment, residents and commercial activities in the vicinity of the site. Due to the nature of construction works, there may be unforeseen events which occur at the site and the project team will actively manage any changes and discuss with the relevant authorities, where required.

Prior to construction commencement Contractor will create a Final CEMP.

The project team are committed to ensuring that the construction activities to be carried out are pro-actively managed so as to minimise potential impacts.

9 References

1. Department of Environment, Heritage and Local Government (DOEHLG), *Quarries and Ancillary Activities, Guidelines for Planning Authorities* (2004).
2. Institute of Air Quality Management (IAQM), *Guidance on the Assessment of Dust from Demolition and Construction* (2014).
3. *Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013)*,
4. Waste Management Act, 1996.
5. Litter Pollution Act, 1997.
6. Dublin City Council, *Eastern-Midlands Region Waste Management Plan 2015-2021*.
7. CIRIA, (2001), *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association;*
8. CIRIA (2002) *Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association*
9. CIRIA (2005), *Environmental Good Practice on Site (C650); Construction Industry Research and Information Association*
10. BPGCS005, *Oil Storage Guidelines;*
11. Eastern Regional Fisheries Board, (2006), *Fisheries Protection Guidelines: Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites;*
12. CIRIA 697, *The SUDS Manual, 2007; and*
13. *UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004.*

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