Planning Application to An Bord Pleanála

Environmental Impact Assessment Report

Non-Technical Summary

Kishoge Substation Gridline Connection

Prepared by

AWN Consulting

August 2022

NON-TECHNICAL SUMMARY

1.0 INTRODUCTION

This is the non-technical summary of an Environmental Impact Assessment (EIA) Report prepared by AWN Consulting (AWN) on behalf of Edgeconnex Ireland Ltd ('the Applicant') to accompany a SID planning application to An Board Planala planning permission for the provision of underground 110kV transmission line connections between the Kishoge 110kv Gas Insulated switchgear (GIS) substation on a site within the townland of Ballymakaily, West of Newcastle Road (R120), Lucan, Co. Dublin, and the permitted Aungierstown – Castlebaggot underground 110kV transmission line located at Grange Castle South Business Park, Baldonnel, Dublin 22. The proposed transmission lines provide for a loop-in connection to the permitted Aungierstown – Castlebaggot underground transmission line along with associated and ancillary works.

The proposed development is located within the townlands of Ballymakaily, Clutterland, Grange, Ballybane, Kilmactalway, Milltown, and Aungierstown and Ballybane, Dublin. The application site has an area of 3.78 hectares (see Figure 1).

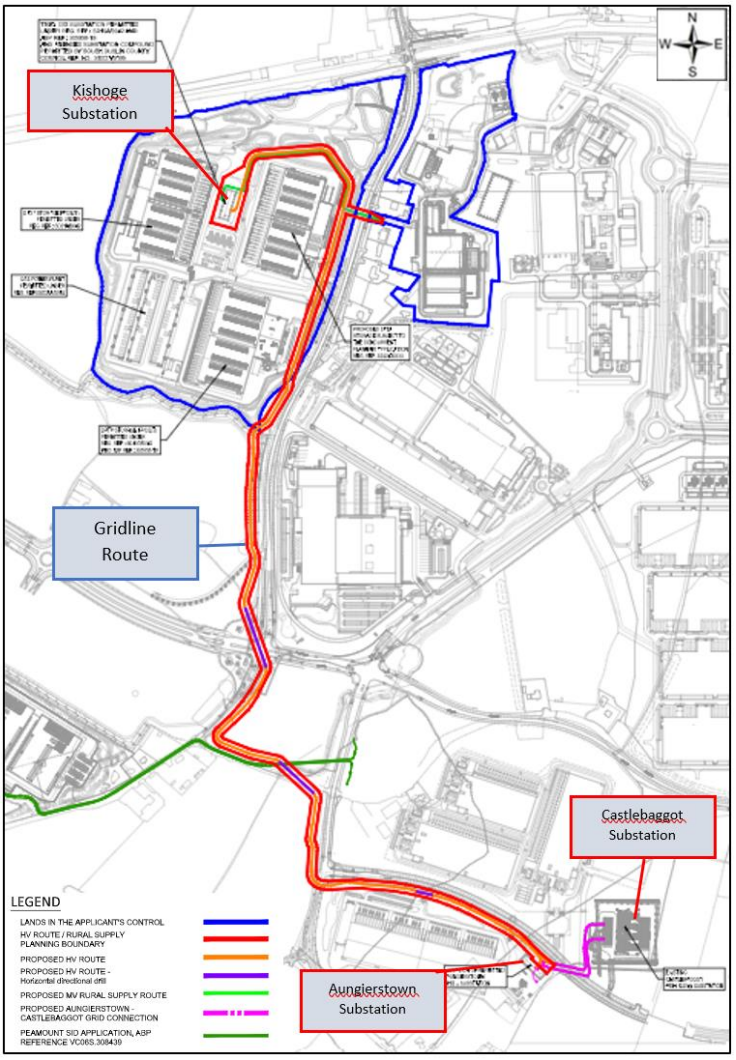

Figure 1 Proposed Development Lands (Red Boundary)

The planned route is located within the South County Dublin administrative area and the proposed development is to be located within an area zoned EE (Enterprise and Employment) under the County Development Plan with the stated aim: "To provide for enterprise and employment related uses". The proposed use is a permitted use under the EE zoning.

Methodology for Preparation of the EIAR

The requirement for EIA for certain types and scales of development is set out in the EIA Directives (2011/92/EU and 2014/52/EU), European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (the bulk of which came into operation in September 2018), the European Communities (Environmental Impact Assessment) Regulations 1989-2006, Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001-2017.

This EIA Report is prepared in accordance with the 2011 EIA Directive (2011/92/EU), as amended by the 2014 EIA Directive, the Environmental Protection Agency (EPA) Draft "*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports"* (2017) and the EPA Draft *"Advice Notes for Preparing Environmental Impact Statements"* (2015). This EIA Report has also been prepared in accordance with the requirements of EIA Directives (2011/92/EU and 2014/52/EU, The "*Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment"* (August 2018) and the European Commission *Guidance on the preparation of the Environmental Impact Assessment Report* have been considered in the preparation of the EIA report.

The cumulative impact of the development and the potential cumulative impacts of the proposed development with any/all relevant other planned or permitted developments are discussed each chapter.

Consultation

EdgeconneX and the project team have liaised with the relevant departments of SDCC in advance of lodgement of this application. In addition, the relevant specialists have liaised with statutory bodies including Irish Water, Bord Gais, Eirgrid, ESB, Inland Fisheries Ireland (IFI) and NPWS etc. by correspondence during the course of the EIA Report preparation. Site meetings were held with IFI and NPWS in relation to mitigating risks to the River Griffeen and the Otter Holt respectively.

Regulatory Control

The proposed transmission of electricity is not an EPA regulated activity in terms of the Industrial Emissions Directive (which replaced the IPPC directive). The operator will ensure the relevant regulatory requirements relating to power activities are met.

Contributors to the EIA Report

The preparation and co-ordination of the EIA Report has been completed by AWN in conjunction with experienced specialists. The role and responsibility of each contributor, their qualifications and relevant experience are detailed in Chapter 1 (Introduction) of the EIA Report.

2.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed 110kV underground transmission line connections will originate from the Kishoge 110kV GIS substation. The substation was permitted as part of the development under Reg. Ref.: SD19A/0042 and ABP Ref.: 305948-19, as amended under Reg. Ref.: SD22A/0105. 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 before continuing to the south and crossing the R134 New Nangor Road. The route then proceeds further southward and to the southeast to cross the R120, continues to the south and then to the east (adjacent to the Old Nangor Road), crossing the Griffeen River and proceeding eastwards and then south before crossing the Baldonnel Road and proceeding eastward within lands to the south of the Grange Castle South Business Park access road, before reaching and connecting to the Aungierstown – Castlebaggot underground transmission line. The Kishoge to Aungierstown transmission line circuit will include 4 no. joint bays, while the Kishoge to Castlebaggot transmission line circuit will include 5 no. joint bays. The proposed 110kV underground transmission line connections will cover a distance of c. 2.2 kilometers.

Figures 2 and 3 below illustrates the locations of the Kishoge, Aungierstown and Castlebaggot Substations and presents a site layout plan showing the route of the proposed underground 110kV transmission line connections between the Kishoge 110kv Gas Insulated switchgear (GIS) substation on a site within the townland of Ballymakaily, West of Newcastle Road (R120), Lucan, Co. Dublin, and the permitted Aungierstown – Castlebaggot underground 110kV transmission line located at Grange Castle South Business Park, Baldonnel, Dublin 22.

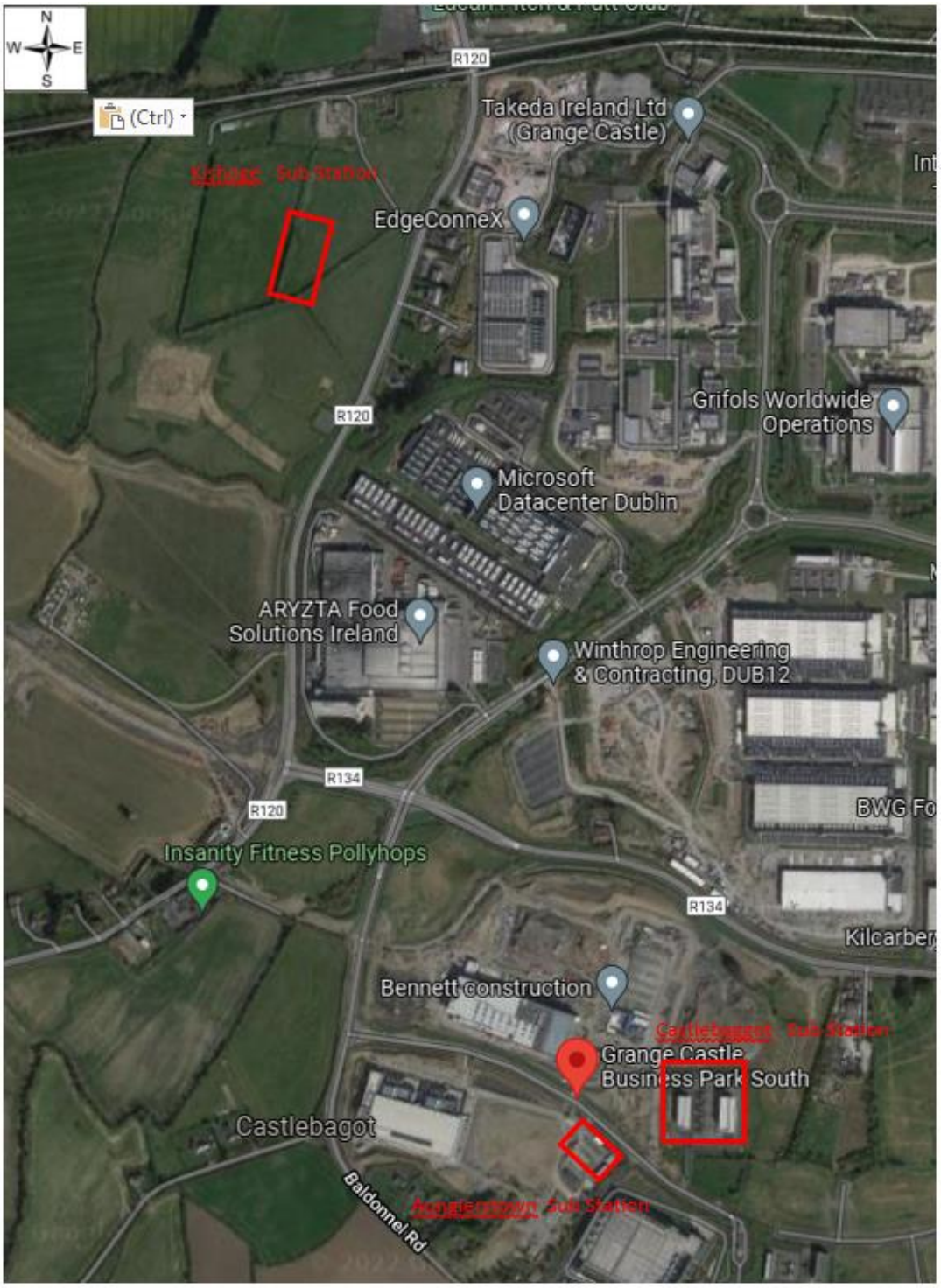

Figure 2: Locations of the Kishoge, Aungierstowns and Castlebaggot substations

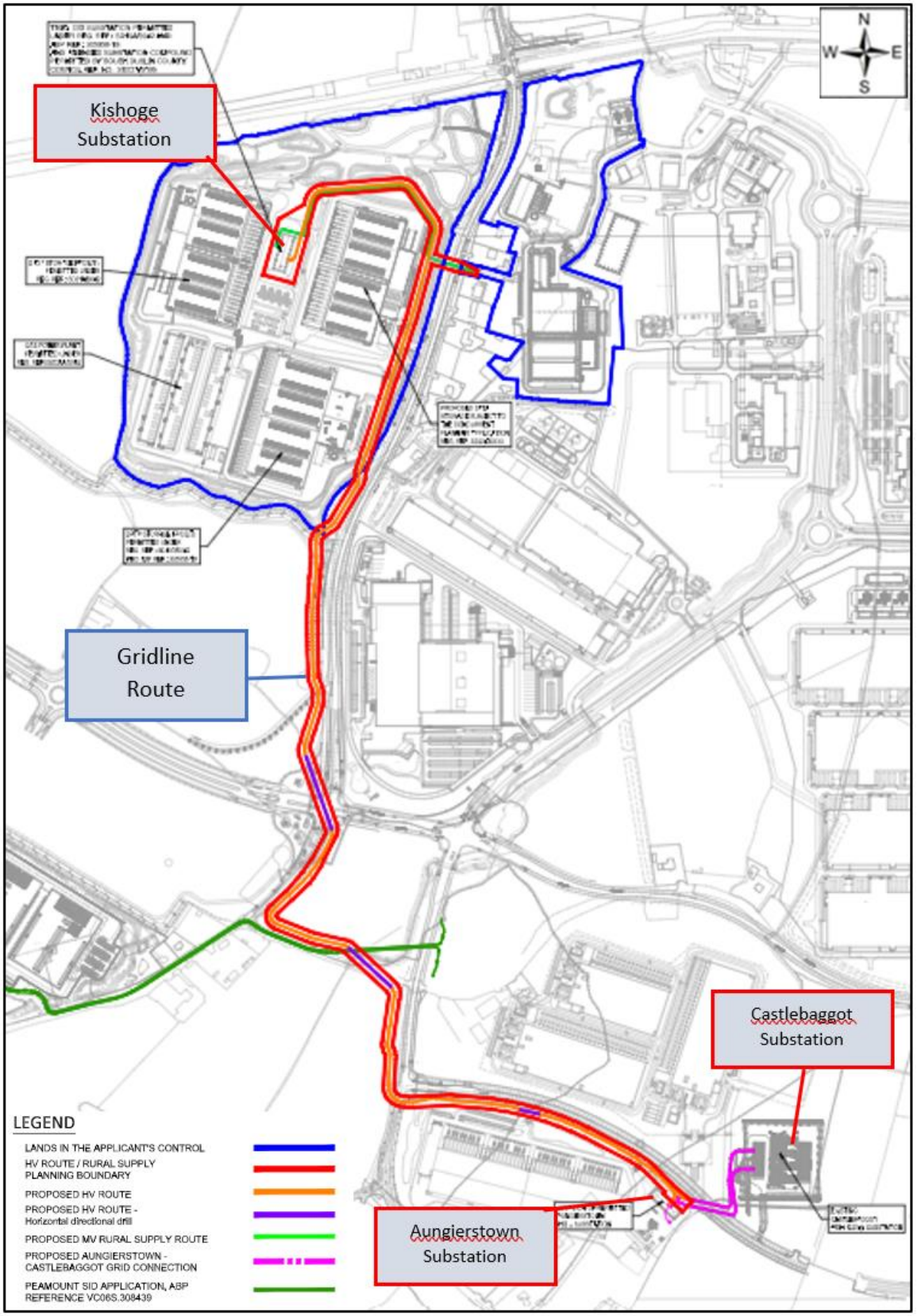

Figure 3: Location of route option (extract from CSEA Proposed Overall Route Plan ESSDUB98-CSE-01XX-DR-C-2120)

Further detail on the proposed development, site infrastructure and secondary facilities on the site are provided in Chapter 2 of the EIA Report.

Under the EPA EIA Report Guidelines 2022, the description of the existence of the project is required to define all aspects of the proposed lifecycle of the proposed development and a full description is included in Chapter 2 of the EIA Report.

Construction

The design of the underground cable will comprise two single transmission lines installed underground in HDPE ducting. The 110kV cables will be a standard XLPE (cross-linked polyethylene) copper cable. XLPE does not contain oil, therefore there is no risk of migration of oil into ground in the event of a failure.

The installation of the HDPE ducting will require the excavation of one trench along the route; the trench will contain two 110kV transmission lines. The optimum depth of excavation required to facilitate installation of the ducting is 1.25m below ground level (bgl) but may increase to up to c. 3m at utility crossings. The optimum width of the trench is 1.5m, however this may vary depending on ground conditions and existing services.

Construction installation works will be undertaken on a phased basis along the length of the proposed cable installation.

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

The work programme will span approximately 10 months. A Construction Environmental Management Plan (CEMP) will be provided prior to commencement of construction. The CEMP will incorporate mitigation measures outlined in the EIA report and which are required to be implemented by the contractor during construction works.

Description of other Developments

A list of the other developments in the vicinity of the proposed development are provided in Chapter 3 (Planning, Development and Alternatives Context).

3.0 PLANNING, DEVELOPMENT AND ALTERNATIVE CONTEXT

3.1 PLANNING AND DEVELOPMENT

The site for the proposed development is situated within the administrative area of South Dublin County Council (SDCC). The relevant national, regional and local planning policy with which the proposed development complies is outlined in Chapter 3.

The Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy was published by the Department of Business, Enterprise and Innovation in June 2018. The Statement notes the role which data centres play in Ireland's ambition to be a digital economy hot-spot in Europe. This policy document is of relevance to the current development proposal as the gridline will permit the permitted data storage facility and substation to be connect to the grid.

The Statement includes a section dealing with electricity infrastructure. The Statement includes the following statement in relation to the electricity infrastructure requirements of planned and projected data centre development:

"Currently, a large portion of existing and planned data centres that are due to connect to the electricity system are expected to be in the Dublin area. Based on existing data centres, committed expansion and expected growth, total demand could treble within the next ten years. A consistent and supportive whole of government approach will be brought to the realisation of the transmission and distribution assets required to support the level of data centre ambition that we adopt."

The current proposal constitutes the provision of infrastructure required to provide electricity for the development of the area, including permitted and under consideration datacentres. The current proposed gridline is therefore supported by this Government policy.

The National Planning Framework was published in February 2018 and contains policies which are supportive of the development of ICT infrastructure, with particular reference made to 'datacentres'.

National Strategic Outcome 6 of the NPF relates to the creation of "*A Strong Economy Supported by Enterprise, Innovation and Skills*". This strategic outcome is underpinned by a range of objectives relating to job creation and the fostering of enterprise and innovation.

The following objective, relating to ICT infrastructure (including datacentres) is included under National Strategic Outcome 6:

"Promotion of Ireland as a sustainable international destination for ICT infrastructures such as data centres and associated economic activities."

The current application proposes infrastructure to support the delivery of permitted data storage facility development. NPF National Strategic Outcomes are addressed further in chapter 3.

The planned gridline route is located within the South County Dublin administrative area and the proposed development is to be located within an area zoned EE (Enterprise and Employment) under the County Development Plan with the stated aim: "To provide for enterprise and employment related uses". The proposed use is a permitted use under the EE zoning.

The proposed development represents a "Public Services" use, which is permissible under the relevant zoning objective. Public Services, as defined within Schedule 5 of the Development Plan.

The County Development Plan supports the provision of transmission and energy infrastructure with the appropriate service providers such as ESB Networks and Eirgrid that facilitates the economic development and expansion of the County.

Significant precedent exists for the establishment of this use on other EE zoned lands in the area. EE zoned areas are established economic industrial areas running essentially in an arc northward from City West to Grange and Grange Castle.

The South Dublin County Development Plan for 2022 - 2028 was published on the 7th of July 2021, adopted in August 2022 and the proposed development supports various objective under economic development and employment, energy and infrastructure and environmental services which are discussed in the context of this plan in chapter 3.

In conclusion it is considered that the proposed development is in accordance with the policies and objectives of the National Spatial Strategy, Draft Regional Spatial and Economic Strategy for the Eastern and Midlands Regional Assembly and the South Dublin County Council Development Plan 2022 - 2028.

3.2 ALTERNATIVES

The route of the proposed gridline has been carefully selected based on a suitably comprehensive assessment of alternative routes.

Do Nothing Alternative
The 'do nothing' alternative would involve not constructing the transmission line between the permitted Kishoge Substation and the permitted Aungierstown – Castlebaggot underground 110kV transmission line located at Grange Castle South Business Park, Baldonnel, Dublin 22. This would mean the permitted EdgeConnex data centre and Kishoge substation would not be connected to the grid. In addition without this strategic piece of infrastructure, the future potential of the Grange Castle Business Park to facilitate further industrial activity could be limited.

Alternative Project Locations
As a key objective in the construction of the proposed transmission line is to provide support for current and future potential power demand to the permitted Kishoge substation and Edge Connex Data Storage Facility there is requirement to construct the transmission line to connect permitted site to the grid.

As part of the planning application process for the proposed transmission line, a number of alternative route options were generated as presented in Figure 3.1 of Chapter 3.

An assessment of the different proposed routes was undertaken between the permitted Kishoge substation and the permitted Aungierstown – Castlebaggot underground 110kV transmission line to determine the most appropriate route. Candidate routes were subject to a high level assessment in terms of the following criteria:

1. Duration of Effects
2. Quality of Effects
3. Significance of Effects

The assessment methodology for the preferred route selection involved a comparative evaluation of the identified route options taking account of a range of environmental criteria outlined in chapter 3.

Based on engineering assessment option 1 (figure 3.2, chapter 3) was concluded as the preferred route due to volume of services within the existing roads and number of crossings and all other routes impacting existing developed sites.

For the operational phase, it was determined that there would be a neutral preference for either route as the impacts are the same for each environmental factor (i.e. *long-term, neutral* and *imperceptible*).

4.0 POPULATION AND HUMAN HEALTH

This chapter evaluates the impacts if any, of the proposed development on population and human health. The potential human receptors within the environs of the proposed development include residential developments, e.g. Adamstown, Finnstown and the Griffeen Valley residential areas which are all located to the north of the site beyond the railway line. Also included are residential areas in Clondalkin to the east of the site. Other receptors include industrial and commercial businesses in the Grangecastle Business Park to the east for the gridline and substation.

Overall, It is predicted that there will be a temporary, imperceptible, positive effect on local business with the limited presence of a very small number of construction workers using local facilities during the construction phase.

The main potential impacts on human beings associated with the proposed gridline will be in temporary impact on air quality, noise, traffic and visual effects during the construction stage. Modelling has been undertaken to confirm the impact on the environment and human health for construction and operation phases and is described in the relevant chapter of the EIAR and summarised in relevant sections below.

There is no direct impact on impact on the local parks or the larger amenity areas as a result of the proposed development.

The proposed development has the potential for an impact on the health and safety of workers employed on the site, particularly during the construction phase. The activities of contractors during the construction phase will carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013) to minimise the likelihood of any impacts on worker's health and safety.

It is expected that the proposed transmission cable development will have a positive and long-term effect on the immediate hinterland through facilitating the provision of adequate electricity supply that could potentially facilitate in turn future employment opportunities.

There are no predicted adverse residual effects primarily due to the development being underground.

5.0 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

The chapter assesses and evaluate the potential impacts to land, soils, geology and hydrogeology during the construction and operational phases of the Proposed Development.

The natural undisturbed subsoil has been classified as limestone till. This is the dominant subsoil type in the region and is a glacial deposit which has a low permeability. no continuous perched water table was observed during a number of previous site investigations at the wider Grange Castle Business Park.

Inspection of the available GSI maps show that the bedrock geology underlying the site belongs is of the -Lucan Formation consisting of 'Calp' limestone (i.e. sequences of dark grey massive limestones, shaley limestones, and massive mudstones). The GSI currently classifies the aquifer vulnerability in the region of the site as High (H) to extreme (E). Based on trial pits from 2019 site investigations undertaken as part of the application for the permitted data storage facility development (under SDCC SD20A/0121), overburden thickness was confirmed as up to c. 2 m deep to the south of the gridline route.

Based on the NRA methodology (refer Appendix 5.1), the criteria for rating site importance of hydrogeological features, the importance of the hydrogeological features at this site is rated as medium importance. This is based on the assessment that the attribute has a medium-quality significance or value on a local scale. The aquifer is a Locally Important Aquifer but is not widely used for public water supply or generally for potable use. Furthermore, based on the regional and site-specific information available the type of Geological/ Hydrogeological Environment as per the IGI Guidelines is *Type B – Naturally Dynaic Hydrogeological Environment.*

Shallow cut and fill will be required to facilitate construction of the substation and the installation of the 2 No 110 kV transmission lines. The average cut depth for the installation of the transmission line will be 1.38 mbgl but may increase up to approximately in places. It is estimated that approximately 7,000 m^3 of topsoil/subsoils will be excavated to facilitate construction of the proposed project. Local removal and reinstatement (including infilling) will not change the overall vulnerability category for the local subsurface area as the excavations are localised and shallow in depth

Based on the expected inflows within the shallow sediments, no significant dewatering will be required during the construction phase. There may be localised pumping of surface water from shallow excavations during and after heavy rainfall events. Any surface water run-off will be adequately contained and treated prior to being discharged into the drainage network, which has the capability of supporting the additional water.

Based on the natural conditions present and with appropriate mitigation measures to reduce the potential for any impact of accidental discharges to ground during this phase, the potential impact on land soils, geology and hydrogeology during construction are considered to have a temporary, imperceptible significance, with a neutral impact on quality. Due to the fact that this a gridline there will be no operational phase and hence there will be no impact to the hydrogeological environment following the construction phase of the project Cumulatively the impact will be temporary, imperceptible significance, with a neutral impact on quality

Chapter 5 of the EIA Report assesses and evaluates the potential impacts of the proposed development on the land, geological and hydrogeological environment.

6.0 HYDROLOGY

The chapter evaluates the potential impacts on the surrounding hydrological environment during the construction and operational phases of the Proposed Development.

The Griffeen River (stream) is located to the southwest of the Grange Castle Business Park Site and will be intersected by the proposed gridline route. The Griffeen River rises in the townland of Greenogue, approximately 3.5 km south of the Proposed Development. It flows in a northerly direction where it is culverted beneath the Grand Canal and from there it flows north through Lucan. The Griffeen River enters the River Liffey just north of Lucan town. A section of the Griffeen was realigned during the construction of the Business Park and associated access roads and it now runs alongside the Grange Castle Business Park internal access road in a northerly direction.

A desktop Flood Risk Assessment was completed by AWN and is included in Chapter 6 for the EIAR. The assessment identified no flood hazards for the Proposed Development.

There is no significant dewatering anticipated during the construction works due to the shallow depth of the excavations required. As such the only pumping required may be for collected stormwater run-off in any open excavations.

There will be no additional hard standing from the installation of the 110 kV transmission line routes as the trenches will be reinstated to what was present before works. Containment measures planned will minimise the risk of release of solid/ liquid material spillages to the water environment. All fuels will be stored on the site compound.

To further minimise risk to water quality, mitigation measures are planned during the construction work. These include compliance of contractors with a Construction Environmental Management Plan (CEMP) including management of silty water, management of any accidental local spills from construction vehicles and management of run-off during works in the vicinity of the Griffeen River. The Griffeen River intersects the proposed development route to the south. Consultation has been undertaken with Inland Fisheries Ireland, South Dublin County Council and the NPWS. On the basis of their responses the contractor will be undertaking a Horizontal Directional Drill (HDD) beneath the River Griffeen. A Method Statement for the HDD is provided and discussed in Biodiversity Chapter. The HDD approach mitigates any risks posed to the River Griffeen.

The proposed Project will have no significant impact on the natural surface water regime either qualitatively or quantitatively. As such the residual impact is **long-term-imperceptible-neutral**.

7.0 BIODIVERSITY

This chapter provides an assessment of the impacts of the proposed development in question on the ecological environment, i.e. flora and fauna.

The proposed development is to take place in improved grassland areas and areas of recolonising ground of relatively low ecological value.

The proposed development areas currently comprise recolonising bare ground, amenity grassland and buildings and artificial surfaces.

The Griffeen River will be crossed by drilling under the river which maintains the integrity of the water course, avoids the otter habitat and potential disturbance to otters and avoids potential effects on water quality and also on salmonids and crayfish.

There will be no direct or indirect impact on otters on the Griffeen River.

There will be no direct or indirect impact on badgers.

There will be no direct or indirect impact on bats.

There will be no direct or indirect impact on birds.

The proposed development will have no predicted significant impacts Biodiversity, therefore cumulative impacts can be ruled out.

The conclusion of a report for AA Screening is that the possibility of any adverse effects on the integrity of the European Sites considered, or on the integrity of any other European Site (having regard to their conservation objectives), arising from the proposed development, either alone or in combination with other plans or projects, can be excluded.

8.0 AIR QUALITY AND CLIMATE

This chapter assesses the anticipated air quality impact associated with the proposed development at nearby noise sensitive locations.

The likely impacts on air quality and climate as a result of the proposed installation of the Kishoge Substation 110kV Transmission Cable have been assessed.

In terms of the existing air quality environment, baseline data and data available from similar environments indicates that levels of nitrogen dioxide and particulate matter less than 10 microns and less than 2.5 microns are generally well below the National and European Union (EU) ambient air quality standards.

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC). Data from the EPA in 2021 estimates that Ireland had total GHG emissions for 2020 of 57.7 million tonnes carbon dioxide equivalent (Mt CO2eq). This is 6.73 Mt higher than Ireland's emission ceiling for 2020 as set under the EU's Effort Sharing Decision (ESD), 406/2009/EC. Emissions are predicted to continue to exceed the targets in future years.

Air Quality

During the construction phase there is the potential for dust emissions to impact nearby sensitive receptors resulting in potential dust soiling and human health impacts. Best practice mitigation measures have been proposed for the construction phase of the proposed development in order to mitigate potential dust impacts. Provided the mitigation measures outlined within Chapter 8 are implemented construction dust impacts will be short-term, negative, localised and imperceptible at nearby sensitive receptors.

There are no predicted impacts to air quality during the operational phase of the proposed development. Therefore, the operational phase is considered neutral for air quality.

Climate

Based on the scale and short-term nature of the construction works, the potential impact on climate change from the construction of the proposed development is deemed to be short-term and imperceptible in relation to Ireland's obligations under the EU 2030 target.

No significant on-site CO2 emissions will occur as a result of the operation of the proposed development.

There are no predicted impacts to climate during the operational phase of the proposed development. Therefore, the operational phase is considered neutral for climate.

Human Health

The best practice dust mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development is likely to be short-term, localised, negative, imperceptible with respect to human health.

As demonstrated by the dispersion modelling results, pollutant concentrations with the proposed development operational are compliant with all National and EU ambient air quality limit values and, therefore, will not result in a significant impact on human health.

There are no predicted impacts to human health during the operational phase of the proposed development. Therefore, the operational phase is considered neutral for human health.

Mitigation Measures

A dust management plan will be implemented during the construction phase of the proposed development to ensure that no significant dust nuisance occurs outside the site boundary.

Residual Impacts

If the mitigation measures outlined in this assessment are implemented, there will be no residual impacts of significance on air quality or climate from the construction phase of the proposed development. No significant impacts to either air quality, climate, or human health are predicted during the operational phase of the proposed development.

9.0 NOISE AND VIBRATION

AWN Consulting Limited has been commissioned to conduct an assessment into the likely environmental noise and vibration impacts of the proposed Kishoge Substation/DUB04/DUB05 Grid Connection (the 'Proposed Development').

The background noise environment has been established through noise monitoring surveys undertaken at several noise-sensitive locations (NSLs) surrounding the Proposed Development. Typical background noise levels for day and night periods at various wind speeds have been measured in accordance with guidance contained ISO 1996: 2017 Acoustics – Description, Measurement and Assessment of Environmental Noise. Prevailing noise levels are primarily attributable to traffic in the surrounding area, distant construction activity and a degree of industrial noise from existing facilities.

When considering a development of this nature, the potential noise and vibration effects on the surroundings must be considered for two stages: the short-term construction phase during which noise is generated by the construction machinery and plant, and the long-term operational phase, where no noise or vibration is generated by the underground cable.

The assessment of construction noise and vibration and has been conducted in accordance with best practice guidance contained in BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration. Subject to good working practice as recommended in the EIAR Chapter, it is not expected that there will be any significant noise and vibration impacts associated with the construction phase and the likely noise from construction activity at the nearest Noise Sensitive Locations (NSLs) is well below recommended significance threshold values. The associated construction noise and vibration impacts are not expected to cause any significant effects either on its own or cumulatively.

As the proposed 110kV lines will be located underground there is no operational noise impact associated and therefore no significant effect associated with the Proposed Development. No significant vibration effects are associated with the operation of the underground cable.

In summary, the noise and vibration impact of the proposed development is not significant

10.0 LANDSCAPE AND VISUAL IMPACT

The Proposed Development site has the character of an industrial park typified by wide roads and verges and ongoing construction of infrastructure and built-development. The landscape character could also be categorised as transitional. There are still some areas within Grange Castle Business Park that have not been industrially developed and still currently have the landscape character of agricultural fields typified by traditional hedgerow boundaries, some of which are on the subject lands. The subject lands are also located in areas which are undergoing a significant amount of construction and are transitioning from agricultural fields to industrial built development.

The surrounding environment with its contrast of new built structures and historic field patterns would be considered a ‘transitional landscape’.

The existing views of the subject lands are not considered to have any inherent visual quality or landscape value. The only visible elements of any relevance are existing roadside hedgerows, meadow verges and trees of the surrounding fields along the route of the proposed transmission line connections.

In the Landscape Character Assessment of South Dublin County (Appendix 6, South County Dublin Development Plan 2022-2028), the subject lands are designated as being in the 'Urban Fringe/ Peri urban Character Area'. This area is listed as being low/none in terms of landscape sensitivity.

The impact of the removal of vegetation during construction would be negative, considered not significant in magnitude and long-term in its duration.
The impact of the change in landscape type during construction would be negative and considered slight in magnitude and temporary in its duration.

There will be no visual impact other than that associated with the removal of vegetation. There are no visual impacts deriving from any of the built development, as there will be no overground structures associated with the development. The visual impact of the Proposed Development is therefore neutral.

Reinstatement of any disturbed grassland, meadow, verges, roadside vegetation and green buffers which have been disturbed due to the proposed works; by seeding, replacing with grass turves and re-planting of young trees and hedgerow species will be completed as necessary.

Contracts will ensure good working practices to reduce any negative impacts arising from construction to the lowest possible level and to ensure that all machinery operates within clearly defined construction areas. Storage areas will be located to avoid impacting on sensitive views, trees, hedgerows, drainage patterns etc. and such areas will be fully re-instated prior to, and at the end of the construction contract. The works will also have continuous monitoring to ensure adequate protection of areas outside of the construction works. No monitoring or reinstatement will be required during operational phase.

11.0 ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

This chapter assesses the predicted impacts of the proposed development on archaeological, architectural and cultural heritage using a number of sources including the Record of Monuments and Places, the National Inventory of Architectural Heritage, the Excavations Database, cartographic, aerial photography and documentary sources.

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.

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.

Please note that the recommendations given here are subject to the ongoing approval of the National Monuments Service, Department of the Culture, Heritage and the Gaeltacht.

12.0 TRAFFIC AND TRANSPORTATION

This chapter of the EIAR assesses the likely traffic impacts of the proposed development to the road network in vicinity of the site.

The predicted traffic impact of the proposal is presented for the construction and operational phases. Remedial or reductive measures required to prevent, reduce, or offset any significant adverse effects are presented as part of the assessment.

The subject 110kV transmission line will extend from the Kishoge substation, in the townland of Ballymakaily, West of Newcastle Road (R120), Lucan, Co. Dublin, and the permitted Aungierstown – Castlebaggot underground 110kV transmission line located at Grange Castle South Business Park, Baldonnel, Dublin 22.

Classified Junction turning counts were undertaken as part of the Traffic Impact Assessment (TIA) undertaken for permitted data centre development under planning registry SDCC Planning Reg. Ref. SD20A/0121. The surveys were carried out on Tuesday 17th December 2019 over a period of 12-hours (07:00-19:00hrs). The surveys were undertaken by Irish Traffic Surveys (ITS), on behalf of CS Consulting on the following junctions:

- J1: Adamstown Road (R120) / Old Nangor Road / Peamount Road (R120) (former 3-arm priority-controlled junction; now cul de sac access only)
- J2: 3-arm Adamstown Road (R120) / R134 New Nangor Road signal-controlled junction
- J3: 3-arm R134 New Nangor Road / Baldonnel Road (L2001) signal-controlled junction
- J4: Baldonnel Road (L2001) / Old Nangor Road (former 4-arm priority-controlled junction; now defunct)
- J5: 3-arm Baldonnel Road (L2001) / Grange Castle Business Park South priority-controlled junction
-

Following the analysis of the surveys, network peak hours were determined to occur between 07:30-08:29hrs for the AM peak, and 16:30-17:29hrs for the PM peak.

Once operational, the 110kV transmission line does not require any full-time staff to operate it on a daily basis. However, maintenance works will take place annually. This will require up to 4 ESB staff to conduct testing over a period of 15 days (120 hours). This represents the worst-case scenario for traffic generation related to the proposal during the operational phase. Based on this, it is estimated that up to 2 no. vehicles trips are estimated to be generated by the proposal on critical time periods.

Subject to planning, construction works for this proposal are expected to commence in Q3 2023 and finalised in Q3 2024. At peak construction stage, a total of 24 no. PCUs trips associated with the proposal are expected to occur during both critical periods. HGV trips are expected to arrive and leave during the same hour.

A construction compound at the Edgeconnex site at Ballymakaily West of Newcastle Road (R120), Lucan, Co. Dublin will facilitate an office, portable sanitary facilities, equipment storage, parking etc. for contractors. It will be used for the duration of the works.

For the purpose of this report, a worst-case scenario has been assumed for traffic generation by assuming all trips to the site are by private car or HGV. Furthermore, it has been assumed that all construction traffic associated with the proposal will access via the N7/ R136/R134 and the N4/ R120, with 50% accessing from the north and 50% accessing from the south. On the other hand, due to the low volume of operational traffic estimated for the proposal, traffic generation for this phase has been assumed to access the site via the R134 New Nangor Road and R136.

In order to establish the traffic impact of the development proposal on the local road network, it is first necessary to understand the without development or 'do-nothing' scenario. As recommended by TII's TTA Guidelines, three assessment years are considered, namely: base year (2019), year of opening (YoO) which is assumed to be 2024; and a horizon year (YoO+15), i.e., 2039. The assessment will focus on assessing the proposed 110kV Transmission Line traffic impact during the critical time periods for the local road network, i.e., the AM peak hour (07:30-08:29hrs) and the PM peak hour (16:30-17:29hrs).

Existing traffic flows on the surrounding road network, have been adjusted through application of appropriate growth factors to determine YoO (2024) and YoO+15 (2039) traffic flows. For this assessment, growth factors were determined from the Transport Infrastructure Ireland (TII) Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections, May 2019 for the Dublin Metropolitan Area from 2016-2030 and from 2030-2040.

The committed developments traffic associated with the following planning applications have been taken into consideration for the assessment as they are proposals in the local area with approved planning permission that were not in place at the time of the traffic survey:

- SD18A/0134
- SD19A/0300
- SD20A/0121
- SD19A/0042 (Amendment SD22A/0105)
- SD21A/0042 (Amendment to condition 3(ii) and (iii): SD22A/0289)

Due to the low number of vehicles trip generation associated with proposed 110kV transmission line, the traffic flows through the junctions shall remain similar as existing

conditions. The percentage increase in traffic through the junctions is below 0.5%. This demonstrates that the traffic impact in the operational phase of the proposed development is **long-term, neutral,** and **imperceptible**.
The assessment undertaken has taken in consideration the traffic associated with all major schemes to be delivered in the vicinity of the site. The potential cumulative traffic impact associated with the development will be **long-term, neutral,** and **imperceptible**

Mitigation measures will be put in place to offset any potential traffic impacts associated with the development.

13.0 WASTE MANAGEMENT

This chapter evaluates the impacts, if any, which the Proposed Development may have on waste during construction. A site-specific Construction & Demolition Resource Waste Management Plan (C&D RWMP) has been prepared to deal with waste generation during the construction phase of the Proposed Development and is included as Appendix 13.1 of the Appendix document.

The assessment of the demolition and construction phase impacts of the Proposed Development arising from the consumption of resources and the generation of waste materials, was carried out taking into account the methodology specified in relevant guidance documents, along with an extensive document review to assist in identifying current and future requirements for waste management including national and regional waste policy, waste strategies, management plans, legislative requirements and relevant reports.

The receiving environment in terms of waste management is largely defined by SDCC as the local authority responsible for setting and administering waste management activities in the area.

During the construction phase, typical construction waste materials, such as soil and stones and trees/shrubbery, will be generated which will be segregated on-site into appropriate skips/containers and removed from site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption (see Chapter 13). Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site.

It has been estimated that c. 7,000m^3 of excavated material will be generated, of made ground soils/stones. Suitable soils and stones will be reused on site as backfill, where possible. However, it is currently envisaged that 7,000m^3 of the excavated material will require removal offsite. The importation of fill materials will be required for construction and to reinstate the trenches. This fill material will be specified by the Operator and is designed such that the maximum amount of protection is afforded to the electrical infrastructure beneath it.

Mitigation measures are outlined in Chapter 13 and are in line with those detailed in the project specific C&D RWMP which has been prepared for the Proposed Development. Some of the measures include waste minimisation, on-site segregation of waste and the appointment of a waste manager.

A carefully planned approach to waste management as set out in Chapter 13 and adherence to the C&D RWMP during the construction and demolition phase will ensure that the impact on the environment will be **short-term, neutral and imperceptible.**

There will be no waste generated during the operational phase of this development which means that there will be no environmental impact.

14.0 MATERIAL ASSETS

This chapter of the EIA Report evaluates the impacts, if any, which the proposed development may have on Material Assets. The impacts on the various material assets described above have been considered in the following chapters of this EIA Report as follows:

- Chapter 4 Population and Human Health;
- Chapter 8 Air Quality & Climate;
- Chapter 12 Traffic & Transportation; and
- Chapter 13 Waste Management.

Ownership and Access
The route for the proposed underground double circuit 110 kilovolt (kV) transmission cable installation travels through lands which are outlined indicated in Drawing No. ESSDUB98-CSE-01-XX-DR-C-2120 included in the Planning Drawings along with letters of consent are submitted with the planning documentation.

As the operational phase of the project will fall under the management of Eirgrid, the Applicant will not require access to the 3rd party owned lands during the operational phase of the project.

Power and Electrical Supply
The proposed 110kv cable provides a permanent power supply to the substation, the Applicant's site at Ballymakaily, West of Newcastle Road (R120), Lucan, Co. Dublin, including the permitted and proposed data storage facility and the wider grange Castle Business Park, as well as serving the wider Grangecastle and Lucan area.

The nature of the proposed development ensures continuity of supply of electricity.

During construction, contractors will require power for their onsite accommodation which will be sourced from the power supply at the permitted site when construction is completed.

In addition, some on-site equipment/plant and on-site lighting will require power supply which will be delivered through temporary on-site generators when works are underway on the section of the proposed cable installation along the R120, the Baldonnel Road and Profile Park Road

Telecommunications
There are no potential impacts associated with telecommunications for the proposed development for the construction phase or operational phases.

Surface Water Infrastructure
The construction of the cable installation will have no impact on existing surface water drainage along the route. There will be no impacts on Surface Water Infrastructure during the operational phase.

Foul Drainage
During the construction phase Welfare facilities (canteens, toilets etc.) will be required for the construction crew at the construction compound. Portable toilets may be provided onsite for construction staff. There will be no impacts on Foul Drainage Infrastructure during the operational phase.

Water Supply
Water supply will not be required for construction works along the route and there will be no impacts on Water Supply during the operational phase.

15.0 INTERACTIONS – INTERRELATIONSHIPS BETWEEN THE ASPECTS

This chapter of the EIA Report addresses potential interactions and inter-relationships between the environmental factors discussed in the preceding chapters. This covers both the construction and operational phase of the proposed development.

In the main, the majority of EIA Report chapters have already included and described assessments of potential interactions between aspects however this section of the assessment presents a summary and assessment of the identified interactions. In summary, the interactions between the environmental factors and impacts discussed in this EIA Report have been assessed and the majority of interactions are neutral.