1.0 INTRODUCTION

1.1 PROPOSED DEVELOPMENT

This Environmental Impact Assessment (EIA) Report has been prepared on behalf of Amazon Data Services Ireland Ltd (ADSIL) (herein referred as 'the Applicant') to accompany a planning application to An Bord Pleanála for planning permission for an underground double circuit 110kV transmission cable installation from the existing Belcamp 220kV and 110kV Substation to a permitted 110 kV Substation (Darndale Substation) located on the former Diamond Innovations site (Unit 1C), Clonshaugh Business & Technology Park and adjacent lands.

The development will be operated by ESB Networks. (herein referred to as 'the Operator').

Figure 1.1 presents a site layout plan showing the route of the proposed underground cable installation.

Figure 1.1 *Proposed Route of 110kV Underground cable installation*

A full description of the development is provided in Chapter 2 (Description of the Proposed Development).

The Clonshaugh 110kV transmission cable installation will be designed to support current power demand and future growth within the Clonshaugh area inclusive but not limited to the power requirements for the existing and proposed development within the site data storage facility (Buildings A, B, C and D) at the former Diamond Innovations site (Unit 1C), Clonshaugh Business & Technology Park and adjacent lands. Building A is fully operational (permitted under Planning Reg. Ref. 3874/15 and amendment applications in 2016) and construction is at an advanced stage on a second data storage facility (Building B) (permitted under Planning Reg. Ref. 4449/16). The balance of the site is currently undeveloped and is temporarily been used to facilitate construction of Building B. Building C was recently permitted

(planning Ref DCC 3096/18). Building D has been submitted for planning in October 2018.

1.2 CONTEXT

1.2.1 Legislative Requirements

This application is being made under the Planning and Development (Strategic Infrastructure) Act 2006, Section 182A to 182E.

The requirement for EIA for certain types and scales of development is set out in the EIA Directives (85/337/EEC, 97/11/EC, 2003/35/EC, 2008/1/EC and most recently 2014/52/EU) and given primary effect in Ireland by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018, European Communities (Environmental Impact Assessment) Regulations 1989-2006, Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001-2017. It should be noted that this EIA Report is prepared in accordance with the 2014 EIA Directive (2014/52/EU) and associated Irish legislation (referred to above).

The EIA Directives list those projects for which an EIA is mandatory (Annex I) and those projects for which an EIA may be required (Annex II). With regard to Annex II projects, Member States can choose to apply thresholds or use case by case examination or a combination of both to assess where EIA is required. In Ireland, a combination of both has been applied. The project proposed is not listed under Annex I EIA Directives. An EIA report has been provided as the proposed development will connect the data centre at Clonshaugh and an EIA was completed for these developments.

The main objective of an EIA, as set out in Article 3(1) of the 2014 EIA Directive, is to identify, describe and assess the direct and indirect significant impacts of a project on population and human health, biodiversity, land, soils, water, air & climate (including noise), material assets, cultural heritage and the landscape and the interaction between the aforementioned factors. The EIA Report (previously referred to as an Environmental Impact Statement or EIS) reports on the findings of the EIA process to date and informs the Planning Authority, statutory consultees, other interested parties and the public in general about the likely effects of the project on the environment.

1.2.2 Format of the EIA Report

This EIA Report has been prepared in accordance with the requirements of EIA Directives (2011/92/EU and 2014/52/EU). It is prepared in the Format Structure following the guideline structure set down in the Environmental Protection Agency (EPA) Draft "*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports" (*2017).

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.

Using the Grouped Format Structure, the EIA Report examines each environmental aspect in a separate chapter. Each chapter generally covers the following:

- Receiving Environment

- Characteristics of the Proposed Development
- Potential Impacts of the Proposed Development
- Do-Nothing Scenario
- Remedial and Mitigation Measures
- Predicted Impacts of the Development
- Residual Impacts

A Non-Technical Summary of the findings of the EIA Report is provided as a separate document.

A Schedule of Mitigation measures to be implemented as part of the proposed development is included in Appendix 1.1.

Cumulative impacts for each environmental topic are assessed in Chapter 15 of this EIA Report.

Interactions i.e. the interrelationship between each environmental aspect, are assessed as they occur in each chapter. The final chapter of the EIA Report, Chapter 16 shows where interactions have been identified and how they have been addressed.

1.2.3 Need for the Development

The Clonshaugh 110kV transmission cable installation will be designed to support current power demand of 110kV and future growth within the Clonshaugh area inclusive of but not limited to the power requirements for the existing and proposed development within the data storage facility at the former Diamond Innovations site (Unit 1C), Clonshaugh Business & Technology Park and adjacent lands.

The project is required to provide necessary infrastructure between the already built Belcamp Substation and the permitted Darndale Substation which is expected to be completed by Q2 2019.

1.3 COMPANY BACKGROUND

The Operator (ESB Networks) is a subsidiary within ESB Group and are the licensed operators of the electricity distribution system in the Republic of Ireland. They are responsible for building, operating, maintaining and developing the electricity network and serving all electricity customers across the country. ESB Networks performs its transmission related functions under the direction of Eirgrid. The Operator is committed to running its business in the most environmentally friendly way possible.

The applicant provides data storage, management and dissemination. To date, the Applicant has developed a number of data facilities in Ireland and are a significant Irish employer.

1.4 CONSULTATION

The Applicant met with An Bord Pleanala to confirm the development was a SID application and to discuss the scope for the planning application. Consultation has also been undertaken with the planned operator ESB Networks to ensure the project design meets their requirements.

In addition, the relevant specialists and project engineers (CSEA) have liaised with typical statutory bodies (including Irish Water, FCC and DCC, Eirgrid, ESB, NPWS etc.) by correspondence during the course of the EIA Report preparation.

AWN and the other respective EIA contributors have incorporated advice and comments received from consultees into the relevant chapters of this EIA Report.

1.5 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.

1.6 CONTRIBUTORS TO THE EIA REPORT

The preparation and co-ordination of this EIA Report has been completed by AWN Consulting in conjunction with specialist subcontractors. Specialist inputs were provided by the following (Table 1.1):

Role		Company
EIA Project Management		AWN – Teri Hayes
Engineering Design		Clifton Scannell Emerson & Associates (CSEA)
EIA Chapter No.	Chapter Title	Company & Consultant
	Non-Technical Summary	AWN – Input from each specialist
Chapter 1	Introduction	AWN – Teri Hayes
Chapter 2	Description of the Proposed Development	AWN – Teri Hayes
Chapter 3	Planning and Alternatives	AWN – Teri Hayes & Emer O Brien
Chapter 4	Population and Human Health	AWN – Teri Hayes with specialist input from Damian Kelly, Claire Flynn, Dr Fergal Callaghan and Elaine Conlon
Chapter 5	Land, Soils, Geology & Hydrogeology	AWN – Teri Hayes / Colm Driver
Chapter 6	Hydrology (including Stage 1 Flood Risk Assessment)	AWN – Teri Hayes / Colm Driver
Chapter 7	Biodiversity (including AA)	Moore Group – Ger O'Donohoe
Chapter 8	Air Quality & Climate	AWN – Dr Avril Challoner
Chapter 9	Noise & Vibration	AWN – Damian Kelly
Chapter 10	Landscape and Visual	Brady Shipman Martin - John Kelly
Chapter 11	Archaeological, Architectural and Cultural Heritage	CRDS Ltd. – Aislinn Collins
Chapter 12	Traffic & Transportation	Clifton Scannell Emerson Associates – Geoff Emerson & Elaine Conlan
Chapter 13	Material Assets	AWN – Teri Hayes & Emer O Brien
Chapter 14	Waste Management (including C&D Waste Management Plan)	AWN – Elaine Neary
Chapter 15	Cumulative Impact	AWN – Input from each specialist
Chapter 16	Interactions- Interrelationship between the Aspects	AWN – Teri Hayes

Table 1.1 Roles and Responsibilities in the EIA Report

Project Manager/EIA Co-ordinator/Selected Chapters, Teri Hayes, BSc (Geology), MSc (Hydrogeology) 1990. Teri is a member of the International Association of Hydrogeologists (Irish Group) – former president and the Institute of Geologists of Ireland – Professional Member. Teri is a Director with AWN Consulting with 25 years of experience in EIA Management, water resource management and contaminated land assessment. She has project managed and contributed to numerous environmental impact assessments and design of appropriate mitigation measures, acted as an expert witness at public hearings, lectured in EIA and providing expert advice on EIA sections for planning authorities.

Population & Human Health, Material Assets & Interactions; Emer O Brien BSc MSc. Emer O' Brien has a BSc in Environmental Management and a MSc in Environmental Science, Trinity College Dublin, 2014. Emer has worked as part of team projects in the planning and preparation of various environmental reports and EIA documents. She has written chapters for SEA/EIA examining Population and Human Health, Planning and Alternatives, and Waste Management for a diverse range of projects.

Biodiversity/Appropriate Assessment, Ger O'Donohoe, Ger graduated from GMIT in 1993 with a B.Sc. in Applied Freshwater & Marine Biology and completed an M.Sc. in Environmental Sciences, graduating from TCD in 1999. Ger has over 20 years of experience as an environmental consultant with experience in the planning and management of numerous complex Environmental Impact Assessments for large scale developments nationwide. He has wide ranging experience as an expert witness at public hearings.

Air Quality & Climate, Dr. Claire Flynn is Senior Consultant in the Air Quality section of AWN Consulting with over 9 years' experience in assessing air quality issues. She holds a BA (Hons) in Environmental Science from Trinity College Dublin and has completed an MSc in Applied Environmental Science in UCD. She is a Full Member of the Institute of Air Quality Management (MIAQM). She specialises in the fields of air quality, EIA and air dispersion modelling and has experience in the use of software packages such as DMRB and AERMOD for the air quality assessments of numerous data storage facility developments and other industrial projects.

Noise & Vibration, Damian Kelly, Director and Principal Acoustic Consultant holds a BSc from DCU and an MSc from Queens University Belfast. He has over 18 years' experience as an acoustic consultant. He is a member of the Institute of Acoustics. He has extensive knowledge in the field of noise modelling and prediction, having prepared the largest and most complex examples of road and industrial noise models currently in existence in Ireland. He was also co-author of the EPA document "*Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities" (2012)* and advised in relation to the noise limits applied to commercial developments by the various local authorities in the Dublin region.

Landscape and Visual, John Kelly, BArch (Hons) MRIAI. John is a qualified Architect and Managing Partner of Brady Shipman Martin and has over 25 years' experience of direct involvement in the planning, design and environmental assessment of major infrastructure, industrial, educational, commercial, tourism, leisure and energy projects, as well as large scale mixed-use master-plans. John utilises and develops photographic, surveying and digital methodologies that assist in establishing a thorough understanding of the three-dimensional characteristics of sites and their context.

Archaeology, Aislinn Collins, BSc. (Hons) MA PGDip DipEIAMgmt – Aislinn is the company EIA manager for CRDS Ltd., holds a BA in Archaeology and Geography (UCD), an MA in Geography (UCD), a Graduate Diploma in Architectural Inventory and Recording (DIT), and a Diploma in EIA Management (UCD). Since joining CRDS Ltd in 2001 Aislinn has amassed considerable experience in undertaking the archaeological, architectural and cultural heritage aspects of EIAs. She has project managed a number of key projects, including the archaeological components of the Athlone Cycleway and Pedestrian Bridge and Athlone to Garrycastle Greenway Part VIII Application, the Cork Docklands Transport Infrastructure EIS, and the Waterways Corridor Projects. She is also responsible for the company's architectural heritage section and has project managed architectural heritage assessments for standalone building projects, large scale environmental impact statements and has worked as an architectural recorder on large scale projects on behalf of the National Inventory of Architectural Heritage.

Traffic & Transportation, Elaine Conlan, B.A.I. Engineering (General Civil, Mechanical, Computer and Electronics, specialisation in Mechanical), Trinity College Dublin. B.A. Mathematics, Trinity College Dublin. Elaine is a traffic engineer with 10 years' experience in the traffic and transportation field. She has worked in consulting for seven years in Ireland and Australia and has been involved in a variety of projects. These projects include providing the required Traffic and Transportation input to many Development Planning Applications (including a number of Data Storage Facility applications), highway upgrade projects, tender designs, accident investigation, parking studies, traffic impact assessments, traffic management, traffic control, sustainable transport planning and road safety auditing.

Waste Management, Elaine Neary, BA (Natural Sciences), MApplSc. (Environmental Science) and is a Chartered Member of the Institute of Waste Management (MCWIM). She is an Associate in AWN and has over 15 years' experience in environmental consultancy with extensive experience in Waste Management and Environmental Impact Assessment. She has project managed, coordinated and prepared specialist inputs including the Waste Management Chapters, Operational and C&D Waste Management Plans for numerous EIS/EIA's.

1.7 DESCRIPTION OF EFFECTS

The quality, magnitude and duration of potential effects are defined in accordance with the criteria provided in the EPA Draft *'Guidelines on the information to be contained in Environmental Impact Assessment Reports'* (2017) as outlined in Table 1.2.

Effect Characteristic	Term	Description
Quality	Positive	A change which improves the quality of the environment
	Neutral	A change which does not affect the quality of the environment
	Negative	A change which reduces the quality of the environment
Significance	Imperceptible	An impact capable of measurement but without noticeable consequences
	Not significant	An effect which causes noticeable changes in the character of the environment but without noticeable consequences
	Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
	Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging trends
	Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.

Effect Characteristic	Term	Description
	Profound	An impact which obliterates sensitive characteristics
Duration of Effects	Momentary Effects	Effects lasting from seconds to minutes
	Brief Effects	Effects lasting less than a day
	Temporary Effects	Effects lasting less than a year
	Short-term Effects	Effects lasting one to seven years.
	Medium-term Effects	Effects lasting seven to fifteen years
	Long-term Effects	Effects lasting fifteen to sixty years
	Permanent Effects	Effects lasting over sixty years
	Reversible Effects	Effects that can be undone, for example through remediation or restoration
Probability of Effects	Likely Effects	The effects that can reasonably be expected to occur as a result of the planned project if all mitigation measures are properly implemented.
	Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Type of Effects	Indirect Effects	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
	Cumulative	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
	'Do Nothing'	The environment as it would be in the future should no development of any kind be carried out
	`Worst case' Effects	The effects arising from a project in the case where mitigation measures substantially fail
	Indeterminable	When the full consequences of a change in the environment cannot be described
	Irreversible	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual	Degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic	Where the resultant impact is of greater significance than the sum of its constituents

Table 1.2 Description of Effects as per EPA Guidelines (Draft, 2017)

1.8 ADDITIONAL ASSESSMENTS REQUIRED

This section addresses the additional approvals and assessments required under other EU Directives and legislation.

- **Appropriate Assessment Screening Report** and **Natura Impact Statement**– a screening report and NIS has been completed for the proposed development, as required under the Habitats and Birds Directive (92/43/EEC and 79/409/EEC) and is included as Appendix 8.1. of this EIA Report.

- **Flood Risk Assessment** - A Stage 1 Flood Risk Assessment has been undertaken for the site and is appended to Chapter 5 Hydrology as Appendix 7.2.

1.9 FORECASTING METHODS AND DIFFICULTIES IN COMPILING THE SPECIFIED INFORMATION

Forecasting methods and evidence used to identify and assess the significant effects on the environment for each environmental aspect are set out in each chapter.

There were no significant difficulties in compiling the specified information for this EIA Report. Any issues encountered during the assessment of individual factors are noted within the relevant chapters.

APPENDIX 1.1
SCHEDULE OF MITIGATION
Prepared by AWN Consulting Ltd.

SCHEDULE OF MITIGATION

1.0 INTRODUCTION

The Mitigation Measures proposed in the EIAR constitute important and enforceable undertakings about the details of how a project is developed and managed.

For ease of comprehension – during the Environmental Impact Assessment process by Consenting Authorities and during implementation of the measures by the applicant and contractors – it is useful to have an overview of all the measures that are proposed within the EIS to mitigate adverse effects.

This section provides a collection – or compendium – of all mitigation measures that are proposed. These are presented on a section-by-section basis – to comprehensively identify all proposed mitigation measures. These are often used as a source of conditions by Consenting Authorities – or indeed may be referred to by a single condition – requiring the implementation of all measures contained in this compendium.

Table 1 shows the Schedule of Mitigation Measures.

Project Phase	Mitigated By	Justification	Mitigation Measures	References
Hydrology				
Construction	Management	Environmental Pollution	A project-specific Construction Environmental Management Plan (CEMP) will be prepared and maintained during the construction phase of the project. The plan will cover all potentially polluting activities and include an emergency response procedure. All personnel working on the site will be trained in the implementation of the procedures. At a minimum, the manual will be formulated in consideration of the standard best international practice.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction	Prevention	Surface Water Run-off	There is no significant dewatering anticipated during the construction works due to the shallow nature of the excavation. Should any discharge of collected stormwater be required, discharge will be to surface water/foul sewer drainage system. The water will be treated before it will be discharged, with the use of a sediment trap or silt buster to avoid any siltation of the drainage system. Discharge will require a Section 4 permit (Council) or Irish Water licence (Foul Sewer).	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction	Prevention	Surface Water Protection	No temporary storage of soil will be permitted along the cable route. Excavated soil will be transferred by a licensed waste contractor and taken off site. Excavations will remain open for as little time as possible before placement of fill. This will help to minimise potential for water ingress into excavations.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.
Construction	Prevention	Surface Water Protection	Weather conditions will be considered when planning construction activities to minimise risk of run-off from the site.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction	Prevention	Surface Water Protection	Temporary facilities will be set up for workers at the construction compound on Applicant's current site at the former Diamond Innovations site (Unit 1C), Clonshaugh Business & Technology, and adjacent lands. Additional foul sewer capacity will not be required. There will be no impact interference in the operation of existing drainage infrastructure including the North Fringe sewer during the construction and operation of the proposed development.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.
Construction	Management	Surface and ground Water Protection	To minimise any impact from material spillages, all oils, paints etc. used during construction will be stored within temporary bunded areas at the construction compound at the Applicant's current site. Oil and fuel storage tanks shall be stored in designated areas, and these areas shall be bunded to a volume of 110% of the capacity of the largest tank/container within the bunded area(s) (plus an allowance of 30mm for rainwater ingress). Drainage from the bunded areas(s) if required shall be diverted for collection and safe disposal.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction	Management	Surface and ground Water Protection	Refuelling of construction will take place at the construction compound. In the event of a machine requiring refuelling outside of this area, fuel will be transported in a mobile double-skinned tank. An adequate supply of spill kits and hydrocarbon absorbent packs will be stored in this area. All relevant personnel will be fully trained in the use of this equipment.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.
Construction	Management	Surface and ground Water Protection	All ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters of contaminated storm water to underlying subsoil. Wash-down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction	Management	Surface and ground Water Protection	In the case of drummed fuel or other chemicals, which may be used during construction, these will be stored in the construction compound within a dedicated internally bunded chemical storage cabinet and labelled clearly to allow appropriate remedial action in the event of a spillage.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction		Accidental Releases	All re-fuelling of plant, equipment and vehicles will be carried out at the construction compound at the former Diamond Innovations (Unit 1C), Clonshaugh Business & Technology Park, and adjacent lands, Dublin 17. All fuels, chemicals, liquid and solid waste will be stored in areas bunded in accordance with established best practice guidelines at the construction compound also	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction	Management	Surface and ground Water Protection	Provision of spill kits	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; BPGCS005, Oil Storage Guidelines; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.
Construction	Management	Surface and ground Water Protection	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. A method statement will be prepared by the contractor for the temporary in stream crossing at Belcamp entrance which will include a teporary dam and over pumping to maintain stream flow during works. This will include spill management measures for any leaks from construction vehicles and sediment run-off.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.

Construction	Management	Surface and ground Water Protection	It is envisaged that all soil/stones arising on the site will be removed from the site and disposed of as a waste or, where appropriate, as a by-product by a licensed contractor and disposed to a licensed waste facility. Movement of material will be minimised to reduce degradation of soil structure and generation of dust. There will be no stockpiling or storage of excavated soil on site.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.
Construction	Management	Surface Water Protection	Access to the Belcamp substation will be by temporary open cut. A specific method statement will be prepared by the contractor including desgn using a dam and over pumping to maintain flow.	CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) Construction Industry Research and Information Association; CIRIA (2002) Control of water pollution from construction sites: guidance for consultants and contractors (SPI56) Construction Industry Research and Information Association; CIRIA (2005), Environmental Good Practice on Site (C650); Construction Industry Research and Information Association; CIRIA 697 (2007), The SUDS Manual; UK Pollution Prevention Guidelines, (PPG) UK Environment Agency, 2004.
Land, Soil and Geology				

Construction	Management	Environmental Pollution	In advance of work starting on site the works Contractor will author a Construction Methodology document taking into account their approach and any additional requirements of the Design Team or Planning Regulator. The Contractor will also prepare a Construction Environment Management Plan (CEMP). The CEMP will set out the overarching vision of how the construction of the proposed development will be managed in a safe and organised manner by the Contractor as per client requirements. The CEMP will be a live document and it will go through a number of iterations before works commence and during the works. It will set out requirements and standards which must be met during the construction stage and will include the relevant mitigation measures outlined in the EIA Report and any subsequent conditions relevant to the proposed development.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).
Construction	Management	Soil and Water Protection	Topsoil and subsoil will be excavated to facilitate the construction of the proposed transmission cable installation route and other ancillary works. It is envisioned that all soil/stones (topsoil & subsoil) arising on the site will be removed from the site and disposed of as a waste or, where appropriate, as a by-product by a licensed contractor. Soil tested and classified as hazardous or non-hazardous in accordance with the EPA Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous publication, HazWasteOnline tool or similar approved method. The material will then need to be classified as inert, non-hazardous, stable non-reactive hazardous or hazardous in accordance with EC Decision 2003/33/EC.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).

Construction	Management	Soil and Water Protection	The construction will be carefully planned to ensure only material required to be excavated will be removed off site as a waste by a licence contractor and be replaced with 'clean' engineering fill.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).
Construction	Management	Soil and Water Protection	There will be no stockpiling on site. It is proposed that the soil will be removed as it is excavated. The soil will be removed off site by a licence contractor to a licence facility.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).

Construction	Management	Soil and Water Protection	Dust suppression measures (e.g. damping down during dry periods), vehicle wheel washes, road sweeping and general housekeeping will ensure that the surrounding environment are free of nuisance dust and dirt on roads.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).
Construction	Management	Soil and Water Protection	It is envisioned that all soil/stones arising on the site will be removed from the site.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).

Construction	Management	Soil and Water Protection	All fill and aggregate for the proposed development will be sourced from reputable suppliers as per the project Contract and Procurement Procedures. All suppliers will be vetted for: - Aggregate compliance certificates/declarations of conformity for the classes of material specified for the proposed development; - Environmental Management status; and - Regulatory and Legal Compliance status of the Company.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).

Construction	Management	Soil and Water Protection	All storage of fuel and refuelling will occur on the already permitted construction compound within the former Diamond Innovation site. The following mitigation measures will be taken at the construction site in order to prevent any spillages to ground of fuels during machinery activities and prevent any resulting soil and/or groundwater quality impacts: - Refuelling will be undertaken off site , Where mobile fuel bowsers are used the following measures will be taken: - Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use; - The pump or valve will be fitted with a lock and will be secured when not in use; - All bowsers to carry a spill kit and operatives must have spill response training; and - Portable generators or similar fuel containing equipment will be placed on suitable drip trays. The aforementioned list of measures is non-exhaustive and will be included in the CEMP.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).

Construction	Management	Soil and Water Protection	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 foundation excavations, infiltration to the underlying aquifer is not anticipated.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).
Construction	Protection	Soil and Water Protection	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. All run-off will be prevented from directly entering into any water courses.A specific method state will be prepared by the contractor for the temporary river crossing.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).

Construction	Prevention	Soil and Water Protection	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 double circuit 110kV underground transmission cable installation. There may be localised pumping of surface run-off from the shallow excavations (up to 3m) during and after heavy rainfall events to ensure that the trenches are kept relatively dry.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).
Construction	Prevention	Soil and Water Protection	Should any discharge of construction water be required during the construction phase, discharge will be to surface water/storm water sewer. Pre-treatment and silt reduction measures on site will include a combination of silt fencing, settlement measures (Silt traps, silt sacks and settlement tanks/ponds) and hydrocarbon interceptors. Active treatment systems such as silt busters or similar may be required depending on turbidity levels to prevent any siltation of the surface water drainage system. Any surface water run-off will be adequately contained and treated prior to being discharged into the DCC drainage network.	Environmental Protection Agency (EPA) Draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (2017); Institute of Geologists of Ireland (IGI) 'Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements' (2013); and National Roads Authority (NRA) 'Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' (2009).
Biodiversity				

Construction	Management	Environmental Pollution	Accidental spillages and contaminated run-off will be avoided by construction management measures which are set out in the CEMP. The CEMP will include a reference to the Biodiversity Chapter of the EIAR which establishes the connectivity of the River Mayne and Baldoyle Bay and the requirement for avoidance in terms of both direct and indirect construction activity.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.

Construction	Management	Environmental Pollution	In order to reduce the risk of contamination arising as a result of spills or leakages, measures including, but not limited to, the following will be employed: - All re-fuelling of plant, equipment and vehicles will be carried out at the construction compound at the former Diamond Innovations site (Unit 1C), Clonshaugh Business & Technology, adjacent lands, Dublin 17. All fuels, chemicals, liquid and solid waste will be stored in areas bunded in accordance with established best practice guidelines at the construction compound also; - Provision of spill kits; and - 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. Provision of a contractor plan fortemporary river crossing showing use of dam and over pumping and spill control measures.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.

Construction	Protection	Ecological Protection	Potential impacts on birds will be avoided by cutting of vegetation outside the bird nesting season March 1st to August 31st.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.

Construction	Protection	Ecological Protection	Mature trees, which are to be removed, shall be felled in the period late August to late October, or early November, in order to avoid the disturbance of any roosting bats as per Transport Infrastructure Ireland (TII and formerly the National Roads Authority) guidelines (NRA 2006a and 2006b). Tree felling shall be completed by Mid-November at the latest because bats roosting in trees are vulnerable to disturbance during their hibernation period (November - April). Ivy-covered trees once felled, shall be left intact on-site for 24 hours prior to disposal to allow any bats beneath the foliage to escape overnight.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.

Construction	Prevention	Bat Protection	A bat specialist will survey the trees to be felled for roosting bats prior to felling and will provide detailed measures for any roosts found at that time.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.

Construction	Management	Ecological Protection	The mature trees that are to be removed, should, due to the passage of time, again be surveyed for bat presence by a suitably experienced specialist on the day of felling. If several bats are found within any one tree, that specific tree should be left in-situ while an application for a derogation licence is made to the National Parks and Wildlife Service to allow its legal removal.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.

Construction	Management	Bat Protection	The trees identified as having potential for use by bats should be felled carefully to avoid hard shocks which may injure any bats within. Large mature trees with bat roosting potential such as those onsite should essentially be felled by gradual dismantling by tree surgeons. Care should be taken when removing larger branches as removal of loads may cause cracks or crevices to close, crushing any animals within. Such cracks should be wedged open prior to load removal. If single bats are found during tree felling operations, they should be transferred to the previously erected bat boxes onsite.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.

Construction	Management	Bat Protection	To offset the loss of any tree roost a bat box scheme should be provided onsite. 'Schwegler' woodcrete bat boxes have been proven to be acceptable alternatives for bats and these are readily occupied. Boxes could be mounted on any large, retained tree. Erecting four to six boxes of the 2F design is recommended and these should be erected prior to tree felling to provide a site for relocation of any bats found during tree removal. These boxes require annual monitoring to ensure effectiveness and need cleaning occasionally if regularly used. Such monitoring is a licensed activity.	CIRIA Report C532 of Water Pollution from Construction Sites. CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland. Institute of Ecology and Environmental Management. Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010). EC (2000) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43EEC. European Commission, Brussels.
Air, Dust and Climatic Factors				
Construction	Management	Dust Management	The siting of activities and storage piles will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance. As prevailing wind is predominantly westerly to south-westerly, locating construction compounds and storage piles downwind (to the east or north-east) of sensitive receptors will minimise the potential for dust nuisance to occur at sensitive receptors.	BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites

Construction	Prevention	Dust Management	The following measures shall be taken in order to avoid dust nuisance occurring under unfavourable meteorological conditions: - The Principal Contractor or equivalent must monitor the contractors' performance to ensure that the proposed mitigation measures are implemented and that dust impacts and nuisance are minimised; - During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions; - The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board should also include head/regional office contact details; - It is recommended that community engagement be undertaken before works commence on site explaining the nature and duration of the works to local residents and businesses; - A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out; - It is the responsibility of the contractor at all times to demonstrate full compliance with the dust control conditions herein; - At all times, the procedures put in place will be strictly monitored and assessed.	BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites

Construction	Prevention	Dust Management	The dust minimisation measures shall be reviewed at regular intervals during the works to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practice and procedures. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed and satisfactory procedures implemented to rectify the problem.	BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites
Construction	Management	Dust Management	Movement of construction trucks along site roads (particularly unpaved roads) can be a significant source of fugitive dust if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. - A speed restriction of 20km/hr will be applied as an effective control measure for dust for on-site vehicles using unpaved site roads; - Access gates to the site shall be located at least 10m from sensitive receptors where possible; - Bowsers or suitable water equipment will be available during periods of dry weather throughout the construction period. Watering shall be conducted during sustained 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; - 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.	BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites

Construction	Management	Dust Management	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.	BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites
Construction	Management	Dust Management	The location and moisture content of storage piles are important factors which determine their potential for dust emissions. Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the site. Where possible storage piles should be located downwind of sensitive receptors. Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust. 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.	BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites

Construction	Management	Dust Management	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. In addition, public roads outside the site shall be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary.	BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites
Noise and Vibration				
Construction	Management	Noise Pollution	Limit the hours during which the site activities likely to create high levels of noise or vibration are permitted	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.

Construction	Management	Noise Pollution	Establish channels of communication between the contractor/developer, Local Authority and residents	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.
Construction	Management	Noise Pollution	Appoint a site representative responsible for matters relating to noise and vibration	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.

Construction	Management	Noise Pollution	Monitoring typical levels of noise and vibration during critical periods and at sensitive locations	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.
Construction	Management	Noise Pollution	Keeping site access roads even so as to mitigate the potential for vibration from lorries	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.

Construction	Management	Noise Pollution	It is envisaged that a variety of practicable noise control measures will be employed. These may include: - selection of plant with low inherent for generation of noise and/or vibration - placing of noisy/vibratory plant as far away from sensitive properties as permitted by site constraints	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.
Construction	Management	Noise Pollution	It is recommended that vibration from construction activities be limited to the values set out in Chapter 9 Noise and Vibration of the EIAR. It should be noted that these limits are not absolute but provide guidance as to magnitudes of vibration that are very unlikely to cause cosmetic damage. Magnitude of vibration slightly greater than those in the EIAR are normally unlikely to cause cosmetic damage, but construction work creating such magnitudes should proceed with caution. Where there is existing damage these limits may need to be reduced by up to 50%.	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.

Construction	Management	Noise Pollution	In certain instances works are expected to be slightly above the adopted noise criterion outlined in the EIAR. It should be noted that at an assumed cable laying rate of 100m per day, the equipment associated with the works would be expected to be within 20m to 30m of a specific property. This limited time frame for construction works in the vicinity of a specific property reduce the associated noise impacts significantly. In these instances the contractor shall give due consideration to the following best practice advice.	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.
Construction	Management	Noise Pollution	In these instances the Contractor will provide proactive community relations and will notify the public and sensitive premises before the commencement of any works forecast to generate appreciable levels of noise or vibration, explaining the nature and duration of the works. The Contractor will distribute information informing people of the progress of works and any likely periods of significant noise and vibration.	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.

Construction	Management	Noise Pollution	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.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.	British Standard BS 5228:2009+A1:2014 (Parts 1 and 2) Code of practice for noise and vibration control on construction and open sites EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (2017) and draft revised Guidelines on information to be contained in Environmental Impact Statements; and Advice Notes for preparing EIS (2015). Draft 'Guidelines for Noise Impact Assessment' produced by the Institute of Acoustics/Institute of Environmental Management and Assessment Working Party.
Material Assets: Water Supply, Drainage & Utilities				
Construction	Management	Water Supply & Foul Drainage Infrastructure	Welfare facilities (canteens, toilets etc.) will be available within the construction compound in the Clonshaugh data storage facility and this will remain in place for the construction of the proposed development. The watermain currently serving the Clonshaugh Data storage development will be utilised in order to serve the proposed development.	Dublin City Development Plan 2016-2022, Dublin City Council; TII Traffic and Transport Assessment Guidelines, 2014; Design Manual for Urban Roads and Streets (DMURS), 2013, Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government.

Construction	Management	Surface Water & Foul Sewer Infrastructure	The works contractor will put a number of measures in place to ensure that there are no interruptions to service in existing surface water sewers and private drains, unless this has been agreed in advance. Strict quality control measures will be undertaken while laying pipes to minimise or eradicate infiltration.	Dublin City Development Plan 2016-2022, Dublin City Council; TII Traffic and Transport Assessment Guidelines, 2014; Design Manual for Urban Roads and Streets (DMURS), 2013, Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government.
Traffic and Transportation				
Construction	Prevention	Environmental Pollution	The contractor will be required to provide wheel cleaning facilities, and regular cleaning of the main access road;	Dublin City Development Plan 2016-2022, Dublin City Council; TII Traffic and Transport Assessment Guidelines, 2014; Design Manual for Urban Roads and Streets (DMURS), 2013, Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government.
Construction	Prevention	Soil and Water Protection	Temporary car parking facilities for the construction workforce (10 spaces) will be provided within the site and the surface of the car park will be prepared and finished to a standard sufficient to avoid mud spillage onto adjoining roads	Dublin City Development Plan 2016-2022, Dublin City Council; TII Traffic and Transport Assessment Guidelines, 2014; Design Manual for Urban Roads and Streets (DMURS), 2013, Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government.

Construction	Prevention	Traffic Congestion	Monitoring and control of construction traffic will be ongoing during construction works. Construction traffic will minimise movements during peak hours, with all works requiring access to the R139 carriageway to be conducted between the hours of 7pm to 6am	Dublin City Development Plan 2016-2022, Dublin City Council; TII Traffic and Transport Assessment Guidelines, 2014; Design Manual for Urban Roads and Streets (DMURS), 2013, Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government.
Construction	Prevention	Traffic Congestion	Construction Traffic routes minimising traffic impact on surrounding residential development will be used by construction vehicles.	Dublin City Development Plan 2016-2022, Dublin City Council; TII Traffic and Transport Assessment Guidelines, 2014; Design Manual for Urban Roads and Streets (DMURS), 2013, Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government.
Waste Management				
Construction	Management	Environmental Pollution	Prior to commencement of construction, the contractor(s) will be required to refine/update this document to detail specific measures to minimise waste generation and resource consumption and provide details of the proposed waste contractors and destinations of each waste stream.	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC

Construction	Management	Environmental Pollution	Suitable soils and stones will be reused on site as backfill in the grassed areas, where possible. However, it is currently envisaged that majority of this material will require removal offsite. It will be reused offsite where practical and where it cannot be reused, it will be recycled/recovered.	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Construction	Management	Environmental Pollution	On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery – it is anticipated that the following waste types, at a minimum, will be segregated: o Soils and stones o Tarmacadam o Trees/shrubbery In addition, the following wastes will be segregated at the site compound: - Organic (food) waste - Packaging (paper/card/plastic) - Mixed dry recyclables - Mixed non-recyclable waste	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Construction	Management	Environmental Pollution	All excavations will be carefully monitored by a suitably qualified person to ensure that potentially contaminated soil is identified and segregated, if encountered. In the event that any potentially contaminated material is encountered, it will be segregated from clean/inert material, tested and classified as either non-hazardous or hazardous and further classified as clean, inert, non-hazardous or hazardous in accordance with the EC Council Decision 2003/33/EC, which establishes the criteria for the acceptance of waste at landfills.	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC

Construction	Management	Environmental Pollution	Waste materials generated at the site compound will be stored in suitable receptacles in designated areas of the site compound	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Construction	Management	Environmental Pollution	Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Construction	Management	Environmental Pollution	A waste manager will be appointed by the main contractor(s) to ensure effective management of waste during the excavation and construction works	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC

Construction	Management	Environmental Pollution	All construction staff will be provided with training regarding the waste management procedures	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Construction	Management	Environmental Pollution	All waste leaving site will be reused, recycled or recovered where possible to avoid material designated for disposal	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Construction	Management	Environmental Pollution	All waste leaving the site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licenced facilities	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC

Construction	Management	Environmental Pollution	All waste leaving the site will be recorded and copies of relevant documentation maintained	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Construction	Management	Environmental Pollution	As surplus soils and stones will require removal from site, any nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, which requires removal off-site.	The Eastern-Midlands Region (EMR) Waste Management Plan 2015 – 2021. The Dublin City Development Plan 2016 – 2022. European Communities Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Landscape and Visual Assessment				
Construction	Reinstatement	Ecological Restoration	The proposed route is substantially within an existing road carriageway that can readily be reinstated to its pre-construction condition, and the limited and localised impacts on vegetation will be replanted following construction and will quickly restore the integrity of the tree screening.	EPA Draft 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' (2017) 'Draft Advice Notes for preparing Environmental Impact Statements' (2015)
Archaeology				
Construction	Protection	Protection of Local Heritage	The townland boundary located at the southwest end of the proposed development will be subject to a topographic and photographic survey.	
Construction	Protection	Protection of Local Heritage	The laneway which formerly provided access to the farm outbuildings of Woodlands will be subject to pre-development archaeological testing.	

Construction	Protection	Protection of Local Heritage	Should archaeological features or material be uncovered during archaeological testing or any phase of construction, ground works will cease immediately and the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht should be informed. Time must be allowed for a suitably qualified archaeologist to inspect and assess any material. If it is established that archaeologically significant material is present, the National Monuments Service may require that further archaeological mitigation be undertaken.	