

Glossary of Terms

Terms	Meaning
AADT	Annual Average Daily Traffic (expressed in vehicles per day)
AA	Appropriate Assessment An assessment carried out under Article 6(3) of the Habitats Directive of the implications of a plan or project, either individually or in combination with other plans and projects, on a European site in view of the site's conservation objectives.
ABP	An Bord Pleanála
Acquisition	Property that is to be purchased by the local authority.
ADMS-Roads model	The ADMS-Roads pollution model is a comprehensive tool for investigating air pollution problems due to networks of roads that may be in combination with industrial sites, for instance small towns or rural road networks.
Alkalinity	Is a measure of the ability of a solution to neutralise acids.
Alluvium	Sediment deposited by flowing water.
Annex I habitat	Habitat types listed on Annex I of the EU Habitats Directive whose conservation requires the designation of Special Areas of Conservation.
Annex II species	Species listed on Annex II of the EU Habitats Directive whose conservation requires the designation of Special Areas of Conservation.
Annex IV species	Species listed on Annex IV of the EU Habitats Directive which are afforded strict protection under EU and national legislation.
aOD	Above ordnance datum
Aquifer	A subsurface layer or layers of rock that store and transmit water in significant quantities.
Arterial Drainage	Artificial drainage work carried out to support natural drainage networks.
Attenuation pond	Water pond used for the collection and slow release of water runoff from the road.
At-Grade Junction	Junction where roads converge at the same level.
At-grade signalised junctions	Road junction, where roads converge at the same level, which is controlled by traffic signals.
AQS	Air Quality Standards
Baronies	The historical subdivision of a county.
Baseflow	The background level of flow of water in a stream or other surface water feature during dry periods (which in many cases will be due solely to groundwater discharge).
Base year	Year used as the beginning or the reference year for constructing a design model or equation.
Batholith	A very large igneous intrusion extending to an unknown depth in the earth's crust.

Terms	Meaning
Bathymetric	Bathymetry is the measurement of the depth of water in oceans, rivers, or lakes. Bathymetric maps look a lot like topographic maps, which use lines to show the shape and elevation of land features.
BCI	Bat Conservation Ireland
Benthic	Relating to the bottom of a sea or lake or to the organisms that live there.
Biodegradation	Biodegradation is the decomposition of organic material by micro-organisms.
Biological Oxygen Demand (BOD)	A parameter used to quantify how fast biological organisms use up oxygen in a body of water. The testing for BOD is not an accurate quantitative test, although it could be considered as an indication of the quality of a water source.
Biotite	Biotite is a name used for a large group of black mica minerals that are commonly found in igneous and metamorphic rocks.
Bivalves	An aquatic mollusc which has a compressed body enclosed within a hinged shell, such as oysters, mussels, and scallops.
Blasting	Breaking apart or blowing up solid rock with explosives
Bored tunnel	The excavation of a tunnel using a machine with circular cross section through rock, i.e. the constructed using a boring machine.
BoCCI	Birds of Conservation Concern in Ireland
BRE	Buildings Research Establishment
BSBI	Botanical Society of Britain & Ireland
Bullaun stone	Bullaun is the term used for the depression in a stone which is often water filled. A Bullaun Stone is a large rock where a basin or bullaun has been carved out.
BWI	BirdWatch Ireland
cSAC	candidate Special Area of Conservation
Calcite	Calcite belongs to the calcite group of minerals, a group of related carbonates that are isomorphous with one another. They are similar in many physical properties, and may partially or fully replace one another, forming a solid solution series.
Catchment	The entire surface area feeding water to a given surface or groundwater feature.
Carriageway	The particular part of the road used by vehicular traffic.
C ₆ H ₆	Benzene
CEMP	Construction Environmental Management Plan
Ch.	Chainage
Cherry picker	A hydraulic crane with a railed platform at the end for raising and lowering people, for instance to work on overhead cables
Chlorophyll	Chlorophyll is a green pigment found in most plants, algae, and cyanobacteria.
CIRIA	Construction Industry Research and Information Association
CO	Carbon Monoxide

Terms	Meaning
CO ₂	Carbon Dioxide
Conductivity	Conductivity (or specific conductance) of a solution is a measure of its ability to conduct electricity. It is linked directly to the total dissolved solids in the solution.
Conservation objectives	The overall target for the species and/or habitat types for which an SAC or SPA site is designated in order for the site to contribute to maintaining or reaching favourable conservation status of those species and/or habitat types. For some SAC/SPA sites this includes a detailed set of targets and attributes against which favourable conservation status can be measured.
Construction stage	The stage during which the proposed road development (N6 Galway City Ring Road) will be constructed. This includes advance contracts such as fencing, archaeological testing and the diversion of utilities/services, site set up and mobilisation.
Conveyance	The ability of a river to carry water flow
Climbing lanes	A climbing lane is an additional lane in a road carriageway that allow slower travel for large vehicles ascending a steep grade. Since climbing uphill is difficult for these vehicles, they can travel in the climbing lane without slowing traffic.
Cofferdam	A watertight enclosure pumped dry to permit construction work below the waterline, for example foundations for a bridge structure.
Collection System	A system of gathering, sorting or mixing of waste for the purpose of it being transported to a waste recovery or disposal facility.
Conduit flow	Groundwater flow through large conduits within the rock mass typical of karstic aquifers.
Culvert	A structure that allows water to flow under an obstruction such as a road or railway.
Compulsory Purchase Order (CPO)	National laws which allow local authorities to compulsorily purchase land necessary for the construction or operation of the N6 Galway Ring Road without the necessity of obtaining consent from the owners subject to approval by An Bord Pleanála.
cSAC	candidate Special Area of Conservation
CSO	Central Statistics Office
Cu	Copper
Cumec	A cubic metre per second, as a unit of rate of flow of water
Cumulative Impacts	For definition, see extract from EPA 2017 draft guidelines at end of this document
Cut and cover tunnel	'Cut and cover' is an approach used for constructing shallow tunnels in situations where all the ground above the tunnel can be cleared (cut), the structural element for the tunnel is then constructed before the top of the tunnel is covered over with earth, topsoil and grass
DCHG	Department of Culture, Heritage and the Gaeltacht
DAU	Development Applications Unit of the DCHG
dB (decibel)	The unit of sound pressure level, calculated as a logarithm of the intensity of sound.

Terms	Meaning
dB(A)	Unit used to measure the intensity of sound. The “A” denotes that levels were “A” weighted
Design year	The design year is the year for which future traffic demand and volume is calculated and is set at 2039 - 15 years following the year of opening of the proposed road development
Design Goal (noise and vibration)	A target limit for noise or vibration adopted during the early design stages of a project, not necessarily having a statutory basis but based on current best practice and the particular circumstances of a given project.
Designated sites	Sites which have special status as protected areas because of their natural and cultural importance.
DHPLG	Department of Housing, Planning and Local Government
DEFRA	UK Department for Environment, Food and Rural Affairs
Diamond junction	A diamond junction is a common type of a grade separated road junction, used where a major road crosses a minor road.
Diffuse flow	Laminar groundwater flow which takes place through the aquifer matrix or grains.
DMRB	Design Manual for Roads and Bridges, UK
“Do-Nothing” Scenario	The environment as it would be in the future should the proposed road development not be developed
Do Minimum Scenario	This scenario assumes that basic maintenance of the road as well as likely and committed transportation schemes are carried out.
Do Something Scenario	This scenario assumes that the proposed road development is constructed as described, and includes other committed road developments and considers the environment should the proposed road development be developed.
DTTaS	Department of Transport, Tourism and Sport
Dolerite	A dark, medium-grained igneous rock, typically with ophitic texture, containing plagioclase, pyroxene, and olivine. It typically occurs in dykes and sills
Doline	A shallow usually funnel-shaped depression of the ground surface formed by solution in limestone regions
Drawdown	A withdrawal of water from a reservoir or repository.
Dykes	A subvertical sheet-like intrusion of magma or sediment.
Effects	For definition, see extract from EPA 2017 draft guidelines below. The term effects and impacts are used interchangeably in this EIA Report to mean the same thing.
Effective rainfall	That part of the total precipitation which remains after evaporation and which is available for vegetation and percolation.
Electromagnetic induction (quadrature) survey	The electromagnetic (EM) induction survey is based on the measurement of the change in mutual impedance between a pair of coils on or above the earth’s surface.
EQS	Environmental Quality Standard
EIA	Environmental Impact Assessment

Terms	Meaning
EIS	Environmental Impact Statement. An EIA Report was formerly known as an EIS. Throughout this document, where reference is made to 'environmental impact statement', or 'EIS', it should also be understood to mean 'EIA Report'.
EIA Report / EIAR	Environmental Impact Assessment Report An EIA Report was formerly known as an EIS. Throughout this document, where reference is made to 'environmental impact statement', or 'EIS', it should also be understood to mean 'EIA Report'.
Enabling works	Preparations to make a site ready for construction. It covers activities from site preparation, creation of access routes, and the installation of facilities like security fencing, ramps, and placing of signs.
EPA	Environmental Protection Agency
EPA Digital Soils Data	With the assistance of Teagasc and the Geological Survey of Ireland, the EPA produced a soils map for the Republic of Ireland. This data is available in a digital format which can be used in computer mapping software.
Epikarst	The thin zone near the karst surface. It includes the solutionally modified (karren) bedrock surface and the overlying and included regolith. The epikarst frequently supports a perched aquifer and serves to retard and store infiltrating rainwater. It also serves as a habitat for a variety of organisms that live in the interstices.
Estavelles	Estavelles are orifices with a dual function. They either discharge water as a spring or allow water to sink, depending on groundwater conditions. Typically estavelles are the connection of karst lakes with the karst ground water table.
EU	European Union
European site	Collective term used in national legislation when referring to nature conservation sites protected under the Habitats or Birds Directives (i.e. SAC or SPA sites).
Evapotranspiration	The process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants.
Fault	A planar fracture in rock in which the rock on one side of the fracture has moved with respect to the rock on the other side.
Favourable Conservation Condition	In the context of assessing effects on the QIs/SCIs of European sites and their conservation objectives, favourable conservation condition is achieved when the QI habitats have sufficient range, area and quality, and QI/SCI species have a sufficient population size range and habitat area, to ensure their survival into the medium to long term, along with favourable future prospects in the face of pressures and threats.
Favourable Conservation Status	In the context of assessing the conservation status of Annex I habitats and Annex II/IV species at a national level, favourable conservation status is achieved when the habitats have sufficient range, area and quality, and the species have a sufficient population size range and habitat area, to ensure their survival

Terms	Meaning
	into the medium to long term, along with favourable future prospects in the face of pressures and threats.
Fissure	Natural crack in rock which allows rapid water movement.
FPO	Flora (Protection) Order, 2015
FRA	Flood Risk Assessment
Fracture	A discontinuity across which there has been separation.
Geohazards	Geological conditions capable of causing damage, or loss of property and life, are called geological hazards and commonly referred to as "geohazards".
Geomorphology	the study of the physical features of the surface of the earth and their relation to its geological structures
Geothermal well	Geothermal wells are wells which tap into the natural geothermal energy found beneath the Earth's crust.
GHG	Greenhouse Gases
GI	Ground Investigation
GIS	Geographic Information System
GNI	Gas Network Ireland
Glacial erratics	A boulder transported and deposited by a glacier having a lithology different than the bedrock upon which it is sitting. Erratics are useful indicators of patterns of former ice flow.
Gleys	A subdivision of the podzolic soil group which are characterised by a fluctuating groundwater table or by impeded drainage which causes mottling in the gleyed grey horizon that is overlain by a dark brown or black subsurface horizon.
Grade Separated Junction	Road junction where roads converge and at which at least one road passes over another.
Groundwater	That part of the subsurface water that is in the saturated zone, i.e. below the water table.
Groundwater vulnerability	Vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities.
Growth forecasts	The process of attempting to predict the future condition. This involves the use of statistical models utilizing variables sometimes called indicators.
GSI	Geological Survey of Ireland
GTS	Galway Transport Strategy – an overall transport strategy for Galway City and its environs with a clear implementation framework for transportation over the next 20 years.
GWDTE	Groundwater Dependent Terrestrial Ecosystems
Habitat	The dwelling place of a species or community which provides a particular set of environmental conditions.
ha	Hectare (one hectare is equal to 10,000 square meters)
HAWRAT	Highways Agency Water Risk Assessment Tool
HGV	Heavy Goods Vehicle

Terms	Meaning
High growth scenario	This assumes a high growth rate in the population forecasts for the region.
Horizontal Alignment	Direction and course of the roadway in plan.
Hydraulic barrier	A general term referring to modifications of a ground-water flow system to restrict or impede movement of contaminants.
Hydrodynamics	The branch of science concerned with forces acting on or exerted by fluids (especially liquids).
Hydrocarbon interceptor	Trap used to filter out hydrocarbon pollutants from rainwater runoff. It is typically used in road construction to prevent fuel contamination of streams carrying away the runoff.
Hydrometric Area	An area defined by the EPA covering a region of river catchments.
Hypertension	Abnormally high blood pressure and especially arterial blood pressure.
Hummocky	An elevated tract of land rising above the general level of a marshy region.
Hz	Hertz
IEEM	Institute of Ecology and Environmental Management
IFI	Inland Fisheries Ireland
IGI	Institute of Geologists of Ireland
Impact	For definition, see extract from EPA 2017 draft guidelines below. The term effects and impacts are used interchangeably in this EIAR to mean the same thing.
ITS	Intelligent Transport System
In combination impacts/effects	Term for cumulative impacts used when considering impacts on European sites in the context of an NIS/AA – cumulative effects caused by a project currently under consideration together with the effects of any existing or proposed projects or plans.
In-situ	In its original place, for archaeology it refers to the preservation of archaeological sites/features without disturbance.
Intermodal (transport)	Describes the use of multiple modes of transportation (e.g. rail, ship and truck).
Intertidal zone	The intertidal zone, also known as the littoral zone, in marine aquatic environments is the area of the foreshore and seabed that is exposed to the air at low tide and submerged at high tide, i.e. the area between tide marks.
IPCC	Intergovernmental Panel on Climate Change
IPPC	Integrated Pollution Prevention and Control
IRP	Incident Response Plan
Karst	Terrain created by limestone solution and characterised by a virtual absence of surface drainage, a series of surface hollows, depressions and fissures, collapse structures and an extensive subterranean drainage network.

Terms	Meaning
Karstic	Descriptor for bedrock conditions in limestone that contain solution features such as fissures and caves, and potentially, underground watercourses.
Karstification	Formation of the features of karst topography by the chemical, and sometimes mechanical, action of water in a region of limestone, dolomite, or gypsum bedrock.
KER	Key Ecological Receptors
km	Kilometres
kph	Kilometers per hour
kPa	Kilopascal, a unit of pressure measurement
kV	A unit of electromotive force, equal to 1000 volts.
LAP	Local Area Plan
Landscape Character Area (LCA)	Distinct types of landscape which are generic in character in that they may occur in different parts of the country, but wherever they are they share broadly similar combinations of geology topography, drainage patterns, vegetation and historical land use and settlement pattern.
LED	Light-emitting diode: a device that produces a light, especially on electronic equipment
L_{10}	The noise level exceeded for just 10% of a sample period. $L_{10(1hour)}$ is therefore the noise level exceeded for 10% of the time over a period of one hour. $L_{10(18hour)}$ is the arithmetic average of the eighteen $L_{10(1hour)}$ values between 06:00 and 24:00hrs.
L_{90}	The noise level exceeded for 90% of a sample period; typically used as a descriptor for background noise level.
L_{max}	The instantaneous maximum sound level measured during a sample period.
$L_{eq,T}$	The equivalent continuous sound level - the sound level of a steady sound having the same energy as a fluctuating sound over a specified measuring period T. T may be as short as 1 second when used to describe a single event, or as long as 24 hours when used to describe the noise climate at a specified location. $L_{eq,T}$ can be measured directly with an integrating sound level meter.
L_{den}	The day-evening-night composite noise indicator adopted by the EU for the purposes of assessing overall annoyance. L_{day} is the A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the day periods of a year. L_{night} is the A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the night periods of a year.
$L_{evening}$	The A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the evening periods of a year.
L_{day}	The A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the day periods of a year.
L_{night}	L_{night} is the A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the night periods of a year.

Terms	Meaning
Lithosols	A thin soil consisting mainly of partially weathered rock fragments.
Low growth scenario	This assumes a low growth rate in the population forecasts for the region.
Luft	TA Luft Guidance Technical Instructions on Air Quality Control
Macro-economics	Macroeconomics is a branch of the economics field that studies how the aggregate economy behaves. In macroeconomics, a variety of economy-wide phenomena is thoroughly examined such as, inflation, price levels, rate of growth, national income, gross domestic product and changes in unemployment.
Macro-invertebrates	Animals without backbones that are big enough to see with the naked eye.
Made Ground	Deposits which have accumulated through human activity and may consist of natural materials, e.g. clay and/or man made materials
Magnetometer surveys	A magnetometer is an instrument that measures magnetism—either the magnetization of a magnetic material like a ferromagnet, or the direction, strength, or relative change of a magnetic field at a particular location.
Meander	A meander in general is a bend in a watercourse.
Medium growth scenario	This assumes a medium growth rate in the population forecasts for the region.
Mesotrophic	A lake or pond that has a moderate amount of plants.
mgl	Metres below ground level
Micro-climatic	The atmospheric conditions affecting an individual or a small group of organisms, especially when they differ from the climate of the rest of the community.
Microelectronic	Microelectronics is a subdivision of the field of electronics that deals with very small and microscopic elements to manufacture electronic components.
Mode share	The share of people using a particular mode of transport (including cycling and walking) within the overall transport usage of an urban area. Modal share can be calculated for passenger and freight (logistics) transport based on different units, such as number of trips, volume, weight, passenger-km or tonne-km.
Morphology	Morphology is the science of the forms of natural water bodies such as rivers, lakes, estuaries, lagoons, coastal zones and seas, as well as with the processes that create and modify these forms.
N6 GCR	N6 Galway City Ring Road, the subject of the EIAR
N6 GCTP	N6 Galway City Transport Project
N6 GCOB	A previous application to ABP in 2006 for the then defined 'N6 Galway City Outer By-pass' (GCOB)
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NIS	Natura Impact Statement
NMS	National Monuments Service

Terms	Meaning
Notice to Treat	This notice requests property owners whose lands are subject to a compulsory purchase order (CPO) to submit their claim for compensation for lands being taken under the CPO. Land values etc. are assessed with reference to the date of this Notice.
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NPF	National Planning Framework
NPWS	National Parks and Wildlife Service
NRA	National Roads Authority
NTA	National Transport Authority
NTS	Non-Technical Summary
O ₂	Oxygen
OD	Ordnance Datum
Oligotrophic	Characterized by a low accumulation of dissolved nutrient salts, supporting but a sparse growth of algae and other organisms, and having a high oxygen content owing to the low organic content.
Orbital route	A route that takes traffic around a city rather than through it.
Online/On-line	The route whereby the proposed road development remains on the same alignment as the existing road infrastructure.
OPW	The Office of Public Works
Operational phase	The period of time in which the proposed road is in use.
OS	Ordnance Survey
OSI	Ordnance Survey Ireland
Outcrop	An exposure of bedrock
PAH	Polycyclic Aromatic Hydrocarbons
Paleokarst	The general term for ancient karst features that have been fossilized or preserved. Most commonly these features are filled with lithified sediments.
Paleolandscape	A landscape as it was in ancient times.
Parent material	The bedrock type from which the rock fragments within a till are derived. For instance, the parent material of a Limestone Till is Limestone.
Particulate Matter	Tiny particles of solid or liquid suspended in liquid or gas.
Pb	Lead
Permeability	A measure of the ability of a given rock to transmit water.
PMGs	Project Management Guidelines
PM ₁₀	Particulate matter measuring 10 micrometers (microns) in diameter or less.
PM _{2.5}	Particulate matter measuring 2.5 micrometers (microns) in diameter or less.
pNHA	proposed Natural Heritage Area

Terms	Meaning
Priority junctions	Priority junctions are the most common form of junction arrangement. They required one or more minor road to yield or stop for the major road traffic flow.
Pre-earthworks drains	Where surface water and sub-surface water from adjoining land will flow towards the road, it will generally be necessary to construct intercepting drains at the tops of cuttings and the toes of embankments. In rural areas these may be ditches rather than filter drains because of their greater capacity and comparative cheapness.
Priority Annex I habitat	Annex I habitat types which are in danger of disappearance, and for which the European Community has particular responsibility in view of the proportion of their natural range which falls within the territory
Protected road	A protected road, as defined under Section 45 (1) of the Roads Act, means a public road or proposed public road specified to be a protected road in a protected road scheme approved by An Bord Pleanála. A protected road scheme approved by An Bord Pleanála may provide for the prohibition, closure, stopping up, removal, alteration, diversion or restriction of any specified or all means of direct access to the protected road from specified land or from specified land used for a specified purpose or to such land from the protected road.
Qbar	The mean annual maxima flow recorded or calculated at a location.
pH	pH is a measure of the acidity or basicity of a solution.
Pluvial flooding	This flooding occurs when surface water accumulating from the result of intense rainfall saturates the urban drainage system, and the excess water cannot be absorbed.
Podzols	A type of soil formed in cool, seasonally humid climatic regions where leaching (percolation of water) is a dominant process.
Proposed Road Development	The proposed N6 Galway City Ring Road which is the subject of assessment of this Environmental Impact Assessment Report and application to An Bord Pleanála.
Proposed Development Boundary	The extents of the lands to be compulsory acquired for the construction and operation of the proposed road development is referred to as the proposed development boundary
QI	Qualifying Interest – Annex I habitat or Annex II species for which a cSAC/SAC is designated under the Habitats Directive.
Radio-tracking	Use of radio receivers, directional antennae and radio-transmitters (attached to the target species) to monitor and record species movements and locations.
Receptors	Receptors are people or other organisms that may have sensitivity or exposure to contaminants by virtue of their age and health (e.g. schools, day care centres, hospitals, nursing homes), status (e.g. sensitive or endangered species), proximity to the contamination, dwelling construction (e.g. basement), or the facilities they use (e.g. water supply well).
Recharge	The addition of water to the zone of saturation; also, the amount of water added.

Terms	Meaning
Regosols	A Regosol is a very weakly developed mineral soil in unconsolidated materials. Regosols are extensive in eroding lands, in particular in arid and semi-arid areas and in mountain regions.
Resitivity	A measure of the resisting power of a specified material to the flow of an electric current.
Rhizome	Underground stem of plants, laterally growing and capable of producing the root and shoot system of a new plant.
Riparian vegetation	Riparian vegetation is the diversity of native vegetation contained on 'land which adjoins or is influenced by a body of water. Riparian habitats have been defined as places 'where terrestrial and aquatic ecosystems meet'.
Rijkswaterstaat (RWS) fire curve	The RWS curve was developed by the Rijkswaterstaat, Ministry of Transport in the Netherlands. This curve is based on the assumption that in a worst case scenario, a 50 m ³ fuel, oil or petrol tanker fire with a fire load of 300MW could occur, lasting up to 120 minutes. The RWS curve was based on the results of testing carried out by TNO in the Netherlands in 1979.
RMP	Record of Monuments and Places
Road bed	The portion of public road which is typically in private ownership over which there is over which there is a public right of way.
Rockhead	A raised rocky area or prominence; a summit or extremity of rock. The upper surface of bedrock.
Rock outcropping	The part of a rock formation that appears above the surface of the surrounding land.
RPS	Record of Protected Structures
RSA	Road Safety Authority
Runoff	Water leaving a drainage area or water running across the land surface.
SAC	Special Area of Conservation
Saturated zone	The zone below the water table in which all pores and fissures are full of water. Also known as the phreatic zone.
SCI	Special Conservation Interest – Annex I bird species for which an SPA is designated under the Birds Directive
Section 85 Agreement	A Section 85 Agreement has been entered into under the provisions of Section 85 of the Local Government Act 2001 between Galway County Council and Galway City Council and approved by Transport Infrastructure Ireland (TII) pursuant to Section 14 of the Roads Act 1993, as amended.
Sensitivity	Vulnerability of a sensitive receptor to change.
SEVESO	Seveso site – sites identified as containing large quantities of dangerous substances.
Severance	Where a portion of land is separated or isolated from the main land holding or where a portion of habitat is separated/isolated from the main habitat area.
SI	Site Investigation

Terms	Meaning
S.I.	Statutory Instrument
Signalised junction	Road junction where roads converge and traffic flow is controlled by traffic signals.
Stopping sight distances	Is the minimum sight distance available on a road at any spot having sufficient length to enable the driver to stop a vehicle upon sight of a hazard while, traveling at the design speed safely without collision with any other obstruction.
striation	Any of a number of scratches or parallel grooves on the surface of a rock, resulting from the action of moving ice, as of a glacier.
SMR	Sites and Monuments Record
SO ₂	Sulphur Dioxide
SO _x	Sulphur Oxides expressed as Sulphur Dioxide
SPA	Special Protection Area
Sub-catchment	A portion of a river catchment.
Subsoils	The material between the topsoil and the bedrock.
Subtidal zone	Subtidal zone is that portion of a tidal-flat environment which lies below the level of mean low water for spring tides. Normally it is covered by water at all states of the tide. The word is often used as a general descriptive term for a subaqueous but shallow-marine depositional environment.
Substructure	An underlying or supporting structure
SuDS	Sustainable urban drainage systems (SuDS) are a natural approach to managing drainage in and around properties and other developments. They work by slowing and holding back the water that runs off from a site, allowing natural processes to break down pollutants.
Superstructure	A structure built on top of something else.
SPA	Special Protection Area (for birds). Part of the Natura 2000 network of European sites, designated under the EU Birds Directive (79/409/EEC).
TEN-T	The Trans-European Transport Networks (TEN-T) are a planned set of road, rail, air and water transport networks in the European Union. The TEN-T networks are part of a wider system of Trans-European Networks (TENs), including a telecommunications network (eTEN) and a proposed energy network (TEN-E or Ten-Energy).
TII	Transport Infrastructure Ireland
TII PAG	Transport Infrastructure Ireland (TII) Project Appraisal Guidelines
TOC	Total Organic Carbon
Traffic control measures	Are markers, signs and signal devices used to inform, guide and control traffic, including pedestrians, motor vehicle drivers and bicyclists. These devices are usually placed adjacent, over or along the highways, roads, traffic facilities and other public areas that require traffic control.

Terms	Meaning
Trans-national network	Means the organisation mode that governs the functioning of the European projects. The network associates partners from different countries with the aim of following one or more common objectives, without any one of the partners having a higher status than the others. The network appears as the most suitable instrument to operate at the European scale and to work within the given period.
Tufa	A porous rock composed of calcium carbonate and formed by precipitation from water, e.g. around mineral springs.
Turbidity	Turbidity is the measure of relative clarity of a liquid. It is an optical characteristic of water and is an expression of the amount of light that is scattered by material in the water when a light is shined through the water sample. The higher the intensity of scattered light, the higher the turbidity.
Turlough	Seasonal lakes found in the lowland karsts of western Ireland.
Scheme study area	The term “scheme study area”, when used in this EIAR, refers to the wider study area at which constraints were initially identified during the constraints and route selection studies for the project.
Secondary permeability	Permeability derived from fissures, faults and conduits in the rock rather than that provided by the rock matrix itself.
Seep	A diffuse discharge of groundwater.
Seepage	The slow escape of a liquid through porous material or small holes.
Seismic	Geological surveying methods involving vibrations produced artificially by explosions.
Soil retention	Soil water retention is a major soil hydraulic property that governs soil functioning in ecosystems and greatly affects soil management. Soil moisture forms a major buffer against flooding, and water capacity in subsoil is a major steering factor for plant growth.
Stabilisation	The process of making something physically more secure or stable.
Study area	The area studied in order to inform the Environmental Impact Assessment. The study area will vary depending on the environmental factor being considered
Unsaturated zone	The zone between the land surface and the water table, in which pores and fissures are only partially filled with water. Also known as the vadose zone.
µg/m ³	micrograms per metre cubed
Vernacular structures	Building constructed from locally available materials following traditional building practice and patterns and not architect-designed.
Vertical Alignment	Direction and course of the roadway in profile.
Viaduct	A long bridge-like structure, typically a series of arches, carrying a road or railway across a valley or other low ground.
Visual Amenity	The value of a particular area or view in terms of what is seen
VOC	Volatile organic compounds (VOC).

Terms	Meaning
Water table	The uppermost level of saturation in an aquifer at which the pressure is atmospheric.
WFD	Water Framework Directive
WHO	World Health Organization
Windblow	Carried or driven by the wind
Windrose	Map diagram that summarizes information about the wind at a particular location over a specified time period.
Windshield Survey	This is a survey carried out from the roads throughout the study area.
Zone of Contribution	The groundwater catchment area that contributes water to a well.
ZoI	Zone of Influence
%ile	Percentile

Extract from EPA EIAR Guidelines August 2017, page 50-52 Table 3.3 Description of Effects¹

<p>Quality of Effects</p> <p>It is important to inform the non- specialist reader whether an effect is positive, negative or neutral</p>	<p>Positive Effects</p> <p>A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).</p>
	<p>Neutral Effects</p> <p>No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.</p>
	<p>Negative/adverse Effects</p> <p>A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).</p>
<p>Describing the Significance of Effects</p> <p>“Significance’ is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see <i>Determining Significance</i> below.).</p>	<p>Imperceptible</p> <p>An effect capable of measurement but without significant consequences</p>
	<p>Not significant</p> <p>An effect which causes noticeable² changes in the character of the environment but without significant consequences.</p>
	<p>Slight Effects</p> <p>An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.</p>
	<p>Moderate Effects</p> <p>An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.</p>
	<p>Significant Effects</p> <p>An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.</p>
	<p>Very Significant</p> <p>An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.</p>
	<p>Profound Effects</p> <p>An effect which obliterates sensitive characteristics.</p>
<p>Describing the Extent and Context of Effects</p> <p>Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.</p>	<p>Extent</p> <p>Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.</p>
	<p>Context</p> <p>Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)</p>

¹ Note: the term effects and impacts are used interchangeably in this EIA Report to mean the same thing

Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur – so that the CA can take a view of the balance of risk over advantage when making a decision.	Likely Effects The effects that can reasonably be expected to occur because 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.
Describing the Duration and Frequency of Effects ‘Duration’ is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	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
	Frequency of Effects Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)
	Describing the Types of Effects
Cumulative Effects The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.	
‘Do-Nothing Effects’ The environment as it would be in the future should the subject project not be carried out.	
‘Worst case’ Effects The effects arising from a project in the case where mitigation measures substantially fail.	
Indeterminable Effects When the full consequences of a change in the environment cannot be described.	
Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.	
Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect.	
Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog).	