

APPENDIX 1.2 - GLOSSARY

µm	Micrometers
1,3-butadiene	1,3-butadiene is a hydrocarbon liquid. It is an important industrial chemical used as a monomer to produce synthetic rubber. Emissions of 1,3-butadiene result from the combustion of petroleum products and its production and use a chemical
AADT	Annual Average Daily Traffic Flow
AAWT	Average Annual Weekday Traffic
ABP	Associated British Ports
Abstraction	Removal of water from surface water or groundwater, usually by pumping.
Accessibility	Accessibility of contamination to a treatment regime describes the extent of its contact with air or water (carriers of a treatment effect in the ground) and is limited by the physical properties of the ground environment, and discontinuities in subsurface conditions
Accretion	The accumulation of sediment, deposited by natural flow processes or the growth by external addition or new matter.
ACOD	Active Chemical Oxygen Demand
Acute toxicity	Identifies the concentration of a substance that results in adverse effects from short-term doses.
ADMS	Atmospheric Dispersion Modelling Software
Adopted Proposals Map	A component of a Local Development Framework and an important part of the development plan, or DPD itself, showing the location of proposals in all current Development Plan Documents, on an Ordnance Survey base map.
Advance Works	Works carried out by the Council in advance of the main contract which is covered under the Project Agreement.
Adverse Impacts	Unfavourable effects, which might occur due to action(s) carried out, for example e.g. construction work, mitigation measures, new traffic routes.
Agricultural Land Classification	A method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. The ALC system classifies land into five grades; Grade 1 (excellent), Grade 2 (very good), Grade 3: 3a (good), 3b (moderate), Grade 4 (poor) and Grade 5 (very poor).
Agro-Ecosystem	An ecosystem that develops on farmed land, and which includes the indigenous micro-organisms, plants and animals, and the crop species.
A-Horizon	The upper or leached soil layers.

Air Quality Management Areas (AQMAs)	If the local authority finds any places where the objective are not likely to be achieved, it must declare an Air Quality Management Area (AQMA) there. This area could be just one or two streets, or it could be much bigger. Then the local authority will put together a plan to improve the air quality – a Local Air Quality Action Plan.
Air Quality Objectives	Objectives are policy targets generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedences, within a specified timescale.
Air Quality Standards	Standards are the concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on assessment of the effects of each pollutant on human health including the effects on sensitive sub-groups.
ALC	Agricultural Land Classification
Algal Biomass	The mass of algae in a waterbody at any given time.
Algal productivity	The amount of algae produced by the ecosystem per unit time
Alien (species)	A plant or animal introduced by man which may or may not be naturalised (Examples include Japanese Knotweed and American Mink).
Alkali / Alkaline	Refers to soils with a very high surface content of mineral salts, particularly sodium salts, formed in dry conditions where evaporation is much greater than rainfall. The soils are rich in calcium compounds with a pH > than 7.5 and up to 8 or 9, over chalk or limestone
Alluvial	Soils composed of sediment transported and deposited by river water.
Amphibians	Animals including frogs, toads and newts which live on land and in the water.
Anadromous	Fish migrating from saltwater to freshwater to spawn
Anaerobic	Relates to soil or water lacking oxygen (de-oxygenated)
Anaerobic Breakdown	The term used to describe a biological process where organic matter is broken down without oxygen
Ancient Woodland	Native woodland or secondary woodland that has been continuously present on a site, without extensive clearance, for hundreds of years and which can be recognised by its characteristic flora.
Annelid	Phylum of segmented coelomate worms, often known as ringed worms. Consists of three main classes, namely polychaeta (ragworms and lugworms), Oligochaeta (earthworms) and Hirudinea (leeches).
Annex 1 Bird species	Species listed in Annex 1 of the Birds Directive, subject to special conservation measures concerning their habitat to ensure the survival and reproduction of the birds in their area of distribution. The species listed are in danger of extinction, rare or vulnerable.
Annex I	Annex I Habitat as designated under the EC Habitats Directive (92/43/EEC)

Annex I habitat type(s)	A natural habitat(s) listed in Annex I of the Habitats Directive for which Special Areas of Conservation can be selected.
Annex II	Annex II Species as designated under the ECHabitats Directive (92/43/EEC)
Annex II species	A species listed in Annex II of the Habitats Directive for which Special Areas of Conservation can be selected.
Annex V	The listing in the Habitats Directive of the animal and plant species whose taking in the wild and exploitation may be subject to management measures.
Annual Monitoring Report (AMR)	review of development plan progress against the timetable in the LDS and showing how well the policies are delivering the LDF objectives.
ANOVA	Analysis of Variance
AOD	Above Ordnance Datum
Apomixis	Reproduction without fertilisation in plants.
AQC	Analytical Quality Control
AQEG	Air Quality Expert Group
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
Aquatic Ecology	Is a discipline that uses the principles and methods of ecology (the relationships between organisms and their environment) to study natural aquatic environments.
Aquifer	A layer of water-bearing rock located underground. An aquifer may be porous rock, unconsolidated deposits such as gravel, fractured rock or cavernous limestone.
Aquifer classification	Classification given to water-bearing strata by the Environment Agency and published in groundwater protection policy documents (e.g. Principal, Secondary and unproductive Strata.
ARCADY	Assessment of Roundabout Capacity and Delay
Area of Influence	The areas/resources that may be affected by the biophysical changes caused by activities associated with a project.
ASPT	Average Score (of Aquatics Vertebrate) Per Taxon
Assemblage	Collection of organisms of one type within a defined area
ASTP	Average Score Per Taxon
ATC	Automatic Traffic Counter

Attenuation	Reduction in contaminant concentration, availability or toxicity through biological, chemical and physical processes.
Attribute	Selected characteristic of an interest feature/sub-feature which provides an indication of the condition of the feature to which it applies.
Availability	Availability describes the ease of liberation of contamination to a treatment process in contact with it and is limited by factors such as physical/chemical interactions between the contaminant substances and the surfaces of the solid phases in the subsurface, solubility, or phase differences (where free product is present)
Average Score (of Aquatics Vertibrate) Per Taxon (ASPT)	This is the Biological Monitoring Working Party (BMWP) score divided by the number of scoring families recorded. This system is a pollution index used by the Environment Agency and others for assessing water quality. The higher the score (on a 1-10 scale) the better is the water quality. It takes into account the relative numbers of pollution sensitive and pollution tolerant taxa present.
BAM	Beta Attenuation Monitor
Bankseat	A structure (usually made of reinforced concrete) located at the top of an embankment slopes that support the end of a bridge deck. A smaller version of an abutment.
BAP	Biodiversity Action Plan
Baseline Conditions	The conditions that would pertain in the absence of the proposed project at the time that the project would be constructed/operated/decommissioned. The definition of these baseline conditions should be informed by changes arising from other causes (e.g. other consented developments)
Base-poor	Soils or water that have low concentrations of free basic ions, notably calcium and magnesium (also sodium, potassium or iron).
Base-rich	Soils or water that contains a relatively large quantity of free basic ions, particularly calcium and magnesium.
BAT	Best Available Technique
Bathymetry	Refers to the spatial variability of levels on the seabed/riverbed.
Batter	The slope of an embankment or cutting
Bed Shear Stress	The way in which currents (or waves) transfer energy to the bed.
Benthic	Organism living in or on the bottom/sediment of a waterbody
Benthic Algae	Grows on Algae within the bottom sediments of a waterbody which perform various beneficial functions in waterbodies but can be troublesome. E.g. dense growth can break free from the bottom and float to the surface and can produce offensive odours when decomposing.
Benthos	Those organisms attached to, or living on, in or near, the seabed, including that part which is exposed by tides.

Benzene	Benzene is an organic liquid hydrocarbon (compound of carbon and hydrogen only). There are a variety of sources but the main source remains the evaporation and combustion of petroleum products
Best Available Techniques (BAT)	The most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and effect on the environment as a whole.
Best Practicable Environmental Option (BPEO)	The outcome of a systematic and consultative decision-making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefit or least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term.
Bioaccumulation	The accumulation and concentration of a toxin in the tissue of a living organism. Can lead to knock on effects on the food chain (see biomagnification)
Biodegradable Municipal Waste (BMW)	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.
Biodegradation	Decomposition of a compound into smaller chemical subunits through the action of organisms
Biodiversity	A measure of the relative diversity of organisms present within different ecosystems
Biodiversity Action Plans (BAPs)	These action plans describe the UK's biological resources and commits a detailed plan for the protection of these resources. Under the UK BAP there are 391 Species Action Plans (SAPs), 45 Habitat Action Plans (HAPs) and 162 Local Biodiversity Action Plans (LBAPs) with targeted actions to protect and preserve our biodiversity within the UK.
BDMP - Biodiversity Management Plan	The BDMP outlines measures for mitigation and management which have been developed to address the ecological effects identified through the EIA process.
Biological Monitoring Working Party	This is used by the Environment Agency as a scoring system for aquatic invertebrates to assess water quality in terms of a pollution index. Each family of animals is assigned a score (1-10) according to its sensitivity to organic pollution. Each family present at a site is identified and the scores are summed to give a total BWMP score. In general, higher scores indicate better water quality.
Biological Oxygen Demand (BOD)	Is a chemical procedure for determining how fast biological organisms use up oxygen in a body of water. It is used in water quality management and assessment. It is not an accurate quantitative test, although it could be considered as an indication of the quality of a waterbody/source.

Biomagnification	The increasing concentration of a toxin in the tissue of organisms at successively higher levels in the food chain, with animals at the top of the food chain therefore suffering greater harm than those at the bottom.
Biomass	The weight of all organisms forming a specific population or community in a given area.
Bioremediation	The elimination, attenuation or transformation of polluting or contaminating substances by the use of biological processes, to minimise the risk to human health and the environment
Biotope	An area or habitat of a particular type, defined by the organisms that typically inhabit it, e.g. grassland or woodland. The physical habitat with its biological community.
Biotype	All the individuals of an identical genotype
Bivalves	Bivalve molluscs
Blanket Bog	A type of acid peat bog which covers large areas of land which develops in very wet climates on upland watersheds where drainage is impeded and the soil is acidic.
BMW	Biodegradable Municipal Waste
BMWP	Biological Monitoring Working Party
BOD	Biological Oxygen Demand
Bog	A plant community on wet and strongly acidic peat.
Boundary Conditions	Environmental conditions, e.g. currents, waves, etc; used as boundary input to the numeric model.
BPEO	Best Practicable Environmental Option
Brackish	Waters and soil moisture with a significant dissolved salt content, intermediate between freshwater and seawater. Brackish waters have a high electrical conductivity, greater than 500 micro mhos. They may occur inland, for example in salt-mining areas.
Brackish Wetland	An important and characteristic habitat of estuaries, where the salinity of the water differs due to the mixing of salt and fresh water and so creates such a unique habitat type.
BRE	Building Research Establishment
British Trust for Ornithology (BTO)	An independent, scientific research trust which investigates the populations, movements and ecology of wild birds in the British Isles.
Brown Earth	Dark brown friable soil associated with areas originally covered by deciduous forest.

Brownfield Land and Sites	Previously developed land which is or was occupied by a permanent structure, including the curtilage of the developed land and any associated fixed surface infrastructure. Also see 'Previously-Developed Land'.
Bryophytes	Simple, non-vascular, spore-bearing plants comprising mosses, liverworts and hornworts.
BS5930	British Standard 5930
BS6069	British Standard 6069
BTEX	Benzene, Toluene, Ethyl benzene and Xylenes
Buffer	A salt solution that reduces changes in pH when acid or alkali is added, and any factor that reduces the impact of external changes on a system.
Building Research Establishment (BRE)	A private organisation which carries out research, consultancy and testing for the construction and built environment section in the UK.
Burgage plot	A plot of land longer than it is wide, can include any structures on it. Typical of medieval towns.
Burh	Fortified stronghold
CABE	Commission for Architecture and the Built Environment
CAFÉ	Clean Air For Europe
Calcicole	A plant which is generally and sometimes exclusively confined to soils with significant amounts of free calcium carbonate such as limestone and chalk, and where the pH is generally high (above about 7.0).
Calcifuge	A plant that is generally and sometimes exclusively restricted to soils containing little or no free calcium carbonate and where the pH is generally low (usually in the range of 3.5 to about 5.5).
Calculation of Road Traffic Noise (CRTN, Department of Transport/Welsh Office, 1988)	Is the national method for predicting road traffic noise for non-complex situations.
Carbon Dioxide	Carbon dioxide (CO ₂) is the pollutant most widely recognised as a greenhouse gas and plays a major role in global warming and climate change
Carbon Monoxide	Carbon monoxide is a colourless poisonous gas produced from the incomplete combustion of carbon fuels. Exhaust emissions are considered the main source for this pollutant
Carr	A woodland or scrub habitat characterised by willows and/or alders, and usually associated with fens, marshes, water-margins and other wetlands.

Casual	An introduced plant which is not naturalised or established but it does occur in the wild, where it has not been planted.
Catadromous	Fish migrating from freshwater to saltwater to spawn
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CEMP	Construction Environmental Management Plan
CERC	Cambridge Environmental Research Consultants
Characteristic	Special to, or particularly abundant in, a particular situation or biotope. Characteristic species should be immediately conspicuous and easily identified.
Charophyte	Group of freshwater macroalgae
Chart Datum	Chart Datum is the plane below which all depths are published on a navigational chart. It is also the plane to which all tidal heights are referred, so by adding the tidal height to the charted depth, the true depth of water is determined. By international agreement Chart Datum is defined as a level so low that the tide will not frequently fall below it. In the United Kingdom, this level is normally approximately the level of Lowest Astronomical Tide.
CHP	Combined Heat and Power
Chronic effect	An adverse effect on a human or animal in which symptoms recur frequently or develop slowly over a long period
CIRIA	Construction Industry Research and Information Association
Claire: Protocol	The definition of Waste: Development industry code of Practice. Issued by Claire in March 2011.
Clay	A fine-grained, sediment with a typical grain size less than 0.002mm (BS5930) Possess electromagnetic properties that bind the grains together to give a bulk strength or cohesion.
CLG	Communities and Local Government
CMR	Construction Methods Report
CO	Carbon Monoxide
CO₂	Carbon Dioxide
COD	Chemical Oxygen Demand
Cofferdams	A temporary watertight enclosure around an area of water or water-bearing soil, in which construction is to take place, bearing on a stable stratum at or above the foundation level of new construction. The water is pumped from within to permit free access to the area.
Cohesive Sediment	Sediment containing a significant proportion of clays, the electromagnetic properties of which cause the sediment to bind together.

Colonisers	Organisms that typically are the first to exploit a habitat or niche following creation or disturbance. May be displaced by succession of other species.
Common Bird Census methodology (CBS)	Began in 1962, the first of the British Trust for Ornithology (BTO) monitoring schemes for widespread breeding birds. The results have been hugely influential in determining conservation priorities in the UK.
Communities and Local Government	'Communities and Local Government' is the successor department to the Office of the Deputy Prime Minister (ODPM). It is an expanded department with a powerful new remit to promote community cohesion and equality, as well as responsibility for housing, urban regeneration, planning and local government.
Community	A group of organisms occurring in a particular environment, presumably interacting with each other and with the environment, and identifiable by means of ecological survey from other groups.
Competent authority	Any Minister, government department, public or statutory undertaker, public body or person holding a public office that exercises legislative powers.
Conceptual Model	A representation of the characteristics of the site in diagrammatic or written form that shows the possible relationships between contaminants, pathways and receptors.
Conditional Funding Approval	2011 approval of Funding.
Conservation Areas	The statutory definition of a conservation area is " <i>an area of special architectural and historic interest, the character or appearance of which it is desirable to preserve or enhance</i> " (The Planning Listed Building and Conservation Areas Act, 1990). There is no standard criteria upon which an area is designated although it is the character of the area rather than based upon individual buildings.
Constant	A species which occurs in at least 95% of samples taken at random within a community.
Construction Environmental Management Plan (CEMP)	The CEMP will comprise a number of sub-plans management and monitoring plans designed to reflect the requirements specified within the mitigation and enhancement sections of this Further Applications ES and elaborated within the COPE commitments made during the planning and Public Inquiry phases, and requirements imposed by any other means.
Contaminant	A substance that is in, on or under the land and that has the potential to cause harm or to cause pollution of controlled waters.

Contaminated Land	Defined in s.78A(2) of EPA 1990 as “any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that (a) significant harm is being caused or there is a significant possibility of such harm being caused, or; (b) pollution of controlled waters is being, or is likely to be caused.”
Contaminated Land Exposure Assessment (CLEA)	A scientifically based framework for the assessment of risks to human health from land contamination. Aids rapid identification of sites that pose a significant risk to human health and help avoid blight on other sites. It does not consider risks to other receptors such as plants, animals, buildings and controlled waters.
Controlled Waters	Defined by Water Resources Act 1991, Part III, section 104, which includes all groundwater, inland waters, estuaries and coastal water to three nautical miles from the shore. Virtually all natural waters in the UK are controlled water. This includes surface water (rivers, streams, lakes, reservoirs, ditches, ponds), including those temporarily dry, and groundwater (aquifers), as well as coastal waters up to three miles out. It is an offence to pollute such waters. Responsibility for policing controlled waters is placed with regulators.
COPE	a Construction and Operation Code of Practice For Environmental Management (COPE) has been developed to outline the measures required to mitigate and monitor the construction and operation of the Project.
Core	The piece of stone or flint remaining after flakes have been produced. This is a by-product of tool manufacture
CPO	Compulsory Purchase Order
Cross-Shore	Perpendicular to the shoreline.
Cultural Heritage	Buildings, monuments, artefacts, historic places, that are considered worthy of preservation for the future. The heritage that survives is often unique and irreplaceable.
Cumulative Impacts	Are the impacts upon the environment which are a result from the incremental impact of actions when added to other past, present and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.
Current	Flow of water.
DAFOR	Abbreviation for D=dominant, A=abundant, F=frequent, O=occasional and R=rare.
dB	The logarithmic ratio of a sound pressure compared to a reference sound pressure in decibels, dB. For audible sound A-weighted decibels are commonly used, dB(A), but for air overpressure linear decibels are used, dB.
Debitage	Waste flakes and cores produced in the manufacture of stone or flint implements.

Defra	Department of Environment Food and Rural Affairs
Delft3D Domain Decomposition Model	A model for the simulations of unsteady flow and transport phenomena in two or three dimensions resulting from tidal and meteorological forcing, including the effect of density differences due to a non-uniform temperature and salinity distribution. This model can be used to predict flows in shallow seas, coastal areas, estuaries, rivers and lakes.
Dense Non-Aqueous Phase Liquid (DNAPL)	A liquid that is denser than water and only slightly soluble in water. DNAPLs exist in the subsurface as a separate fluid phase in the presence of either air or water, and can both vapourise into air and slowly dissolve into flowing groundwater.
Deposition	A geological process whereby granular material is layered when wind and water create a sediment deposit. Deposition occurs when the forces responsible for sediment transportation are no longer sufficient to overcome the forces of particle weight and friction which resist motion.
Design Manual for Roads and Bridges (DMRB)	A comprehensive manual system which accommodates all current standards, advice notes and other published documents relating to the design, assessment and operation of trunk roads (including motorways). These series of documents have been gathered together in a consistent series of volumes which help in meeting the requirements of quality assurance procedures.
Desire Lines	An informal path.
Desk study	Interpretation of historical, archival and current information to establish where previous activities were located, where areas or zones that contain distinct and different types of contamination may be expected to occur, and to understand the environmental setting of the site in terms of pathways and receptors.
Detailed quantitative risk assessment	Risk assessment carried out using detailed site-specific information to estimate risk or to develop site-specific assessment criteria.
Detection limit	The lowest concentration of a substance that can be reliably measured to be different from zero concentration.
Development	Development is defined under the 1990 Town and Country Planning Act as "the carrying out of building, engineering, mining or other operation in, on, over or under land, or the making of any material change in the use of any building or other land."
DfT	Department for Transport
DIADEM	Dynamic Integrated Assignment and DEMand Modelling
Diadromous fish	Fish migrating from saltwater to freshwater
Diatom	A major group of algae. One of the most common types of phytoplankton. Fossil evidence suggests that they originated during, or before, the early Jurassic Period. Diatom communities are a popular tool for monitoring environmental conditions, past and present.

Dicotyledon	Flowering plants with an embryo having two cotyledons, leaves with net veins, vascular bundles in the stem in a ring surrounding a central pith, and parts of flowers in 2s or 5s of multiples thereof.
Discharge consent	Authorisation issued by the Environment Agency permitting discharge or effluent into controlled waters to prevent pollution.
Dissolution	The set of administrative and legal processes between 1536 and 1541 by which Henry VIII disbanded monasteries, priories, convents and friaries in England, Wales and Ireland.
Diversity of species	Reflects both the number of species and present in a community or assemblage and the proportion of the assemblage represented by each species
DM	Do Minimum
DMRB	Design Manual for Roads and Bridges
DNAPL	Dense Non-Aqueous Phase Liquid
Domin	A scale ranging from 1 to 10 for recording the abundance and % ground cover of individual plant species where 1=few (<4% cover), 2=several (<4% cover), 3=many (<4% cover), 4=4-10% cover, 6=11-25% cover, 6=26-33% cover, 7=34-50% cover, 8=51-75% cover, 9=76-90% cover, 10=91-100% cover.
Dominant	The chief constituents of a vegetation type or plant community.
Do-Minimum	The proposed scheme is not in place. The modelled road layout is the same as that modelled for 2006 but traffic growth due to committed development and regional growth are included
Domitian	Roman Emperor from 81 to 96 AD. Domitian was the third and last emperor of the Flavian dynasty.
Do-Something	The proposed opening year for the Project, with the new road layout and the Project completed
Down-gradient	In the direction of decreasing water level (i.e. in groundwater this is following the hydraulic gradient).
DPD	Development Plan Document
DS	Do Something
Dust	Dust relates to particulate matter greater than 10µm in diameter. Dust emissions are common from demolition and construction activities.
Dystrophic	Extremely nutrient-poor waters with less than 2 parts per million (in terms of calcium carbonate) alkalinity. Has a lower dissolved nutrient content than oligotrophic water.
EA	Environment Agency
EAC	Effective Area Coverage

EAL	Environmental Assessment Level
Ebb	Period when the tide level is falling.
Ebb Channel	A channel formed principally by the down-estuary movement of ebb tide (van Veen, 2001; Robinson, 1960)
Ebb Dominance	A term used to describe a part of an estuary where most morphological changes are caused by water flows whose vector is oriented down the Estuary (i.e. the ebb tide).
ECCP	European Climate Change Programme
Ecological Impact Assessment (EclA)	The process of gathering relevant information and weighing the relative importance of the effects of a proposed development on sites, habitats and species which are of conservation value and sometimes specifically protected by UK law. Often carried out as part of statutory Environmental Impact Assessments (EIAs) under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, or for other reasons such as meeting the requirements of protected species legislation.
Ecological niche	The micro habitat exploited by an organism. Can also reflect its effect on other organisms and on the environment
Ecology	The relationship between animals and plants and their environment.
Economic Regeneration	Aims to strengthen the local economy and create wealth by tackling “worklessness” (a term used to include people who are unemployed, economically inactive or actively out of work, and promoting job creation). It also aims to change behaviour, encouraging and supporting local people to become more entrepreneurial.
Ecosystem Services	The products of natural systems from which people derive benefits.
Ecotone	An area with vegetation transitional between two or more different plant communities.
Effectiveness	The extent to which a remediation treatment successfully reduces or controls unacceptable risks to a defined level.
EH	English Heritage
EIA	Environmental Impact Assessment
EIA Regulations	The Town and Country Planning (Environmental Impact Assessment Regulations 2011)
EM17	Policy EM17 – Renewable Energy
EMP	Environmental Management Plan
Enclosing Spit	a bar extending across the mouth of an estuary, caused by long shore drift.

Endemic	Refers to species native in one country only, or in one small area.
Enhancement Measures	A new benefit, unrelated to any negative impact.
Environmental Impact Assessment (EIA)	A process which identifies the likely significance of environmental impacts of a development, to avoid or minimise adverse impacts so that the decision on whether to grant permission may be better informed
Environmental Management Plan (EMP)	A Project EMP will be developed to set out how statutory and contractual environmental requirements and Project commitments throughout the lifespan of the Project will be demonstrated, controlled, assured and managed. The EMP will comprise a number of documents that will provide a framework for the construction and operation of the Project, including the COPE, the CEMP and HEMP.
Environmental Permitting	Permits for waste management activities issued by the Environment Agency under the auspices of the Environmental Permitting Regulations. These permits replace the old Waste Management Licenses.
Environmental Quality Standards (EQS)	Widely used limits to protect the environment and human health or improve water and air quality from substances released by human activity. Many standards are legally enforceable numerical limits.
Environmental Statement (ES)	A public document which illustrates the structure and the environmental policy of the organisation, the main features of the environmental management system, the major environmental issues, objectives, targets and the organisation's environmental performance. The statement will be verified by accredited environmental inspectors and registered by a competent public body.
Epifauna	Animals that live upon the surface of sediments or soils. Aquatic animals that live on the sediment surface.
EPUK	Environmental Protection UK (former NSCA)
EQ2	Policy EQ2 within the RSS
EQS	Environmental Quality Standard
ERAP	Ecological Research and Advisory Partnership
Erosion	The displacement of solids (soil, mud, rock and other particles) by agents of ocean currents, wind, water, or ice by downward or down-slope movement in response to gravity or by living organisms. A certain amount of erosion is natural and is considered "healthy" for the ecosystem; however excessive erosion can cause problems, e.g. loss of soil and sedimentation.
ES	Environmental Statement
ETS	Emissions Trading Scheme
EU	European Union

EU Landfill Directive	The objective of the EU Landfill Directive is to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, by introducing stringent technical requirements for waste and landfills. It intends to prevent or reduce the adverse effects of the landfill of waste on the environment, in particular on surface water, groundwater, soil, air and human health. It defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste_ and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land.
EU Thematic Strategy (on the prevention and recycling of waste)	A long-term strategy which aims to help Europe become a recycling society that seeks to avoid waste and uses waste as a resource.
Eulittoral	The main part of the intertidal zone characterised by limpets, barnacles, mussels, fucoid algae and with red algae often abundant on the lower part.
European Marine Site	Are nature conservation sites of European importance. They are legally protected under European and UK law and collectively represent the best examples of marine habitats or populations of species within the European Union. People that living and work within or adjacent to these conservation areas are becoming involved in their management and in time it is hoped that European Marine sites will offer tangible social, economic and environmental benefits to locals.
European Site	A classified SPA, designated SAC, site of Community Importance (a site selected as a candidate SAC, adopted by the European Commission but not yet designated), a candidate SAC (in England only) or a site hosting a priority species in respect of which Article 5 of the Habitats Directive applies.
European Union (EU)	A group of European countries that participates in the world economy as one economic unit and operates under one official currency, the euro. The EU's goal is to create a barrier-free trade zone and to enhance economic wealth by creating more efficiency within its marketplace.
Euryhaline	Marine organisms adapted to a wide range of salinity
Eutrophic	Refers to water which is usually neutral or alkaline and which is rich in dissolved nutrients (nitrogen and phosphates) and consequently often discoloured by algal blooms.
Ex-situ	Where contaminated material is removed from the ground prior to above-ground treatment or encapsulation and/or disposal on or off site.
Fauna	The collective term for animal life of any particular region or time.
Favourable condition	A range of conditions for a natural habitat or species at which the sum of the influences acting upon that habitat or species are not adversely affecting its distribution, abundance, structure or function within an individual Nature 2000 site in the long term. The condition in which the habitat or species is capable of sustaining itself on a long-term basis.

Favourable conservation status	A range of conditions for a natural habitat or species at which the sum of the influences acting upon that habitat or species are not adversely affecting its distribution, abundance, structure or function throughout the EU in the long term. The condition in which the habitat or species is capable of sustaining itself on a long-term basis.
FBA	Freshwater Biological Association
FDMS	Filter Dynamics Measurement System
Fen	A plant community on peat which is alkaline, neutral or only slightly acidic, as opposed to moss peat or bog.
Ferro-vanadium	An alloy of iron with a high proportion of vanadium. It is used in the production of steels and alloys as a raw material
Flood Channel	A channel formed principally by the up-estuary movement of flood tide (van Veen, 2001; Robinson, 1960).
Flood Risk Assessment	An assessment of the likelihood of flooding in a particular area so that development needs and mitigation measures can be carefully considered.
Flora	Refers to all plant life occurring in an area or time period, especially the naturally occurring or indigenous plant life.
Flora and fauna	Plants and animals including livestock, crops and plants used for landscaping and amenity.
Flow Rates	The volume of fluid which passes through a given volume per unit time.
Flush	A zone where water flows but not in a definite channel, as through wet ground on sloping terrain, particularly hillsides.
Flushing Time	The flushing time of an estuary can be defined as the time needed to replace its freshwater volume at the rate of the net flow through the estuary, which is given by the river discharge rate.
Fluvial	Refers to all topics related to flowing water, e.g. rivers, streams.
Foreshore	The seaward part of the shore or beach lying between high tide and low tide.
Free product	A petroleum hydrocarbon in the liquid, free or non-aqueous phase
Frequency, Hz	The number of cycles per second that the sound pressure fluctuates about the ambient static air pressure. High frequency noises are often described as having a high pitch and low frequency noises as having a low pitch. Frequency is measured in Hertz (Hz).
Fry	Juvenile fish less than a year old

General Quality Assessment (GQA)	A classification system which is used to assess the state of the environment at any point in time. They show us where the environment is of good quality and where it may require improvement. Classification systems help in planning what measures might be required for improvements and eventually show how these actions have benefited the environment. The GQA measures the quality of our rivers and showing how river quality has improved as a result of the actions implemented.
Generic assessment criteria	Criteria derived using generic assumptions about the characteristics and behaviour of sources, pathways and receptors. These assumptions will be protective in a range of defined conditions.
Geographical Information Systems (GIS)	A computer system for capturing, storing, analyzing, managing data and associated attributes which are spatially/geographically referenced to the earth. It is a tool which allows users to create interactive maps, edit data, maps and analyse/represent spatial information.
Geomorphology	Scientific study of land features and the process that created them
GHG	Green House Gas
GIS	Geographic Information System
GLA	Greater London Authority
Glacial Deposits	Materials which are carried to a point beyond its original location by a glacier.
GMLSC	Greater Manchester Learning and Skills Council
Government Circular (August 2005): Biodiversity and Geological Conservation	<i>Statutory Obligations and their Impact within the Planning System.</i> Office of the Deputy Prime Minister, London.
GONE	<i>The government office for the North East.</i>
GONW	<i>The government office for the North West</i>
GPS	Global Positioning Satellite
GQA	General Quality Assessment
Green Belt	A designated zone around an (urban) area within which there are special planning regulations to control urban sprawl and conserve countryside areas for farming and recreational purposes.
Greenspace	Is any vegetated land or water within or adjoining an urban area. It includes: Derelict, vacant and contaminated land which has the potential to be transformed; "Natural" greenspaces; natural and semi-natural habitats; Green corridors; paths, disused railway lines, rivers and canals; Amenity grassland, parks and gardens; Outdoors sports facilities, playing fields and children's play areas;

	Other functional greenspaces, e.g. cemeteries and allotments; and Countryside immediately adjoining a town which people can access from their homes.
Green Infrastructure	The living network of green spaces, water and other environmental features in both urban and rural areas.
Greenfield Runoff Rates	Theoretical runoff rates from a site as if it were undeveloped or “Greenfield”, usually calculated as a function of the site’s topography and underlying geology.
Greenway	Routes that connect people to facilities and greenspaces in and around the urban area and the countryside which are made up of proposed and potential off-road routes for walking, cycling and where appropriate, horse riding.
Groundwater	Any water in the ground below the water table and in direct contact with the ground or subsoil it is present at various depths in all land throughout the UK. Many people use groundwater for drinking, watering stock and crop irrigation, it also maintains flows in rivers, streams and wetlands, supporting valuable wildlife habitats. If it becomes polluted, this pollution could remain for many years and affect or prevent these uses.
Guanotrophy	Nutrient enrichment of a waterbody caused by the addition of bird guano (excrement)
Gumbel distribution	A model probability distribution, commonly used in wind and water level analysis.
HA	Highways Agency
HA 1980	Highways Act 1980
Habitat	The natural conditions and environment in which a plant or animal lives e.g. forest or wetlands.
Habitat Fragmentation	A process of change that can be caused by both human and geological processes that alter the layout of the physical environment.
Habitat Regulations	The Conservation of Habitats of Species Regulations 2010
Habitats Directive	The abbreviated term of <i>Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora</i> . The Directive aims to promote the conservation of certain habitats and species in the European Union.
Halophyte	A plant that is tolerant of high concentrations of dissolved salts such as sodium chloride.
Halton PCT	Halton Primary Care Trust

Handover Environmental Management Plan (HEMP)	The HEMP will comprise the management documents and other environmental information which set out the ongoing environmental requirements of the Project post construction.
Harm	Adverse effects on the health of living organisms or other interference with the ecological systems of which they form a part. In the case of humans the definition includes harm to property.
HAT	Highest Astronomical Tide
Hazard	A property or situation that in particular circumstances could lead to harm or pollution,
HBC	Halton Borough Council
HC	Hydrocarbon
HDV	Heavy Duty Vehicle
Health criteria value	Benchmark criteria that represent an assessment of levels of exposure that pose a risk to human health. For example, tolerable daily intake (TDI) and index dose.
Heavy Metals	Is any of a number of higher atomic weight elements which have the properties of a metallic substance at room temperature.
HGV	Heavy Goods Vehicle
Hibernaculum	A shelter used for overwintering by species such as reptiles, amphibians and butterflies.
Highest Astronomical Tide (HAT)	HAT is the highest level that can be expected to occur under average meteorological conditions and under any combination of astronomical conditions. HATs are not extreme levels, as certain meteorological conditions can cause a higher or lower level. The level under these circumstances is known as a 'storm surge'. HATs are determined by inspecting predicted sea levels over a number of years. HATs are measured to Chart Datum.
Hinterlands	Is the land or district behind the borders of a coast or river, often characteristic inland regions lying behind a port.
Horsemill	A round or polygonal building containing a horse engine. Commonly found on farms next to the threshing barn, where it is used to power the machinery.
HRA	Habitay Regulation Assessment.
HSE	Health and Safety Executive
Hydrocarbons	An organic chemical compound of hydrogen and carbon. There are a wide range of compounds within this category, many of which contribute towards the formation of photochemical smog at the regional scale

Hydrodynamics	The study of fluid in motion
Hydrosere	Refers to the series of vegetation (plant community) and environmental changes that lead from open water to mire or relatively dry land.
Icehouse	A structure, partly underground, for the preservation of ice for use during warmer weather.
IEEM	Institute of Ecology and Environmental Management
IMD	Index of Multiple Deprivation
Implementation plan	A plan that sets out all aspects of design, preparation, implementation, verification, long-term maintenance and monitoring of the remediation.
Improved	Refers to grasslands which have been agriculturally improved by cultivation, chemical fertilisation, herbicides, drainage, reseeding and other agricultural treatments including intensive grazing to such an extent that they have lost their natural species diversity.
IMS	Industrial Methylated Spirit
Indices of Multiple Deprivation (IMD) 2004	The IMD is based on the broadest range of data possible (to date) that measures deprivation. Which are defined by a summary of indicators: Income Deprivation; Employment Deprivation; Health Deprivation and Disability; Education, Skills and Training Deprivation; Housing Deprivation; and Geographical Access to Services.
Infauna	Aquatic animals that live within the bottom substratum rather than on its surface. Bottom dwelling and burrowing animals
Infrastructure	The basic physical systems of a country's or community's population, including roads, utilities, water, sewage, etc. These systems are considered essential for enabling productivity in the economy.
In-situ	Where contaminated material is treated without prior excavation (of solids) or abstraction (of liquids) from the ground.
Institute of Ecology and Environmental Management	A professional body that represents and supports professionals in the fields of ecology and environmental management.
Interest feature	The habitat or species for which a site (Site of Special Scientific Interest, Special Protection Area, European Marine Site etc) has been selected.
Interim advice Note	An advice note issued by Highways Agency which has effects on the methods identified in the Design Manual of Roads and Bridges until the changes identified in the IAN are officially adopted into DMRB by rissue of updated chapters or sections.
Intertidal	Area of sand and mud which is submerged by the tide for at least some time during the tidal cycle but is not covered by seawater at low tide The area between high and low water levels in a coastal zone

Intertidal Habitat	An area occurring within, or forming, the area between the high and low tide levels in a coastal zone where a plant/animal live.
Introduced	Refers to plant and animal species which are not native to the area, having been planted or imported deliberately or accidentally by man.
Invertebrate	An animal that does not have a backbone e.g. insect, worm.
Invertebrates	Includes species such as butterflies, dragonflies, beetles, worms and all other animals without a backbone.
ISQG	Interim Sediment Quality Guidelines
JNCC	Joint Nature Conservation Committee.
Kick Samples	Standard method of collecting benthic macroinvertebrate samples by disturbing the sediment with the foot, allowing displaced animals to be captured in a net
Kyoto Protocol	The Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) was adopted in Kyoto on December 11, 1997. It contains quantified greenhouse gas (GHG) emission limitation and reduction commitments, expressed in CO ₂ equivalent, for signatory countries
LA	Local Authorities
L_{Aeq,T}	The A-weighted equivalent continuous sound pressure level, measured over a given period T. It is also known as the ambient noise level.
L_{A10,T}	The A-weighted sound level exceeded for 10% of the stated measurement period T. This is the accepted parameter for measuring road traffic noise.
LA21	Local Agenda 21
L_{A90,T}	The A-weighted sound level exceeded for 90% of the stated measurement period T. This is the accepted parameter for measuring background noise.
Land Compensation Act (1973)	To confer rights of compensation for depreciation in the value of interest in land caused by the use of highways, aerodromes and other public work; to confer powers to mitigate the injurious effect of such works on their surroundings and to make provision for the benefit of persons displaced from land by public authorities.
Landfill	Site used for waste disposal into or onto land.
Landscape Character	Is the recognisable pattern of elements that occurs in a particular landscape. Variations in geology and soils, landform, land use and vegetation, field boundaries, settlement patterns and building styles give rise to different landscapes each with its own distinctive character and unique sense of place.

Landscape Classification	Natural or human features which can be found in different landscapes but which vary in terms of their presence or contribution, which define the character of any particular landscape type, e.g. geology, soils, vegetation or settlements.
Landscaping	The enhancement of the appearance of land, especially around buildings, by altering its contours and planting trees, shrubs and flowers.
LAQM	Local Air Quality Management
LAT	Lowest Astronomical Tide
LEP	Local Enterprise Partnerships
LDF	Local development Framework. A series of plans and core strategies developed by the Local Authorities (Halton in this case) and containing plans and policies relevant to the land in that authority.
LDS	Local Development Scheme
LDV	Light Duty Vehicle
Leachate	Liquor formed by the interaction of water with wastes or soil contaminants
Leaching	The process by which soluble matter is dissolved in groundwater and carried downward radially through the soil.
Lead	Lead is present in small quantities in many geological materials and is mainly emitted from the combustion of coal and ferrous and non-ferrous metals
L_{eq,T}	The equivalent continuous sound pressure level, measured over a given period T. This is a notional steady sound level which would contain the same amount of sound energy as the actual, possibly time varying, sound level that was actually recorded.
Ley	A planted grassland (often with clover) sown for grazing or cutting for a relatively short period before being ploughed up again (can have short and long leys).
Light Non-Aqueous Phase Liquid (LNAPL)	A liquid that is lighter than water and only slightly soluble in water. LNAPLs exist in the subsurface as a separate fluid phase in the presence of either air or water, and can both vapourise into air and slowly dissolve into flowing groundwater.
Linear habitat	A linear feature in which species live more or less permanently. Examples are hedgerows, road verges, buffer plantations, ditches and lake shores.
LINSIG	A computer programme used for the purpose of the design of traffic signal settings

Listed Building	A building of special architectural or historic interest. Listed buildings are graded I, II* or II with grade I being the highest. Listing includes the interior as well as the exterior of the building, and any buildings or permanent structures (e.g. wells within its curtilage). English Heritage is responsible for designating buildings for listing in England.
Lithics	Knapped or ground stone/ flint tool
LNAPL	Light Non-Aqueous Phase Liquid
Local Development Documents (LDDs)	<p>There are two types:</p> <p><i>Development Plan Documents (DPD):</i> Have statutory force because they are the subject of an independent public examination into their "soundness". After the Inquiry the Inspector will produce a binding report which the Council must follow if it wishes to adopt the document.</p> <p><i>Supplementary Planning Documents (SPD):</i> Do not have statutory force but provide support or amplify policies in a DPD.</p>
Local Development Framework (LDF)	A portfolio of Local Development Documents providing the framework for delivering the spatial planning strategy for the Borough of Halton.
Local Development Scheme (LDS)	The programme for producing the Local Development Framework.
Local Nature Reserve (LNR)	A site designated under UK Government legislation which may be of local importance only.
Local Transport Plan (LTP)	Set out the authority's local transport strategies and policies, and an implementation programme.
Lowest Astronomical Tide (LAT)	LAT is the lowest level that can be expected to occur under average meteorological conditions and under any combination of astronomical conditions. LATs are not extreme levels, as certain meteorological conditions can cause a higher or lower level. The level under these circumstances is known as a 'negative surge' in the case of level lower than LAT. LATs are determined by inspecting predicted sea levels over a number of years. LATs are measured to Chart Datum.
LPA	Local Planning Authority
LSOA	Lower Layer Super Output Areas
LTLI	Long Term Limiting Illness
LTP	Local Transport Plan
LWS	Local Wildlife Sites
Macrofauna	Macroscopic aquatic invertebrates > 500 µm in size

Macrofossil	Preserved organic remains large enough to be visible without a microscope
Macroinvertebrates	Refers to aquatic invertebrates species over 500µm in size which inhabit a river channel, pond, lake, wetland or ocean. E.g. Aquatic snails, worms, insects.
Macroinvertebrates	Aquatic invertebrate species over 500µm in size
Macrophyte	Macroscopic aquatic plants that grow in freshwater and brackish environments . An individual alga large enough to be easily identified with the unaided eye. Includes vascular plants and macroscopic algae .
Macrophytes	Macroscopic aquatic plants that grow in freshwater and brackish environments. Includes vascular plants and macroscopic algae.
Macrotidal	A tidal range greater than 4m.
Made ground	Material that has been placed by man and can be divided into those composed of reworked natural soils and those composed of man-made materials.
Main Line	The route of the primary highway.
Maintenance	Activities carried out to ensure that remediation performs as required over a specified design life.
Marsh	A plant community or vegetation type on periodically or permanently wet ground, but not on peat.
MBC	Metropolitan Borough Council .
MDHC	the Mersey Dock and Harbour Company
Meadow	Grassland cut for hay as opposed to grazing (pasture).
Mean High Water Neaps (MHWN)	The height of mean high water neaps is the average throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its least. The height of MHWN is measured above Chart Datum.
Mean High Water Springs (MHWS)	The height of mean high water springs is the average throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest. The height of MHWS is measured above Chart Datum.
Mean Low Water Neaps (MLWN)	The height of the mean low water neaps is the average height obtained by the two successive low waters during the same period. The height of MLWN is measured above Chart Datum.
Mean Low Water Springs (MLWS)	The height of the mean low water springs is the average height obtained by the two successive low waters during the same period. The height of MLWS is measured above Chart Datum.
Meiofauna	Animals living on or within sediments within the size range of 63 to 500 microns.

Meioflora	Small aquatic invertebrates ~ 63 - 500 µm in size
Mersey Estuary	<p>Sited on the North West coast of England between Dee and Ribble estuaries, extending from Liverpool at the mouth to the tidal limit at Howley Weir (Warrington) 46km upstream; it is one of five main river systems draining Northern England. The Mersey estuary essentially comprises of four main sections:</p> <p><i>The Upper Mersey (Howley Weir to Hale Head)</i>, is the tidal limit of the estuary, consisting of a highly mobile sand/mudflat area. The area is relatively shallow in depth and periodically reworked by migrating low water channels, these geological formations create the Runcorn Gap. The north and south banks are covered with Saltmarshes. This area lies approximately 31.5km from the mouth;</p> <p><i>The Middle Mersey (Hale Head to Dingle Point)</i>; has similar characteristics to the Upper Mersey, consisting predominantly of intertidal banks. This area is designated as a SPA, SSSI, Ramsar Site and European Marine Site;</p> <p><i>The Narrows (Dingle Point to New Brighton)</i>; this area represent a geological constraint to the estuary system as the bedrock prevents any further expansion of the channel. They stretch for approximately 10km and a width of approximately 1km, a mean depth of 15m and some depths exceed 20m. This area is subjected to high tidal currents that can exceed 3m/s and scour the bed down to rock and gravel;</p> <p><i>The Outer Mersey (New Brighton to the seaward extent of the Training Walls)</i>; this area is characterised by a trained channel which crosses a region containing a number of sand banks.</p>
Mesotrophic	Refers to soils and waters of intermediate nutrient content, neither nutrient-rich nor nutrient-poor.
Metamorph	An animal such as the larval form of a newt or frog tadpole which has changed in form to the adult stage.
Metapopulation	Refers to several discrete populations of a species in close proximity but are inter-connected by movements of individual animals (commonly applied to butterfly and amphibian populations).
Metres Above Ordnance Datum (mAOD)	Ordnance Datum is usually measured as the Mean Sea Level (MSL) of a particular location. In Great Britain, Ordnance Datum is measured as the MSL at Newlyn in Cornwall, between 1915 and 1921, and is used as the reference datum in Ordnance Survey (OS) mapping. Therefore Above Ordnance Datum (AOD) is the level of a surface or point, usually in metres, above this MSL.
MG	Mersey Gateway
MGM	Mersey Gateway Model
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
Microalgal	Concerning microscopic algae

Microclimate	Climatic conditions such as temperature, humidity and shade which occur on a very small scale, for example within a very small wooded ravine and even behind a waterfall or within a small depression in the ground such as an animal's hoofprint.
Microfauna	Microscopic aquatic invertebrates < 500 µm in size
Minerotrophic	Relates to a mire that has developed under the influence of water that has been in contact with the surrounding soil or rock (see mire).
Mire	Applied mostly to peat and its associated vegetation, but also to some mineral soils, where the soil is permanently or periodically waterlogged by a high water table, lateral water flow or a high atmospheric humidity.
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs
MNA	Monitored natural attenuation
Monitored natural attenuation (MNA)	Monitoring of soils or groundwater to confirm whether natural attenuation processes are acting at a sufficient rate to ensure that the wider environment is unaffected and that remedial objectives will be achieved within a reasonable timescale
Monitoring	A continuous or regular periodic check to determine the ongoing nature and performance of remediation, which includes measurements undertaken for compliance purposes and those undertaken to assess performance.
Monocarpic	Plants that die after flowering and bearing fruit or seeds once.
Monocotyledon	Belonging to a class of angiosperms with an embryo having a single cotyledon, flower parts usually in three, parallel leaf veins, and vascular bundles scattered throughout the stem. Includes grasses, sedges, rushes, orchids, lilies, daffodils, snowdrops etc.
Moor (moorland)	Applied to upland plant communities, often dominated by heather, on damp or dry but not wet peat.
Mor	Refers to raw humus which is acidic and poorly decomposed (as opposed to mull), typically acidic peat or surface undecomposed humus in an acidic woodland. See mull.
MSC	Manchester Ship Canal
MSCC	Manchester Ship Canal Company
MTR	Mean Trophic Rank
Mudflats	Coastal wetlands form when mud, estuarine silts, clays and decayed marine animals are deposited by the tides, rivers, seas and oceans. Often found in sheltered areas and considered as important regions for wildlife; serving as an important habitat for migratory birds in particular. They are classified as a Biodiversity Action Plan (BAP) priority habitat.

Mull	Applied to neutral and well-decomposed humus (as opposed to mor), such as a fertile woodland or other soil which has no raw humus layer. See mor.
National Air Quality Strategy (NAQS)	<p>Sets out air quality standards and objectives for specified pollutants and which outlines measures to be taken by local authorities to improve air quality. Councils have the responsibility to periodically review and assess current and future air quality of the area against the national air quality objectives. The NAQS sets out targets for seven pollutants which local authorities are obliged to meet:</p> <p>Nitrogen dioxide; Fine Particles (PM₁₀); Carbon Monoxide; Sulphur Dioxide; Benzene; 1, 3-butadiene; and Lead.</p>
National Vegetation Classification (NVC)	The classification of British natural, semi-natural and major artificial habitats in terms of plant communities based on their species composition and other environmental factors.
Nationally notable	Refers to invertebrate species which occur in less than 100 of the 10 kilometre squares of the National Grid.
Nationally scarce/rare	For marine purposes, species of limited national occurrence. For terrestrial plant species, nationally rare species are those occurring in 1-15 10 x 10 km squares of the National Grid, and nationally scarce species are those occurring in 16-100 10 x 10 km squares of the National Grid.
Native	Indigenous, not known to have been introduced by man.
Natura 2000	The European network of protected sites established under the <i>Birds Directive</i> and the <i>Habitats Directive</i> .
Natural attenuation	Natural processes which, without human intervention, reduce the concentration, mass, flux or toxicity of contaminants in groundwater and surface water.
Nature Conservation Review Sites (NCRs)	Key sites of national importance (including internationally important sites) identified in <i>A Nature Conservation Review</i> by Ratcliffe (1977). These sites (originally 735) were selected to represent Britain's most important sites that should be conserved to exemplify the country's rich heritage of wild flora and fauna. Grade 1 sites are of international or national (Great Britain) importance (equivalent to NNR in nature conservation value. Grade 2 sites are equivalent or only slightly inferior value to grade 1 sites. Grade 3 sites are of high regional importance and rated as high quality SSSIs). Grade 4 sites are of lower regional importance but still rated as SSSI.
Nauplii	The earliest larval stage of some crustaceans
Neap tide	This type of tide produces the smallest rise and fall in water level as a result of the sun and moon tide-generating forces opposing each other. Neap tides occur at the first or last quarter of the moon.

NE	Natural England
Nitrogen Oxides	This term covers both nitric oxide (NO) and nitrogen dioxide (NO ₂).
NMMP	National Marine Monitoring Programme
NNR	National Nature Reserve.
NO	Nitric Oxide
NO₂	Nitrogen dioxide
Noise Insulation Regulations (1973)	Made under the Land Compensation Act, 1973 to provide for the noise insulation houses where road traffic noise from a new or significantly altered road exceeds 68 L _{A10,18hr} , predicted or measured 1m from an eligible façade.
Non parametric Mood's median test	Statistical technique used to analyse ecological data that are not normally distributed and therefore not suitable for ANOVA
Non-Technical Summary	A brief report which summarises the principle sections of Part 1 (a comprehensive and concise document which draws all relevant information together) of the ES in non-technical language, readily understandable by the members of the public.
Notable species	A species that is considered to be notable due to its importance as an indicator, and may also be of nature conservation importance, and which is unlikely to be a 'characteristic species'.
NO_x	Oxides of nitrogen
NPPF (DNPPF)	The National Planning Policy Framework which has been issued by the Coalition Government in July 2011 for Consultation. The Consultation has finished however the final version is expected in 2012. The NPPF will replace and consolidate into one document the current framework of policy statements and guidance notes (PPS and PPG) that are currently issued as separate topics.
NRA	National Rivers Authority
NRA	Neighbourhood Renewal Area
NRF	Neighbourhood Renewal Funding
NRMM	Non-Road Mobile Machinery
NTS	National Travel Survey
NWDA	North West Development Agency
OD	Origin/Destination
ODPM	Office of the Deputy Prime Minister

Oligochaeta	Class of annelid worms with a few bristles on each segment, and without parapodia. Includes the earthworms.
Oligotrophic	Refers to waters have a very low dissolved nutrient content.
Ombrotrophic	Mires irrigated directly and exclusively by rain, with nutrient input from rain only.
Ordnance Datum (Newlyn)	Is the datum of the land levelling system on the mainland of England, Scotland and Wales, and on some of the closer islands offshore; this datum was established at the level of the average value of Mean Sea Level at Newlyn for the six-year period 1915-21. Ordnance datum (Newlyn) at Widnes is the same level as Chart Datum.
Ozone	Ozone is not emitted directly from any source. It is a pollutant that is formed in the atmosphere in the presence of NO _x , VOCs (Volatile Organic Compounds) and many other oxidising species. Its formation is favoured in hot sunny conditions and can occur over many hours or days
PAH	Polycyclic aromatic hydrocarbons, Poly-Aromatic Hydrocarbons
Palmes-type Diffusion Tube	Palmes-type diffusion tubes are commonly used throughout the UK for indicative measurements of ambient NO ₂ . The Palmes-type passive sampler consists of a tube, open at one end, with an absorbent at the other (closed) end for absorption of a specific pollutant from the surrounding air
Pan	A depression or hollow, usually in a saltmarsh, with little or no vegetation. The sides are relatively steep and there are no drainage outlets.
Parr	Juvenile salmonid fish between a year old and adulthood, before migration from freshwater.
Particulate Matter	Particulate matter is a mixture of solid and liquid particles suspended in the air. There are a number of ways the airborne particulate matter may be categorised. The most widely used categorisation is based on the size of particles such as PM _{2.5} , particles of diameter less than 2.5 µm, PM ₁₀ , particles of diameter less than 10 µm
Particulates	Fine particles of solid or liquid suspended in a gas. Sources of particulate matter can be anthropogenic or natural and can alternatively be referred to as particulate matter (PM).
Partition coefficient	The ratio of the activities (less accurately, but more commonly, concentrations are measured) of a chemical species at equilibrium between two phases (e.g. solid and liquid) at a given temperature
Passerines	Perching birds such as sparrows and thrushes and including all British songbirds.
Pathway	A route or means by which a receptor could be, or is exposed to, or affected by a contaminant.
PCA	Principal Components Analysis

PCB	Poly Chlorinated Biphenyls
PCU	Passenger Car Unit
Programme Entry (PE)	First stage of scheme development.
Peak mean counts (5 yrs)	The yearly counts, over the winter months in different count sectors, of all the birds which are visible in each count sector, are averaged over a period of five years to give the 5 years peak mean count.
Peat	Type of soil formed by partly decomposed plant material in anaerobic waterlogged conditions.
PEL	Predicted Effect Levels
Permeability	A measure of the rate at which a fluid will move through a medium. The permeability of a medium is independent of the properties of the fluid (See also 'hydraulic conductivity').
Permeable reactive barrier (PRB)	A PRB is an engineered treatment zone of reactive material(s) that is placed in the subsurface to remediate contaminated fluids as they flow through it.
Personal Protective Equipment (PPE)	Refers to protective clothing, helmets, goggles, or other gear designed to protect the wearer's body or clothing from injury by electrical hazards, heat, chemicals, and infection, for job-related occupational safety and health purposes, and in sport.
PFI	Private Finance Initiative
PG(03)	Policy Guidance 2003
pH	A semi-logarithmic scale (1-14) which is used to measure the acidity or alkalinity of soil or water, pH 7.0 being neutral. Acidic soils have pH values mostly in the range 3.0 to 6.0 and alkaline soils have pH values generally in the range 7.0 to 8.5, exceptionally up to 12.7 in industrial wastes.
Phase 1 Habitat Survey	A standardised method of survey of land and water, developed by the Nature Conservancy Council, which maps all types of habitat and vegetation at 1:10,000 scale on colour-coded plans based on field recording. The Phase 1 habitat classification and associated field survey technique provides a relatively rapid system to record semi-natural vegetation and other wildlife habitats.
Phase 1 Habitat Survey Methodology (JNCC, 1993)	A technique for rapidly obtaining a record of the semi-natural vegetation and wildlife habitat over large areas of countryside.
Phase 2 Habitat Survey	A more detailed habitat survey which involves the preparation of plant species lists and recording of the abundance of individual species for specific habitats and plant communities.
Phenols	A class of chemical compounds

Photosynthesis	The process by which plants (and some bacteria and protists) use the energy from the sunlight to produce energy.
Phytotoxicity	Toxicity of contaminants, such as metals, to plants.
Planning for Biodiversity and Geological Conservation	<i>A Guide to Good Practice</i> . March 2006, Office of the Deputy Prime Minister: London.
Planning Policy Guidance (PPG)	Issued by central government setting out its national land use policies for England on different areas of planning. These are gradually being replaced by Planning Policy Statements.
Planning Policy Statement 10 (PPS 10)	Planning for Sustainable Waste Management commonly abbreviated as PPS 10, is a document produced by the British Government and forms part of the national waste management plan for the United Kingdom. The current version was introduced in July 2005 and replaced Revised PPG 10: Planning and Waste Management (published 1999).
Planning Policy Statement 9; Biodiversity and Geological Conservation (PPS9)	A national policy set out on the protection of biodiversity and geological conservation through the planning system. These policies complement but do not replace or override, other national planning policies and should be read in conjunction with other relevant statements of national planning policy.
Planning Policy Statements (PPS)	Issued by central government to replace the existing Planning Policy Guidance notes in order to provide greater clarity and to remove from national policy advice on practical implementation, which is better expressed as guidance rather than policy.
Plant community	A vegetation type which is characterised by its species composition and assemblage of plant species.
Plume	A contiguous region of groundwater containing dissolved contaminants. Plumes are typically formed by the dissolution of DNAPL into groundwater and therefore occur hydraulically down-gradient of the DNAPL source zone.
PM₁₀	Mass of Particles less than 10 µm diameter
PM_{2.5}	Mass of Particles less than 2.5 µm diameter
PNECs	Predicted No Effect Concentrations
Podzol	A type of soil characterised by a surface layer of acidic humus (known as mor) with a bleached sandy layer beneath (subsoil) from which the minerals have been removed by leaching, and a further layer (beneath) where the minerals have been redeposited.
Pollutant linkage	The relationship between a source (contaminant), pathway and receptor.

Poly-Aromatic Hydrocarbons (PAH)	Chemical compounds that can be point source pollutants e.g. oil spill or non-point source e.g. atmospheric deposition. They are one of the most widespread organic pollutants, some of which are known or suspected carcinogens and are linked to other health problems. Primarily formed by incomplete combustion, however different types of combustion yield different distributions of PAHs.
Potential Impact	The extent of impact, any transfrontier nature of impact, the magnitude and complexity of impact, the duration, frequency and reversibility of impact.
PPE	Personal Protective Equipment
PPG	Planning Policy Guidance
PPG 9	<i>Planning Policy Guidance: Nature Conservation</i> . Now replaced by PPS9.
PPS	Planning Policy Statement
PPS 10	Planning Policy Statement 10
PPS23	Planning Policy Statement 23
PPS9	<i>Planning Policy Statement 9: Biodiversity and Geological Conservation</i> .
Practicability	The extent to which it is possible to implement and operate a remediation option or strategy given practical constraints, such as treatment area, access, availability of support services, etc.
PRB	Permeable reactive barrier
Preliminary risk assessment	First tier of risk assessment that develops the initial conceptual model of the site and establishes whether or not there are any potentially unacceptable risks.
Project Agreement	The contract for the design, build, finance, operation and maintenance of the project to be entered into between the Council and Project Company.
Project Company	The Bidder appointed under the procurement process to enter into the Project Agreement with the Crossings Board.
Principal Aquifers	Layers of rock or drift deposits that gave high intergranular and/or fracture permeability. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are previously designated as major aquifers.
Primary consumers	Those organisms in the food web feeding on the primary producers (i.e. herbivores)
Primary producer	Organisms forming the base of the food web within an ecosystem, which synthesise organic matter from inorganic materials (usually using sunlight) i.e. predominately plants and algae.

Priority Habitat (now Habitat of Principal Importance)	A key habitat for which the UK has international obligations, habitats at risk (in serious decline), or which are rare, areas which may be functionally critical, and areas important for key species (Priority Species – now Species of Principal Importance). 38 key habitats (known as Priority Habitats – now Habitats of Principal Importance) were identified in <i>Biodiversity: The UK Steering Group Report (1995)</i> .
Priority Species (now Species of Principal Importance)	These are species that were identified in <i>Biodiversity: The UK Steering Group Report (1995)</i> as being globally threatened/declining in the Short and Middle lists of key species.
PRoW	Public Rights of Way
PSA	Public Service Agreement
PT	Public Transport
Public Rights of Way (PRoW)	Rights of way are minor public highways that exist for the benefit of the community at large. They are the most widely recognised facility that gives the public the opportunity to enjoy the English countryside.
Quality management	The systematic planning, organisation, control and documentation of projects.
Radiocarbon Dating	A method of obtaining age estimates on organic materials which has been used to date samples as old as 75,000 years.
RAMSAR	Wetland sites of national importance which are designated under the RAMSAR convention (International treaty for the conservation of wetlands, 1975).
Ramsar Site	Wetland of International Importance listed under the Ramsar Convention (International treaty for the conservation of wetlands, 1975)
RCS	River corridor survey.
RDF2	Regional Spatial Framework Policy RDF2
Real-time continuous analysers	Real-time continuous analysers measure pollutant concentrations on a continuous basis. These concentrations are then logged and downloaded for further interpretation e.g. to derive hourly, 24-hourly or annual mean concentrations for comparison against relevant AQS objectives.
Rebound	The re-emergence of undesirable levels of contamination in groundwater (or other monitored parameters such as soil atmosphere) following the switch off of a treatment system
Receptor	In general terms, something that could be adversely affected by a contaminant, such as people, an ecological system, property or a water body.
Red Data Book	Lists of species whose continued existence is considered threatened. Red Data Books list species whose survival is believed to be threatened.
Red Data Book species	Species listed in British Red Data Books whose survival in Britain is believed to be threatened.

Redevelopment	New construction or conversion
Reductive Dechlorination	The step-wise removal of chlorine atoms from a contaminant
Reedbed	Tall, emergent and semi-aquatic vegetation such as Common Reed and Bulrush which is typical of the transitional habitat between open water and exposed land (see tall swamp).
Regeneration	The economic, social and environmental renewal and improvement of rural and urban areas.
Regeneration Areas (RAs)	The designation of an area with a specific regeneration priority in achieving the objectives of the relevant Regional Economic Strategy. There is no national designation of RAs.
Regeneration Strategy	It comprises of a number of comprehensive set of actions which seek to reverse decline, prevent failure, maintain a existing sustainable communities, solve problems whilst encouraging success, fulfilling the ambitions and aspirations of local people and developing truly sustainable and integrated communities. It aims to lead to lasting improvements in the economic, social, physical, environmental community and cultural life of an area.
Regional Spatial Strategies (RSS)	Incorporating a Regional Transport Strategy (RTS), a RSS provides a broad development strategy for a region for a fifteen to twenty year period. It also informs the preparation of Local Development Documents (LDDs), Local Transport Plans (LTPs) and regional and sub-regional strategies and programmes that have a bearing on land use activities. RSSs form part of the statutory development plan.
Regional Transport Strategy (RTS)	A strategy produced by the Regional Planning Body, informing local transport plans, and providing a strategic overview of transport strategies and investment priorities.
Reinforced concrete walls	A type of retained earth structure using straps or grids to reinforce the soil with precast concrete facing panels capable of accommodating some differential movement.
Reinforced earth walls	A type of reinforced earth structure made by reinforcing the soil using steel or synthetic straps or grids layered in the soil and then tied into each other at the sides to allow steeper side slopes.
Relict species	A species that was previously of widespread occurrence but is now restricted to a very small area.
Remedial Target Methodology	A consistent framework for controlled waters risk assessment. Used to identify unacceptable risks of pollution of controlled waters and as the basis for facilitating discussion and establishing remedial targets for contaminated soil and groundwater. Also acceptable risks are identified and so unnecessary remediation is avoided.
Remediation	Action taken to prevent or minimise, or remedy or mitigate the effects of any identified unacceptable risks.

Remediation option	A means of reducing or controlling the risks associated with a particular pollutant linkage to a defined level.
Remediation strategy	A plan that involves one or more remediation options to reduce or control the risks from all the relevant pollutant linkages associated with the site.
Resident fish	Fish who are resident in the area for the whole of their lifecycle
Residual contamination	Amount or concentration of contaminants remaining in specific media following remediation.
Residual Waste	Materials that cannot be reused, recycled or recovered.
Retained Earth Structure	A structure (usually vertical or near vertical) designed to support fill material at a change in ground elevation.
Return Period	Average period of time between occurrences of a given event.
Revised Forecast (RF)	Traffic forecasts produced based upon DfT's guidance issued in April 2010.
Ria	An estuary formed by the flooding of river valleys by sea level rise at the end of the last ice age (more or less complete 6,000 years Before Present (BP, where 'present' is set at 1950).
Rich fen	A minerotrophic mire that is rich in dissolved nutrients, particularly calcium (see minerotrophic).
Risk	A combination of the probability, or frequency of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.
Risk Assessment	The formal process of identifying, assessing and evaluating the health and environmental risks that may be associated with a hazard.
Risk Based Corrective Action (RBCA)	The consistent decision making process used to assess actual or likely human and/or environmental risk of exposure to a chemical release and determine appropriate remedial actions in response to such releases.
RPG13	Regional Planning Guidance for the North West RPG13 (now superseded by RSS)
RSI	Roadside Interviews
RSS	Regional Spatial Strategy
RT1	Transport Framework Policy RT1
Ruderal	Refers to a primitive and often sparse but sometimes tall vegetation which develops quickly on bare ground following disturbance.

Runoff	Runoff, also called ‘surface runoff’ and ‘surface water runoff’, refers to the overland flow of water resulting from a rainfall event or melting snow in an area where maximum possible infiltration into the soil has taken place and no more water is able to be infiltrated. Rainfall runoff is common during prolonged and/ or intense periods of rainfall, and in areas where the ground comprises largely impermeable surfaces and water is unable to be infiltrated into the soil.
Rupestral	Applied to plants growing on stones or rocks including stone walls, retaining walls, the stone sides of canals and brick walls.
SAC	Special Area of Conservation (cSAC = Candidate Special Area of Conservation).
Saltmarsh	Wetland existing in intertidal areas, dominated by characteristic communities of salt-tolerant plants
Saltmarshes	An area dominated by plants that are tolerant of wet, saline soils which are generally found in low-lying coastal habitats which are periodically wet and unusually saline.
SATURN	Simulation and Assignment of Traffic in Urban Road Networks
SBI	Site of Biological Importance = a Local Nature Conservation designation on a county context (Cheshire and Greater Manchester).
Scheduled Ancient Monuments (SAMs)	Often earthworks or unoccupied structures in a ruinous or semi-ruinous condition. SAMs have legal protection under the Ancient Monuments and Archaeological Area Act of 1979. They are protected against disturbance as it is an offence to carry out works (a very broad term) without the authority of the Secretary of State accorded through Scheduled Monument Consent (SMC). Work that might damage a scheduled site is not usually granted, and being “scheduled” does not necessarily mean that a monument will be preserved exactly as it is for all time.
Schwingmoor	A mire (bog) developing on a floating layer of vegetation and peat on the surface of a deep and steep-sided pool.
Scoping Report	The range of actions, alternatives and impacts to be considered when writing a scoping report.
Scour	Erosion result from the shear forces associated with flowing water and wave action, other scour processes include: <i>a) General Scour:</i> Attributed to natural processes distinct from the interaction of any structure existing on a bed. It can be initiated by distinct events such as floods with an immediate effect on erodible boundary material, or in contrast, it can be attributed to gradual changes such as degradation and aggregation of boundary materials associated with the morphological characteristics of the channel or estuary and its boundary walls. <i>b) Local Scour:</i> Scour that results directly from the impact of individual structural elements (e.g. piles and abutments_ on the flow and occurs only in the immediate vicinity of those elements. Local scour can occur either as clear-water or live-bed scour.

c) *Clear-Water Scour*:
Scour where the bed material in the flow upstream of the scour hole is at rest.

d) *Live-Bed Scour*:
Scour where there is a general movement of bed material, ultimately with a balance between the sediment entering and leaving the scour hole.

e) *Constriction Scour*:
Generally caused by a local narrowing often created by the presence of one or more structures such as bridge piers or training works placed in a fluvial or marine bed. The narrowing causes an increase in flow velocity over its length and a corresponding increase in bed shear stress.

Scour Action/Scouring	An erosion process resulting from the action of the flow of water, air or ice.
Scrub	A vegetation type or plant community dominated by shrubs, including thicket.
SEA	Strategic Environmental Assessment
Secondary A Aquifers	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
Secondary B Aquifers	Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water bearing parts of the former non-aquifers
Secondary (Undifferentiated) Aquifers	Designation assigned in cases where it has not been possible to attribute either category A or B. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
Sediment	Particulate matter derived from rock, minerals or bioclastic debris.
Sediment Cell	A length of coastline and its associated nearshore area within which the movement of coarse sediment (sand and shingle) is largely self-contained. Interruptions to the movement of sand and shingle within one cell should not affect beaches in a neighbouring sediment cell. A report was produced in 1994 defining sediment cells around the coast of England and Wales (author: HR Wallingford 1994).
SEIA	Socio - Economic Impact Assessment
Semelparous	Organism with a boom and bust lifecycle, i.e. mature adults spawn synchronously
Semi-diurnal	Having a period of half a tidal day, i.e. 12.42 hours.
Semi-improved	Refers to grasslands which have been modified by artificial fertilisers, intensive grazing and other agricultural treatments to such an extent that there has been a significant reduction in their natural species content.

Sensitivity	The intolerance of a habitat, community or individual species to damage from an external force.
SEPA	Scottish Environmental Protection Agency
Set-aside	Arable land that has been taken out of production for a temporary period.
Shannon-wiener index	A measure of the diversity of a biological sample
Silt	Sediment particles with a grain size between 0.063mm and 0.002mm (BS5930).
Silver Jubilee Bridge (SJB)	Existing crossing over the Mersey Estuary linking Runcorn to Widnes.
SINC	Site of Importance for Nature Conservation. This is a local (County, Borough etc designation, below the level of SSSI).
Site investigation	Intrusive investigation involving the collection and analysis of soil, groundwater and other media as a means of informing the conceptual model and risk assessment. This investigation may be undertaken in a single or a number of successive stages.
Site specific assessment criteria	Values for concentrations of contaminants that have been derived using detailed site-specific information on the characteristics and behaviour of contaminants, pathways and receptors and that correspond to relevant criteria in relation to harm or pollution for deciding whether there is an unacceptable risk.
Site Waste Management Plan (SWMP)	A framework for systematically identifying and quantifying Project waste arisings, and developing an appropriate management plan and reporting system for Project wastes.
Sites of Importance for Nature Conservation (SINCs)	There is certain criteria which are considered to be of particular importance for nature conservation within certain areas. SINCs are an addition to statutorily designated sites.
Sites of Special Scientific Interest (SSSIs)	Designated sites that provide protection for the best examples of the UK's flora, fauna, geological or physiological features. Also used to underpin other national and international conservation designations. Most SSSIs are privately-owned or managed, some are managed or owned by public bodies or non-governmental organisations.
SJB	Silver Jubilee Bridge
Smolt	Salmonid fish ready for or on its migration from river to sea
SMR	Standard Mortality Ratio
SO₂	Sulphur Dioxide
SOD	Sediment Oxygen Demand

Soil Guideline Values	Documents which identify the technical approaches taken for individual substances including the Contaminated Land Exposure Assessment (CLEA) model, which estimates the intake of contaminants from a particular concentration of soil. It provides relevant, appropriate, authoritative and scientifically based information and advice on the assessment of risks arising from the presence of contamination in soils. It is not possible to set out complete generic guideline values for all contaminants as some will require specific evaluation at particular sites.
Solidification and stabilisation processes	Solidification reduces the physical accessibility of contaminants by encapsulating them in a monolithic solid of high structural integrity; stabilisation reduces the chemical availability contaminants.
Soligenous	Wet habitats that are supplied by groundwater rather than by precipitation.
Source	A hazardous substance or agent that is capable of causing harm. For pollutant linkages, the source is termed a contaminant.
Source Protection Zones (SPZs)	Protection zones show the risk of contamination from any activities that might cause pollution in the area around groundwater abstractions. The closer the activity, the greater the risk. These maps show three main zones; inner, outer and total catchment and a fourth zone of special interest which might occasionally be applied to a groundwater source. These zones are used in conjunction with Groundwater Protection Policy which has set up pollution prevention measures in areas which are at a higher risk and to monitor the activities of potential polluters nearby.
SPA	Special Protection Area
Special Protection Area (SPAs)	Classified by the UK government under the EC Birds Directive (this applies to the UK and the overseas territory of Gibraltar). They are the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union. SPAs in terrestrial areas and territorial marine water out to 12 nautical miles are also classified under the Wildlife and Countryside Act 1981.
Species of Conservation Concern	These are species that were identified in Biodiversity: The UK Steering Group Report (1995) as being globally threatened/declining in the Middle and Long lists of key species (excluding Priority Species in those lists).
Species richness	The number of species present in a community or assemblage
Speed	The rate of change of distance with respect to time and is, therefore, a scalar quantity having magnitude only.
Spring tide	This type of tide produces the greatest rise and fall in water level. It occurs at just after new moon and after full moon.
SSSI	Site of Special Scientific Interest. SSSIs are designated under UK Government legislation and are of national importance.

Statement of Community Involvement (SCI)	Sets out the Council's processes for involving the community in the preparation and revision of Local Development Documents and development control decisions. Each Local Development Document will need to show how the Statement of Community Involvement has been complied with.
Stonewort	Common name for the charophyta (algae).
Storm Surge	The action of wind stress or an atmospheric pressure reduction on the water surface which causes a rise above normal water level.
Strategic Network	Refers mainly to motorways and A roads.
Strategic Planning/Objectives	An organisation's process of defining its strategy, or direction, and making decisions on allocating it's resources to pursue this strategy, including its capital and people.
Stratification	Vertical grouping within a community or ecosystem, differentiation of horizontal layers in soil.
SU	Soiling Units
Sub-dominant	A species that may seem more abundant than the true dominant species in a climax plant community at particular times of the year, or which is more abundant than the dominant species but occurs at a lower frequency.
Sub-feature	An ecologically important sub-division of the interest feature of a designated site.
Sublittoral	Shallow water zone of the sea from the extreme low-tide level to a depth of around 200 metres. Also zone of a lake too deep for rooted plants to grow.
Subsere	Plant succession on a denuded area, secondary succession.
Substrate	The base at which a sedentary animal or plant is fixed (alternative to substratum). It has other meanings such as a substance on which an enzyme acts.
Substratum	The base to which a sedentary animal or plant is fixed.
Subtidal	Deep permanent water channels that flow through intertidal areas. The benthic ocean environment below low tide that is always covered by water.
Succession	The process of vegetational (plant community) and/or animal community change that leads eventually to a climax vegetation (stable vegetation that is best suited to the site such as oak woodland) or a mature ecosystem.

SUDS	“Sustainable drainage” means managing rainwater (including snow and other precipitation) with the aim of— (a) reducing damage from flooding, (b) improving water quality, (c) protecting and improving the environment, (d) protecting health and safety, and (e) ensuring the stability and durability of drainage systems.
Sustainable Drainage Systems (SUDS)	“Sustainable drainage” means managing rainwater (including snow and other precipitation) with the aim of— (a) reducing damage from flooding, (b) improving water quality, (c) protecting and improving the environment, (d) protecting health and safety, and (e) ensuring the stability and durability of drainage systems.
Sulphur Dioxide	Sulphur Dioxide (SO ₂) is generated from the combustion of fossil fuels. Sulphur dioxide is a colourless gas generally produced due to oxidation of sulphur in fossil fuels under high temperature processes
Super Output Areas (SOAs)	Geographical areas of consistent size with unchangeable boundaries. A number may make up a single ward.
Supplementary Planning Documents	Published to provide a more detailed guidance on how planning policies are implements (these will be case specific).
Surge	Changes in water level as a result of meteorological forcing (wind, high or low barometric pressure) causing a difference between the recorded water level and that predicted using harmonic analysis; may be positive or negative.
Suspended Load	A mode of sediment transport in which the particles are supported and carried along by the fluid.
Sustainability	A process or state that can be maintained at a certain level indefinitely.
Sustainable development	Development that satisfies present needs and does not compromise the ability of future generations to meet their needs.
Sustainable travel / sustainable transport	Often meaning walking, cycling and public use of transport (and in some circumstances "car sharing"), which is considered to be less damaging to the environment and which contributes less to traffic congestion than one-person car journeys.
SWMP	Site Waste Management Plan
SWQ	Surface Water Quality
TA	Technical Annex
Tall swamp	Tall, emergent and semi-aquatic vegetation such as Common Reed and Bulrush which is typical of the transitional habitat between open water and exposed land (see reedbed).

Target	This defines the desired condition of an attribute, taking into account fluctuations due to natural change in a designated site. Changes that are significantly different from the target will serve as a trigger mechanism through which some further investigation on remedial action is taken.
Target Note	A brief description of a site, area or feature identified in Phase 1 habitat mapping. A target note provides a short description (long if necessary) with an indication of significance (value) and management. Target noted sites are usually indicated by a red target symbol on the habitat map (see Phase 1 Habitat Survey).
TEA	Triethanolamine
Technical Annexes (TAs)	Provides supporting material on methodologies and results to supplement the main body of the report.
TEOM	Tapered element Oscillating Microbalance
Terricolous	Inhabiting the soil.
TG(03)	Technical Guidance 2003
Thalweg	The line of maximum depth along a channel.
The Development Plan	The Regional Spatial Strategy and Development Plan Documents contained within the Local Development Framework.
The Further Applications ES	the Mersey Gateway Delivery Phase Environmental Statement
The Mersey Gateway Bridge (The New Bridge)	This is the new crossing over the Mersey Estuary previously known as Route 3A
The Mersey Gateway Project (The Project)	This includes the following elements: Alignment of the Mersey Gateway Bridge; Its incorporation into the existing highways infrastructure; Modifications and de-linking of the Silver Jubilee Bridge; Alterations to public transport, cycle and pedestrian links across the Borough; Landscaping; and Implementation of tolling and development of associated infrastructure.
The Orders ES	2008 Environmental Statement
the Planning Direction	a request for a direction under section 90(2)A of the Town and Country Planning Act 1990 for the TWA Works
The Project	Please see 'The Mersey Gateway Project'
The Proposals	Development of the Project by the Proposal outlined in the 2011 planning application

the proposed TWA Order	The proposed Transport and Works Act Order
Therophyte	A plant which completes its life cycle within a single season (an annual).
the Side Road Order(s)	Side Road Orders under the s14 Highways Act 1980
the TA 2000	the Transport Act 2000
The TWA 1992	the Transport and Works Act 1992
the TWA Application	An application for an order under the Transport and Works Act 1992
Thiobacilli	Non-filamentous bacteria characterised by the use of elemental sulphur or other inorganic sulphur compounds.
Threshold of Motion	The point at which the forces imposed on a sediment overcome its inertia and it starts to move.
TIA	Traffic Impact Assessment
Tidal Current	The movement of water associated with the rise and fall of the tides.
Tidal Forcing	Influence of the tidal dominance on the physical process being observed
Tidal Range	Vertical difference in high- and low-water level.
Tide	The periodic rise and fall in the level of the water in oceans and seas, the result of gravitational attraction of the sun and moon.
Tide Levels	<p><i>Highest astronomical tide (HAT), lowest astronomical tide (LAT):</i> The highest and lowest levels, respectively, which can be predicted to occur under average meteorological conditions. These levels will not be reached every year. HAT and LAT are not the extreme levels that can be reached, as storm surges may cause considerably higher and lower levels to occur.</p> <p><i>Mean high-water springs (MHWS), mean low-water springs (MLWS):</i> The height of mean high-water springs is the average throughout a year of the heights of two successive high waters during those periods of 24 hours (approximately once a fortnight) when the range of the tide is greatest. The height of mean low-water springs is the average height obtained by the two successive low waters during the same periods.</p> <p><i>Mean high-water neaps (MHWN), mean low-water neaps (MLWN):</i> The height of mean high-water neaps is the average of the heights throughout the year of two successive high waters during those periods of 24 hours (approximately once a fortnight) when the range of the tide is least. The height of mean low-water neaps is the average height obtained by the two successive low waters during the same periods.</p> <p><i>Mean high water (MHW), mean low water (MLW):</i> Mean high/low water is defined as the arithmetic mean of the published values of mean high/low-water springs and mean high/low-water neaps</p>

Topogenous mire	A mire that develops where there is a permanently high water table.
Transect	A fixed route through a site which is used to count plant and/or animal populations at a given time and, ideally, at regular intervals in the future to monitor change.
Translocation	Movement or removal to a different place or habitat.
Transpiration	Evaporation of water through the stomata of plant leaves and the stem.
TRANSYT	Traffic Network Study Tool
Tree	A woody perennial plant that has a single main trunk at least 7.5 cms in diameter at 1.3 metre height, a definitely formed crown of foliage, and a height of at least 4 metres.
Trichoptera	Order of insects known commonly as caddis-flies, whose larvae often build protective cases of leaf fragments and other materials.
TRIPS	TRansport Improvement Planning System
UDP	Unitary Development Plan
UF	Utilisation Factor
UK	United Kingdom
ULSD	Ultra Low Sulphur Diesel
Understorey	Vegetation later between the woodland (tree) canopy and the ground cover, composed of shrubs and small trees.
UNFCCC	United Nations Framework Convention on Climate Change
Uniformity	The tendency of the component species of an association to be uniformly distributed within it.
Unitary Development Plan	Is a land use plan that provides the statutory planning framework for the local planning authority setting out the objectives, policies and proposals for the use of land and buildings in the area.
Unproductive Strata	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.
Up-gradient	In the direction of increasing hydraulic head
Urban Areas	An area with an increased density of human-created structures in comparison to the areas surrounding it.
USA	Updating and Screening Assessment
Vagrant	An animal such as a bird or butterfly outside its normal geographical range.
Validation	Confirmation of the likely performance of a particular remedial approach

Valued Ecosystem Component (VEC)	A term used in CEA to define any part of the environment that is considered important and is involved in the assessment.
VDM	Variable Demand Model (Type of traffic model)
Vegetative	State of plant growth where reproduction does not occur.
Velocity	Is the rate of change of displacement with respect to time and is, therefore, a vector quantity having both magnitude and direction.
Verification	The process of demonstrating that the risk has been reduced to meet remediation criteria and objectives based on a quantitative assessment of remediation performance.
Verification plan	A plan that sets out the requirements for gathering data to demonstrate that remediation meets the remediation objectives and criteria.
Verification report	Provides a complete record of all remediation activities on site and the data collected as identified in the verification plan to support compliance with agreed remediation objectives and criteria.
Vernal	Appearing in mid or late spring.
Vertical clearance	For the purpose of this report vertical clearance has been defined as the vertical distance between the lowest point of a fixed structure, and the MHWS level or normal water level in a canal.
Viaducts	When a bridge consists of a series of arches supported by piers used to carry a road over a valley.
VMS	Variable Message Signs
VOC	Volatile Organic Compound
Volatile Organic Compounds	Any organic compound which evaporates readily to the atmosphere. VOCs include substances such as benzene, toluene, methylene chloride, and methyl chloroform. VOCs contribute significantly to photochemical smog production and certain health problems
Volatilisation	The movement of a chemical from solution to gas
VPD	Vehicles Per Day
Vulnerability	The exposure of a habitat, community or individual of a species to an external factor to which it is sensitive.
WAC	Waste Acceptance Criteria
Walkover survey	A visual survey of a site carried out to obtain information on ground conditions and land use.
Ward	A division of a city or town, especially an electoral district, for administrative and representative purposes.

Waste Acceptance Criteria (WAC)	The standards to be met for waste to qualify for each of the three Landfill Directive classes (hazardous, non-hazardous or inert), through the use of testing procedures prior to disposal.
Waste and Resources Action Programme (WRAP)	A not-for-profit company created in 2000 as part of the UK Government's waste strategies. WRAP's mission is to help develop markets for material resources that would otherwise have become waste. WRAP also provides advisory services to local authorities and helps influence public behaviour through national level communication programmes.
Waste hierarchy	Framework that sets out the order in which options for waste management should be considered based on environmental effect.
Watching Brief	This is time-tabled attendance of a suitably qualified archaeologist employed by the developer at the point when digging is underway. Any archaeological deposits encountered will be quickly recorded and any finds collected, without undue disruption to the construction work. The assigned archaeologists will provide certain specifications for the watching brief.
Water Depth	Distance between the bed and still-water level.
Water Quality Classifications	The assignment of water to categories on the basis of its physical, chemical or biological conditions, expressed numerically or descriptively.
Water-meadow	Grassland bordering a river or on a valley floor which regularly floods in the winter.
Water Regulatory Advisory Scheme (WRAS)	<p>A service which provides a scheme with the following aims:</p> <ul style="list-style-type: none"> To promote knowledge of the Water Regulations throughout the UK and to encourage their consistent interpretation and enforcement, for the prevention of waste, undue consumption, misuse, erroneous measurement or contamination of water; To provide an advisory service for and on behalf of Water Suppliers and for any other person or body seeking guidance on the principles of Water Regulations; To consult on behalf of the water supply industry in the UK with Government, with professional, trade and other organisations, with fittings and materials manufacturers and others regarding the Water Regulations and related matters; To develop criteria for testing materials and fittings to assess their compliance with the Regulators' Specifications for approved products in accordance with the Water Regulations; To assess the results of the testing of materials and fittings to determine their compliance with the Regulators' Specifications and to publish up-to-date lists of satisfactory materials and fittings in the Scheme's Water Fittings and Materials Directory; To administer for those Water Suppliers who wish it, a scheme to assess, register and publicise Approved Contractors in accordance with the Water Regulations; and To participate in the representation of the UK Water Supply Industry in the development of relevant, practical and appropriate national and international standards for water fittings and plumbing systems.

Water-table	The upper surface of the zone of water saturation.
WeBs	Wetland Bird Survey: a collaborative national surveillance scheme of the UK's waterfowl based on counts undertaken once per month outside the breeding season.
WebTAG methodologies	Detailed Transport Analysis Guidance (TAG) on the appraisal of transport projects and wider advice on scoping and carrying out transport studies. Seen as a requirement for all project/studies that require government approval, and those that do not, should serve as a best practice guide www.webtag.org.uk
Weed	A plant growing where it is not wanted.
WHO	World Health Organisation
Wildlife Corridor	Refers to linear features such as rivers and other waterways, hedgerows and verges along or over which wildlife can migrate or disperse. It has been applied, perhaps spuriously, to wide corridors of open land through large built-up areas and conurbations. Can sometimes cause conflicts if they affect or inconvenience the human population.
Wildlife link	Features which link habitats and allow the movements of animal life between habitats, examples being hedgerows, water-courses and culverts.
WRAP	Waste and Resources Action Programme
WWTW	Wastewater Treatment Works
Xeromorphic	Structurally modified so as to withstand drought.
Zone of Visual Influence (ZVI)	