

SLIGO COUNTY COUNCIL
Comhairle Chontae Shligigh



**Local Government (Water Pollution) Acts,
1977 & 1990**

**APPLICATION FOR A LICENCE TO DISCHARGE
TRADE AND/ OR DOMESTIC WASTE WATER TO
GROUNDWATER**

Your completed application accompanied by all relevant information and payment is to be sent to the following address:

Address:	
	Sligo County Council
	Environment Section
	Riverside
	Sligo

PART I – DECLARATIONS & SIGNATURES

PART I - Section 1

A. Guidance on Applying for a Discharge Licence - Groundwaters

Any person who intends to discharge domestic waste water or trade effluent to groundwater must attain permission to do so from either the Local Authority or the Environmental Protection Agency (EPA) before the discharge is commenced.

Where the discharge is licensable by the Local Authority, this Application Form is to be completed and submitted to the Local Authority.

The Applicant is requested to read the “Guidance on Applying for a Discharge Licence - Groundwaters” before completing this licence application form.

PART I – DECLARATIONS & SIGNATURES

B. Completing the Application Form

Guidance on what information is to be included in each Part of the Application Form is provided in the “*Guidance on Applying for a Discharge Licence - Groundwaters*”.

The Applicant is asked to contact the Licensing Authority in the event that:

- they are unsure as to whether the discharge is licensable by the Local Authority or the EPA
- they are having difficulty in providing all the information required in the application form
- they are unsure as to what information they are to provide in the form
- they are unsure as to where to source the information required in the form
- they require any information or guidance on filling out the form

The Licensing Authority WILL NOT be able to process an incomplete application.

Where multiple discharges are proposed, the applicant for a discharge licence must first contact the Licensing Authority for advice on whether one application form will suffice or whether multiple forms need to be submitted.

Additional Sheets

Where any part of the Application Form does not afford sufficient space to provide the required information, the Applicant should attach additional sheets to the form containing such information.

The additional sheets should be cross-referenced to the appropriate section in the Application Form. Mark each sheet with the name of the Applicant and the name of the premises from which the discharge is generated and indicate the section and part of the Application Form to which the additional sheets relate. An example of an Additional Sheet cross reference is provided in “*Guidance on Applying for a Discharge Licence - Groundwaters*”.

Request for Further Information

The Licensing Authority is entitled under Section 7(3) of the *Local Government (Water Pollution) Regulations, 1978* to request the Applicant to submit additional information that the Licensing Authority deems necessary for the consideration of an application for a discharge licence.

Where additional information is not provided by the Applicant within a three month period of receiving such a request then the Licensing Authority may carry out the necessary investigations to acquire the information, the cost of which is to be borne by the Applicant. Alternatively the Licensing Authority may proceed to make a determination on the application in the absence of such information.

PART I – DECLARATIONS & SIGNATURES

C. Signatures of the Applicant & Agent

Identify the class of discharge to which this application pertains.

I hereby make an application for a licence to discharge _____* effluent to groundwater under the Local Government (Water Pollution) Act 1977 in respect of the particulars included in this application on behalf of _____(insert name of the Applicant).

**indicate whether trade or domestic or both*

Where this application is made by an Agent on behalf of an Applicant, the signature of the Applicant must be provided below confirming the authorisation of the Agent to apply for a licence on their behalf:

I hereby authorise _____ (name of Agent) to apply for a discharge licence on behalf of _____ (name of Applicant).

Signed: **Date:**

(provide signature of Applicant)

I hereby declare that I am fully aware of my responsibilities to implement the conditions of any licence granted on the basis of this application and acknowledge that I may be subject to criminal liability whereby the terms of the licence are not complied with.

Signed: **Date:**

(provide signature of Applicant)

Refer to the “Guidance on Applying for a Discharge Licence - Groundwaters” for definitions of the Applicant and the Agent.

PART I – DECLARATIONS & SIGNATURES

PART I - Section 2

A. Disclosure of Information

The Freedom of Information Act, 1997 (as amended) states that every person has a right to access any record held by a public body. This includes discharge licenses (and associated applications) held by the Local Authority. The Local Authority may refuse to provide access to records held by them where the information was provided to the Local Authority with the understanding that it is to be treated as confidential. Circumstances under which confidentiality may apply include where information submitted in the application contains commercially sensitive information or matters of National security.

The Applicant is requested to identify all information submitted with the application which is to be treated as confidential and is requested to identify the grounds on which the information may be categorised as confidential.

B. False or Misleading Information

It is an offence under the *Local Government (Water Pollution) Act, 1977* to knowingly submit false or misleading information in the licence application and an Applicant is liable to a fine on summary conviction of such an offence.

Please provide signature of the authorised representatives of the Applicant and where appropriate the Agent confirming that all the information submitted in this application is correct and also that they have made themselves aware of the provisions of the Freedom of Information Act.

I/we hereby declare that I/we have made myself/ourselves aware of the provisions of the Freedom of Information Act and that I/we understand that there is a legal obligation on the Local Authority to make this discharge licence application available for inspection by third parties.

I/We hereby declare that to the best of my/our knowledge all of the information provided in this application is true and correct.

Signed: **Date:**

(provide signature of the Applicant)

Signed: **Date:**

(provide signature of the Agent)

PART II – GENERAL DETAILS

PART II – Section 1

A. Contact Details – Applicant

A. (i) Provide contact details for the Applicant below

The Applicant is:	<input type="checkbox"/> An Individual <input type="checkbox"/> A Group of Individuals <input type="checkbox"/> A Corporate Body
Name (Principal Contact)*	
Address	<hr/> <hr/> <hr/>
Phone Number (day)	
Phone Number (night)	
Fax	
e-mail	
<p>* Where the Applicant is a group of individuals or a corporate body, provide the name of one individual to be the principal contact for the purpose of correspondence relating to a licence granted by the licensing authority.</p>	

A. (ii) Where the Applicant is an Individual provide the following details:

Relationship to the premises from which it is proposed to discharge	<input type="checkbox"/> Owner/occupier <input type="checkbox"/> Landowner <input type="checkbox"/> Responsible for treatment facility <input type="checkbox"/> Other _____ <i>(please specify)</i>
--	--

A. (iii) Where the Applicant is a Group of Individuals provide the following details:

Type of Group	<input type="checkbox"/> Management Company <input type="checkbox"/> Residents Association <input type="checkbox"/> Voluntary Group <input type="checkbox"/> Club <input type="checkbox"/> Other _____ <i>(please specify)</i>
----------------------	--

PART II – GENERAL DETAILS

A. (iv) Where the Applicant is a Corporate Body provide the following details:

Type of Corporate Body	<input type="checkbox"/> Limited Company <input type="checkbox"/> Public Limited Company <input type="checkbox"/> Sole Trader <input type="checkbox"/> Co-operative <input type="checkbox"/> Partnership <input type="checkbox"/> Other _____ <i>(please specify)</i>
-------------------------------	--

Certificate of Incorporation must be included with the application listing the names of Directors.

B. Contact Details – Agent

B. Where an Agent is making this application on behalf of an Applicant the Agent's contact details must be provided

Name	
Address	<hr/> <hr/> <hr/>
Phone Number (day)	
Phone Number (night)	
Fax	
e-mail	
Relationship to the Applicant e.g. employee, consultant, partner.	

PART II – GENERAL DETAILS

A. (ii) Identify the sector(s) from which the proposed discharge will be generated.			
Type of Premises	<i>Please tick the box as appropriate</i>		✓
	Accommodation	Household / Holiday Home	
		Hotel / Guesthouse / B&B	
		Caravan Park / Camp Site	
		Nursing Home	
	Education	Non-residential facility	
		Boarding School	
		College / University	
	Commercial / Service	Office	
		Hairdresser / Beauty Salon	
		Doctor Surgery	
		Dentist	
		Launderettes and Dry Cleaners	
		Petrol Station	
		Hospital	
		Churches, Monasteries etc.	
		Amenities (golf course, sport facilities etc.)	
	Food & Drink	Public House (with or without food preparation)	
		Restaurant / Café / Take Away	
	Transport	Airport	
		Train station	
		Bus station	
	Industrial	Dry process industry without canteen	
		Dry process industry with canteen where food is prepared	
		Chemicals industry	
		Wood, paper, textiles and leather	
		Food and drink	
		Minerals and other materials	
		Energy	
		Metals	
		Mineral fibres and glass	
		Fossil fuels	
		Cement manufacture	
Waste			
Surface coatings			
Other (<i>Please specify</i>)	e.g. tourism- heritage centre, quarry activities.		

PART II – GENERAL DETAILS

A. (iii) Activities Carried Out on Site.

Provide details of the activities carried out on site. Where this involves a process, provide an overview of the process. In particular indicate where domestic waste water / trade effluent is generated.

Provide additional sheets where necessary.

Process Materials & Waste Disposal

Where applicable, complete **Appendix A and Appendix B** of this form.

PART III – EFFLUENT DETAILS

PART III – Section 1

A. Effluent Details	
PART III – Section 1 A is to be completed by All Applicants.	
Type of effluent	<input type="checkbox"/> Domestic Waste water Only <input type="checkbox"/> Trade Effluent Only <input type="checkbox"/> Both Domestic and Trade Effluent
Indicate the type of discharge to which this application relates.	<input type="checkbox"/> New Discharge <input type="checkbox"/> Existing Discharge
Domestic Waste water only (if relevant)	Population Equivalent (p.e.) _____ <hr/> Expected Dry Weather Flow (DWF) _____ m ³ /day. <i>Provide details of how the P.E. & DWF were calculated.</i>
Trade Effluent only or Domestic & Trade (if relevant)	Normal volume of effluent discharged per day is _____ m ³ /day. <hr/> Maximum volume of effluent discharged in one day is _____ m ³ /day. <hr/> Maximum volume of effluent discharged per hour is _____ m ³ /hour.
<i>Provide details of how the trade effluent flows are calculated.</i>	
Effluent Characteristics.	Complete Appendix C and Appendix D of this form. <i>Provide additional sheets where necessary.</i>

PART III – EFFLUENT DETAILS

B. Effluent Details	
PART III – Section 1 B is to be completed by All Applicants.	
<i>Provide additional sheets where necessary.</i>	
Discharge Variability	<p>Briefly identify whether there is likely to be variability in the discharge flow or characteristics e.g. due to process changes, due to seasonal variation, due to diurnal changes etc.</p> <p>Where the discharge shows seasonal or other variation, please provide details of flow volumes and times of discharge.</p> <p>Also provide details of varying effluent characteristics in Appendix C and Appendix D.</p>
Date of Discharge	<p>Date: _____</p> <p>Identify the proposed date for the commencement of the discharge or where it is an existing discharge identify the date on which the discharge commenced.</p>
Fats, Oils and Grease (FOG) (if relevant)	<p>Provide details of control measures proposed for the removal of FOG from the effluent prior to discharge. Provide technical data sheets for any equipment proposed.</p>
Food Waste (if relevant)	<p>Provide details of provisions for source segregation and disposal of food waste.</p>
Other Discharges	<p>Provide particulars of any other discharges from the premises (e.g. storm water).</p>
Water Supply	<p>Provide details of the source of water that will form part of the discharge e.g. mains, borehole, river etc.</p> <hr/> <p>The estimated volume of water used per day is _____ m³/day</p>
Other Effluent Details	<p>You may be required to furnish such other particulars as the Licensing Authority may reasonably require for consideration of the application e.g. effluent toxicity testing, bioaccumulation testing, biodegradation testing.</p>

PART III – EFFLUENT DETAILS

PART III – Section 2

A. Effluent Treatment	
PART III – Section 2 A is to be completed where the effluent is to be treated prior to discharge.	
Operator of Treatment System (<i>where relevant</i>)	Where the treatment system is to be maintained and operated by a third part please provide the following:
	Contact Name
	Company Name
	Address
	Phone Number (day)
	Phone Number (night)
	Fax
	e-mail
	Registered Company Details
Waste Water Treatment System Overview	<p>Provide particulars of the existing / proposed effluent treatment system. Provide copies of the treatment system process drawings. Provide details of performance standards.</p> <p><i>Provide additional sheets where necessary.</i></p>
Is the Discharge a Direct Discharge or an Indirect Discharge?	<p><input type="checkbox"/> Direct Discharge</p> <p><input type="checkbox"/> Indirect Discharge via Percolation Area, Soakage Pit, Filter System or Other Method</p> <p>Where discharge is via a percolation area, soakage pit, filter system, constructed wetland or other method provide details of the design and construction of same and include such drawings as may be relevant.</p>
Hydraulic Loading	<p>Effluent Discharge Rate (maximum) is _____ m³/day</p> <p>Recharge Rate is _____ m³/day</p> <p>Hydraulic loading rate (volumetric flow rate over a given percolation area) is _____ m³/day</p>

PART III – EFFLUENT DETAILS

B. Effluent Treatment

PART III – Section 2 B is to be completed where the effluent is to be treated prior to discharge.

Provide additional sheets where necessary.

**Treatment System
Maintenance**

Provide details of the proposals for the treatment system maintenance including frequency of inspection and de-sludging.

Plant Failure

Identify how any failure of the treatment system will be detected.

Sludge

Provide details of proposals for dealing with sludge.

PART III – EFFLUENT DETAILS

PART III – Section 3

A. Effluent Monitoring														
PART III – Section 3 A is to be completed by All Applicants.														
Provide details of the monitoring proposed for the effluent discharge														
<i>Provide additional sheets where necessary.</i>														
Monitoring the Discharge.	Provide details of any proposals to monitor the discharge e.g. <ul style="list-style-type: none"> ○ Parameters to be analysed; ○ Monitoring programme; ○ Details of any sampling equipment to be used. 													
Location of sampling point(s) (Co-ordinates)	Easting									Northing				
Effluent Flow Monitoring	Provide details of any proposals to monitor the discharge flow.													
Licensing Authority Monitoring	Provide a description of how the Licensing Authority will be provided access to the effluent in order to take samples and indicate the point at which such samples may be taken e.g. last manhole before outfall. <i>(Provide grid reference below).</i>													
Location of Licensing Authority sampling point(s) (Co-ordinates)	Easting									Northing				

PART III – EFFLUENT DETAILS

B. Pollution Control

PART III – Section 3 B is to be completed by All Applicants.
Provide details of any pollution control measures proposed.
Provide additional sheets where necessary.

Accidental Discharges	Provide details of arrangements to prevent accidental discharges.
------------------------------	---

Provide below, details of emergency procedures, contact persons and facilities available to respond to unexpected incidents.

Emergency Response	Contact Name	
	Phone Number (day)	
	Phone Number (night)	
	Provide details of any emergency procedure.	

Environmental Management Plan	<p>Is there an Environmental Management Plan in place in respect of the site?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><i>If 'Yes' please submit a copy with this application.</i></p>
--------------------------------------	---

PART IV – DISCHARGE TO GROUNDWATER

PART IV – Section 1

A. General Details	
Identify why it is not feasible to discharge to sewer.	
Provide details of the newspaper notice.	Name of Publication _____ Date of Print _____ <i>Please include one original plus the required copies of the notice.</i>

PART IV – Section 2

A. Aquifer Characteristics & Receptor Details											
Name of Receiving Water (Waterbody code)											
Location of Discharge (Co-ordinates)	Easting								Northing		
<i>Add additional rows where necessary.</i>											
All discharge locations to be indicated clearly on OS Map.											
Name of River Basin District	Provide the name of the River Basin District in which the discharge is located _____.										
Water Framework Directive Waterbody Status	<input type="checkbox"/> No Status <input type="checkbox"/> Poor <input type="checkbox"/> Good										
Designation*	The receiving water is located within the boundary of: <i>(tick as appropriate)</i> <input type="checkbox"/> An SAC, site code _____. <input type="checkbox"/> An SPA, site code _____. <input type="checkbox"/> None of the Above <i>* Note: Where the discharge is located within the boundary of a Natura 2000 site (SAC or SPA), or where a discharge is likely to impact on a nearby SAC / SPA, an Appropriate Assessment (Natura Impact Statement) must be submitted with this application as required by Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive).</i>										

PART IV – DISCHARGE TO GROUNDWATER

Is GWDTE Located within 1km of the Discharge?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Nearby Surface Water Features	Show the location of nearby surface waters e.g. rivers, streams, lakes and field drainage ditches within 250m of the discharge on a map.
Drinking Water Abstractions	Provide the name of Public/Group Water Supply Schemes within 1km of the discharge and mark their location on a map. Mark the location of any domestic wells located within 250m of the discharge on a map. <hr/> Is the discharge located within the Zone of Contribution or Source Protection Zone of a Groundwater Protection Scheme? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None Delineated <i>If Yes, provide copy of report and maps.</i>
Soil & Bedrock	Soil type _____ Subsoil type _____ Bedrock Type _____ Karst features _____ <i>Provide copies of reports and maps as relevant.</i>
Aquifer Category and Vulnerability	Identify Aquifer Category _____ Identify Vulnerability Rating _____ <i>Provide copies of reports and maps as relevant.</i>
Topography & Groundwater Flow Direction	Identify slope of land at the point of discharge i.e. Steep (>1:5), Shallow (1:5-1:20), or Relatively Flat (<1:20) _____ Mark groundwater flow direction on a map.
Depth to Water Table	Where available provide depth to water table: _____m.
Refer to “Guidance on Applying for a Discharge Licence - Groundwaters” for sources of information.	

PART IV – DISCHARGE TO GROUNDWATER

B. Groundwater Background Concentrations		
Receiving Water Background Concentrations.	Parameter	Result (mean)
	Total Dissolved Solids mg/l	
	pH (pH units)	
	Colour	
	Temperature °C	
	Electrical Conductivity µS/cm	
	Total Hardness mg/l CaCO ₃	
	Total Ammonia as mg/l NH ₄ – N	
	Un-ionised Ammonia as mg/l N	
	Molybdate Reactive Phosphorus as (unfiltered MRP)	
	Total Phosphorus as mg/l P	
	Nitrite as mg/l NO ₂ – N	
	Nitrate as mg/l NO ₃ – N	
	Total Nitrogen mg/l N	
	Total organic carbon (TOC)	
	Chloride mg/l	
	Sulphate mg/l	
	Sodium mg/l	
	Magnesium µg/l	
	Manganese µg/l	
	Iron µg/l	
	<i>Escherichia coli</i> (E.coli) number/100 ml	
	Total Coliforms number/100 ml	
	<i>Cryptosporidium</i> number/100 ml	

Refer to “Guidance on Applying for a Discharge Licence - Groundwaters” for guidance on reporting monitoring data and on sampling.

PART IV – DISCHARGE TO GROUNDWATER

PART IV – Section 3

A. Impact of Discharge – Site Suitability/Characterisation	
Tier 1 Assessment	<i>A Tier 1 Assessment must be carried out in support of all applications to discharge to groundwater.</i>
Tier 2 Assessment	<p><i>A Tier 2 Assessment must be carried out for the following:</i></p> <ul style="list-style-type: none"> • <i>Where the proposed discharge is an input greater than 5 m³/d and less than or equal to 20 m³/d of domestic waste water associated with OSWTS and ICWs;</i> • <i>Where the proposed discharge is a trade effluent (moderate risk);</i> • <i>Where the Tier 1 Assessment indicates uncertainty about the risk of impact to groundwaters, the Applicant must proceed to a Tier 2 Assessment.</i> <p><i>Note that an Applicant may be requested to conduct a Tier 2 Assessment where the Licensing Authority, following a risk screening of the discharge, deems that there is a moderate risk of impact to groundwaters from the discharge.</i></p>
Tier 3 Assessment	<p><i>A Tier 3 Assessment must be carried out for applications to discharge to groundwater that relate to the following activities:</i></p> <ul style="list-style-type: none"> • <i>Inputs greater than 20 m³/d of domestic waste water;</i> • <i>Discharges from Landfills;</i> • <i>Where the proposed discharge is a trade effluent (high risk)</i> • <i>Where the Tier 1 and Tier 2 Assessments indicate uncertainty about the risk of impact to groundwaters, the Applicant must proceed to a Tier 3 Assessment.</i> <p><i>Note that an Applicant may be requested to conduct a Tier 3 Assessment where the Licensing Authority, following a risk screening of the discharge, deems that there is a high risk of impact to groundwaters from the discharge.</i></p>
Refer to “Guidance on Applying for a Discharge Licence - Groundwaters” for guidance on Carrying out a Tier 1, Tier 2 and Tier 3 Assessment.	

PART IV – DISCHARGE TO GROUNDWATER

PART IV – Section 4

Checklist for Applicant when applying for a licence to discharge to Groundwater	
Details to be Submitted	Tick Box where included
1. Fully completed, signed and dated application form (One original plus one hard copy and one electronic copy)	
2. Name & address of Applicant & Agent	
3. Has the type of discharge been identified i.e. new or existing / domestic or trade?	
4. Has location of discharge been identified on a location map?	
5. Newspaper Notice (one original plus one hard copy)	
6. Application fee	
7. Site location map at scale 1:50,000	
8. Site layout map at scale of 1:2500	
9. Drainage system drawings at scale no greater than 1:2500	
10. Description of process giving rise to trade effluent	
11. Description of the proposed method of effluent treatment including details of percolation area (including measures for the control of FOG where appropriate)	
12. Treatment system process drawings	
13. Treatment system operation & maintenance details	
14. Effluent quality, discharge load details and concentration	
15. Receiving water quality assessment (physico-chemical & microbial)	
16. Hydraulic loading calculations	
17. Site investigation results including soil and subsoil characterisation, trial hole and percolation testing.	
18. Details of designated areas (including designation of waters)	
19. Proposals for dealing with sludge (where relevant)	
20. Emergency procedures in case of plant breakdown or pollution incident (including details of storage facilities onsite).	
21. Results of Tier1/Tier2/Tier3 assessment as appropriate	
22. Has one original plus one hard copy and one electronic copy of all associated documentation been included?	

Please include any additional information which you deem to be pertinent to the application / discharge.

APPENDICES

Appendix B - Off-site Waste Disposal

Waste Description	EWC. Catalogue No.	Quantity (Tonnes per annum)	Name of site accepting waste	Reference Number of site environment licence	State whether recycling, recovery or disposal

APPENDICES

Appendix C - Characteristics of Trade and/or Domestic Effluent

The following list of parameters is indicative only. Additional physical, chemical or other characteristics as are pertinent to the effluent in question should also be identified.

Complete for all applicable sections, giving concentration ranges where available.

Emission Point co-ordinates (One table per emission point):

<i>Parameter</i> Concentrations in mg/l unless otherwise stated		<i>Prior to Treatment (if any)</i>			<i>As discharged</i>			
<i>Characteristic</i> Note: Section A = to be completed where discharging domestic effluent only Section A-E = to be completed where discharging a trade effluent.		<i>Max. Hourly</i>	<i>Max. Daily</i>	<i>Mg/l</i>	<i>Max. Hourly</i>	<i>Max. Daily</i>	<i>Mg/l</i>	<i>% Removal</i>
A	Temperature °C							
	pH							
	Biological Oxygen Demand (5 day)							
	Chemical Oxygen Demand							
	Suspended Solids							
	Total Ammonia (as N)							
	Nitrate (as N)							
	Total Phosphorus (as P)							
	Conductivity							
	Molybdate Reactive Phosphorus (MRP)							
	Oils, Fats and Greases							
	Sulphates (as SO ₄)							
	Chlorides (as Cl)							
	Phenols (as C ₆ H ₅ OH)							
	Detergents (as Lauryl Sulphate)							
	<i>Escherichia coli</i> (E.coli) number/100 ml							
Total Coliforms number/100 ml								
<i>Cryptosporidium</i> number/100 ml								

APPENDICES

B	Metals µg/l							
	Arsenic							
	Chromium							
	Copper							
	Cyanide							
	Fluoride							
	Iron							
	Lead							
	Magnesium							
	Manganese							
	Nickel							
	Zinc							
	Other (<i>please specify</i>)							
C	Pesticides & Solvents:							
	Atrazine							
	Dichloromethane µg/l							
	Simazine µg/l							
	Toluene µg/l							
	Xylenes µg/l							
D	Organohalogen Compounds (Specify)							
	Organophosphorus Compounds (Specify)							
	Organotin Compounds (Specify)							
	Mineral Oils or Hydrocarbons of petroleum origin							
	Other toxic substances (Specify)							
	Colour (degrees hazen)							
E	Other:							
	Other relevant characteristics including fish toxicity data from tests carried out on all or part of the effluent							

APPENDICES

Appendix D - Dangerous Substances

Are any of the following chemicals used in the process or stored on the premises	<i>Yes/No</i>	<i>Are residual chemical process materials or chemical tailings from a process recovered or discharged?</i>
EDC (1, 2 dichloroethane (C₂H₄Cl₂))		
TRI trichloroethylene (C₂HC1₃);		
PER perchloroethylene (C₂ C1₄);		
TCB trichlorobenzene		
Carbon tetrachloride, DDT and pentachlorophenol		
Aldrin, dieldrin, isodrin, HCB (hexachlorobenzene), HCBD (hexachlorobutadiene) and CHCl₃ (chloroform)		
Cadmium		
>100 kg of raw asbestos		
Atrazine		
Dichloromethane		
Simazine		
Toluene		
Tributyltin		
Xylenes		
Arsenic		
Chromium		
Copper		
Cyanide		
Fluoride		
Lead		
Nickel		
Zinc		

Glossary of Terms

The following provides a glossary of terms used in this document. The definitions therein are not to be taken as comprehensive but solely as an aid to the non-technical reader.

Abstraction

In relation to water contained in any source of water, means the doing of anything whereby any of that water is removed from that source of water, whether temporarily or permanently, including anything whereby the water is so removed for the purpose of being transferred to another source of water (*Source: Water Services Act, 2007*)

Agreed Limit of Detection

The lowest concentration or quantity of a substance that can be distinguished from the absence of that substance. It should be agreed between the regulator and the applicant.

Appropriate Assessment

In accordance with Article 6(3) of the Habitats Directive (92/43/EEC), an Appropriate Assessment is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site (European network of special areas of conservation and special protection areas), and the development, where necessary, of mitigation or avoidance measures to mitigate negative effects.

Aquifer

A subsurface layer or layers of rock, or other geological strata, of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater (Groundwater Regulations, 2010).

Attenuation

A decrease in pollutant concentrations, flux, or toxicity as a function of physical, chemical and/or biological processes, individually or in combination, in the subsurface environment. Attenuation processes include dilution, dispersion, filtration, sorption, decay, and retardation.

Authorised person

A person appointed in writing by the Minister or by a Water Services Authority / Local Authority for the purposes of enforcing the legislation under which they have been appointed.

Capacity

A measure of the ability of groundwater to assimilate or absorb pollutants whilst still maintaining acceptable water quality in relation to applicable groundwater quality standards. The term relates primarily to the chemical status of a groundwater body.

Compliance Point

The point (location, depth) at which a compliance value should be met. Generally it is represented by a borehole or monitoring well from which representative groundwater samples can be obtained

Compliance Value

The concentration of a substance and associated compliance regime that, when not exceeded at the compliance point, will prevent pollution and/or achieve water quality objectives at the receptor.

Conceptual Hydrogeological Model

A simplified representation or working description of how a real hydrogeological system is believed to behave on the basis of qualitative analysis of desk study information, field observations and field data. A quantitative conceptual model includes preliminary calculations of water balances, including groundwater flow.

Conservative Pollutants

Pollutants which do not readily or easily react or biodegrade in the subsurface environment.

Contaminant (Chemical) Load

The volume and concentrations of chemical substances (pollutants) discharged to soil or groundwater.

Diffuse Sources

Diffuse sources of pollution are spread over wider geographical areas rather than at individual point locations. Diffuse sources include general land use activities and landspreading of industrial, municipal wastes and agricultural organic and inorganic fertilisers.

Direct Input

An input to groundwater that bypasses the unsaturated zone (e.g. direct injection through a borehole) or is directly in contact with the groundwater table in an aquifer either year round or seasonally.

Domestic Waste Water

Waste water of a composition and concentration (biological and chemical) normally discharged by a household, and which originates predominantly from the human metabolism or from day to day domestic type human activities, including washing and sanitation, but does not include fats, oils, grease or food particles discharged from a premises in the course of, or in preparation for, providing a related service or carrying on a related trade. (Water Services Act, 2007).

Downgradient

The direction of decreasing groundwater levels, i.e. flow direction. Opposite of upgradient.

Dry Weather Flow (Effluent)

For a waste water treatment plant, the Dry Weather Flow is the average daily flow to the plant without any contribution from stormwater inflow or infiltration of groundwater into the waste water collection system.

Dry Weather Flow (Receiving Water)

The Dry Weather Flow of a stream or river is the annual minimum daily mean flow rate with a return period of 50 years. The Dry Weather Flow is a statistical measure of low flow and usually requires reliable long term low flow data or sufficient information that would allow the estimation of the Dry Weather Flow.

Environmental Quality Standard (EQS)

The concentration of a particular pollutant or group of pollutants in a receiving water which should not be exceeded in order to protect human health and the environment.

Good Groundwater Chemical Status

The chemical status of a body of groundwater which meets all the conditions for good chemical status set out in Groundwater Regulations 2010, regulations 39 to 43.

Good Groundwater Status

Achieved when both the quantitative and chemical status of a groundwater body are good.

Good Surface Water Chemical Status

The chemical status of a body of groundwater which meets all the conditions for good chemical status set out in the Surface Water Regulations 2009, S.I. No. 272 of 2009.

Good Surface Water Status

Achieved when both the quantitative and chemical status of a surface water body are good.

Groundwater

All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil (Groundwater Regulations, 2010). The EPA interpretation of the settings in which groundwater can occur is presented in Section 3.2.1.

Groundwater Body (GWB)

A volume of groundwater defined as a groundwater management unit for the purposes of reporting to the European Commission under the Water Framework Directive. Groundwater bodies are defined by aquifers capable of providing more than 10 m³ per day, on average, or serving more than 50 persons.

Groundwater Dependent Terrestrial Ecosystems (GWDTEs)

These are groundwater dependent wetlands, whereby the dependency is either on groundwater flow, level or chemistry as the controlling factors or qualifying interests of associated habitats. Examples are raised bogs, alkaline fens and turloughs. Groundwater dependent terrestrial ecosystems are listed on the EPA's register of protected areas in accordance with Regulation 8 of the Water Policy Regulations, 2003.

Groundwater Protection Scheme (GWPS)

A scheme comprising two principal components: a land surface zoning map which encompasses the hydrogeological elements of risk (of pollution); and a groundwater protection response matrix for different potentially polluting activities (DELG/EPA/GSI, 1999).

Groundwater Protection Responses (GWPR)

Control measures, conditions or precautions recommended as a response to the acceptability of an activity within a groundwater protection zone.

Groundwater Protection Zone (GPZ)

A zone delineated by integrating aquifer categories or source protection areas and associated vulnerability ratings. The zones are shown on a map, each zone being identified by a code, e.g. SO/H (outer source area with a high vulnerability) or Rk/E (regionally important karstified aquifer with an extreme vulnerability). Groundwater protection responses are assigned to these zones for different potentially polluting activities.

Groundwater Recharge

Two definitions: a) the process of rainwater or surface water infiltrating to the groundwater table; b) the volume (amount) of water added to a groundwater system.

Groundwater Resource

An aquifer capable of providing a groundwater supply of more than 10 m³ a day as an average or serving more than 50 persons.

Hazardous Substances

Substances or groups of substances that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances which give rise to an equivalent level of concern. A list of hazardous substances has been published by the EPA (2010a).

Hydraulic Conductivity

The rate at which water can move through a unit volume of geological medium under a potential unit hydraulic gradient. The hydraulic conductivity can be influenced by the properties of the fluid, including its density, viscosity and temperature, as well as by the properties of the soil or rock.

Hydraulic Gradient

The change in total head of water with distance; the slope of the groundwater table or the piezometric surface.

Indirect Input

An input to groundwater where the pollutants infiltrate through soil, subsoil and/or bedrock to the groundwater table.

Input

The direct or indirect introduction of pollutants into groundwater as a result of human activity.

Integrated Constructed Wetlands (ICWs)

Constructed wetlands are artificially constructed or modified wetland systems supporting vegetation, which provide secondary treatment, by physical and biological means, to effluent from a primary treatment step. Constructed wetlands may also be used for tertiary treatment (EPA, 2009a). "Integrated constructed wetlands" have been developed in Ireland to integrate water quality, management of landscape-fit towards improving site aesthetics and enhancement of biodiversity. ICWs can primarily treat domestic waste water and farmyard soiled water. Guidance (DEHLG, 2010) is available that outlines the ICW concept, and provides information on site assessment, design, construction, operation, maintenance and monitoring.

Integrated Pollution Prevention and Control (IPPC) Licence

A licence for industrial and other activities issued by the EPA under the Environmental Protection Agency Acts, 1992 to 2011.

Karst

A distinctive landform characterised by features such as surface collapses, sinking streams, swallow holes, caves, turloughs and dry valleys, and a distinctive groundwater flow regime where drainage is largely underground in solutionally enlarged fissures and conduits.

Lake

A body of surface water, which may be artificial or natural.

Landfill

A waste disposal site or facility used for the deposit of waste onto or under land.

Licence Application

An application to a Local Authority or a Water Services Authority for a licence to discharge trade or sewage effluent to waters

Licensing Authority

Includes the Water Services Authority (as defined in the Water Services Act, 2007) and the Local Authority (as defined in the Local Government Act, 2001) which includes County Councils and City Councils.

Limit Objective

This objective requires the implementation of all measures necessary to limit inputs of non-hazardous substances, into groundwater to ensure that such inputs do not cause deterioration in status or significant and sustained upward trends in their concentrations in groundwater.

Limit Value

The mass, expressed in terms of a specific parameter, concentration or level of an emission, or both a specific concentration and level of an emission, that may not be exceeded during one or more periods of time. In this guidance, when not exceeded at the source, the limit value will prevent an unacceptable release to groundwater.

Minimum Reporting Value (MRV)

The lowest concentration of a substance that can be determined with a given degree of confidence using commonly available analytical methods, primarily used in the context of hazardous substances. MRVs are not necessarily equivalent to limits of detection.

Non-hazardous Substances

Pollutants listed in Schedule 2 of the Groundwater Regulations 2010 that are not considered hazardous, as well as any other non-hazardous pollutants not listed in Schedule 2 but presenting an existing or potential risk of pollution. Non-hazardous substances are listed in a document by the EPA (2010a).

On-site Waste Water Treatment Systems (OSWTs)

A generic term for small-scale waste water treatment systems associated with single houses and small communities or facilities, and mostly associated with septic tanks and intermittent filter systems offering secondary treatment of raw waste water effluent.

Pathway

The route which a particle of water and/or chemical or biological substance takes through the environment from a source to a receptor location. Pathways are determined by natural hydrogeological characteristics and the nature of the contaminant, but can also be influenced by the presence of features resulting from human activities (e.g., abandoned ungrouted boreholes which can direct surface water and associated pollutants preferentially to groundwater).

Permeability

A measure of a soil or rock's ability or capacity to transmit water under a potential hydraulic gradient (synonymous with hydraulic conductivity).

Point Source

Any discernible, confined or discrete conveyance from which pollutants are or may be discharged. These may exist in the form of pipes, ditches, channels, tunnels, conduits, containers, and sheds, or may exist as distinct percolation areas, integrated constructed wetlands, or other surface application of pollutants at individual locations. Examples are discharges from waste water works and effluent discharges from industry.

Polluting Matter

Any substance liable to cause pollution, and, for the purpose of this definition, 'substance' includes bacteria and other pathogens, where relevant, and the expression "polluting matter" shall be construed accordingly. (*Source European Communities Environmental Objectives (Surface Waters) Regulations, 2009*).

Pollution

The direct or indirect introduction, as a result of human activity, of substances or heat into the air, water or land which may be harmful to human health or the quality of aquatic ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems which result in damage to material property, or which impair or interfere with amenities and other legitimate uses of the environment (Groundwater Regulations, 2010).

Poorly Productive Aquifers (PPAs)

Low-yielding bedrock aquifers that are generally not regarded as important sources of water for public water supply but that nonetheless may be important in terms of providing domestic and small community water supplies and of delivering water and associated pollutants to rivers and lakes via shallow groundwater pathways.

Population Equivalent (p.e.)

A conversion value which aims at evaluating non-domestic pollution in reference to domestic pollution fixed by EEC directive (Urban Waste Water Treatment Directive 91/271/EEC) at 60 g/day BOD₅.

Pore water

Water that occupies void spaces between mineral grains in unlithified (uncemented) sediments.

Preferential Flow

A generic term used to describe water movement along favoured pathways through a geological medium, bypassing other parts of the medium. Examples include pores formed by soil fauna, plant root channels, weathering cracks, fissures and/or fractures.

Prevent Objective

Taking all measures necessary and reasonable to avoid the entry of hazardous substances into groundwater and to avoid any significant increase in their concentration in groundwater.

Priority Substances

Those substances or groups of substances, identified by the Commission in accordance with Article 16(2) of the Water Framework Directive and listed in Tables 11 and 12 of Schedule 6 of the European Communities Environmental Objectives (Surface Waters) Regulations, 2009 that have been prioritised for action by the setting of environmental quality standards at Community level.

Priority Hazardous Substances

Those substances or groups of substances forming a subset of priority substances identified by the Commission in accordance with Article 16(3) of the Water Framework Directive and for which measures have to be taken to cease or phase-out discharges, losses and emissions and which are listed in Table 12 of Schedule 6 of the European Communities Environmental Objectives (Surface Waters) Regulations, 2009.

Receptor-based Water Quality Standards

Standards developed to protect receptors, which include drinking water standards, environmental quality standards for surface waters and minimum reporting values. They are used to develop compliance values for assessing inputs to groundwater.

Receptors

Receptors are existing and potential future groundwater resources, drinking water supplies (e.g. springs and abstraction wells), surface water bodies into which groundwater discharges (e.g. streams) and groundwater dependent terrestrial ecosystems (GWDTEs).

Regulator

In this document, the EPA or the relevant local authority depending on the type of discharge licence and location.

River

A body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course (Groundwater Regulations, 2010). Upland rivers are generally fast flowing and lowland rivers are generally slow flowing and meandering.

River Basin

The area of land from which all surface water run-off flows, through a sequence of streams, rivers and lakes, into the sea at a single river mouth, estuary or delta.

River Basin District (RBD)

A group of river basins formally defined by Water Policy (2003) for the purposes of reporting Water Framework Directive requirements to the European Commission.

River Basin Management Plan (RBMP)

A detailed document describing the characteristics of a river basin district, the environmental objectives that need to be achieved, and the pollution control measures required to achieve these objectives through a specified work programme.

Saturated Zone

The zone below the water table in an aquifer in which all pores and fissures and fractures are filled with water at a pressure that is greater than atmospheric.

Section 4 Licence

A licence to discharge to waters, given by local authorities under the Local Government (Water Pollution) Acts 1977 to 1990.

Sewage Effluent

Effluent from any works, apparatus, plant or drainage pipe used for the disposal to waters of sewage, whether treated or untreated (*Source: Local Government (Water Pollution) Act 1977*)

Significant and Sustained Upward Trend

Any statistically and environmentally significant increase in concentration of a pollutant, group of pollutants, or indicator of pollution in groundwater (EPA, 2010b).

Soil (topsoil)

The uppermost layer of soil in which plants grow.

Source Pathway Receptor (SPR) Model

A SPR model involves identifying whether and how pollution sources are connected to a receptor via a pathway. A conceptual model provides an understanding of all the relationships between SPR factors in a particular hydrogeological setting.

Source Protection Area

The catchment area around a groundwater source which contributes water to that source (Zone of Contribution), divided into two areas; the Inner Protection Area (SI) and the Outer Protection Area (SO). The SI is designed to protect the source against the effects of human activities that may have an immediate effect on the source, particularly in relation to microbiological pollution. It is defined by a 100-day time of travel (TOT) from any point below the water table to the source. The SO covers the remainder of the zone of contribution of the groundwater source.

Special Areas of Conservation (SACs)

Areas selected and designated under the Natural Habitats Regulations, 1997 (as amended in 1998 and 2005) for the protection of certain habitats and species.

Storm Water

Runoff of rainwater mainly in urban settings during high intensity rainfall events. Stormwater may enter and discharge to groundwater or other receptors through storm drains.

Subsoil

Unlithified (uncemented) geological strata or materials beneath the topsoil and above bedrock.

Surface Water

A discrete and significant element of surface water such as a lake, reservoir, stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water. (*European Communities Environmental Objectives (Surface Waters) Regulations, 2009*)

Surface Water Bodies

Inland waters, except groundwater, which are on the land surface (such as reservoirs, lakes, rivers, transitional waters, coastal waters and, under some circumstances, territorial waters) and which occur within a WFD River Basin District.

Sustainable Urban Drainage Systems (SuDS)

Generic term used to describe conveyance systems and control structures designed to intercept, manage, and dispose of surface drainage and stormwater in urban settings and the built environment. Components of SuDS may include drains, ponds, soakaways, recharge basins, and porous pavements.

Threshold Values (TVs)

Chemical concentration values for substances listed in Schedule 5 of the Groundwater Regulations (2010), which are used for the purpose of chemical status classification of groundwater bodies.

Trade Effluent

Effluent from any works, apparatus, plant or drainage pipe used for the disposal to a waste water works of any liquid (whether treated or untreated), either with or without particles of matter in suspension therein, which is discharged from premises used for carrying on any trade or industry (including mining), but does not include domestic waste water or storm water (Water Services Act, 2007).

Transitional Waters

Bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to saline coastal waters, and which are substantially influenced by freshwater flows.

Trigger Level

A parameter value specified in a licence or authorisation, the achievement or exceedance of which requires certain actions to be taken by the licensee.

UK TAG

The United Kingdom Technical Advisory Group, a partnership of UK environment and conservation agencies set up to interpret and support the implementation of the Water Framework Directive. The EPA is an invited member of the UK TAG.

Unacceptable Input to Groundwater

An input of hazardous substances to groundwater, or pollution resulting from an input of non-hazardous substances to groundwater, where these inputs are not exempted by the provisions of Regulation 14 of the Groundwater Regulations (2010).

Unsaturated Zone

The zone between the land surface and the water table, in which pores, fractures and fissures are only partially filled with water. Also known as the vadose zone.

Vulnerability

The intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities (Fitzsimmons et al, 2003).

Waste Licence

A licence for activities in the waste sector given by the EPA under the Waste Management Acts, 1996 to 2010.

Waste Water Effluent

Any quantity or volume of waste water generated from a domestic, industrial, or commercial facility. Typically disposed of via an onsite waste water treatment system or a specially designed treatment facility such as a waste water treatment plant.

Water Body

A WFD management unit. It refers to all types of waters, including surface water bodies, transitional and coastal water bodies, as well as groundwater bodies.

Water Table

The uppermost level of saturation in an aquifer at which the pressure is atmospheric.

Water Pollution

The discharge by man, directly or indirectly, of substances or energy into the aquatic environment, the results of which are such as to cause hazards to human health, harm to living resources and to aquatic ecosystems, damage to amenities or interference with other legitimate uses of water.

Water Services Authority

Includes a County Council or a City Council as defined in the Local Government Act, 2001, (sanitary authority or local authority).

Zone of Contribution (ZOC)

The area surrounding a pumped well or spring that encompasses all areas or features that supply groundwater to the well or spring. It is defined as the area required to support an abstraction and/or overflow (in the case of springs) from long-term groundwater recharge.

