



Comhairle Contae Mhuineacháin Monaghan County Council

Acmhainní Daonna
Human Resource
047 30586

Airgeadas
Finance
047 30589

Na Bóithre
Roads
047 30597

Clár na dTogthóirí
Register of Electors
047 30547

Comhshaol
Environment
047 30593

Deontais Ardoideachais
Higher Education Grants
047 30550

Na hEalaíona
Arts
047 71114

Iasachtaí /Deontais Tithíochta
Housing Loans/Grants
047 30527

Leabharlann an Chontae
County Library
047 51143

Mótarcháin
Motor Tax
047 81175

Músaem an Chontae
County Museum
047 82928

Pleanáil
Planning
047 30532

Pobal & Fiontar
Community & Enterprise
047 30500

Rialú Dóiteáin/Foirgnimh
Fire/Building Control
047 30521

Seirbhísfí Uisce
Water Services
047 30504

Administration, Environmental Licensing Programme,
Office of Climate, Licence and Resource Use,
Environmental Protection Agency,
Headquarters,
P.O. Box 3000,
Johnstown Castle Estate,
Co. Wexford.

28th June 2012

Re: Application for a Waste Water Discharge Certificate of Authorisation for Annyalla Waste Water Treatment Works, Monaghan.

Dear Sir/Madam,

Please find enclosed signed original application forms in respect of an application for the Waste Water Treatment Works serving the agglomeration of Annyalla.

Annyalla was initially applied for as a Discharge Licence, but was withdrawn (ref: letter dated 18th January 2012 to EPA) as its current operating P.E is under 500 P.E. As outlined in letter dated 28th March 2012 from the EPA, the fee for the Certificate of Authorisation for Annyalla of €3,000 will be retained from the initial fee of €10,000 submitted with the initial discharge Licence application and a refund will be issued in due course.

Also find enclosed one further hard copy of these documents, plus two copies in electronic searchable PDF format on CD-ROM with the geo-referenced drawings included.

Monaghan County Council confirms that the content of the electronic files and the accompanying CD-ROMS are a true copy of the original hardcopy application.

Please contact the undersigned if you require any further information or documentation.

Comhairle Contae Mhuineacháin, Oifigí an Chontae, An Gleann, Mhuineachán, Éire.
Monaghan County Council, Council Offices, The Glen, Monaghan, Ireland.

☎ 00353 47 30500 📠 00353 47 82739 📧 Info@monaghancoco.ie 🌐 www.monaghan.ie



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Fire/Building Control
047 30521

Seirbhísí Uisce
Water Services
047 30504

Yours Sincerely,

**Mark Johnston,
Senior Executive Engineer,
Water Services Section,
Monaghan County Council.
047 30513**

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Comhairle Contae Mhuineacháin, Oifigí an Chontae, An Gleann, Muineachán, Éire.
Monaghan County Council, Council Offices, The Glen, Monaghan, Ireland.

☎ 00353 47 30500



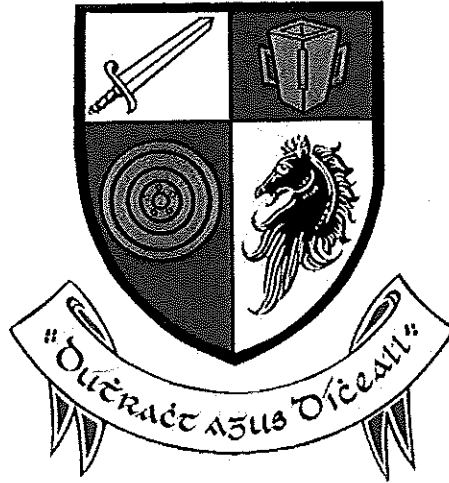
00353 47 82739



Info@monaghancoco.ie



www.monaghan.ie



ANNYALLA WASTE WATER TREATMENT WORKS

WASTE WATER CERTIFICATE OF AUTHORISATION APPLICATION

**Monaghan County Council
County Offices,
The Glen,
Co. Monaghan.**

JUNE 2012

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Monaghan County Councils Phosphate Implementation Report 2006

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Waste Water Discharge Certificate of Authorisation Application Form

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EPA Ref. N^o: <i>(Office use only)</i>	<input type="text"/>
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Environmental Protection Agency
PO Box 3000, Johnstown Castle Estate, Co. Wexford
Lo Call: 1890 335599 Telephone: 053-9160600 Fax: 053-9160699
Web: www.epa.ie Email: info@epa.ie

Tracking Amendments to Draft Application Form

Version No.	Date	Amendment since previous version	Reason
V.1.	12/06/2009	N/A	
V.2.	17/06/2009	<p>Delete reference to Design Build and Operate</p> <p>Delete the requirement to provide contact information for the associated waste water treatment plant</p> <p>Replace references to the Water Services investment Programme with the Small Schemes Programme</p> <p>Update references to new legislation</p> <p>Inclusion of the requirement to submit information on private WWTPs within the agglomeration.</p>	<p>To accurately reflect the information required for the small schemes programme</p> <p>To accurately reflect the information required and the scale of the waste water works</p> <p>To accurately reflect the information required for the small schemes programme</p> <p>To reflect changes in legislation</p> <p>To obtain an overview of all discharges within the agglomeration.</p>
V.3.	17/02/2012	Amended Section B.6 and Section F.1 to take account of the requirements of European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) in terms of Appropriate Assessment under Article 6(3) of the Habitats Directive (92/43/EEC).	To accurately reflect the Habitats Regulations 2011 (S.I. No. 477 of 2011) requirements.



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ABOUT THIS APPLICATION FORM

This form is for the purpose of making an application for a Waste Water Discharge Certificate of Authorisation under the Waste Water Discharge (Authorisation) Regulations, 2007, as amended or for the review of an existing Waste Water Discharge Certificate of Authorisation.

The Application Form **must** be completed in accordance with the instructions and guidance provided in the *Waste Water Discharge Certificate of Authorisation Application Guidance Note*. The Guidance Note gives an overview of Waste Water Certificates of Authorisation, outlines the certification application process (including the number of copies required) and specifies the information to be submitted as part of the application. The Guidance Note and application form are available to download from the licensing page of the EPA's website at www.epa.ie.

A valid application for a Waste Water Discharge Certificate of Authorisation must contain the information prescribed in the Waste Water Discharge (Authorisation) Regulations, 2007, as amended. Regulation 24 of the Regulations sets out the statutory requirements for information to accompany a Certificate of Authorisation application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in the Regulations. In order to ensure a legally valid application with respect to Regulation 24 requirements, please complete the Regulation 24 Checklist provided in the following web based tool: http://78.137.160.73/epa_wwd_licensing/.

This Application Form does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended. **While every effort has been made to ensure the accuracy of the material contained in the Application Form, the EPA assumes no responsibility and gives no guarantee, or warranty concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.**

Should there be any contradiction between the information requirements set out in the Application Form and any clarifying explanation contained in the accompanying Guidance Note, then the requirements in this Application Form shall take precedence.

PROCEDURES

The procedure for making and processing of applications for waste water discharge Certificates of Authorisation, and for the processing of reviews of such Certificates, appears in the Waste Water Discharge (Authorisation) Regulations, 2007, as amended, and is summarised below. The application fees that shall accompany an application are listed in the Third Schedule to the Regulations.

An application for a Certificate of Authorisation must be submitted on the appropriate form (available from the Agency website – <http://www.epa.ie/whatwedo/licensing/wwda/>) with the correct fee, and should contain relevant supporting documentation as attachments. The application should be based on responses to the form and include supporting written text and the appropriate use of tables and drawings. Where point source emissions occur, a system of unique reference numbers should be used to denote each discharge point. These should be simple, logical, and traceable throughout the application.

The application form is divided into a number of sections of related information. The purpose of these divisions is to facilitate both the applicant and the Agency in the provision of the information and its assessment. **Please adhere to the format as set out in the application form and clearly number each section and associated attachment, if applicable, accordingly.** Attachments should be clearly numbered, titled and paginated and must contain the required information as set out in the application form. Additional attachments may be included to supply any further information supporting the application. Any references made should be supported by a bibliography.

All questions should be answered. Where information is requested in the application form, which is not relevant to the particular application, the words "not applicable" should be clearly written on the form. The abbreviation "N/A" should not be used.

Additional information may need to be submitted beyond that which is explicitly requested on this form. Any references made should be supported by a bibliography. The Agency may request further information (under notices provided for in the Regulations) if it considers that its provision is material to the assessment of the application. Advice should be sought from the Agency where there is doubt about the type of information required or the level of detail.

Information supplied in this application, including supporting documentation will be put on public display and be open to inspection by any person.

Applicants should be aware that a contravention of the conditions of a waste water discharge Certificate of Authorisation is an offence under the Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

The provision of information in an application for a waste water discharge Certificate of Authorisation which is false or misleading is an offence under Regulation 35 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

Note: Drawings. The following guidelines are included to assist applicants:

Annyalla WWTP Certificate Of Authorisation application

- *All drawings submitted should be titled and dated.*
- *All drawings should have a unique reference number and should be signed by a clearly identifiable person.*
- *All drawings should indicate a scale and the direction of north.*
- *All drawings should, generally, be to a scale of between 1:20 to 1:500, depending upon the degree of detail needed to be shown and the size of the facility. Drawings delineating the boundary can be to a smaller scale of between 1:1000 to 1:10560, but must clearly and accurately present the required level of detail. Drawings showing the waste water treatment plant location, if such a plant exists, can be to a scale of between 1:50 000 to 1:126 720. All drawings should, however, be A3 or less and of an appropriate scale such that they are clearly legible. Provide legends on all drawings and maps as appropriate.*
- *In exceptional circumstances, where A3 is considered inadequate, a larger size may be requested by the Agency.*

It should be noted that it will not be possible to process or determine the application until the required documents have been provided in sufficient detail and to a satisfactory standard.

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SECTION A: NON-TECHNICAL SUMMARY

Advice on completing this section is provided in the accompanying Guidance Note.

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the discharge of waste water associated with the waste water works. This description should also indicate, where applicable, the hours during which the waste water works is supervised or manned and days per week of this supervision.

The following information must be included in the non-technical summary:

A description of:

- the waste water works and the activities carried out therein,
- the sources of emissions from the waste water works,
- the nature and quantities of foreseeable emissions from the waste water works into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment,
- the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works,
- further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused;
- measures planned to monitor emissions into the environment.

Supporting information should form **Attachment N^o A.1**

Non Technical Summary

Monaghan County Council is applying to the Environmental Protection Agency for a Certificate of Authorisation for the existing Waste Water Works at Annyalla. The Waste Water Works comprises a network of gravity sewers and a wastewater treatment plant at Annyalla. The plant is supervised/manned for 2 hours, 3 days per week, Monday, Wednesday and Friday, giving a total of 6 hours per week.

The Waste Water Treatment Works, located at NGR 279829E 323801N in the town land of Mullaghduff, Annyalla Co. Monaghan. The Waste Water Treatment Works has a design capacity of 600 PE. The Works currently collects and treats domestic effluent from a population equivalent of approximately 200. The Waste Water Treatment Plant currently treats in the region of 36 cubic metres of effluent every day (based on current PE as no flow data available).

The Annyalla WWTP consists of three treatment zones (i) Primary settlement and Sludge Storage (Zone 1) (ii) Aeration Zone (Zone 2) and (iii) Final Settlement and clarification (Zone 3). After treatment, the effluent flows through a series of 3 no. ponds, prior to being discharged through an outfall pipe to the Carrickaslane Lough stream. The Annyalla WWTP was officially taken over by Monaghan County Council from a private developer in May of 2009. A lot of remedial works were required when the WWTP was taken over as it was not operating properly due to inadequate maintenance and supervision. Monaghan County Council carried out these remedial works during 2010/2011 which primarily involved fixing leaks within the plant, replacement parts and desludging of the plant to enable it to run properly. There are some elevated parameter results for 2011 as a result of these works. The

Annyalla WWTP Certificate Of Authorisation Application

2011 treated effluent monitoring results for the WWTP has an average BOD concentration of 34.75mg/l and average suspended solids concentration of 118.25mg/l. Average concentrations of nutrients are as follows; Total Phosphorus 3.35mg/l (P) and Total Nitrogen 25.75mg/l (N). The final monitoring results dated 25/11/11 for 2011 shows compliant results with the Urban Waste Water Regulations 2001 (or as amended) with BOD <4mg/l, COD 26mg/l and TSS 2mg/l.

The primary discharge point SW1(P) discharges to a small stream named Carrickaslane Lough stream at National Grid Reference 279846E 323758N which joins the Dunfelimy stream which is a tributary of the river Fane.

The Dunfelimy stream's overall status is 'bad' with overall risk classed as 'at risk' of not achieving good status by 2015, the overall objective under the water framework directive for the river is to restore good status by 2021 (WFD website and reports).

There is no EPA monitoring site or hydrometric station upstream or downstream of the discharge point.

Monaghan County Councils upstream monitoring results (aSW1(P)u) for 2011 vary widely for the water quality in the river with ammonia levels ranging from 0.1 to 13.96mg/l NH₃-N, BOD from <2mg/l to 66 mg/l, Total Phosphorus from 0.03mg/l to 7.02mg/l, Total Nitrogen of 1.12mg/l N to 27.73mg/l and average suspended solids of 65mg/l. These results concur with the poor status of the stream. Dangerous substances concentrations were below detection level for 8 of the 19 parameters tested in April 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

Results from the downstream monitoring site for 2011 (aSW1(P)d) again vary widely for the water quality in the river with the ammonia levels ranging from 0.21mg/l to 13.51mg/l NH₃-N, BOD from <2mg/l to 70mg/l, Total Phosphorus of <0.1mg/l to 5.39mg/l, Total Nitrogen from 1.26mg/l to 25.09mg/l N and average suspended solids of 44mg/l. These results concur with the poor status of the stream. Dangerous substances concentrations were below detection level for 7 of the 19 parameters tested in April 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

There is no flow monitoring station nearby the discharge point, nor is there an estimated flow for this stream/river on the EPA hydrometric website. Assimilative calculations are therefore unable to be calculated.

SECTION B: GENERAL

Advice on completing this section is provided in the accompanying Guidance Note.

B.1 Agglomeration Details

Name of Agglomeration: Annyalla

Applicant's Details

Name and Address for Correspondence

Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

Provide a drawing detailing the agglomeration to which the Certificate of Authorisation application relates. It should have the boundary of the agglomeration to which the Certificate of Authorisation application relates clearly marked in red ink.

Name*:	Monaghan County Council
Address:	Water Services Section
	The Glen,
	Monaghan.
Tel:	047 30500
Fax:	047 82739
e-mail:	info@monaghancoco.ie

*This should be the name of the Water Services Authority in whose ownership or control the waste water works is vested.

*Where an application is being submitted on behalf of more than one Water Services Authority the details provided in Section B.1 shall be that of the lead Water Services Authority.

Name*:	Mr Mark Johnston
Address:	Water Services Section,
	The Glen,
	Monaghan.
Tel:	047 30500
Fax:	047 82739
e-mail:	mjohnston@monaghancoco.ie

*This should be the name of person nominated by the Water Services Authority for the purposes of the application.

Co-Applicant's Details

Name*:	Not Applicable
Address:	
Tel:	
Fax:	
e-mail:	

*This should be the name of a Water Services Authority, other than the lead authority, where multiple authorities are the subject of a waste water discharge Certificate of Authorisation application.

Annyalla WWTP Certificate Of Authorisation Application

Attachment B.1 should contain appropriately scaled drawings / maps ($\leq A3$) of the agglomeration served by the waste water works showing the boundary clearly marked in red ink. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.2, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
	√	

B.2 Location of Associated Waste Water Treatment Plant(s)

Give the location of the waste water treatment plant associated with the waste water works, if such a plant or plants exists.

Name*:	Eugene Farmer (Technician)
Address:	Annyalla WWTP, Mullaghduff, Annyalla, Co. Monaghan
Grid ref (6E, 6N)	279829E 323801N
Level of Treatment	Secondary

*This should be the name of the person responsible for the supervision of the waste water treatment plant.

Attachment B.2 should contain appropriately scaled drawings / maps ($\leq A3$) of the site boundary and overall site plan, including labelled discharge, monitoring and sampling points. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.1, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
	√	

B.3 Location of Primary Discharge Point

Give the location of the primary discharge point, as defined in the Waste Water Discharge (Authorisation) Regulation, associated with the waste water works.

Discharge to	Surface Water
Type of Discharge	Open Pipe Discharge
Unique Point Code	SW1(P)
Location	Mullaghduff, Annyalla, Co. Monaghan.
Grid ref (6E, 6N)	279846E 323758N

Attachment B.3 should contain appropriately scaled drawings / maps ($\leq A3$) of the discharge point, including labelled monitoring and sampling points associated with the discharge point. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing the drawings and tabular data requested in sections B.1, B.2, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
	✓	

B.4 Location of Secondary Discharge Point(s)

Give the location of **all** secondary discharge point(s)* associated with the waste water works. Please refer to Guidance Note for information on Secondary discharge points.

Discharge to	Not Applicable
Type of Discharge	Not Applicable
Unique Point Code	Not Applicable
Location	Not Applicable
Grid ref (6E, 6N)	Not Applicable

*Where a septic tank is in existence simultaneous to a package plant within an agglomeration, discharges from the septic tank shall be considered as a secondary discharge.

Attachment B.4 should contain appropriately scaled drawings / maps ($\leq A3$) of the discharge point(s), including labelled monitoring and sampling points associated with the discharge point(s). These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
		✓

B.5 Location of Storm Water Overflow Point(s)

Give the location of **all** storm water overflow point(s) associated with the waste water works.

Type of Discharge	Not Applicable
Unique Point Code	Not Applicable
Location	Not Applicable
Grid ref (6E, 6N)	Not Applicable

Attachment B.5 should contain appropriately scaled drawings / maps ($\leq A3$) of storm water overflow point(s) associated with the waste water works, including labelled monitoring and sampling points associated with the discharge point(s). These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No
		✓

B.6 Planning Authority and/or Public Authority

Give the name of the planning authority, or authorities, in whose functional area the discharge or discharges take place or are proposed to take place.

Name:	Monaghan County Council
Address:	County Offices, The Glen Monaghan Co. Monaghan
Tel:	047 30500
Fax:	047 82739
e-mail:	planning@monaghancoco.ie

Planning Permission relating to the waste water works which is the subject of this application:- (tick as appropriate)

has been obtained	✓	is being processed	
is not yet applied for		is not required	

A Part 8 planning Application or EIS was not required for this development.

Local Authority Planning File Reference N^o:	Not Applicable
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Attachment B.6 should contain **the most recent** planning permission, including a copy of **all** conditions, a copy of the planning inspector's report and where an EIS was required, copies of any such EIS and any certification associated with the EIS, should also be enclosed. Where planning permission is not required for the development, provide reasons, relevant correspondence, etc.

Where applicable, provide a copy of any screening for Appropriate Assessment report and Natura Impact Statement (NIS) that was prepared for consideration by any planning/public authority as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) in relation to the waste water works which is the subject of this application. Where a determination that an Appropriate Assessment is required has been made by any planning/public authority in relation to the waste water works, a copy of that determination and any screening report and NIS, and any supplemental information furnished in relation to any such report or statement, which has been provided to the planning/public authority for the purposes of the Appropriate Assessment, shall be included in **Attachment B.6**.

Annyalla WWTP Certificate Of Authorisation Application

Attachment included	Yes	No
		✓

B.7 Other Authorities

B.7 (i) Shannon Free Airport Development Company (SFADCo.) area

The applicant should tick the appropriate box below to identify whether the discharge or discharges are located within the Shannon Free Airport Development Company (SFADCo.) area.

Attachment B.7(i) should contain details of any or all discharges located within the SFADCo. area.

Within the SFADCo Area	Yes	No
		✓

B.7 (ii) Health Services Executive Region

The applicant should indicate the **Health Services Executive Region** where the discharge or discharges are or will be located.

Name:	Health Service Executive
Address:	Regional Health Office
	HSE Dublin & North East
	Dublin Road, Kells, Co. Meath.
Tel:	046 9280621
Fax:	046 9241784
e-mail:	rhodublinnortheast@mailq.hse.ie

B. 8(i) Population Equivalent of Agglomeration

TABLE B.8.1 POPULATION EQUIVALENT OF AGGLOMERATION

The population equivalent (p.e.) of the agglomeration to be, or being, served by the waste water works should be provided and the period in which the population equivalent data was compiled should be indicated.

Population Equivalent	200– Current PE 600 – Design PE
Data Compiled (Year)	2012
Method	Based on house count

The Annyalla WWTW currently serves a housing development.

B.8 (ii) Pending Development

Where planning permission has been granted for development(s), but development has not been commenced or completed to date, within the boundary of the agglomeration and this development is being, or is to be, served by the waste water works provide the following information;

- information on the calculated population equivalent (p.e.) to be contributed to the waste water works as a result of those planning permissions granted,
- the percentage of the projected p.e. to be contributed by the non-domestic activities, and
- the ability of the waste water works to accommodate this extra hydraulic and organic loading without posing an environmental risk to the receiving waters.

As stated in Chapter 3, Settlement Strategy of the Monaghan County Development Plan 2007-2013, there is 69 hectares of land within the development envelope of Annyalla of which approximately 40 ha are available for development. From **Table 1** below 28 hectares of land is available for residential development (70% of lands available).

Village	Lands within Dev. Envelope ha	Lands Available for Dev. ha	Lands Residential Dev. ha (70% of lands available)	Hsg. Capacity @ 15 houses per hectare
Annyalla	69	40	28	420

At low density (15 houses per hectare) it is anticipated that approximately 420 housing units could be built during the Development Plan period if all land within the development limit was used for residential development. This could lead to a maximum population increase of 1302 based on an average household occupancy of 3.1. Should all these development be linked to the Annyalla sewer network, this would give a PE of 1502 (worst case scenario). However, presently in June 2012, heading towards the end of the current development plan (2007-2013) the house count within the catchment area of the Annyalla WWTP network indicates that the plant is currently operating at 200 P.E. which is well under half of the design capacity of the WWTP. There is therefore adequate capacity within the WWTP to cater for another 130 housing units between now and the end of the current development plan, should they be realised.

As noted above, should all lands available within the development envelope be developed and connected to the works during the lifetime of the Certificate of Authorisation, the design capacity of the plant would be exceeded. It must be noted however that granting of permissions to develop and their associated conditions will reflect the capacity of the plant.

It also should be noted that in the current economic climate, it is probable that this amount of housing within the timeframe of the Certificate of authorisation will not be realised.

B.8 (iii) FEES

State the relevant Class of waste water discharge as per Regulation 5, and the appropriate fee as per Columns 2 or 3 of the Third Schedule of the Waste Water Discharges (Authorisation) Regulations 2007, as amended.

Class of waste water discharge	Fee (in €)
Discharges from agglomerations with a population equivalent of less than 500	€3,000

Appropriate Fee Included	Yes	No
	√	

B.9 Capital Investment Programme

State whether a programme of works has been prioritised for the development of infrastructure to appropriately collect, convey, treat and discharge waste water from the relevant agglomeration. If a programme of works has been prioritised provide details on funding (local or national small schemes programme) allocated to the capital project. Provide details on the extent and type of work to be undertaken and the likely timeframes for this work to be completed.

No Capital Investment Programme has been prioritised for the development.

Attachment B.9 should contain the most recent development programme, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

Attachment included	Yes	No
		√

B.10 Significant Correspondence

Provide a summary of any correspondence resulting from a Section 63 notice issued by the Agency in relation to the waste water works under the Environmental Protection Agency Acts, 1992 to 2011.

There have been no Section 63 notices issued by the Agency in relation to the Annyalla Waste Water Works under the Environmental Protection Agency Acts, 1992 and 2003, as amended by Section 13 of Protection of the Environment Act, 2003.

Attachment B.10 should contain a summary of any relevant correspondence issued in relation to a Section 63 notice.

Attachment included	Yes	No
		√

B.11 Foreshore Act Licences.

Provide a copy of the most recent Foreshore Act licence issued in relation to discharges from the waste water works issued under the Foreshore Act 1933.

Not Applicable.

Attachment B.11 should contain the most recent licence issued under the Foreshore Act 1933, including a copy of **all** conditions attached to the licence and any monitoring returns for the previous 12-month period, if applicable.

Attachment included	Yes	No
		√

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SECTION C: INFRASTRUCTURE & OPERATION

Advice on completing this section is provided in the accompanying Guidance Note.

C.1 Operational Information Requirements

Provide a description of the plant, process and design capacity for the areas of the waste water works where discharges occur, to include a copy of such plans, drawings or maps (site plans and location maps, process flow diagrams) and such other particulars, reports and supporting documentation as are necessary to describe all aspects of the area of the waste water works discharging to the aquatic environment. Maps and drawings must be no larger than A3 size.

The Annyalla WWTW was officially taken over by Monaghan County Council in May 2009.

C.1.1 Storm Water Overflows

For each storm water overflow within the waste water works the following information shall be submitted:

There are no SWO's within the works.

- An assessment to determine compliance with the criteria for storm water overflows, as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995 and any other guidance as may be specified by the Agency, and
- Identify whether any of the storm water overflows are to be decommissioned, and identify a date by which these overflows will cease, if applicable.

C.1.2 Pumping Stations

There are no pumping stations on the network.

For each pump station operating within the waste water works, provide details of the following:

- Number of duty and standby pumps at each pump station;
- The measures taken in the event of power failure;
- Details of storage capacity at each pump station;
- Frequency and duration of activation of emergency overflow to receiving waters. Clarify the location where such discharges enter the receiving waters.

Annyalla Waste Water Treatment Plant

The plant is supervised/manned for 2 hours, 3 days per week, Monday, Wednesday and Friday, giving a total of 6 hours per week.

Process description

The Annyalla WWTP consists of three treatment zones to the plant (see **Drawing 6 and 7 of Attachment C.1.**):

- Primary and Sludge Storage (Zone 1)
- Aeration Zone (Zone 2)
- Final Settlement (Zone 3)

Primary Settlement

The sewage flow enters the Primary Tank 1 and flows through to Primary Tank 2 in which the primary solids settle and floating scum is held. The flow gravitates from the primary tank to the Aeration tanks.

Aeration

During Phase 1 (flows up to 54m³/day) only one aeration tank needs to be in operation. In the aeration tanks a bank of fine bubble diffusers is located on the floor of the tank. The diffusers feed the settled sewage with the correct amount of air for biological breakdown of the organic matter. A dissolved oxygen meter is fitted in each tank to control the operation of the air blowers and maintain the dissolved oxygen level between 1 and 2 mg/l. The blowers are controlled by a variable speed drive, the maximum speed of the blower when phase 1 is in operation is 30Hz. The blowers will operate at 50Hz when supplying air to aeration tank 2 when phase 2 is in operation.

Submersible pumps in each aeration tank pump surplus activated sludge back to the primary settlement tank. The primary settlement tank is desludged periodically. During normal operation the pump wastage cycle duration is adjusted to ensure that the mixed liquor suspended solids is maintained within a specified range.

Final Settlement

The aerated sewage flows by gravity from the aeration tank to the final settlement tank where the activated sludge settles in three hoppers. Three air lift systems and two scum air lift systems in the settlement tank returns settled sludge and floating scum back to the aeration tank. The air lift systems are supplied with air from the air blowers. As the air blowers are controlled by VSD's the blower speed can be set to the optimum speed for sludge or scum lift operation.

Upward Flow Clarifier

Effluent from the settlement tank gravitates to the upward flow clarifier in which a stainless steel mesh and a gravel layer are located which filter out fine solids. Sludge waste settles to the bottom of the clarifier and is returned to the primary tank using the air lift.

Flow Measurement

Clarified effluent flows from the clarifier to a flow measurement chamber which controls the ferric dosing pumps.

Ferric Dosing Plant

Currently no dosing is undertaken with Ferric Chloride at the Annyalla WWTP as the total Phosphorus results are under 1mg/l since November 2011, however, the facility and equipment is in place on site and dosing can commence in the future if required. Dosing would be into the aeration tanks to facilitate the precipitation of phosphorous. This would be controlled with a pulse signal from the flow measurement device. A bunded bulk storage tank for Ferric chloride is on site with an integrated pump/panel compartment.

The plant is designed to produce a fully nitrified effluent of 20:30mg/l BOD: Suspended Solids.

After treatment, the effluent flows through a series of ponds and an outlet pipe prior to being discharged to the Carrickaslane Lough Stream.

C.1(iii) Information on the Location of Final Discharge Locations

Primary Discharge Point - SW1(P)

The primary discharge point SW1(P) discharges to a small stream named Carrickaslane Lough stream at National Grid Reference 279846E 323758N which joins the Dunfelimy stream which is a tributary of the river Fane. The location of the discharge is shown on **Drawing 3 of Attachment B3.**

Attachment C.1 should contain supporting documentation with regard to the plant and process capacity, systems, storm water overflows, emergency overflows, etc., including flow diagrams of each with any relevant additional information. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. This data should be provided to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, D.2, E.3 and F.2.

Attachment included	Yes	No
	✓	

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SECTION D: DISCHARGES TO THE AQUATIC ENVIRONMENT

Advice on completing this section is provided in the accompanying Guidance Note.

Give particulars of the source, location, nature, composition, quantity, level and rate of discharges arising from the agglomeration and, where relevant, the period or periods during which such discharges are made or are to be made.

Details of all discharges of waste water from the agglomeration should be submitted via the following web based link: http://78.137.160.73/epa_wwd_licensing/. The applicant should address in particular all discharge points where the substances outlined in Tables 'Emissions to Surface/Groundwaters and 'Dangerous Substances Emissions' are emitted.

Where it is considered that any of the substances listed in Annex X of the Water Framework Directive (2000/60/EC) or any of the Relevant Pollutants listed in Annex VIII of the Water Framework Directive (2000/60/EC) are being discharged from the waste water works or are seen to be present in the receiving water environment downstream of a discharge from the works (as a result of any monitoring programme, e.g., under the Water Framework Directive Programme of Measures) the applicant shall screen the discharge for the relevant substance.

D.1(i) Discharges to Surface Waters

Details of all discharges of waste water from the agglomeration should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Discharge Point Details', 'Emissions to Surface/Groundwaters and 'Dangerous Substances Emissions', should be completed for the primary discharge point from the agglomeration and for each secondary discharge point, where relevant. Table 'Discharge Point Details' should be completed for each storm water overflow. Individual Tables must be completed for each discharge point.

Where monitoring information is available for the influent to the waste water treatment plant this data should also be provided in response to Section D.1(i).

Monitoring data for the influent for 2011 is contained in **Table D.1(iv) Attachment D.1.**

Tables D.1(i)(a), (b) & (c) have been completed for the primary discharge are contained in **Attachment D.1**

Supporting information should form **Attachment D.1(i)**

Attachment included	Yes	No
	√	

D.1(ii) Discharges to Groundwater

Not Applicable.

Details of all discharges of waste water from the agglomeration should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Discharge Point Details', 'Emissions to Surface/Groundwaters and 'Dangerous Substances Emissions', should be completed for the primary discharge point from the agglomeration and for **each** secondary discharge point, where relevant. Table 'Discharge Point Details' should be completed for **each** storm water overflow Individual Tables must be completed for each discharge point.

Where monitoring information is available for the influent to the waste water treatment plant this data should also be provided in response to Section D.1(ii).

Supporting information should form **Attachment D.1(ii)**

Attachment included	Yes	No
		√

D.1 (iii) Private Waste Water Treatment Plants

Provide information on all independently owned/operated private waste water treatment plants operating within the agglomeration. Submit a copy of the Section 4 discharge licence issued under the Water Pollution Acts 1977 to 1990, as amended for each discharge.

Not Applicable.

D.2 Tabular Data on Discharge Points

Applicants should submit the following information for each discharge point:

Table D.2:

PT_CD	PT_TYPE	LA_NAME	RWB_TYP E	RWB_NAME	DESIGNATION	EASTING	NORTHING
SW1(P)	Primary	Monaghan Co. Co.	River	Carrickaslane Lough Stream (Tributary of Fane River)	Not Designated	279846E	323758N

The Carrickaslane Lough stream is not designated, it flows to nearby Dunfelimy Stream, the overall status of the Dunfelimy Stream is 'bad' with overall objective to restore it to 'good status' by 2021 under the Water Framework Directive.

Source: WFD website and reports.

There is no information available on these streams on the EPA website.

An individual record (i.e. row) is required for each discharge point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, E.3 and F.2.

SECTION E: MONITORING

Advice on completing this section is provided in the accompanying Guidance Note.

E.1 Waste Water Discharge Frequency and Quantities – Existing & Proposed

Provide an estimation of the quantity of waste water likely to be emitted in relation to all primary and secondary discharge points applied for. This information should be included in Table 'Discharge Point Details' via the following web based link: http://78.137.160.73/epa_wwd_licensing/.

An estimation of the quantity of waste water likely to be emitted in relation to the primary discharge is contained in **Table E.1(i) of Attachment E1.**

Provide an estimation of the quantity of waste water likely to be emitted in relation to all storm water overflows within the agglomeration applied for. This information should be included in Table 'Discharge Point Details' via the following web based link: http://78.137.160.73/epa_wwd_licensing/.

Not Applicable.

Indicate if composite sampling or continuous flow monitoring is in place on the primary or any other discharge points. Detail any plans and timescales for the provision of composite sampling and continuous flow monitoring.

Continuous flow monitoring is in place. A mobile composite sampler is used to take samples of the effluent.

E.2. Monitoring and Sampling Points

Programmes for environmental monitoring should be submitted as part of the application. These programmes should be provided as Attachment E.2.

Reference should be made to, provision of sampling points and safe means of access, sampling methods, analytical and quality control procedures, including equipment calibration, equipment maintenance and data recording/reporting procedures to be carried out in order to ensure accurate and reliable monitoring.

In determining the sampling programme to be carried out, the variability of the discharge and its effect on the receiving environment should be considered.

Details of any accreditation or certification of analysis should be included. **Attachment E.2** should contain any supporting information.

Environmental Monitoring & Sampling

Monaghan Co. Co. carried out both the sampling and analyses before 2009, since then, Monaghan County Council staff carries out the collection of the samples from the discharge of the Annyalla Waste Water Treatment Plant including the samples of the water upstream and downstream of the primary discharge in the Carrickaslane Lough stream. The samples are then delivered by courier to Euro Environmental Management Ltd (trading as Fitz Scientific), Drogheda, Co. Louth for analyses. Details of their accreditation of analysis are included in **Attachment E.2.** of this application. Sampling of the primary discharge from the Annyalla

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Waste Water Treatment Works is undertaken every quarter, the monitoring of the upstream and downstream locations was carried out each quarter in 2011. Composite samples (mobile sampler) are taken of the effluent and grab samples of the influent, upstream and downstream samples for analyses.

Monitoring, Sampling & Analytical Procedures

Careful collection is carried out during all sampling to ensure that the relative proportions or concentrations of all pertinent components are the same in the samples as in the materials being sampled. The samples are also handled carefully to ensure that no significant change in the composition occurs before the tests are made.

During the waste water and water sampling all personnel wear safety boots and latex gloves at all times. Due care and attention is taken at all times.

All of the sampling points are located in places that have safe means of access.

Further details on the annual sampling programme schedule commencing in 2012 for Annyalla are detailed below.

Plant Name	Design	Min No of Samples	Raw Influent	Final Effluent	River Up Stream	River Down stream	Total
Annyalla	PE 600	4	4	4	4	4	16

Euro Environmental Services, Drogheda, Co. Louth have sampled and analysed for dangerous substances and characterisation of emission parameters in 2009. Details of their accreditation of analysis are included in **Attachment E.2.**

Attachment included	Yes	No
	✓	

E.3. Tabular data on Monitoring and Sampling Points

Applicants should submit the following information for each monitoring and sampling point:

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SW1(P)s	Primary	S	279846	323758	N
aSW1(P)u	Primary	M	279798	323770	N
aSW1(P)d	Primary	M	279894	323741	N

An individual record (i.e., row) is required for each monitoring and sampling point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, D.2 and F.2.

E.4 Sampling Data

Regulation 24(i) of the Waste Water Discharge (Authorisation) Regulations 2007, as amended, requires all applicants in the case of an existing discharge to specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application.

Regulation 24(m) requires applicants to give details of compliance with any applicable monitoring requirements and treatment standards.

Sampling Data

Sampling Data pertaining to the discharge are tabled in **Attachment E.4**.

Monitoring Requirements & Treatment Standards

Annyalla Waste Water Works complies with the monitoring and treatment standards specified in the Urban Waste Water Treatment Regulations S.I. 254 of 2001 and amendments S.I. 440 of 2004 and S.I. 48 of 2010.

Attachment E.4 should contain any supporting information.

Attachment included	Yes	No
	√	

SECTION F: EXISTING ENVIRONMENT & IMPACT OF THE DISCHARGE(S)

Advice on completing this section is provided in the accompanying Guidance Note.

Clear and concise information is required to enable the Agency to assess the existing receiving environment. This section requires the provision of information on the ambient environmental conditions within the receiving water(s) upstream and downstream of any discharge(s) and/or the ambient environmental conditions of the groundwater upgradient and downgradient of any discharges.

Where development is proposed to be carried out, being development which is of a class for the time being specified under Article 24 (First Schedule) of the Environmental Impact Assessment Regulations, the information on the state of the existing environment should be addressed in the EIS. **In such cases, it will suffice for the purposes of this section to provide adequate cross-references to the relevant sections in the EIS.**

F.1. Impact on Receiving Surface water or Groundwater

- Details of monitoring of the receiving surface water should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details' should be completed for the primary discharge point. Surface water monitoring locations upstream and downstream of the discharge point shall be screened for those substances listed in Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details'. Monitoring of surface water shall be carried out at not less than two points, one upstream from the discharge location and one downstream.

The outfall from the Annyalla Waste Water Plant discharges to a small stream named Carrickaslane Lough stream at National Grid Reference 279846E 323758N which joins the Dunfelimy stream which is a tributary of the river Fane in the town land Mullaghduff, Co Monaghan.

As stated in Section A, remedial works were carried out during 2010/2011 by Monaghan County Council to the Annyalla treatment plant after takeover from a developer, as a result of this, there are some elevated results in 2011. The 2011 treated effluent monitoring results for the WWTP has an average BOD concentration of 34.75mg/l and average suspended solids concentration of 118.25mg/l. Average concentrations of nutrients are as follows; Total Phosphorus 3.35mg/l (P) and Total Nitrogen 25.75mg/l (N). The final monitoring results dated 25/11/11 for 2011 shows compliant results with the Urban Waste Water Regulations 2001 (or as amended) with BOD <4mg/l, COD 26mg/l and TSS 2mg/l.

The Carrickaslane Lough stream is not designated, however, the receiving Dunfelimy stream which is a tributary of the river Fane, overall status is 'bad' with overall risk classed as 'at risk' of not achieving good status by 2015, the overall objective under the water framework directive for the river is to restore good status by 2021 (WFD website and reports).

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Monaghan Co. Co. will monitor the river both upstream and downstream of the discharge from the Waste Water Works in 2012. These locations are shown on **Drawing 4 of Attachment B3**. Monaghan County Councils upstream monitoring results (aSW1(P)u) for 2011 vary widely for the water quality in the river with ammonia levels ranging from 0.1 to 13.96mg/l NH₃-N, BOD from <2mg/l to 66 mg/l, Total Phosphorus from 0.03mg/l to 7.02mg/l, Total Nitrogen of 1.12mg/l N to 27.73mg/l and average suspended solids of 65mg/l. These results concur with the poor status of the receiving stream. Monitoring results for the dangerous substances relate to once-off samples collected in April 2009 and concentrations were below detection level for 8 of the 19 parameters tested in April 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

Results from the downstream monitoring site for 2011 (aSW1(P)d) again vary widely for the water quality in the river with the ammonia levels ranging from 0.21mg/l to 13.51mg/l NH₃-N, BOD from <2mg/l to 70mg/l, Total Phosphorus of <0.1mg/l to 5.39mg/l, Total Nitrogen from 1.26mg/l to 25.09mg/l N and average suspended solids of 44mg/l. These results concur with the poor status of the stream. Monitoring results for the dangerous substances relate to once-off samples collected in April 2009 and concentrations were below detection level for 7 of the 19 parameters tested in April 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

There is no flow monitoring station nearby the discharge point, nor is there an estimated flow for this stream/river on the EPA hydrometric website. Assimilative calculations are therefore unable to be calculated.

Tables F.1 (i) (a) & (b) are completed for the primary discharge point.

- o Details of monitoring of the receiving ground water should be supplied via the following web based link: http://78.137.160.73/epa_vwd_licensing/. Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details' should be completed for the primary discharge point. Ground water monitoring locations upgradient and down gradient of the discharge point shall be screened for those substances listed in Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details'. Monitoring of ground water shall be carried out at not less than two points, one upgradient from the discharge location and one downgradient.

Not applicable.

- o For discharges from secondary discharge points Tables 'Monitoring Details', 'Monitoring Test Details', 'Dangerous Substances Monitoring Details' and 'Dangerous Substances Monitoring Test Details' should be completed.

Not applicable.

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- Describe the existing environment in terms of water quality with particular reference to environmental quality standards or other legislative standards. Submit a copy of the most recent water quality management plan or catchment management plan in place for the receiving water body. Give details of any designation under any Council Directive or Regulations that apply in relation to the receiving surface or groundwater.

The primary discharge is to the Carrickaslane Lough stream is not designated, however, this stream flows to the Dunfelimy stream which is a tributary of the river Fane. The overall status of the Dunfelimy stream is 'bad' with overall risk classed as 'at risk' of not achieving good status by 2015, the overall objective under the water framework directive for the river is to restore good status by 2021 (WFD website and reports).

There is no information available on this river on the EPA website.

The ambient monitoring results for the Carrickaslane Lough stream upstream and downstream of the primary discharge are varied for 2011, indicating that the stream is polluted with regard to the Surface Water Regulations 2009 Environmental Quality Standards (EQS), with ammonia levels and total phosphorus levels above the EQS standards specified for 'good status' waters. The risk test description on the WFD report for the Dunfelimy stream describes WWTP's point risk as 2b 'not at risk' to the water body, with point and diffuse pollutants being described as 1a 'at risk' of impacting on the river body.

The last effluent results for 2011 after remedial works were carried out at the Annyalla WWTP are compliant with the UWW Regulations 2001 (and amendments). A copy of the summary leaflet of the Draft River Basin Management Plan for the North Western International River Basin District summary leaflet is contained in **Attachment G2**.

- Provide a statement as to whether or not emissions of main polluting substances (as defined in the *Dangerous Substances Regulations S.I. No. 12 of 2001*) to water are likely to impair the environment.

The level of dangerous substances tested for in 2009 both in the effluent and in the receiving waters upstream and downstream of the discharge point as detailed in **Tables D1** and **F1** show a level below those in the Water Quality (Dangerous Substances) Regulations 2001 and therefore the emissions are not considered likely to impair the environment.

- In circumstances where drinking water abstraction points exist downstream/down gradient of any discharge describe measures to be undertaken to ensure that discharges from the waste water works will not have a significant effect on faecal coliform, salmonella and protozoan pathogen numbers, e.g., Cryptosporidium and Giardia, in the receiving water environment.

There are no drinking water abstractions downstream of the discharge point.

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- o Indicate whether or not emissions from the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have a significant effect on a European Site, as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations (S.I. No. 477 of 2011). Undertake a screening for Appropriate Assessment and state whether the discharge(s), whether individually or in combination with other plans or projects is likely to have a significant effect on a European Site(s), in view of best scientific knowledge and in view of the conservation objectives of the site(s). Where it cannot be excluded, on the basis of objective scientific information, following screening for Appropriate Assessment, that the discharge(s), either individually or in combination with other plans or projects, will have a significant effect on a European Site, the applicant shall provide a Natura Impact Statement. Where based on screening it is considered that an Appropriate Assessment is not required, a reasoned response should be provided. This section should also contain details of any modelling of discharges from the agglomeration. Any other relevant information on the receiving environment should be submitted as **Attachment F.1**.

There is no designated site within the vicinity of the discharge point.

Emissions from the Wastewater Treatment site will not have a significant effect on any designated site. There has been no correspondence with the National Parks and Wildlife Service in connection with the existing or proposed discharge.

Attachment included	Yes	No
		✓

F.2 Tabular Data on Drinking Water Abstraction Point(s)

Applicants should submit the following information for each downstream or downgradient drinking water abstraction point. The zone of contribution for the abstraction point should be delineated and any potential risks from the waste water discharge to the water quality at that abstraction point identified.

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	Agglomeration served	Abstraction Volume in m ³ /day	Point Code Provide label ID's	Distance Downstream in meters from Emission Point to Abstraction Point	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

Note: Attach any risk assessment that may have been carried out in relation to the abstraction point(s) listed.

An individual record (i.e. row) is required for each abstraction point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.1, B.2, B.3, B.4, B.5, C.1, D.2 and E.3.

Attachment F.2 should contain any supporting information.

Not Applicable.

SECTION G: PROGRAMMES OF IMPROVEMENTS

Advice on completing this section is provided in the accompanying Guidance Note.

G.1 Compliance with Council Directives

Provide details on a programme of improvements to ensure that emissions from the agglomeration or any premises, plant, methods, processes, operating procedures or other factors which affect such emissions will comply with, or will not result in the contravention of the;

- Dangerous Substances Directive 2006/11/EC,
- Water Framework Directive 2000/60/EC,
- Birds Directive 79/409/EEC,
- Groundwater Directives 80/68/EEC & 2006/118/EC,
- Drinking Water Directives 80/778/EEC,
- Urban Waste Water Treatment Directive 91/271/EEC,
- Habitats Directive 92/43/EEC,
- Environmental Liabilities Directive 2004/35/EC,
- Bathing Water Directive 76/160/EEC, and
- Shellfish Waters Directive (2006/113/EC).

No Programme of Improvements has been prioritised for the development. The treatment works has been designed to comply with the above Directives.

Attachment G.1 should contain the most recent programme of improvements, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

Attachment included	Yes	No
		✓

G.2 Compliance with the European Communities Environmental Objectives (Surface Waters) Regulations 2009

Provide details on a programme of improvements, including any water quality management plans or catchment management plans in place, to ensure that improvements of water quality required under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 are being achieved. Provide details of any specific measures adopted for waste water works specified in Phosphorus Measures Implementation reports and the progress to date of those measures. Provide details highlighting any waste water works that have been previously identified as the principal sources of pollution under the Phosphorous Regulations (S.I. No. 258 of 1998).

Water Quality Management Plans or Catchment Management Plans

The summary leaflet for Draft River Basin Management Plan for the North Western International River Basin District summary leaflet is contained in **Attachment G2**.

Phosphorus Removal

There is a facility and equipment in place on site at Annyalla WWTP for dosing with Ferric Chloride in the future if required. Dosing would be into the aeration tanks to facilitate the precipitation of phosphorous. This would be controlled with a pulse signal from the flow measurement device. A bunded bulk storage tank for Ferric chloride is on site with an integrated pump/panel compartment.

The Council Phosphate Implementation Report 2006 is contained in **Attachment G2**.

Attachment G.2 should contain the most recent programme of improvements and any associated documentation requested under Section G.3 of the application.

Attachment included	Yes	No
	√	

G.3 Impact Mitigation

Provide details on a programme of improvements to ensure that discharges from the agglomeration will not result in significant environmental pollution.

No Programme of Improvements has been prioritised for the development.

Attachment G.3 should contain the most recent programme of improvements, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

Attachment included	Yes	No
		√

G.4 Storm Water Overflows

Provide details on a programme of improvements to ensure that discharges other than the primary and secondary discharges comply with the definition of 'storm water overflow' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

Not Applicable.

Attachment G.4 should contain the most recent programme of improvements, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

Attachment included	Yes	No
		√

SECTION H: DECLARATION

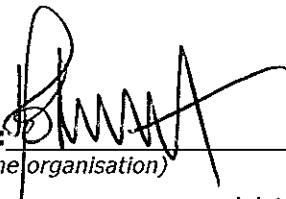
Declaration

I hereby make application for a waste water discharge Certificate of Authorisation/revised Certificate of Authorisation, pursuant to the provisions of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website.

This consent relates to this application itself and to any further information or submission, whether provided by me as Applicant, any person acting on the Applicant's behalf, or any other person.

Signed by:  _____ **Date:** 28/6/12
(on behalf of the organisation)

Print signature name: MARK HINSTON

Position in organisation: S.E.E

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WWD Licence Application

Agglomeration details

Leading Local Authority	Monaghan County Council
Co-Applicants	
Agglomeration	Annyalla Waste Water Treatment Works
Population Equivalent	600
Level of Treatment	Secondary
Treatment plant address	Mullaghduff (Cremorne By)Annyalla, Co. Monaghan
Grid Ref (12 digits, 6E, 6N)	279829 / 323801
EPA Reference No:	D0465-01

Contact details

Contact Name:	Mr Mark Johnston
Contact Address:	Water Services County Offices The Glen Monaghan
Contact Number:	047 30500
Contact Fax:	047 82739
Contact Email:	mjohnston@monaghancoco.ie

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Table D.1(i)(a): EMISSIONS TO SURFACE/GROUND WATERS (Primary Discharge Point)

Discharge Point Code: SW-1

Local Authority Ref No:	
Source of Emission:	Annyalla Waste Water Treatment Works
Location:	Mullaghduff (Cremorne By), Annyalla, Co. Monaghan
Grid Ref (12 digits, 6E, 6N)	279846 / 323758
Name of Receiving waters:	Carrickaslane Lough Stream
Water Body:	River Water Body
River Basin District	Neagh Bann IRBD
Designation of Receiving Waters:	Not Designated
Flow Rate in Receiving Waters:	0 m ³ .sec ⁻¹ Dry Weather Flow 0 m ³ .sec ⁻¹ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	Annyalla WWTP was officially taken over by M.C.C. from a developer in May 2009. Remedial works were carried out during 2010/2011, hence some elevated effluent results in 2011. The last result in 2011 is compliant with the UWWT Reg's 2001.

Emission Details:

(i) Volume emitted			
Normal/day	36 m ³	Maximum/day	108 m ³
Maximum rate/hour	4.5 m ³	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.001 m ³ /sec		

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Table D.1(i)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
pH	pH	Hourly Composite	= 7.4	
Temperature	°C	Hourly Composite	= 11.2	
Electrical Conductivity (@ 25°C)	µS/cm	Hourly Composite	= 632	
Suspended Solids	mg/l	Hourly Composite	= 402	43.41
Ammonia (as N)	mg/l	Hourly Composite	= 21.59	2.33
Biochemical Oxygen Demand	mg/l	Hourly Composite	= 81	8.748
Chemical Oxygen Demand	mg/l	Hourly Composite	= 193	20.844
Total Nitrogen (as N)	mg/l	Hourly Composite	= 70.55	7.6194
Nitrite (as N)	mg/l	Hourly Composite	= 0.006	0.000648
Nitrate (as N)	mg/l	Hourly Composite	< 0.09	0
Total Phosphorous (as P)	mg/l	Hourly Composite	= 8.45	0.9126
OrthoPhosphate (as P)	mg/l	Hourly Composite	= 1.743	0.188244
Sulphate (SO ₄)	mg/l	24 hr composite	= 69.56	7.51248
Phenols (Sum)	µg/l	24 hr composite	< 0.1	0

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
 For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

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Table D.1(i)(c): DANGEROUS SUBSTANCE EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
Atrazine	µg/l	24 hr flow proportional	< 0.01	0
Dichloromethane	µg/l	24 hr flow proportional	< 1	0
Simazine	µg/l	24 hr flow proportional	< 0.01	0
Toluene	µg/l	24 hr flow proportional	= 0.559	0.022036
Tributyltin	µg/l	24 hr flow proportional	< 0.02	0
Xylenes	µg/l	24 hr flow proportional	< 1	0
Arsenic	µg/l	24 hr flow proportional	= 1.4	0.055188
Chromium	µg/l	24 hr flow proportional	< 0.93	0
Copper	µg/l	24 hr flow proportional	= 2	0.07884
Cyanide	µg/l	24 hr flow proportional	< 5	0
Flouride	µg/l	24 hr flow proportional	= 350	13.797
Lead	µg/l	24 hr flow proportional	= 0.9	0.035478
Nickel	µg/l	24 hr flow proportional	= 6.7	0.264114
Zinc	µg/l	24 hr flow proportional	= 7.4	0.291708
Boron	µg/l	24 hr flow proportional	< 4.2	0
Cadmium	µg/l	24 hr flow proportional	= 1	0.03942
Mercury	µg/l	24 hr flow proportional	< 0.2	0
Selenium	µg/l	24 hr flow proportional	= 3	0.11826
Barium	µg/l	24 hr flow proportional	= 6.5	0.25623

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper

For Phenols: USEPA Method 804, AWWA Standard Method 6240, or equivalent.

TABLE E.1(i): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Primary and Secondary Discharge Points

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m ³ /annum)
SW-1	365	13140

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TABLE E.1(ii): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Storm Water Overflows

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m ³ /annum)	Complies with Definition of Storm Water Overflow
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TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	279894 / 323741

Parameter	Results (mg/l)			Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09	25/11/11				
pH	= 7.3			Grab	0.01	Method 4500-H+/Electrometry
Temperature	= 11.3			Grab	0	0
Electrical Conductivity (@ 25°C)	= 371			Grab	0.5	Method 2510 B/Electrometry
Suspended Solids		= 56		Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)		< 1.29		Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand		< 4		Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand		= 28		Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen	= 0			Grab	0	DO Meter
Hardness (as CaCO ₃)	= 0			Grab	0	0
Total Nitrogen (as N)		< 7		Grab	1	Calculation
Nitrite (as N)	= 0.1			Grab	0.003	Method 4500-NO ₂ -B/Colorimetry
Nitrate (as N)	= 0.62			Grab	0.09	Method 4500-NO ₃ -H/Colorimetry
Total Phosphorous (as P)		< 1		Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)		< 2		Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO ₄)	= 52.42			Grab	1.39	Method 4500-SO ₄ -E/Colorimetry
Phenols (Sum)	< 0.1			Grab	0.1	EPA Method 525 GCMS

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For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
 For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	Results for parameters BOD, COD, TSS, Total P & Total N are for 25/11/11. Dangerous substance results are from 2009.
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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	279894 / 323741

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09						
Atrazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Dichloromethane	< 1				Grab	1	USEPA Method 524 GCMS
Simazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Toluene	= 13.12				Grab	0.28	USEPA Method 524.2 GCMS
Tributyltin	< 0.02				Grab	0.02	Subcontracted Test GCMS
Xylenes	< 1				Grab	1	USEPA Method 524.2 GCMS
Arsenic	< 0.96				Grab	0.96	USEPA Method 3125B ICPMS
Chromium	< 0.93				Grab	0.93	USEPA Method 3125B ICPMS
Copper	= 2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 140				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 2.2				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 8.8				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 15.5				Grab	4.6	USEPA Method 3125B ICPMS
Boron	< 4.2				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 2				Grab	0.74	USEPA Method 3125B ICPMS

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Barium	= 18.7				Grab	0.74	USEPA Method 3125B ICPMS
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Additional Comments:

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TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	279798 / 323770

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09	25/11/11					
pH	= 7.4				Grab	0.01	Method 4500-H+/Electrometry
Temperature	= 11.2				Grab	0	0
Electrical Conductivity (@ 25°C)	= 331				Grab	0.5	Method 2510 B/Electrometry
Suspended Solids		= 11			Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)		< 1.29			Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand		< 4			Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand		= 34			Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen	= 0				Grab	0	DO Meter
Hardness (as CaCO ₃)	= 0				Grab	0	0
Total Nitrogen (as N)		< 7			Grab	1	Calculation
Nitrite (as N)	= 0.01				Grab	0.003	Method 4500-NO ₂ -B/Colorimetry
Nitrate (as N)	= 0.9				Grab	0.09	Method 4500-NO ₃ -H/Colorimetry
Total Phosphorous (as P)		< 1			Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)		< 2			Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO ₄)	= 47.27				Grab	1.39	Method 4500-SO ₄ -E/Colorimetry
Phenols (Sum)	< 0.1				Grab	0.1	EPA Method 525 GCMS

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper

For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	Results for parameters BOD, COD, TSS, Ammonia, Total P & Total N are for 25/11/11. Dangerous substance results are from 2009.
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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	279798 / 323770

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09						
Atrazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Dichloromethane	< 1				Grab	1	USEPA Method 524 GCMS
Simazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Toluene	< 0.28				Grab	0.28	USEPA Method 524.2 GCMS
Tributyltin	< 0.02				Grab	0.02	Subcontracted Test GCMS
Xylenes	< 1				Grab	1	USEPA Method 524.2 GCMS
Arsenic	< 0.96				Grab	0.96	USEPA Method 3125B ICPMS
Chromium	< 0.93				Grab	0.93	USEPA Method 3125B ICPMS
Copper	= 4				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 110				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 3.1				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 10.2				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 33.8				Grab	4.6	USEPA Method 3125B ICPMS
Boron	= 184				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 2				Grab	0.74	USEPA Method 3125B ICPMS

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Barium	= 18.9				Grab	0.74	USEPA Method 3125B ICPMS
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Additional Comments:

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Annex 2: Check List For Regulation 16 Compliance

Regulation 16 of the waste water discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007) sets out the information which must, in all cases, accompany a discharge licence application. In order to ensure that the application fully complies with the legal requirements of regulation 16 of the 2007 Regulations, all applicants should complete the following.

In each case, refer to the attachment number(s), of your application which contains(s) the information requested in the appropriate sub-article.

Regulation 16(1) In the case of an application for a waste water discharge licence, the application shall -		Attachment Number	Checked by Applicant
(a)	give the name, address, telefax number (if any) and telephone number of the applicant (and, if different, of the operator of any treatment plant concerned) and the address to which correspondence relating to the application should be sent and, if the operator is a body corporate, the address of its registered office or principal office,		No
(b)	give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant,		No
(c)	give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the location of the waste water treatment plant and/or the waste water discharge point or points to which the application relates,		No
(d)	state the population equivalent of the agglomeration to which the application relates,		No
(e)	specify the content and extent of the waste water discharge, the level of treatment provided, if any, and the flow and type of discharge,		No
(f)	give details of the receiving water body, including its protected area status, if any, and details of any sensitive areas or protected areas or both in the vicinity of the discharge point or points likely to be affected by the discharge concerned, and for discharges to ground provide details of groundwater protection schemes in place for the receiving water body and all associated hydrogeological and geological assessments related to the receiving water environment in the vicinity of the discharge.		No
(g)	identify monitoring and sampling points and indicate proposed arrangements for the monitoring of discharges and, if Regulation 17 does not apply, provide details of the likely environmental consequences of any such discharges,		No
(h)	In the case of an existing waste water treatment plant, specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application,		No
(i)	describe the existing or proposed measures, including emergency procedures, to prevent unintended waste water discharges and to minimise the impact on the environment of any such discharges,		No
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,		No
(k)	give details, and an assessment of the effects, of any existing or proposed emissions on the environment, including any environmental medium other than those into which the emissions are, or are to be made, and of proposed measures to prevent or eliminate or, where that is not practicable, to limit any pollution caused in such discharges,		No
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,		No
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.		No
(n)	Any other information as may be stipulated by the Agency.		No
Regulation 16(3) Without prejudice to Regulation 16 (1) and (2), an application for a licence shall be accompanied by -		Attachment Number	Checked by Applicant
(a)	a copy of the notice of intention to make an application given pursuant to Regulation 9,		No
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,		No
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -		No
(c) (i)	the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and		No
(c) (ii)	the point or points at which monitoring and sampling are undertaken or are to be undertaken,		No
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.		No

WWD Licence Application Annex II

Regulation 16(4) An original application shall be accompanied by 2 copies of it and of all accompanying documents and particulars as required under Regulation 16(3) in hardcopy or in an electronic or other format as specified by the Agency.		Attachment Number	Checked by Applicant
1	An Original Application shall be accompanied by 2 copies of it and of all accompanying documents and particulars as required under regulation 16(3) in hardcopy or in electronic or other format as specified by the agency.		No
Regulation 16(5) For the purpose of paragraph (4), all or part of the 2 copies of the said application and associated documents and particulars may, with the agreement of the Agency, be submitted in an electronic or other format specified by the Agency.		Attachment Number	Checked by Applicant
1	Signed original.		No
2	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.		No
3	1 CD of geo-referenced digital files provided.		No
Regulation 17 Where a treatment plant associated with the relevant waste water works is or has been subject to the European Communities (Environmental Impact Assessment) Regulations 1989 to 2001, in addition to compliance with the requirements of Regulation 16, an application in respect of the relevant discharge shall be accompanied by a copy of an environmental impact statement and approval in accordance with the Act of 2000 in respect of the said development and may be submitted in an electronic or other format specified by the Agency		Attachment Number	Checked by Applicant
1	EIA provided if applicable		No
2	2 hardcopies of EIS provided if applicable.		No
3	2 CD versions of EIS, as PDF files, provided.		No
Regulation 24 In the case of an application for a waste water discharge certificate of authorisation, the application shall --		Attachment Number	Checked by Applicant
(a)	give the name, address, telefax number (if any) and telephone number of the applicant and the address to which correspondence relating to the application should be sent and, if the operator of the waste water works is a body corporate, the address of its registered office or principal office	Section B1 of the application	Yes
(b)	give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant,	Not applicable	Yes
(c)	give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the location of the discharge point or points to which the application relates,	Section B2 of the application	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	Section A of the application	Yes
(e)	in the case of an application for the review of a certificate, specify the reference number given to the relevant certificate in the register,	Not applicable	Yes
(f)	specify the content and extent of the waste water discharge, the level of treatment provided and the flow and type of discharge,	Section C1 of the application	Yes
(g)	give details of the receiving water body, its protected area status, if any, and details of any sensitive areas or protected areas, or both, in the vicinity of the discharge point or points or likely to be affected by the discharge concerned,	Section F of the application	Yes
(h)	identify monitoring and sampling points and indicate proposed arrangements for the monitoring of discharges and of the likely environmental consequences of any such discharges,	Section E of the application	Yes
(i)	in the case of an existing discharge, specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application,	Attachment E4	Yes
(j)	describe the existing or proposed measures, including emergency procedures, to prevent unauthorised or unexpected waste water discharges and to minimise the impact on the environment of any such discharges,	Section G of the application	Yes
(k)	give particulars of the location of the nearest downstream drinking water abstraction point or points to the discharge point or points associated with the waste water works,	Not applicable	Yes
(l)	give details of any designation under any Council Directive or Regulations that apply in relation to the receiving waters,	Section G of the application and attachment G	Yes
(m)	give details of compliance with any applicable monitoring requirements and treatment standards,	Section E of the application and Attachment E4	Yes
(n)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work,	Not applicable	Yes
(o)	give any other information as may be stipulated by the Agency, and	Not applicable	Yes
(p)	be accompanied by such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	Section B8(iii) of the application and cover letter	Yes

ATTACHMENT B1

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ATTACHMENT B2

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ATTACHMENT B3

*For inspection purposes only.
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ATTACHMENT C1

*For inspection purposes only.
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ATTACHMENT D1

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Table D.1(i)(a): EMISSIONS TO SURFACE/GROUND WATERS (Primary Discharge Point)

Discharge Point Code: SW-1

Local Authority Ref No:	
Source of Emission:	Annyalla Waste Water Treatment Works
Location:	Mullaghduff (Cremorne By), Annyalla, Co. Monaghan
Grid Ref (12 digits, 6E, 6N)	279846 / 323758
Name of Receiving waters:	Carrickaslane Lough Stream
Water Body:	River Water Body
River Basin District	Neagh Bann IRBD
Designation of Receiving Waters:	Not Designated
Flow Rate in Receiving Waters:	0 m ³ .sec ⁻¹ Dry Weather Flow 0 m ³ .sec ⁻¹ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	Annyalla WWTP was officially taken over by M.C.C. from a developer in May 2009. Remedial works were carried out during 2010/2011, hence some elevated effluent results in 2011. The last result in 2011 is compliant with the UWWT Reg's 2001.

Emission Details:

(i) Volume emitted			
Normal/day	36 m ³	Maximum/day	108 m ³
Maximum rate/hour	4.5 m ³	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.001 m ³ /sec		

Table D.1(i)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
pH	pH	Hourly Composite	= 7.4	
Temperature	°C	Hourly Composite	= 11.2	
Electrical Conductivity (@ 25°C)	µS/cm	Hourly Composite	= 632	
Suspended Solids	mg/l	Hourly Composite	= 402	43.41
Ammonia (as N)	mg/l	Hourly Composite	= 21.59	2.33
Biochemical Oxygen Demand	mg/l	Hourly Composite	= 81	8.748
Chemical Oxygen Demand	mg/l	Hourly Composite	= 193	20.844
Total Nitrogen (as N)	mg/l	Hourly Composite	= 70.55	7.6194
Nitrite (as N)	mg/l	Hourly Composite	= 0.006	0.000648
Nitrate (as N)	mg/l	Hourly Composite	< 0.09	0
Total Phosphorous (as P)	mg/l	Hourly Composite	= 8.45	0.9126
OrthoPhosphate (as P)	mg/l	Hourly Composite	= 1.743	0.188244
Sulphate (SO ₄)	mg/l	24 hr composite	= 69.56	7.51248
Phenols (Sum)	µg/l	24 hr composite	< 0.1	0

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
 For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

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Table D.1(i)(c): DANGEROUS SUBSTANCE EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			kg/day
	Unit of Measurement	Sampling Method	Max Dally Avg.	
Atrazine	µg/l	24 hr flow proportional	< 0.01	0
Dichloromethane	µg/l	24 hr flow proportional	< 1	0
Simazine	µg/l	24 hr flow proportional	< 0.01	0
Toluene	µg/l	24 hr flow proportional	= 0.559	0.022036
Tributyltin	µg/l	24 hr flow proportional	< 0.02	0
Xylenes	µg/l	24 hr flow proportional	< 1	0
Arsenic	µg/l	24 hr flow proportional	= 1.4	0.055188
Chromium	µg/l	24 hr flow proportional	< 0.93	0
Copper	µg/l	24 hr flow proportional	= 2	0.07884
Cyanide	µg/l	24 hr flow proportional	< 5	0
Flouride	µg/l	24 hr flow proportional	= 350	13.797
Lead	µg/l	24 hr flow proportional	= 0.9	0.035478
Nickel	µg/l	24 hr flow proportional	= 6.7	0.264114
Zinc	µg/l	24 hr flow proportional	= 7.4	0.291708
Boron	µg/l	24 hr flow proportional	< 4.2	0
Cadmium	µg/l	24 hr flow proportional	= 1	0.03942
Mercury	µg/l	24 hr flow proportional	< 0.2	0
Selenium	µg/l	24 hr flow proportional	= 3	0.11826
Barium	µg/l	24 hr flow proportional	= 6.5	0.25623

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
 For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

TABLE D.1 (iv)
Influent Monitoring Data

Location	Influent	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	Ortho P mg/l P	Total N mg/l N	Ammonia NH4
Annyalla	Influent	16/02/11	C	270.0	749	558	39.10		<0.12	4.37
Annyalla	Influent	09/06/2011	C	107.0	403	135	2.82		23.31	14.59
Annyalla	Influent	14/07/11	C	681.0	889	38	3.03		40.28	25.25
Annyalla	Influent	25/11/11	C	133.0	322	74	2.34	<2	14.73	14.96

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Table D.2:

PT_CD	PT_TYPE	LA_NAME	RWB_TYP E	RWB_NAME	DESIGNATION	EASTING	NORTHING
SW1(P)	Primary	Monaghan Co. Co.	River	Carrickaslane Lough Stream (Tributary of Fane River)	Not Designated	279846E	323758N

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ATTACHMENT E1

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TABLE E.1(i): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Primary and Secondary Discharge Points

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m ³ /annum)
SW-1	365	13140

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Irish National Accreditation Board

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ACCREDITATION CERTIFICATE

Euro Environmental Services

Unit 35, Boyne Business Park, Drogheda, Co Louth

Testing Laboratory

Registration Number

119T

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard
ISO/IEC 17025:2005 2nd Edition

“General Requirements for the Competence of Testing and Calibration Laboratories”
(This Certificate must only be read in conjunction with the Annexed Schedule of Accreditation)

Date of award of Accreditation: 16:08:2002

Date of last renewal of Accreditation: 14:09:2007

Expiry Date of this certificate of Accreditation: 14:09:2012

This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: Tom Dempsey
Mr Tom Dempsey

Chairperson: Máire Walsh
Dr Máire Walsh

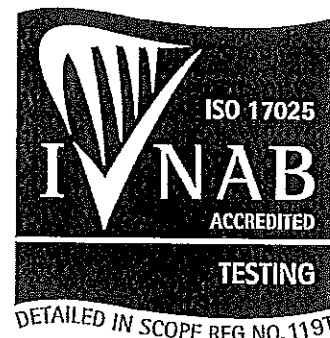
Issued on 14 September 2007

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate please contact the Irish National Accreditation Board.

The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

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Permanent Laboratory:
Category A

Schedule of Accreditation

EURO environmental services

Chemical Testing Laboratory

Initial Accreditation Date: 09-10-2000

Postal Address: Unit 35
Boyne Business Park
Drogheda
Co Louth

Telephone: + 353 41 984 5440

Fax: + 353 41 984 6171

Email: info@euroenv.ie

Web: www.euroenv.ie

Contact: Natalie O'Brien

Facilities: Public Testing Facility

Wilton Park House
Wilton Place
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<http://www.inab.ie>



Permanent Laboratory:
Category A

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish organisation for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation undertaking testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

GLOSSARY OF TERMS

Facilities:

Public calibration/testing service: Commercial operations which actively seek work from others.

Conditionally available for public calibration/testing: Established for another primary purpose but, more commonly than not, is available for outside work.

Normally not available for public calibration/testing: Unavailable for public calibration/testing more often than not.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report. Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will on request verify the status and scope.

Testing and Calibration Categories:

Category A: Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.

Category B: Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.

Category C: Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.

Category D: Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using

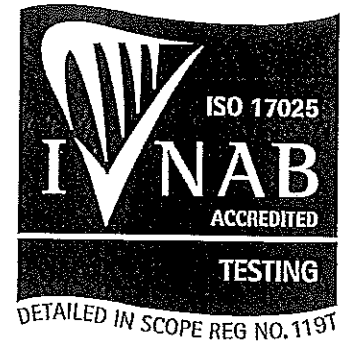
- (a) portable test equipment
- (b) a site laboratory
- (c) a mobile laboratory or
- (d) equipment from a mobile or site laboratory

Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

EURO environmental services

Chemical Testing Laboratory



Permanent Laboratory:
Category A

SCOPE OF ACCREDITATION

INAB Classification number	Type of test/properties measured	Standard specifications
Materials/products tested	Range of measurement	Equipment/techniques used
766 Waters		Documented in-house methods based on
.01 Waters for potable and domestic purposes	PH(4-13) pH units	Standard Methods for the examination of Water and Wastewater, 20 th Edition Method 4500-H ⁺ B – SOP 110
05 Trade Wastes <i>Industrial Waters</i>	Conductivity (5 μ s – 100,000 μ s cm^{-1})	Standard Methods for the examination of Water and wastewater, 20 th Edition Method 2510B – SOP 112
	BOD (2-6mg/L)	Standard Methods for the examination of Water and wastewater, 20 th Edition Method 5210B – SOP 113
	COD (5-60,000 mg/L)	Standard Methods for the examination of water and wastewater, 20 th Edition Method 5220D – SOP 107
766 Waters		
.01 Waters for potable and domestic purposes	Chloride (20 – 10,000mg/L)	Standard Methods for the examination of water and wastewater, 20 th Edition Method 4500 – C-E – SOP 100
.04 Sewage		
.05 Trade Wastes <i>Industrial Waters</i>	Ammonia (0.2 – 1000 mg/L as N)	Standard Methods for the examination of water and wastewater, 20 th Edition Method 4500 NH ₃ F – SOP 114
.99 Other Waters <i>Surface Waters</i> <i>Groundwaters</i>	Total Oxidised Nitrogen (TON) (1 – 8 mg/L as N)	Standard Methods for the examination of water and wastewater, 20 th Edition Method 4500 NO ₃ H – SOP 151

EURO environmental services

Chemical Testing Laboratory



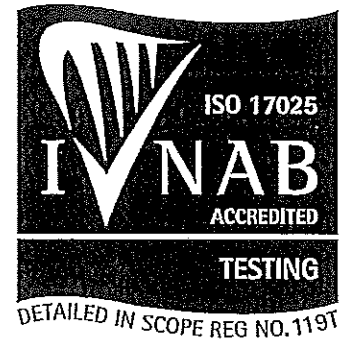
Permanent Laboratory:
Category A

SCOPE OF ACCREDITATION

INAB Classification number Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters .01 Waters for potable and domestic purposes .04 Sewage .05 Trade Wastes <i>Industrial Waters</i> .99 Other Waters <i>Surface Waters</i> <i>Groundwaters</i>	Orthophosphate (0.1 – 1000 mg/L as P) Sulphate (10 – 30 mg/L as SO ₄) Total Phosphate (0.1 – 0.5 mg/L as P) (0.5 – 4 mg/L as P) Na, Ca, K and Mg ICP-MS run (0.5 – 100 ppm) BTEX (Benzene, Toluene, Ethylbenzene and Xylenes): Benzene (5 – 100µg/L) Ethylbenzene (5 – 100µg/L) Toluene (5 – 100µg/L) o-xylene (5 – 100µg/L) m,p-xylene (10 – 200µg/L) THMs (Trihalomethanes): Chloroform Bromochloromethane Dibromochloromethane Bromoform (5 - 200µg/L)	Documented in-house methods based on Standard Methods for the examination of water and wastewater, 20 th Edition. Method 4500 – P E – SOP 117 Standard Methods for the examination of water and wastewater, 20 th Edition. Method 4500-S O ₄ E – SOP 119 Standard methods for the examination of water and wastewater, 20 th Edition. Method 4500-P B – SOP 166 Standard methods for the examination of water and wastewater, 20 th Edition. Method 3120 B – SOP 184 Based on USEPA methods, 524.2 SOP 179 Based on USEPA methods, 524.2 SOP 186

EURO environmental services

Chemical Testing Laboratory




Permanent Laboratory:
Category A

SCOPE OF ACCREDITATION

INAB Classification number Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters .01 Waters for potable and domestic purposes .05 Trade Wastes <i>Industrial Waters</i> .99 Other Waters <i>Surface Waters</i> <i>Groundwaters</i> .04 Sewage .05 Trade Wastes <i>Industrial Waters</i> .99 Other Waters <i>Surface Waters</i> <i>Groundwaters</i>	Hardness (Total) (100 – 400 mg/L CaCO ₃) Alkalinity (Total) (50 – 10,000 mg/L CaCO ₃) Colour (Apparent) (10 – 500ptCo Units) Turbidity (0.01 – 1100 NTU)	Standard Methods for the Examination of Water and Wastewater, 20 th Edition Method 2340 C SOP 111 Standard Methods for the Examination of Water and Wastewater, 20 th Edition Method 2320 B SOP 102 Standard Methods for the Examination Of Water and Wastewater, 20 th Edition Method 2120 B SOP 108 Standard Methods for the Examination Of Water and Wastewater, 20 th Edition Method 2130 A SOP 109

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 21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 Accredited to ISO/IEC 17025:2005	Euro Environmental Management Ltd (trading as Fitz Scientific) Issue No: 029 Issue date: 05 October 2011
Unit 35 Boyne Business Park Drogheda Co Louth Ireland	Contact: Mr G Fitzpatrick Tel: +00 353 41 984 5440 Fax: +00 353 41 941198 E-Mail: info@fitzsci.ie Website: www.fitzsci.ie

Testing performed by the Organisation at the locations specified below

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address Unit 35 Boyne Business Park Drogheda Co Louth Ireland	Local contact Damien O'Reilly Tel: +00 353 41 984 5440 Fax: +00 353 41 984 6171	Support Functions: Quality System Quality Audit Administration Sampling and Testing Environmental Analysis Stack Emissions Testing
		A

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Customer Sites requiring Stack Emissions Testing	Local contact Geoff Fitzpatrick Tel: +00 353 41 984 5440 Fax: +00 353 41 984 6171	Stack Emissions Testing
		B



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Issue No: 029 Issue date: 05 October 2011

Testing performed by the Organisation at the locations specified

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Filter papers and rinse solutions	<u>Physical Testing</u> Weighing of Particulate Matter	BS EN 13284-1:2002 (SOP 108)	A
SOILS	<u>Chemical Testing</u> Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Lead Manganese Nickel Selenium Silver Strontium Thallium Vanadium Zinc	SOP 224 using ICP-OES	A
	Available lime	SOP 304	A
	Available phosphorus	SOP 301 using Morgans P test and colorimetry (based on standard soil analysis for REPS, Dept of Agriculture, Nov 2004)	A
	Exchangeable magnesium and exchangeable potassium	SOP 303 using Morgans extractant and ICP-OES (based on standard soil analysis for REPS, Dept of Agriculture, Nov 2004)	A
	pH	SOP 300 using meter	A
	Organic matter (by loss on ignition at 500 °C)	SOP 333	A



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS	<u>Chemical Tests</u>		
Potable Water, surface water, groundwater, industrial effluent and sewage effluent	Elements: Antimony Arsenic Barium Beryllium Boron Cadmium Caesium Chromium Cobalt Copper Gallium Lead Lithium Manganese Nickel Rubidium Selenium Strontium Thallium Uranium Zinc	SOP 177 by ICP-MS	A
	Mercury	SOP 178 by ICP-MS	A
Potable water, surface water, groundwater and industrial effluent	Aluminium Iron Vanadium	SOP 177 by ICP-MS	A
Potable water only	Cobalt Silver Tin	SOP 177 by ICP-MS	A
	Total Organic Carbon (TOC)	SOP 316	A
Potable Water, surface water, groundwater, industrial effluent and sewage effluent	Alkalinity	SOP 102 by automated discrete analyser	A
	Ammonia	SOP 114 by automated discrete analyser	A
	Chloride	SOP 100 by automated discrete analyser	A

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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
Potable Water, surface water, groundwater, industrial effluent and sewage effluent (cont'd)	Colour	SOP 108 by automated discrete analyser	A
	Fluoride	SOP 115 by automated discrete analyser	A
	Nitrite	SOP 118 by automated discrete analyser	A
	Orthophosphate	SOP 117 by automated discrete analyser	A
	Silica	SOP 152 by automated discrete analyser	
	Total Oxidised Nitrogen (TON)	SOP 151 by automated discrete analyser	A
	Total Hardness	SOP 111 by automated discrete analyser	A
	Total phosphate	SOP 166 by automated discrete analyser	A
	Biochemical Oxygen Demand	SOP113	A
	pH	SOP 110	A
Potable waters, groundwater, surface water industrial and sewage effluents	Conductivity	SOP 112	A
	Turbidity	SOP 109	A
	Sulphate	SOP 119 by automated colorimetry	A
Industrial effluent, surface and groundwater	Elements: Calcium Magnesium Potassium Sodium	SOP 184 by ICP-MS	A
	Chemical Oxygen Demand	SOP 107	A
Surface Water and Groundwater	Nitrate	SOP 103 by automated colorimetry	A



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)		
Industrial Effluent	Suspended solids	SOP 106 by gravimetry	A
Industrial effluent, surface and groundwater	Volatile Organic Compounds: Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform <i>n</i> -Butylbenzene <i>sec</i> -Butylbenzene <i>tert</i> -Butylbenzene Carbon tetrachloride Chlorobenzene Chloroform 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromoethane Dibromomethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene <i>cis</i> -1,2-Dichloroethene <i>trans</i> -1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 1,1-Dichloropropene <i>cis</i> -1,3-Dichloropropene <i>trans</i> -1,3-Dichloropropene Ethylbenzene Hexachlorobutadiene Isopropylbenzene <i>p</i> -Isopropyltoluene Naphthalene <i>n</i> -Propylbenzene Styrene 1,1,1,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane	SOP 154 by headspace GC-MS	A



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Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)		
Industrial effluent, surface and groundwater (cont'd)	Volatile Organic Compounds: (cont'd) 1,1,2-Trichloroethane 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene <i>m/p</i> -Xylene <i>o</i> -Xylene	SOP 154 by headspace GC-MS (cont'd)	A
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES			
Impinger solutions (hydrogen peroxide)	Sulphate	In-house procedure based on BS EN 14791:2005 using ion chromatography (IC) (SOP EM 190)	A
Impinger solutions (water)	Chloride	In-house procedure based on BS EN 1911:2010 using ion chromatography (IC) (SOP EM 190)	A
Impinger solutions (sodium hydroxide)	Fluoride	In-house procedure based on BS ISO 15713:2006 using ion chromatography (IC) (SOP EM 190)	A
Testing of Stack emissions to Atmosphere	<u>Sampling and On-Line analysis</u>	National, International and other recognised standards using documented In-House work instructions to meet the requirements of DD CEN/TS 15675:2007/ BS EN 15259:2007	
	Carbon monoxide	ASTM D6348-03 (SOP 227- FTIR analyser)	B
	Nitric Oxide	ASTM D6348-03 (SOP 227 - FTIR analyser)	B



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack emissions to Atmosphere	<u>Sampling and On-Line analysis</u> (cont'd) Sulphur Dioxide	National, International and other recognised standards using documented In-House work instructions to meet the requirements of DD CEN/TS 15675:2007/ BS EN 15259:2007 ASTM D6348-03 (SOP 227 - FTIR analyser)	B
Testing of Stack emissions to Atmosphere	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory</u> Total Particulate Matter (0 to 50 mg/m ³) Total Particulate Matter (20 to 1000 mg/m ³) Hydrogen Chloride Hydrogen Fluoride Sulphur Dioxide Metals Mercury	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard and to meet the requirements of DD CEN/TS 15675:2007/ BS EN 15259:2007 BS EN 13284-1:2002 (SOP 101) BS ISO 9096:2003 (SOP 101) BS EN 1911:2010 (SOP 148) BS ISO 15713:2006 (SOP 129) BS EN 14791:2005 (SOP 167) BS EN 14385:2004 (SOP 113) BS EN 13211:2001 (SOP 152)	B B B B B B

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Issue No: 029 Issue date: 05 October 2011

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack emissions to Atmosphere (cont'd)	<u>Sampling with subsequent analysis by an ISO/IEC 17025 Accredited Laboratory (cont'd)</u>	National, European, International and Environment Agency specified standards including MID's and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard and to meet the requirements of DD CEM/TS 15675:2007/ BS EN 15259:2007 (cont'd)	
	Dioxins and Furans	BS EN 1948-1:2006 (SOP 147)	B
	Polycyclic Aromatic Hydrocarbons (PAHs)	BS ISO 11338-1:2003 (SOP 149)	B
	Speciated VOCs (carbon and other suitable tubes) (Dry Stacks only): Amines and Amides Phenols Cresols Carboxylic Acids Aldehydes	BS EN 13649:2002 (SOP 232)	B
	Formaldehyde (Dry stacks only)	BS EN 13649:2002 (SOP 232)	B
	<u>Sampling and On-Site analysis</u>		
	Water Vapour	BS EN 14790:2005 (SOP 122)	B
	<u>Sampling and On-Line analysis</u>		
	Pressure, temperature and velocity	BS EN 13284-1:2002 (SOP 101)	B
	Carbon Monoxide*	BS EN 15058:2006 (SOP 161 - NDIR analyser)	B
Oxygen*	BS EN 14789:2005 (SOP 161 and SOP 227 - Validated Zirconium cell analyser)	B	



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Issue No: 029 Issue date: 05 October 2011

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Testing of Stack emissions to Atmosphere (cont'd)	<u>Sampling and On-Line analysis</u> (cont'd)	National, European, International and Environment Agency specified standards including MIDs and Documented In-House work instructions to meet the requirements of the Environment Agency (MCERTS) Performance Standard and to meet the requirements of DD CEN/TS 15675:2007/ BS EN 15259:2007 (cont'd)	
	Nitrogen Monoxide (NO)*	BS EN 14792:2005 (SOP 161 - Chemiluminescence analyser)	B
	Nitrogen Dioxide (NO ₂)*	BS EN 14792:2005 (SOP 161 - Chemiluminescence analyser)	B
	Carbon Monoxide (CO)*	EA TGN M22 (SOP 227 - FTIR)	B
	Nitric Oxide (NO)*	EA TGN M22 (SOP 227 - FTIR)	B
	Sulphur Dioxide (SO ₂)*	EA TGN M22 (SOP 227 - FTIR)	B
	Total Gaseous Organic Carbon* (TOC/VOC) (20 - 500 mg/m ³)	BS EN 13526:2002 (SOP 156 - FID analyser)	B
Total Gaseous Organic Carbon* (TOC/VOC) (0 - 20 mg/m ³)	BS EN 12619:1999 (SOP 155 - FID analyser)	B	
* - The scale range of the analyser used for this test must be that detailed on its current MCERTS certificate or a range validated by the organisation to meet MCERTS requirements.			
END			

ATTACHMENT E3

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Attachment E3

PT_CD	PT_TYPE	MON_TYPE	Easting	Northing	Verified
SW1(P)s	Primary	S	279846	323758	N
aSW1(P)u	Primary	M	279798	323770	N
aSW1(P)d	Primary	M	279894	323741	N

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ATTACHMENT E4

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**TABLE 1 -ATTACHMENT E4
Annyalla Effluent**

Location	Influent Or Effluent	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	Ortho P mg/l P	Total N mg/l N	Ammonia NH4
Annyalla	Effluent	16/02/11	C	<2	21.00	5.00	0.38		0.89	2.15
Annyalla	Effluent	09/06/2011	C	81.00	193.00	64.00	3.58		23.64	13.87
Annyalla	Effluent	14/07/11	C	52.00	139.00	402.00	8.45		70.55	21.59
Annyalla	Effluent	25/11/11	C	<4	26.00	2.00	<1	<2	7.91	<1.29
Average				34.75	94.75	118.25	3.35		25.75	9.73

**TABLE 2 -ATTACHMENT E4
aSW1(P)u Upstream Monitoring Point**

Location	Upstream	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	Ortho P mg/l P	Total N mg/l N	Ammonia NH4
Annyalla	Upstream	16/02/11	G	<2	22	4	0.03		1.12	0.10
Annyalla	Upstream	09/06/2011	G	66.0	244	136	7.02		27.73	12.96
Annyalla	Upstream	14/07/11	G	6.0	30	108	1.22		<7	<1.29
Annyalla	Upstream	25/11/11	G	<4	34	11	<1	<2	<7	<1.29

**TABLE 3 -ATTACHMENT E4
aSW1(P)d Downstream Monitoring Point**

Location	Downstream	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	Ortho P mg/l P	Total N mg/l N	Ammonia NH4
Annyalla	Downstream	16/02/11	G	<2	27	6	0.26		1.26	0.21
Annyalla	Downstream	09/06/2011	G	70.0	219	72	5.39		25.09	13.51
Annyalla	Downstream	14/07/11	G	8.0	22	40	<1		<7	<1.29
Annyalla	Downstream	25/11/11	G	<4	28	56	<1	<2	<7	<1.29

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ATTACHMENT F1

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TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	279894 / 323741

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09	25/11/11					
pH	= 7.3				Grab	0.01	Method 4500-H+/Electrometry
Temperature	= 11.3				Grab	0	0
Electrical Conductivity (@ 25°C)	= 371				Grab	0.5	Method 2510 B/Electrometry
Suspended Solids		= 56			Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)		< 1.29			Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand		< 4			Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand		= 28			Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen	= 0				Grab	0	DO Meter
Hardness (as CaCO ₃)	= 0				Grab	0	0
Total Nitrogen (as N)		< 7			Grab	1	Calculation
Nitrite (as N)	= 0.1				Grab	0.003	Method 4500-NO ₂ -B/Colorimetry
Nitrate (as N)	= 0.62				Grab	0.09	Method 4500-NO ₃ -H/Colorimetry
Total Phosphorous (as P)		< 2			Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)		< 2			Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO ₄)	= 52.42				Grab	1.39	Method 4500-SO ₄ -E/Colorimetry
Phenols (Sum)	< 0.1				Grab	0.1	EPA Method 525 GCMS

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper

For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	Results for parameters BOD, COD, TSS, Total P & Total N are for 25/11/11. Dangerous substance results are from 2009.
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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	279894 / 323741

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09						
Atrazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Dichloromethane	< 1				Grab	1	USEPA Method 524 GCMS
Simazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Toluene	= 13.12				Grab	0.28	USEPA Method 524.2 GCMS
Tributyltin	< 0.02				Grab	0.02	Subcontracted Test GCMS
Xylenes	< 1				Grab	1	USEPA Method 524.2 GCMS
Arsenic	< 0.96				Grab	0.96	USEPA Method 3125B ICPMS
Chromium	< 0.93				Grab	0.93	USEPA Method 3125B ICPMS
Copper	= 2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 140				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 2.2				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 8.8				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 15.5				Grab	4.6	USEPA Method 3125B ICPMS
Boron	< 4.2				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 2				Grab	0.74	USEPA Method 3125B ICPMS

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Barium	= 18.7				Grab	0.74	USEPA Method 3125B ICPMS
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Additional Comments:

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TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	279798 / 323770

Parameter	Results (mg/l)			Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09	25/11/11				
pH	= 7.4			Grab	0.01	Method 4500-H+/Electrometry
Temperature	= 11.2			Grab	0	0
Electrical Conductivity (@ 25°C)	= 331			Grab	0.5	Method 2510 B/Electrometry
Suspended Solids		= 11		Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)		< 1.29		Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand		< 4		Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand		= 34		Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen	= 0			Grab	0	DO Meter
Hardness (as CaCO ₃)	= 0			Grab	0	0
Total Nitrogen (as N)		< 7		Grab	1	Calculation
Nitrite (as N)	= 0.01			Grab	0.003	Method 4500-NO ₂ -B/Colorimetry
Nitrate (as N)	= 0.9			Grab	0.09	Method 4500-NO ₃ -H/Colorimetry
Total Phosphorous (as P)		< 2		Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)		< 2		Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO ₄)	= 47.27			Grab	1.39	Method 4500-SO ₄ ²⁻ E/Colorimetry
Phenols (Sum)	< 0.1			Grab	0.1	EPA Method 525 GCMS

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For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper
For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

Additional Comments:	Results for parameters BOD, COD, TSS, Ammonia, Total P & Total N are for 25/11/11. Dangerous substance results are from 2009.
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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	279798 / 323770

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	09/04/09						
Atrazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Dichloromethane	< 1				Grab	1	USEPA Method 524 GCMS
Simazine	< 0.01				Grab	0.01	USEPA Method 610 HPLC
Toluene	< 0.28				Grab	0.28	USEPA Method 524.2 GCMS
Tributyltin	< 0.02				Grab	0.02	Subcontracted Test GCMS
Xylenes	< 1				Grab	1	USEPA Method 524.2 GCMS
Arsenic	< 0.96				Grab	0.96	USEPA Method 3125B ICPMS
Chromium	< 0.93				Grab	0.93	USEPA Method 3125B ICPMS
Copper	= 4				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 110				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 3.1				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 10.2				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 33.8				Grab	4.6	USEPA Method 3125B ICPMS
Boron	= 184				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 2				Grab	0.74	USEPA Method 3125B ICPMS

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Barium	= 18.9				Grab	0.74	USEPA Method 3125B ICPMS
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Additional Comments:	
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ATTACHMENT G2

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water matters

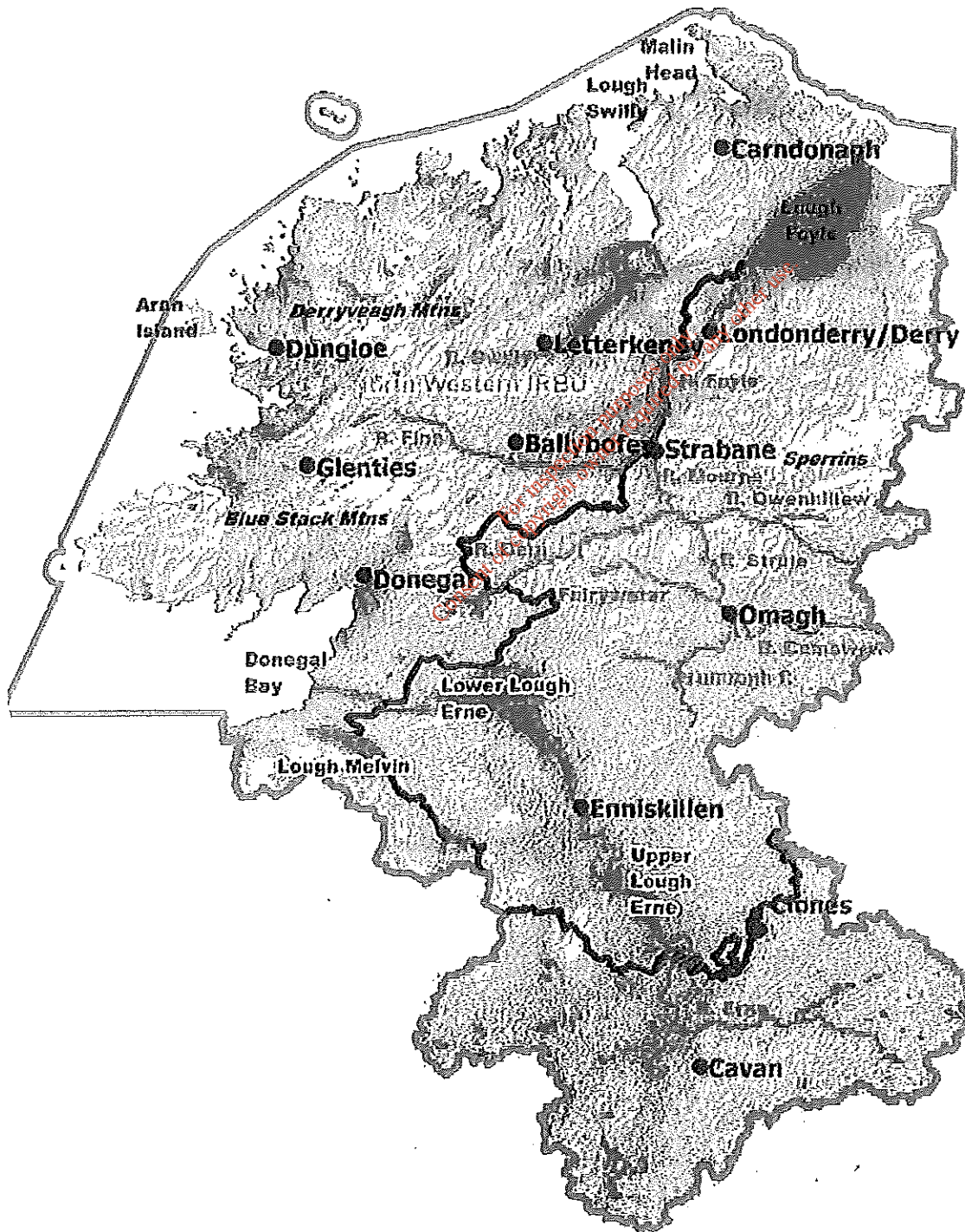
"Help us plan!"

north western
international
river basin district



North South Shared Aquatic Resource (NS-SHARE)

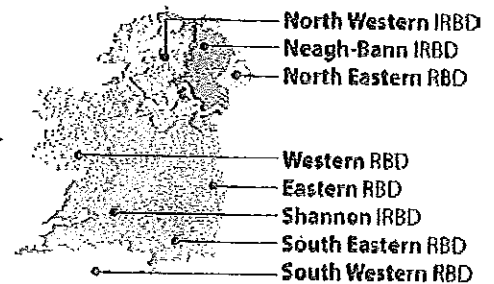
Summary Leaflet Draft River Basin Management Plan for the North Western International River Basin District December 2008



The Draft River Basin District Management Plan

The European Union Water Framework Directive was adopted in 2000. It requires governments to manage all of their waters: rivers, canals, lakes, reservoirs, groundwaters, wetlands, estuaries and coastal waters. Member States must ensure that their waters achieve at least good status by 2015 and that their status doesn't deteriorate.

The Directive requires the preparation of a management plan for all of the waters in an area called a River Basin District. Some 400 river basins on the island of Ireland have been grouped and assigned to a total of eight River Basin Districts; one of these lies wholly in Northern Ireland, four lie wholly in Ireland and three are International River Basin Districts, one of which is the North Western District.

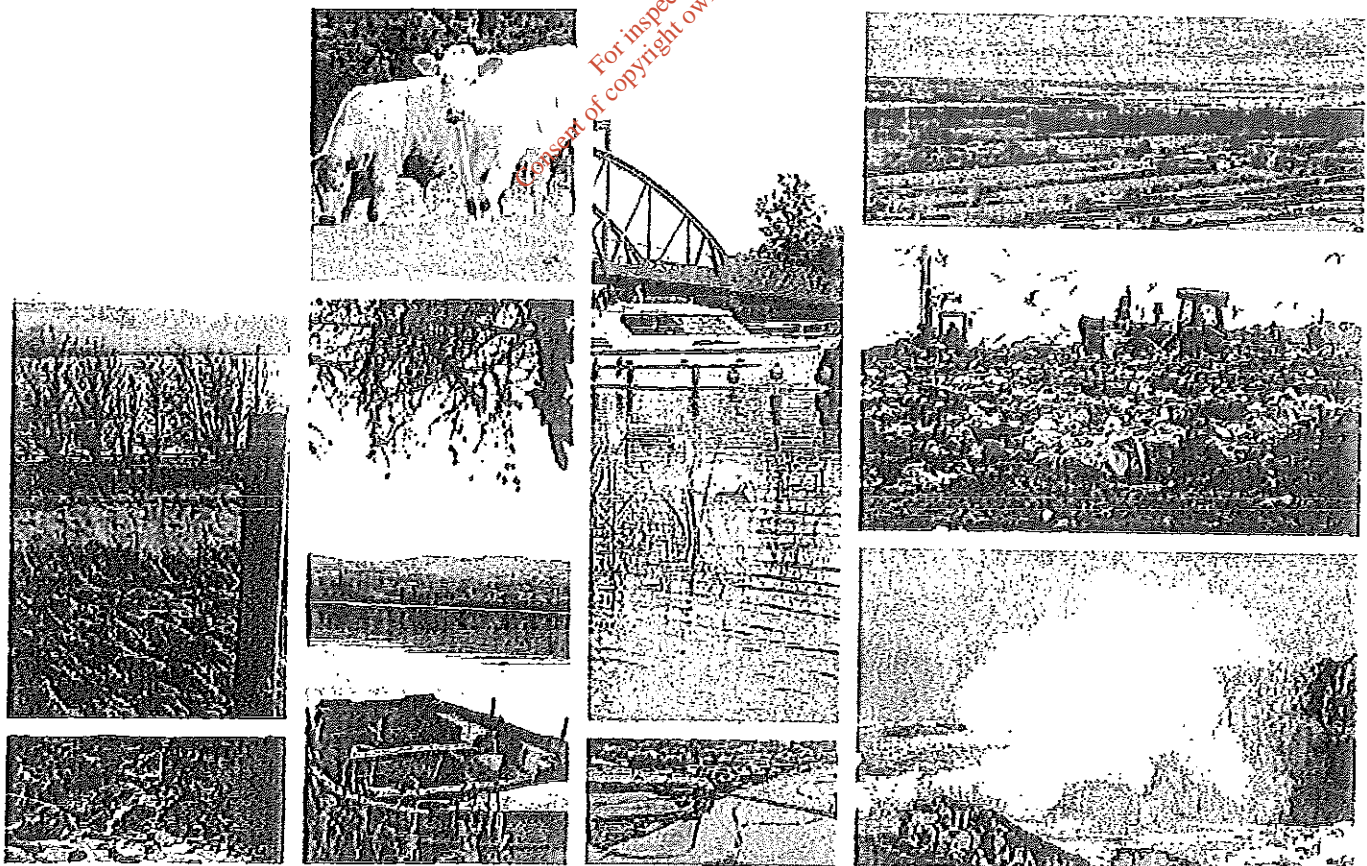


Since 2000, the District's local authorities and the Northern Ireland Environment Agency have been working on the Implementation of the Water Framework Directive. We have met all of the deadlines and our performance has been amongst the best in the European Union.

We have actively sought people's views at every stage of the implementation process. Management plans are considered by the District's Advisory Council (Ireland) and by the Catchment and National Stakeholder Groups (Northern Ireland). We produced a series of consultation documents and we discussed significant water management issues with interest groups, public authorities and local authorities at a series of public consultation events in 2007 and 2008.

The next stage is the production of a River Basin District Management Plan. It will cover the six-year period from 2009 until 2015; any remaining issues or new problems will be tackled in two further six-year plans, 2015–2021 and 2021–2027.

We have produced a draft of the plan and we are beginning a process of consultation to elicit views on the draft. In Ireland the final version of this plan must be adopted by all local authorities in the District, whilst in Northern Ireland the plan must be approved by the Environment Minister. The plan will come into effect at the end of 2009.



How the plan was developed

We followed a nine-step process in developing the plan. Our approach was structured: find out the issues, decide what action to take and make a plan.

What are our key water issues?	We investigated which water issues are causing problems, what actions we could take to solve them and where we should focus these actions.
What is the status of our waters?	Comprehensive monitoring established the condition of our waters; Identifying where they are satisfactory and where they must be improved.
What do we plan to achieve?	We identified sustainable objectives for our waters.
What measures must we take?	The Water Framework Directive stipulates mandatory measures. We identified actions under these measures, setting out existing and new plans and programmes to ensure full and effective implementation.
What will these mandatory measures achieve?	We assessed how effective these mandatory measures will be in meeting our objectives and have identified cases where extra effort may be needed to improve our waters.
What further measures can we take?	We identified supplementary measures for the cases where the mandatory measures alone would not be sufficient to achieve our objectives.
What will supplementary measures achieve?	We assessed whether the combination of measures would achieve our objectives and how long it would take.
What are our objectives in the North Western District?	We outline the objectives we plan to achieve and specify where extended timescales or lower objectives are necessary.
What is our action plan for the North Western District?	The outcome of this planning process is a tailored action plan for the North Western District. We have proposed a detailed suite of measures setting out what, where and when actions are needed and who will do them.

North Western District: current status

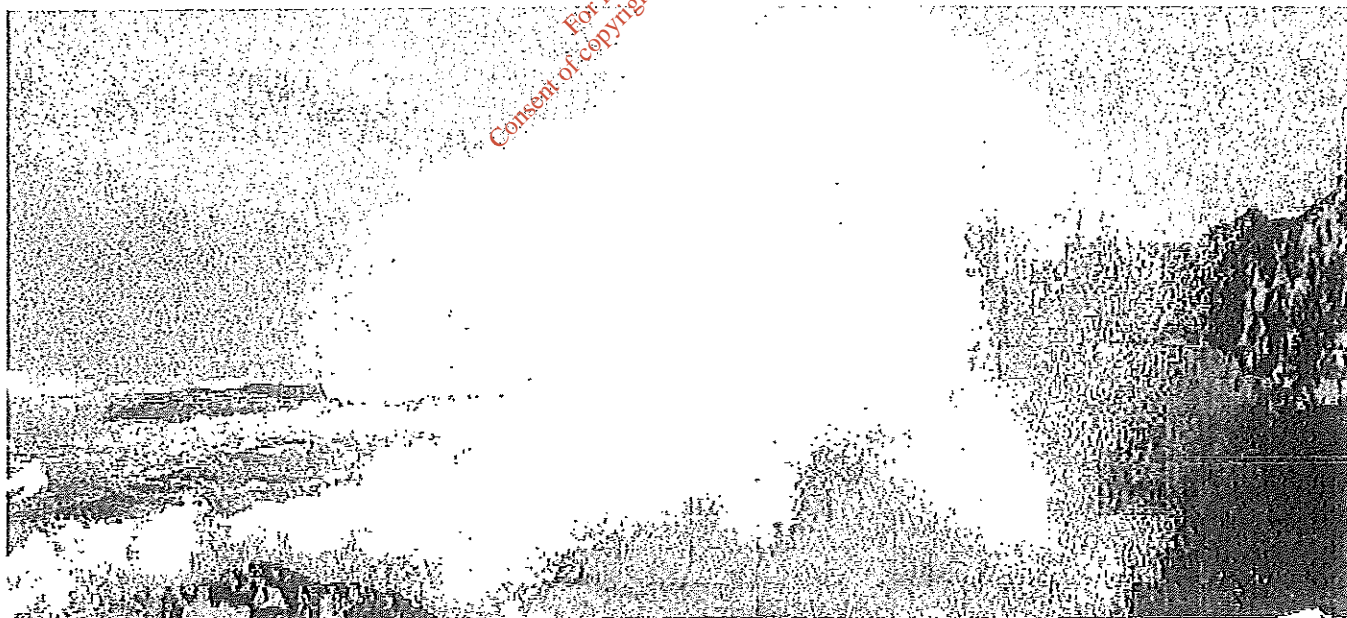
The status of our surface waters and groundwaters is summarised in these two tables. These tables include the whole international district's waters: those in Northern Ireland, those in Ireland and the shared waters (those water bodies which lie along the border).

Surface water status in the North Western District

Surface Water Category	High	Good	Moderate	Poor	Bad	Yet to be Determined
Rivers and canals (number)	(61)	(283)	(342)	(165)	(10)	(5)
% of total	7.0	32.7	39.5	19.1	1.2	0.6
Lakes and reservoirs (km ²)	(9.5)	(28.8)	(227.4)	(13.5)	(3.1)	(0)
% of total	3.4	10.2	80.6	4.9	1.1	0
Estuaries (km ²)	(11.5)	(0)		(120.5)		(0.2)
% of total	8.7	0		91.2		0.1
Coastal (km ²)	(239.0)	(0)		(212.5)		(1,778.5)
% of total	10.7	0		9.5		79.8

Groundwater status in the North Western District

Groundwater	Good	Poor
Chemical Status (km ²)	(12,077)	(0)
% of total	100	0
Quantitative Status (km ²)	(12,077)	(0)
% of total	100	0
Combined Status (km ²)	(12,077)	(0)
% of total	100	0



Protected Areas

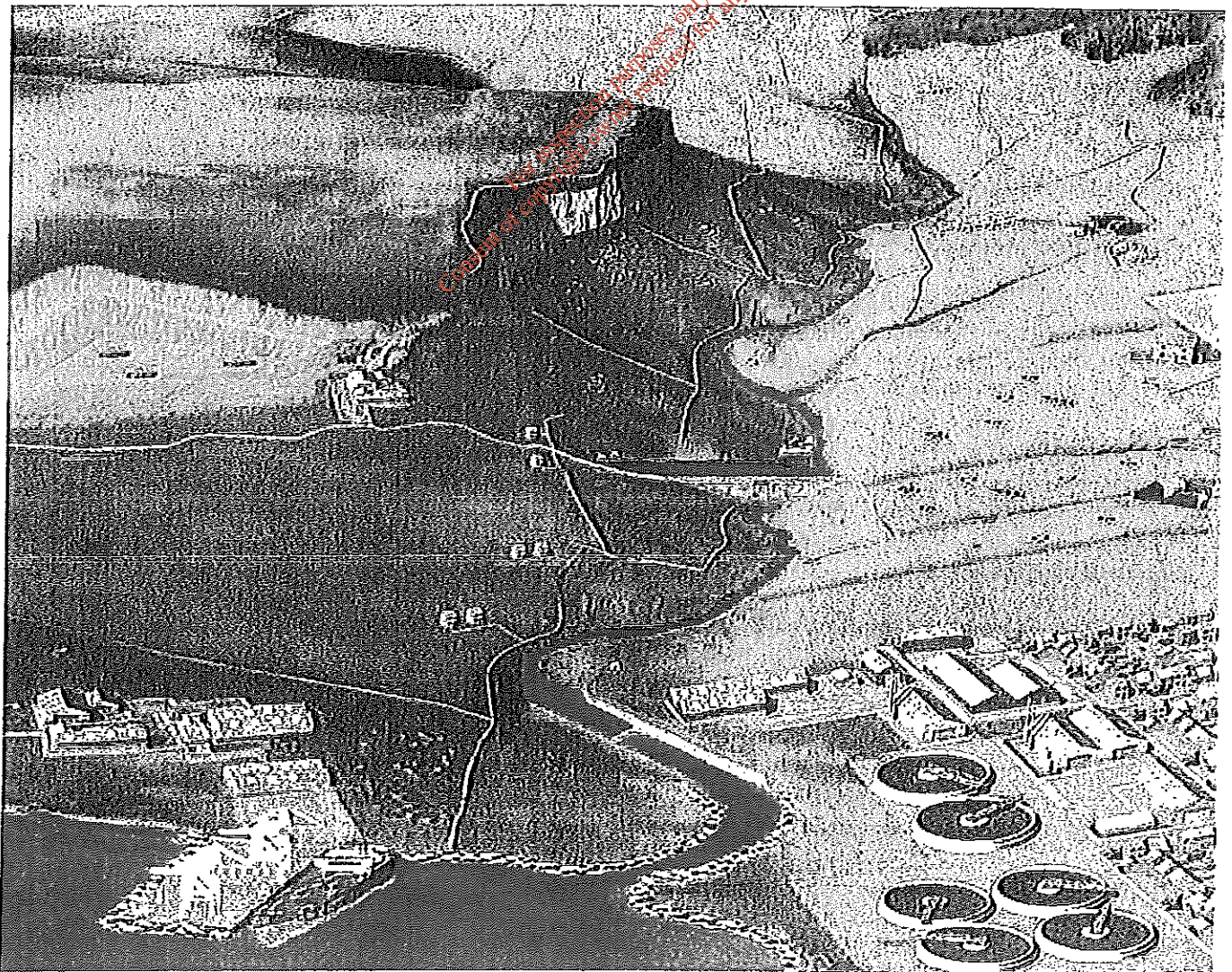
There are 186 protected areas amongst the shared waters of the North Western International River Basin District. In the whole District there are 477 protected areas. These include drinking water sources such as Gartan Lough and Lower Lough Erne, shellfish waters such as Mulroy Bay and parts of Lough Foyle, bathing waters such as Murvagh and Benone beaches, nutrient sensitive areas such as Killybegs Harbour and Upper Lough Erne and Special Areas of Conservation and Special Protection Areas such As Lough Melvin and River Foyle and Tributaries.

Pressures

The main pressures on our waters come from:

- wastewater and industrial discharges
- landfills, quarries, mines and contaminated land
- agriculture
- wastewater from unsewered properties
- forestry
- usage and discharge of dangerous substances
- physical modifications
- abstractions
- local and future issues. In the North Western District, they include climate change, aquaculture, invasive alien species, and cruising and boating as well as the need to protect high quality areas and to manage shared waters Issues properly.

We can achieve the greatest gain by concentrating our efforts on those issues that pose the greatest threat to our water environment. Two key sectors stand out, agriculture and the water industry. Both Northern Ireland Environment Agency and the Environmental Protection Agency have identified the need to take action in response to these sectors in the River Basin Management Plan. *"Discharges from municipal wastewater treatment works and from agricultural activities are the principal suspected causes of less than satisfactory water in the State. Industrial discharges and discharges from several other activities have also been identified as contributing to a lesser extent."* (Environmental Protection Agency, 2008)



Measures and objectives

The measures to improve our waters fall into three categories:

- the implementation of 11 key directives, specified under the Water Framework Directive and already transposed into domestic legislation
- the implementation of other stipulated measures required by the Water Framework Directive
- the use of additional or supplementary measures.

Basic measures

The first two categories are referred to as basic measures. They are:

The 11 key EU Directives	Other stipulated measures
Bathing waters	Cost recovery for water use
Birds	Promotion of efficient and sustainable water use
Habitats	Protection of drinking water sources
Drinking waters	Control of abstraction and impoundment
Major accidents	Control of point source discharges
Environmental impact assessment	Control of diffuse source discharges
Sewage sludge	Authorisation of discharges to groundwaters
Urban wastewater treatment	Control of priority substances
Plant protection products	Controls on physical modifications to surface waters
Nitrates	Controls on other activities impacting on water status
Integrated pollution prevention control	Prevention or reduction of the impact of accidental pollution incidents

Supplementary measures

A range of possible supplementary measures has been identified by a series of technical studies. Some are already being taken: they include farm based environmental protection schemes and implementation of a suite of forestry good practice guidelines. Other possible measures are codes of practice, voluntary agreements, demand reduction and rehabilitation programmes and legal, administrative and economic instruments.

Supplementary measures range from reducing the pressure at source through remediation by technical or engineering solutions to relocation of the pressure. They have to be technically feasible; the combination of supplementary measures must be the most cost-effective and the cost of these combinations of measures must not be significantly greater than the benefits gained. The impacts of the supplementary measures on the wider environment have to be considered, through Strategic Environmental Assessment, to ensure that they are sustainable.

Our objectives for each category of waters

These charts show the improvements we expect in each category of waters over three cycles of the river basin district planning process.

GES or GEP means good ecological status or good ecological potential, in other words compliant with the Water Framework Directive. The standard of good ecological potential is applied to artificial and heavily modified waters (such as canals and reservoirs) where the benefits to humans need to be retained.

LSO means less stringent objective, which means that the waters won't achieve good status or good potential before 2027.

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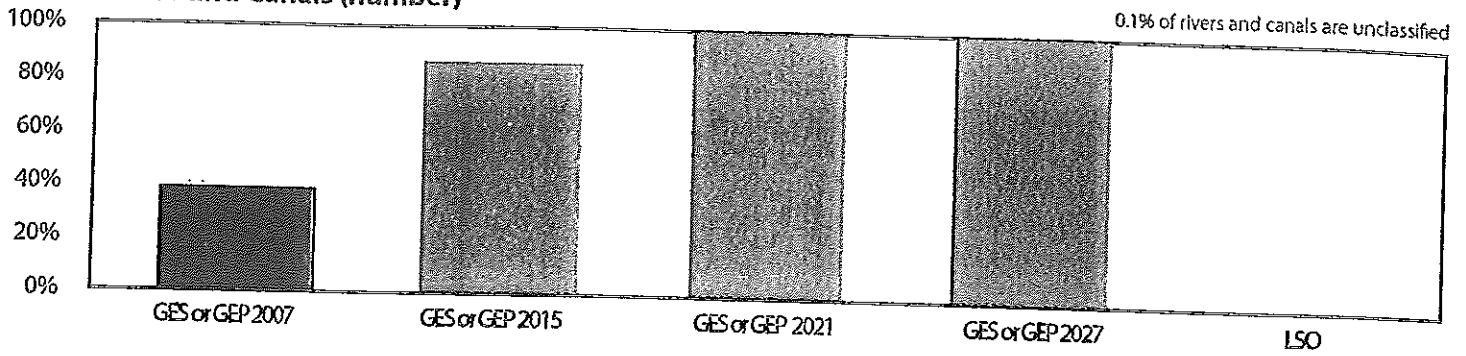
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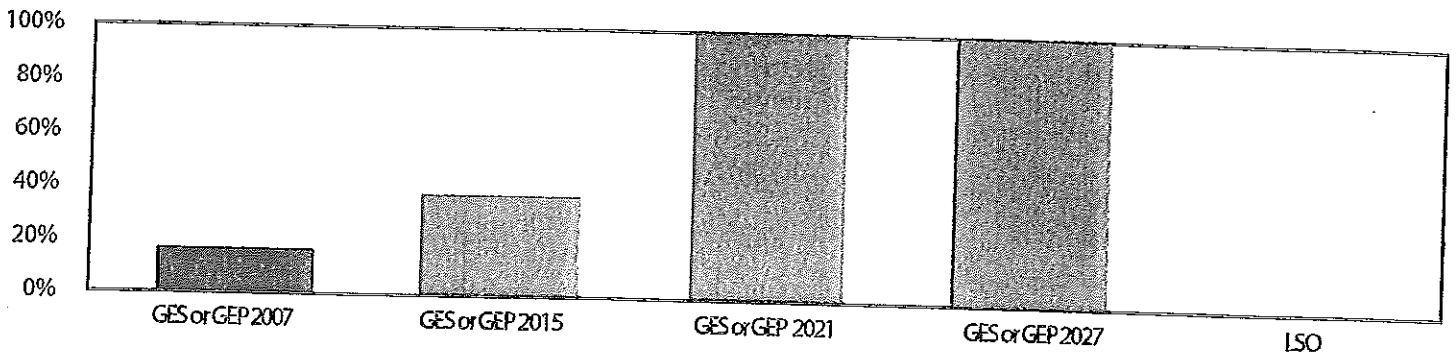
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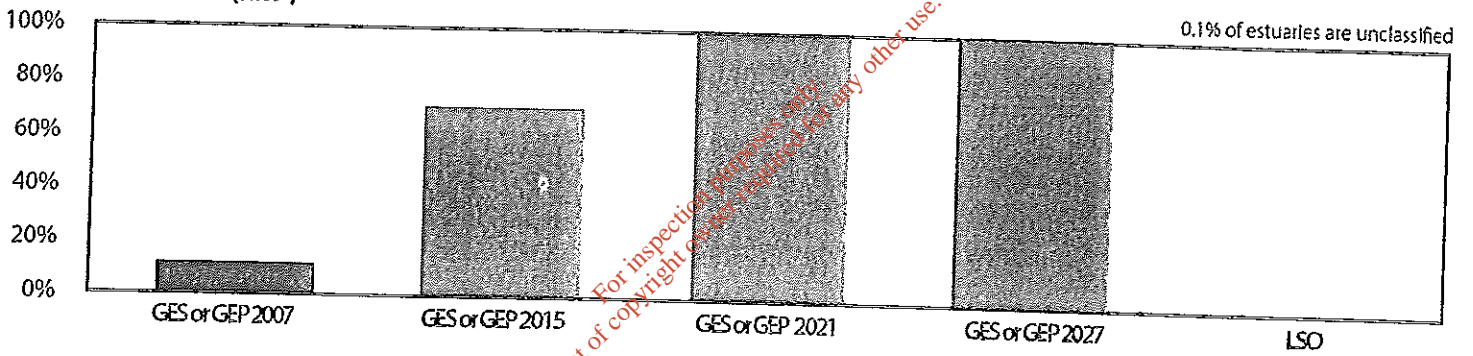
Rivers and Canals (number)



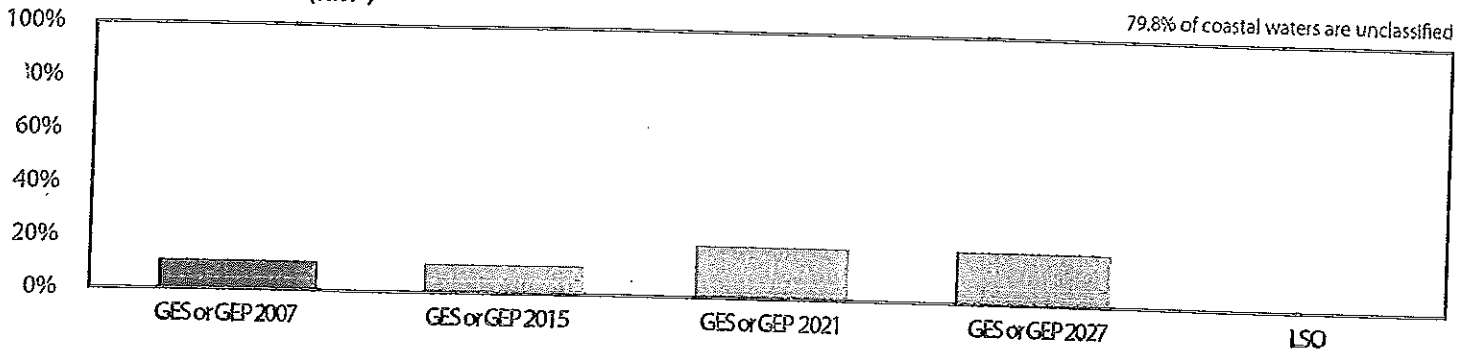
Lakes and Reservoirs (km²)



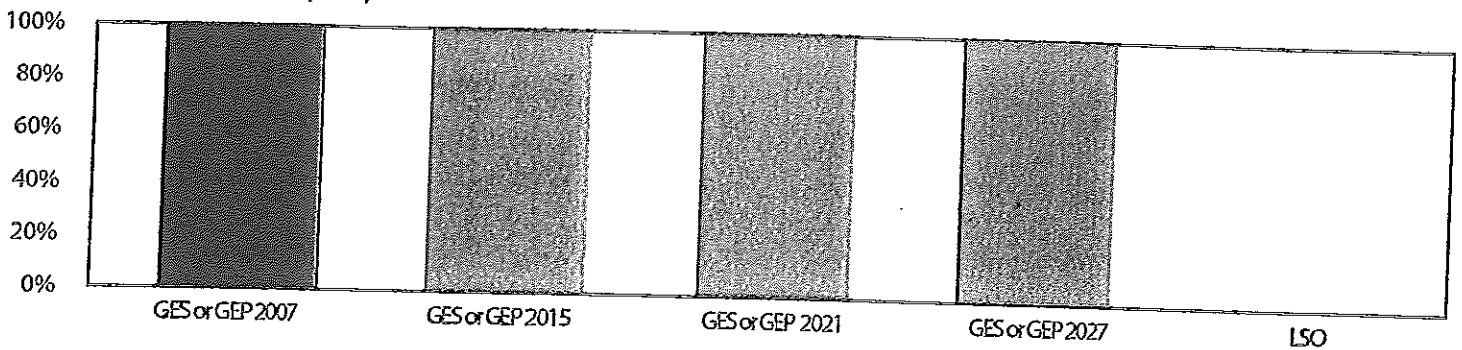
Estuaries (km²)



Coastal Waters (km²)



Groundwaters (km²)



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What happens next



The full text of the draft plan is available on www.wfdireland.ie, along with background documents including technical studies into our key water issues, our register of protected areas, and documents detailing monitoring programmes and status development, economics, objectives, programmes of measures and links to plans and programmes. There is also a list of the District's relevant authorities and stakeholders, as well as documents on climate change and Strategic Environmental Assessment. Our interactive webmap viewing tool can also be accessed at www.wfdireland.ie.

Comments, views and suggestions may be sent by 22 June 2009 to:

Dr Tony McNally
North Western International River Basin District Project
Donegal County Council
Enterprise Fund Business Centre
Ballyraine
Letterkenny
Co Donegal
tmcnally@donegalcoco.ie

Early responses would be appreciated to allow more time to clarify and resolve issues that may arise.



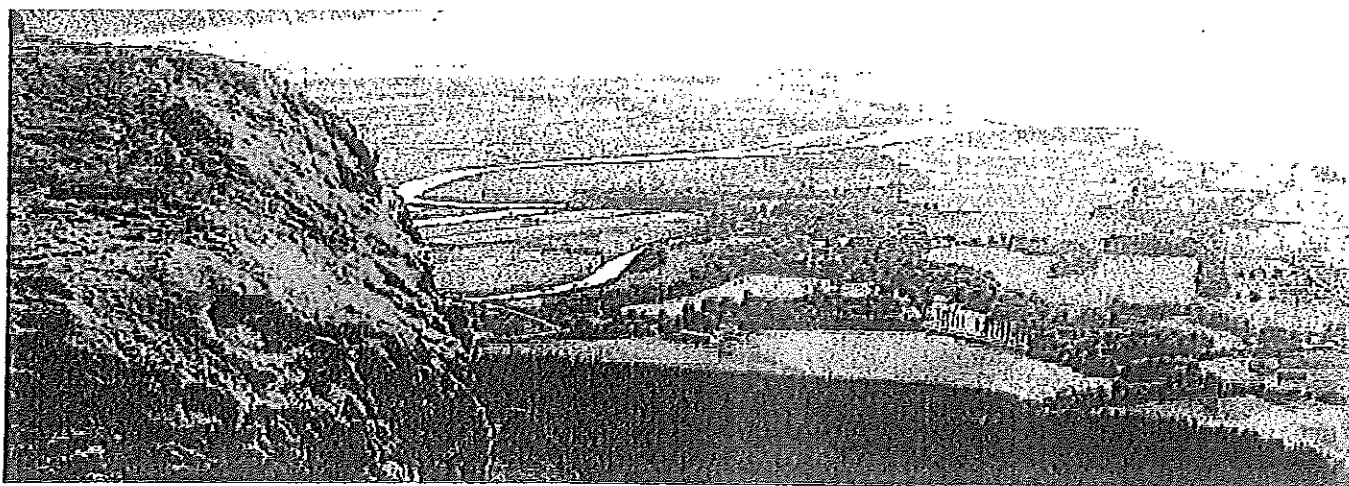
We will comply with data protection requirements and will use Information that you provide to compile a digest of responses. Please let us know if you wish your response to remain anonymous: if you do, we will include your comments in the digest without saying who made them. If you want to add new comments or information you can contact our website at any stage (www.nwirbd.com).

Implementation



The North Western International River Basin District is cross-border; partly in Ireland and partly in Northern Ireland. This leaflet refers to the draft River Basin Management Plans for the District which were Issued by the county councils of Donegal, Cavan, Leitrim, Longford, Monaghan and Sligo and by the Northern Ireland Environment Agency. Preparation of the draft plans has been closely coordinated between the two jurisdictions and these coordinated arrangements are outlined in the document entitled *Working Together* (www.wfdireland.ie)

The task of implementing the management plans will fall mainly to the statutory authorities. In the case of the North Western District, it is envisaged that a unit will be set up by Donegal County Council to coordinate the work of Ireland's statutory authorities and to coordinate work with the Northern Ireland Environment Agency. In Ireland, implementation of the plans will be coordinated by the Department of the Environment, Heritage and Local Government, working together with the local authorities, the Environmental Protection Agency and other relevant public authorities. In Northern Ireland, work will be coordinated by the Department of the Environment and Northern Ireland Environment Agency, through the Interdepartmental Working Group, which includes the four main government departments responsible for implementing the plan.



**Local Government (Water Pollution)
Act 1977
(Water Quality Standards for
Phosphorus) Regulations, 1998**



**MONAGHAN COUNTY
COUNCIL**

4th Implementation Report

July 2006

Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998.

4th Implementation Report

Monaghan Co Council.

Introduction:

The Phosphorus Regulations (1998) require the Monaghan Co Council to protect satisfactory waters and to improve unsatisfactory waters. Water quality interim targets have been set for 2007. However Monaghan Co Council has applied for an extension to 2013. (In the 2004 EPA audit, an EPA officer advised against reliance on the 2013 deadline as the more stringent Water Framework Directive deadline of 2015 for both good chemical and biological status will also need to be complied with.) The Phosphorus Regulations require Monaghan Co Council to submit a biennial implementation report to the Environment Protection Agency. The 4th Implementation Report is due for submission to the Agency on 31/7/2006.

Section 1. Water Quality in Co Monaghan

River Monitoring

Baseline Data

The baseline data for the County, established from the EPA's Biological Monitoring Programme (Q Ratings) since 1995 indicates that 30% of river stations monitored were of satisfactory quality (Q rating ≥ 4) while 70% of stations monitored were unsatisfactory (Q rating $\leq 3-4$). Table 1.1 refers.

Current Status Rivers

This 4th Implementation Report relates to the reporting period Jan 2004 to Dec 2005. Reference to physio-chemical data in this document relates to water quality monitoring carried out by Monaghan Co Council in the period Jan 2004 to Dec 2005. Reference to river current Q ratings, relate to the Q rating assigned by the EPA. The 06 Hydrometric area was monitored in 2003 while the 03 and 36 Hydrometric areas were monitored in 2004. Table 1.1.refers

Current data indicates

- 33% (22 out of 66) of river stations monitored are classified as unpolluted (Q ratings > 4 - 2003/04 data). This figure is low by national standards.
- 24% (16No.) of river monitoring stations show an improvement in Q rating from baseline data

- 27% (18No.) of stations monitored show a decline in Q rating.
- 71% (55 out of 77) of stations with Q data and/or Median P values achieve standards set out in Section 3(2) of the Phosphorus Regulations. Section 3(2) allows compliance with the Phosphorus Regulation targets by achieving either the standards set for Q rating or MRP (Molybdate Reactive Phosphate) value.

Water Quality Trends: Rivers

Q Ratings

Since the 95-97 baseline period no significant improvement in overall biological water quality in the County is apparent. Although 24% of sites monitored in the 2003 and 2004 do show an improvement from baseline data, a further 27% of sites monitored show a decline in quality. Since the mid 90's there are no longer any pristine sites (Q 5) recorded in Co Monaghan. However the improvements in the Erne catchment noted in 2004 are promising.

Physio-chemical Data:

Water quality data does provide some information on water quality trends in the county. A decline in river phosphate levels has been noted in some rural areas. However, many other river stations do not show a similar decline as yet.

Noticeable water quality improvements have followed the upgrading of urban wastewater treatment plants and upgrading/removal of industrial treatment plant discharges. The Blackwater River below Monaghan Town and the Proules River below Carrickmacross have improved from baseline quality. However water quality in these river stretches – designated as “sensitive waters” under the Urban Waste Water Regulations, remains unsatisfactory (as defined by the EPA). Continued urban development is placing additional pressures on infrastructure and water quality downstream of urban areas. Discharges of untreated or partially treated urban waste waters via storm overflows or overloaded collection systems can have significant effects on water quality and these problems have been referred to Water Services for examination and appropriate remediation.

Since Jan. 2004 the frequency of river monitoring has been increased to 12 samples per annum every 2 years. Median P values are now available for almost all EPA Q rated sites. Results for Median P levels are shown in Table 1.1.

Lake Monitoring

Monaghan Co Council's lake monitoring programmes for 2004 and 2005 have been completed and results reported to the EPA. A total of 50 lakes have been monitored at sampling frequency of one lake sample per annum for the smaller lakes and two to four lake samples for the larger lakes. Lake sampling is resource intensive and Monaghan's sampling frequency has remained low. However the new Water Framework Directive Monitoring Programme, due to commence in Dec 2006 requires a review of sampling frequency – final details have yet to be decided.

Currently lake sampling is carried out in the summer months with the assistance of Civil Defence staff (2 persons) and equipment (boat and pickup truck) and a summer student. The current sample collection takes 10 to 12 days approximately. Water samples are analysed by the EPA Laboratory in Monaghan Town.

Due to low frequency of lake sampling only the Chlorophyll level can be used for classification purposes and compliance checking. If the Total Phosphorus (TP) parameter were to be included a minimum of 10 samples per annum would be required.

Lake Water Supply Sources

Work is currently ongoing to integrate the protection of the 23 lakes used as water supply sources into development planning and control. Maps of surface water sources are included in the current Draft Co Development Plan for Co Monaghan.

Current Status - Lakes

Lake Trophic Status (2004/2005)

The lake trophic status shown in Table 1.2 is derived from the maximum Chlorophyll level measured in the period 2004 to 2005. Current data indicates 46% of lakes comply with requirements of the Phosphorus Regulations based on chlorophyll levels only. Table 1:2 refers

Note:

Lake chlorophyll levels can fluctuate significantly throughout the year. Chlorophyll levels do not always indicate the same degree of eutrophication as do the available Total Phosphorus levels. Total Phosphorus levels in some lakes in Co Monaghan are extremely high.

Water Quality Trends: Lakes

The 2004/2005 lake data indicates an increased number of lakes in the satisfactory category (i.e oligotrophic and mesotrophic). However the high number of lakes (over 80%) with elevated Total Phosphorus levels is a cause for concern.

Tables A and B below show a comparison of current lake trophic status with baseline status and Lake Total Phosphorus (TP) levels for the 2001 to 2005 period..

Table A: Comparison of Lake Data 1995-2003

Annual Max Chlorophyll level ppb	Trophic Status	Baseline data 95-2001 (no. of lakes)	Current Trophic (2004/2005) Classification (no. of lakes)
<8	Oligotrophic		6
≥8 <25	Mesotrophic	11	9
≥25 <75	Eutrophic	19	24
≥75	Hypertrophic	16	11

Table B: Lake Total Phosphorus Levels –Average Value of 2001 to 2005 data

Total Phosphorus Average Conc (ppb) 2001-2005 (MCC data)	No. of Lakes in each category
<30	8
30-59	16
60-99	17
>100	10

Water Framework Directive lakes:

Lakes proposed for additional monitoring under the Proposed WFD Monitoring Programme and their current trophic status includes:

Lake	Current Status
Avaghon lake	Mesotrophic (– but algal blooms noted in recent years)
Drumlona	Eutrophic
Emy	Mesotrophic
Egish	Eutrophic.
Inner	Hypertrophic
Naglack	Hypertrophic
Monalty	Hypertrophic
Muckno	Hypertrophic
White	Eutrophic
Dromore	Status unknown

Groundwater Quality

The Phosphorus Regulations 1998 deal with surface waters and although ground water quality may impact on surface waters sufficient data is not available in relation to this aspect. The situation regarding groundwater quality will be addressed as the Water Framework Directive is rolled out. A Groundwater Protection Scheme for Co Monaghan has been produced by the GSI. Work is currently ongoing to integrate the Groundwater Protection Scheme into planning decision making and maps of groundwater sources and resources are included in the current Draft Co Development Plan.

Section 2.

Implementation of Measures

Monaghan Co Council's Measures Report in 1999 identified a need for additional resources to implement proposals to protect and improve water quality. Although additional staff were recruited following completion of negotiations under BLG (Better Local Government) in 2001, the Phosphorus Team has since lost 2 experienced Environmental Officers. One Environmental Officer (temp) is now in training.

Use of Consultants

In 2005 additional resources were allocated to employ consultants (*RPS Consultant Engineers*) to carry out farm surveys and to highlight farms that will require follow up action by the Council staff. However, without experienced field staff in-house catchment survey work and the necessary follow up of problem premises is currently suspended with a review of the situation due in October 2006.

Monaghan Co Council continue to use the services of Conservation Services to carry out detailed Biological Surveys of rivers. This work highlights "hot spots" and a number of such "hot spots" are awaiting follow-up surveys.

In the 2004-2005 period the Phosphorus Team has been involved in a number of specific work areas as follows:

- Catchment surveys - initially work has been concentrated moderately polluted river stretches and unsatisfactory lakes. Work has progressed well but extensive areas of the County are as yet not surveyed. See Map in Appendix 1 outlining Progress.
- Database management and updating GIS programme
- Review and updating of water quality monitoring programmes and the introduction of additional Biological Monitoring using a private consultant.
- A survey and report of Urban Wastewater Treatment plants and collection systems.
- Continued enforcement of Water Pollution Acts and Waste Management Act.
- Awareness raising to achieve sectoral involvement in protection and improvement of water quality.

The Phosphorus Team also tries to work closely with Planning control staff, other Environment Section staff and Water Services Section although more integration in this area is deemed necessary.

Future Developments in the area of Water Management

During 2004 a number of Projects relating to water quality issues in Co Monaghan have been initiated. These include:

- North South SHARE Project on River Basin Management Planning.
- Blackwater Regional Partnership TRACE Project on the Definition and Mitigation of Excessive Multi-source Nutrient Loss to Water, lead by University of Ulster and Queens University, Belfast.
- Churchill Oram Source Protection Pilot Scheme led by the National Federation of Group Water Schemes and the Freshwater Studies Unit at DKIT.
- Blackwater Vital Signs Schools project .

- Monaghan Co Council has participated in the Erne Blackwater Surface Waters Working Group.
- The County Development Board has included the Improvement of Water Quality in Co Monaghan as an Action in the CDB Strategy for Co Monaghan.

Monaghan Co Council will provide available water quality data for the Project leaders and is involved as Steering Group members and/or in an advisory role. The benefits of such projects are expected to be increased knowledge of water quality issues, improved water quality management, improved public and sectoral participation, and increased awareness.

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Section 3.

Progress to Date

There is evidence that the biological quality of rivers continues to decline in Co Monaghan. Of particular concern is the recent loss of pristine and high quality sites in upland areas. It is expected that resource intensive catchment survey work, additional monitoring, enforcement and in some cases changes in land use or other measures will be required to bring about water quality improvements. It is expected that the turn-around period between intensive catchment survey work, enterprise improvements and water quality improvements could be a minimum of 2-3 years depending on catchment characteristics.

Improvements in Hydrometric Area 36 (Erne Catchment)

Promising results were evident in the 2004 EPA Biological Monitoring of Hydrometric Area 36 (Erne Catchment).

Although Monaghan Co Council have completed catchment survey work in sub-catchments of the Erne River (Bunnoe and Maghery Rivers have been surveyed in 2002 and 2003) improvements are also noted in other sub-catchments. It is suspected that the intensive surveillance and enforcement work carried out by the Northern Regional Fisheries Board (NRFB) for several years has contributed significantly to improvements in water quality in this area. Discussions with the Eastern and Northern Regional Fisheries Boards have revealed that additional resources have been dedicated to surveillance and enforcement work in the NRFB area for a number of years.

Progress has been made in pursuing measures set out to tackle water pollution in Co Monaghan. Improvement in the chemical data at some river stations is evident, upgrading of industrial treatment plants continues and investment in Water Services is ongoing. Progress in various work areas is detailed below and in Table 3,4, and 5 attached in Appendix 2. However additional resources are considered necessary to successfully identify and follow up on pollution sources in the county.

Catchment Surveys

Catchment surveys commenced in May 2002 with a focus on small rural catchments where water quality was classified as moderately polluted. All agricultural, industrial and commercial premises were surveyed in each catchment. Communal septic tanks and village areas were also surveyed. The aim of catchment surveys was to identify and eliminate point sources of pollution and identify potential diffuse sources of pollution for further attention.

Over the period Jan 2004 to Dec 2005, a total of 352 premises (mainly agricultural) were surveyed. 110 advisory letters were issued, 21 Section 12 Notices were issued. A total of 450 reinspections of silage making facilities (including facilities surveyed pre 2004) and 158 reinspections of medium and high-risk wintering facilities were reinspected in the summer and winter periods respectively.

Current Status of Catchment Survey Work Table (refer to Map of progress Appendix 1)

Table C

Catchment /River	Survey By	Comments
Emy Lough catchment	2003, MCC Staff	Limited follow up of due
Mountain Water Tributary	2004/05 -TRACE Project	Pollution mitigation measures due to be installed in 2006
Scotstown River	2004, MCC Staff	Follow up inspections due
Blackwater (upper reaches)	2004, MCC Staff	Follow up inspections due
Maghera, Kilcoran and Magherarney Lakes	2002 MCC	Limited follow up due
Lough Oony	2003 MCC	Follow up on 1 farm due
Conawary River	2005/06 MCC	Follow up inspections due
Ballagh lake	2006 MCC	Follow up inspections due
Clontibret Stream	2003/04 MCC	Follow up inspections due
Bunroe River and Annamakerrig Lake	2003 MCC	Limited follow up due
Drum lake	2003 MCC	Limited follow up due
Avaghon lake Stream, Mullanary and Corkeeran Lakes	2002 MCC	Limited follow up due
Namachree Lake	2002 MCC	Follow up on 1 septic tank due
Milltown lake Catchment	2005/06 Dundalk Inst. Of Tech.	Extensive monitoring completed – Farm and septic tank survey due 2006
Rossdreenagh River	2006 RPS on behalf of MCC	All follow up outstanding. (MCC to carry out follow up)
Inner Lough	2003 NRFB	

Database Management and Mapping

Consultants completed a GIS Mapping Project and Sludge Management Plan for Co Monaghan in Spring of 2002. The GIS Project provides a comprehensive mapping tool for catchment survey work. As the catchment surveys progress it is intended that data on all enterprises are entered on an access database and mapped using GPS.

Due to the extent of agricultural activities in the County and their potential impact on the environment, work commenced in 1999 on collection of relevant agricultural data. A comprehensive database on intensive agricultural enterprises, soil phosphorus returns, and a poultry manure waste tracking system has been established.

Monitoring Programmes

Lake Monitoring Programme
As detailed in Section 2 page 3.

River Monitoring

From Jan 2004 monthly river water samples have been collected and each river monitored for one 12 month period every two years. This work is contracted out to the EPA Regional Lab, Monaghan Town. The river sampling programme has been extended to include all river stations Q rated since 1995.

Additional Monitoring

Additional Monitoring Programmes carried out to identify "Hot Spots" and provide additional information of water quality in selected catchments and their tributaries are shown on Table D below.

Table D

River	Type of Monitoring	Comments
R Blackwater (03/B/01), and Tributaries including 03/S/02, 03/S01,	Physio-chemical, flow and biological monitoring in 2002-2003 period.	Partial catchment survey work carried out in 2004– survey follow up due.
Mountain Water (03 M01) and Tributaries	Physio-chemical and biological monitoring – 2003-2004 period	Some problem areas identified – catchment awaiting survey
Emy Lough Stream	Physio-chemical and biological monitoring in 2004	Mini catchment survey completed 2003.
Finn River (36/F/01) and Tributaries	Physio-chemical monitoring 2004	Not yet scheduled for catchment Survey
Avaghon Lake Stream (36 A07)	Post survey Biological Monitoring	Catchment surveyed 2002, Lake outflow identified as significant
Maghery River (36/M/03)	Post survey Biological Monitoring	Both catchment survey in 2002 and Biological Monitoring 2005 failed to pinpoint source of low Q values in the upper reaches.
Knappagh (36/K/01)	Biological Monitoring (partial survey)	Suspected source ceased, River Q improved.
Conawary Lower (03/C/01) and tributaries	Physiochemical Monitoring	Catchment Survey 2005/06. Follow up due.
Proules (06/P/01)	Biological Monitoring (partial Survey)	Mini catchment Survey- urban sources of pollution identified

General Activities under the Water Pollution and Waste Management Act:

General activities of the Environment Section in the reporting period 2004 to 2005 Monaghan Co Council include the following enforcement work under the Water Pollution and Waste Management Acts.

11 cases referred for prosecution under of the WPA and WMA

28 Section 12 notices have been issued

17 Section 55 Notices have been issued.

The Council's Environment Section continues to investigate environmental complaints. Approximately 800 environmental complaints were received in From Jan 2004 to Dec 2005, many of which related to illegal dumping and litter. 58 water pollution complaints were investigated in same period.

Industrial Discharges

Significant improvements have been carried out by Industry in Co Monaghan. There are currently 22 "active" Licences issued under Section 4 of the Water Pollution Act. The are currently Section 4 Licence applications under consideration. Almost all active Licences have been inspected at least once in the 2004 to 2005 period and monitoring of discharges is ongoing.

No prosecution cases for breaches of Section 4 of the WPA were taken in this period.

Landfill

Monaghan Co Council's Landfill being operated under a Licence from the EPA.

Awareness Raising During 2004 and 2005

The Phosphorus Teams Awareness Raising Programme has included the following activities:

Information / Public Meetings, During the reporting period a total of 5 meetings with the following groups were organized, IFA, Northern and Eastern Regional Fisheries Boards, and an Industry Group. Council staff gave presentations at 3 meetings organized by the IFA Co Executive and IFA Waste Management Committee. Presentations were given at 4 REPS meetings at the request of a REPS Planner. The Co Development Board Environment and Agriculture Working Group, the Erne Blackwater Surface Water working Group and TRACE Steering Group Meetings have also increased networking and information sharing between Council, stakeholders and research bodies.

Catchment Information Leaflets

Individual information leaflets with local water quality information have been produced for each catchment surveyed. Leaflets are distributed to each premises surveyed. See Appendix 2.

Information Leaflets on *Managing Phosphorus in Farming* (2 No) and *Prevent Silage Pollution* have been produced and pre 2004 were circulated via the Dairy CoOps. We continue to send out these leaflets where a need /problem is identified. A leaflet on *Septic Tank and Wastewater Treatment System Guidelines* has been produced and is distributed

to households with problem or suspect septic tanks. From June 2006 it is proposed to circulate the "Septic Tank/Treatment System" leaflet with planning approval notices. Press Articles and Adverts/ Radio A total of 25 articles and adverts relating to water quality appeared on local press. Adverts related to Good Farming Practice, slurry spreading and silage making. Articles on general water quality were placed in 2 Council Environment Bulletins.

Advisory Letters. Approximately 80 farmers were sent advisory letters in relation to Soil Testing for Phosphorus. Over 110 advisory letters have been issued following catchment surveys.

One to one Site meetings Staff have carried out over 400 site visits in relation to catchment surveys and water pollution complaints during the 2004 and 2005 period.

Liaison with the Planning Section

Environment section staff continues to liaise with the Planning Section regarding environmental assessment and control of new developments. A very substantial (two and a half fold) increase in the number of planning files examined by the environment section was recorded in the 2004-2005 period. In the period 2004 to 2005 the environment section have examined and reported on 761 planning files that include 205 agricultural, 201 housing schemes, 364 industrial/commercial developments and 9 public schemes. Contributions have been submitted to the proposed Development Plan to improve aspects of sustainable development.

Period	Agricultural	Comms/Industrial	Housing Dev/ other	Other	Totals
2003-2003	113	93	52		258
2004-2005	205	364	201	9	761

Liaison with Water Services:

A member of the Phosphorus Team surveyed 21 local authority operated waste water treatment plants in early 2005. A report is currently in preparation and will be presented to management and discussed with Water Services in late 2006.

Problems Encountered

The continued decline in water quality is still evident. Development pressures are a cause for concern. A very substantial increase in development activity is evident. Criteria for sustainable development would be useful. Monitoring of new developments to ensure compliance with planning conditions attached to protect waters is considered necessary but as yet not undertaken.

Staff Retention – the Phosphorus Team lost 2 fully trained members of staff one in May 2004 and the second in May 2006. Some slow down in catchment survey work is evident as a result. In addition to replacement of staff members with trained officers it is essential that further resources will be required to achieve the targets set in the Phosphorus Regulations and to build capacity within the council to implement the required programme of measures that will accompany the River Basin Management Plans under the Water Framework Directive.

Lack of integration of environmental protection policies into the activities of various sectors (particularly in the recent past).

Cross border pollution incidents can be more difficult to resolve.

It would be beneficial to develop a reliable risk assessment tool for diffuse source pollution.

Computer facilities/tools for the interrogation of environmental data and trend analysis are also considered necessary.

The local authority role of “poacher” and “gamekeeper” can give rise to concerns by the public of the effectiveness of local authority’s pollution control role.

Successes to date

The review of CAP and the changes in farm payments from production based payments to single payments scheme is likely to benefit water quality in the medium to long term. Information meetings resulted in offers of cooperation and are considered very beneficial. Good relationships with industry and improvements in industrial wastewater treatment in recent years.

Cooperation with the IFA is resulting in regular contacts with farming groups. Staff are encountering a positive response to site inspections on farms.

The EPA biological monitoring for one of the three catchments surveyed by council staff in the 2002/2003 period indicated significant improvements in water quality in 2004. The other two catchments remain as yet moderately polluted – requiring further investigation. Improvements in the Biological Quality of the Erne Catchment are promising (page 8 refers)

Participation in projects described on page 6 should result in better knowledge of activities contributing to water pollution, effective mitigation measures and improved participation.

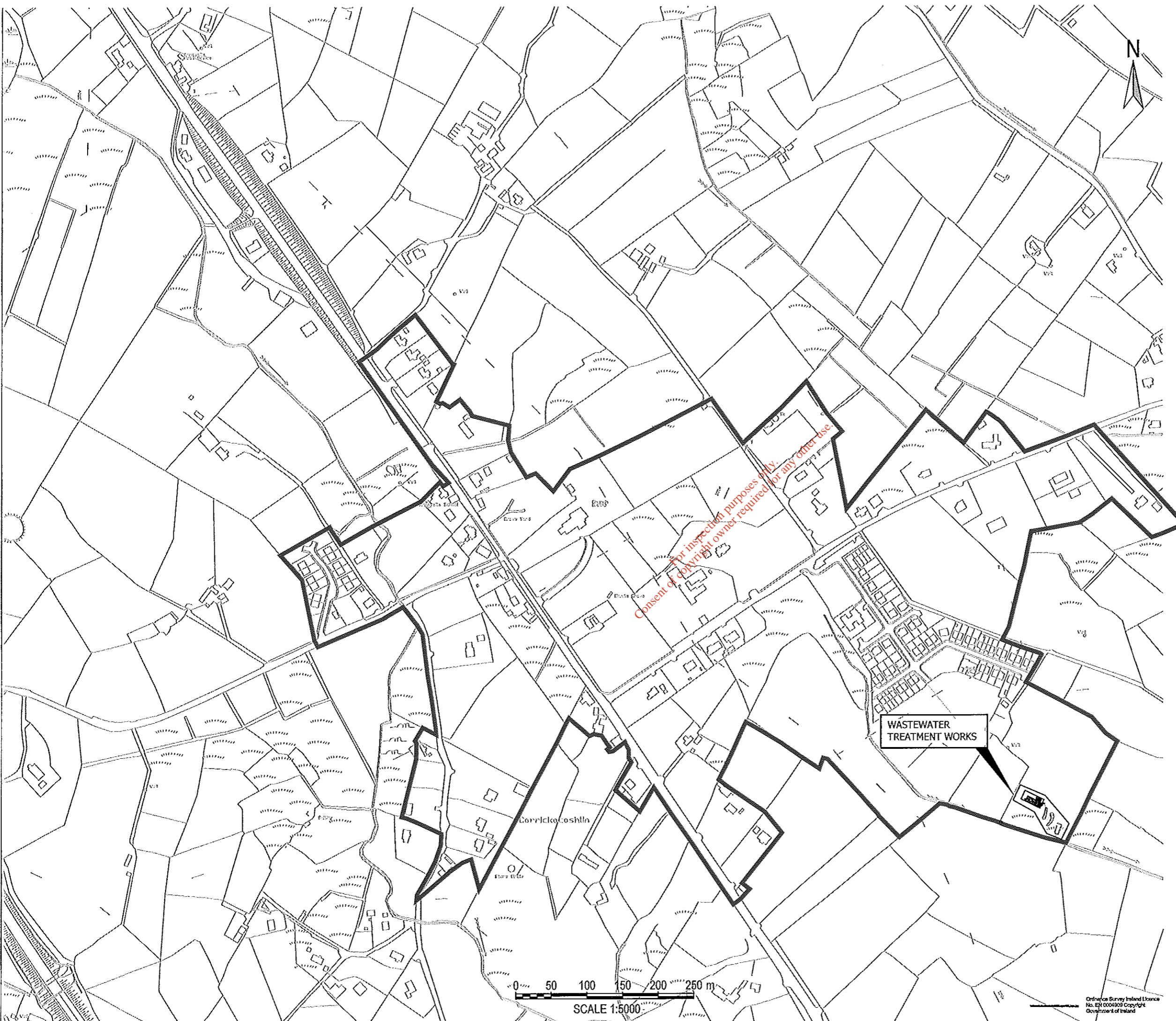
Summary

Co Monaghan faces a particular set of problems in relation to water quality, which to some extent are unique to this county. It is a drumlin county, with heavy soils in many areas resulting in high runoff risk. The extent of intensive agricultural activities in Co Monaghan poses problems for the recovery /disposal of agricultural waste in an environmentally sustainable manner. In addition many of the county's rivers have low assimilative capacity.

Rapidly expanding industrial and commercial activities, rural housing and expansion of urban areas need to be controlled and monitored. Monaghan Co Council need a fully resourced and dedicated Team to progress measures set out in the Measures and Implementation Reports

There will be ongoing review of measures to maximize effectiveness of measures to improve water quality in the county.

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Rev. A: WWTP moved to correct location & reed beds amended. SM M.C.C
29/05/12

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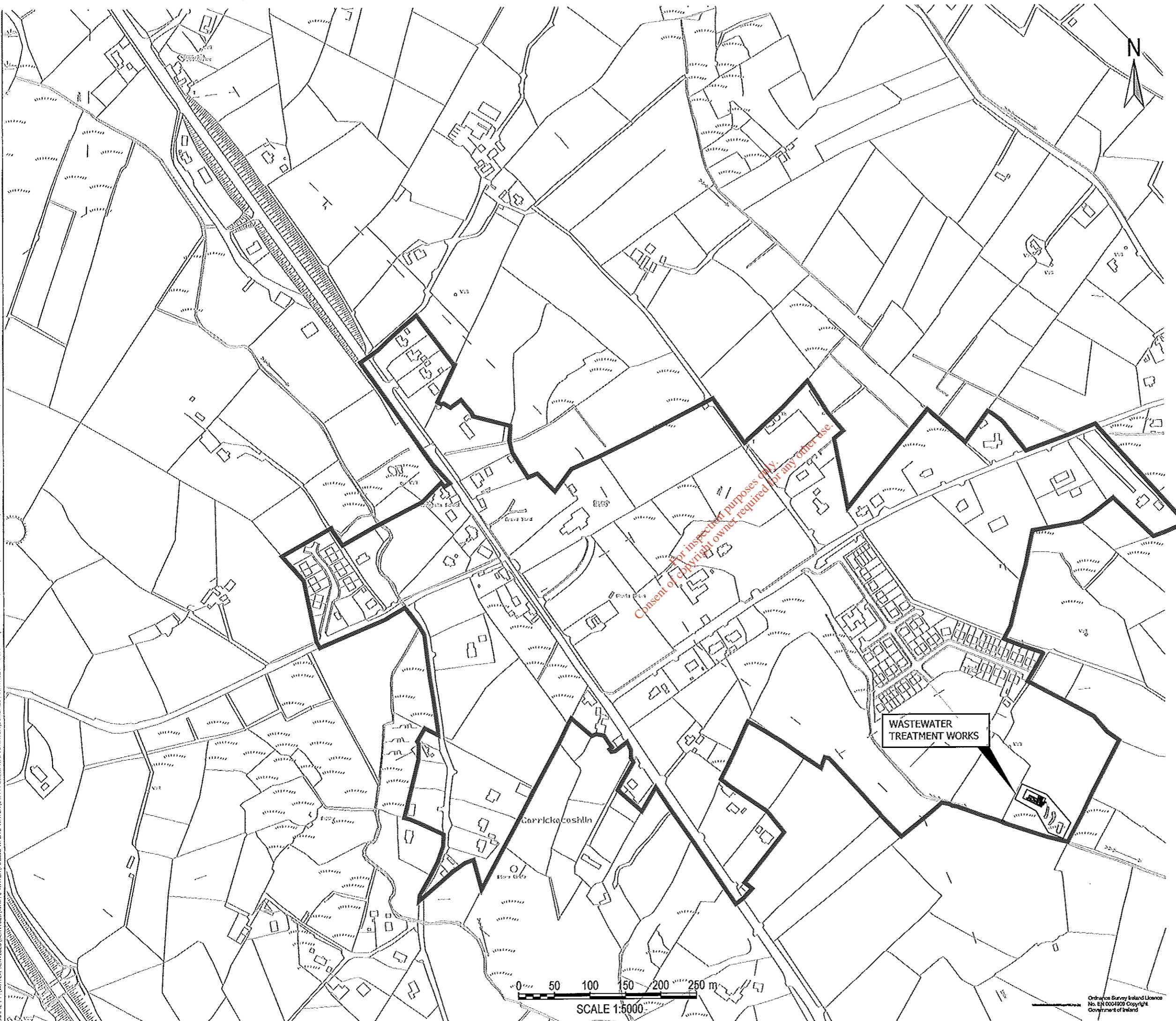
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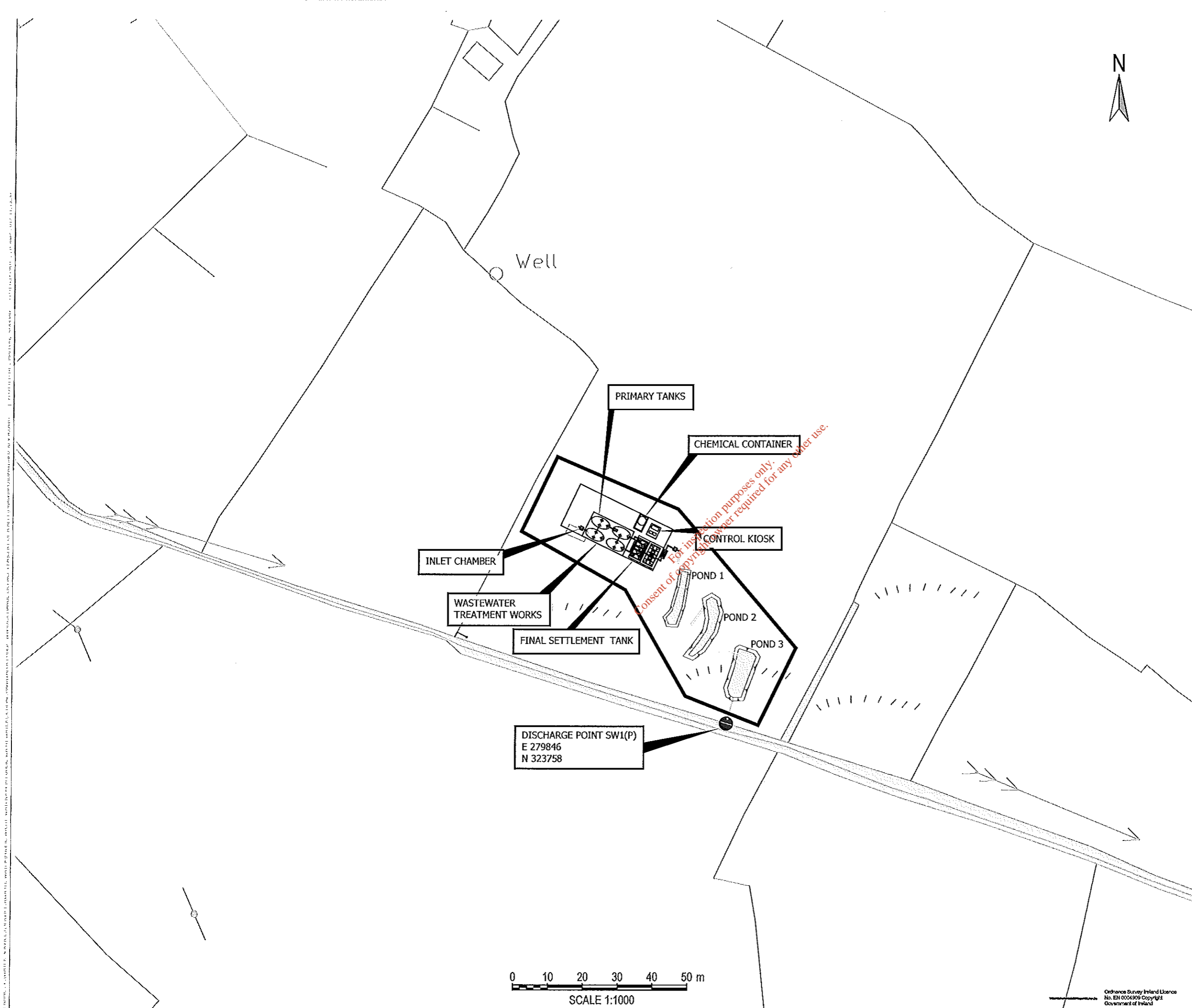
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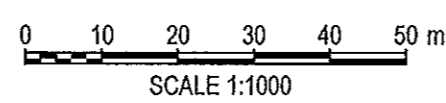
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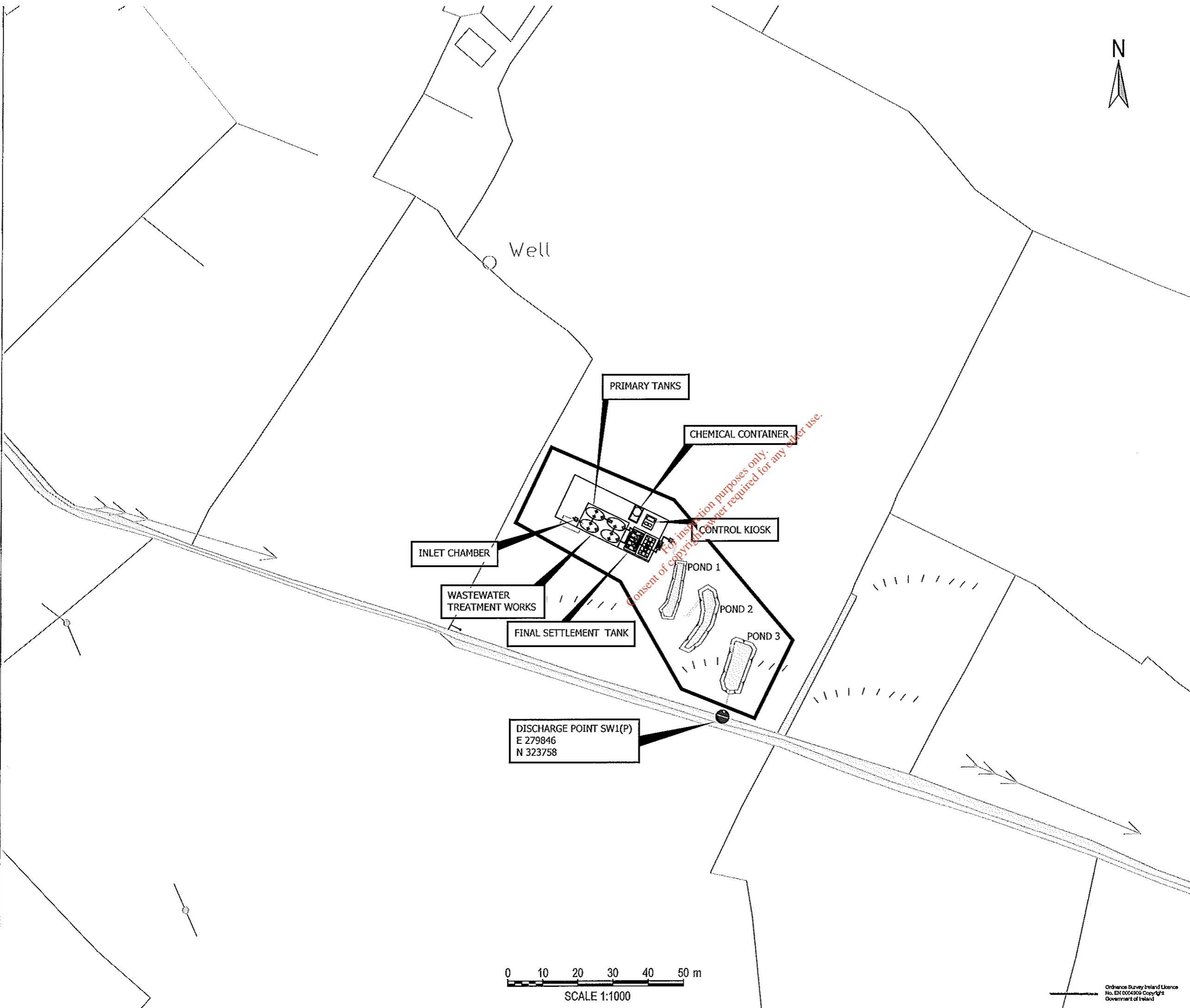
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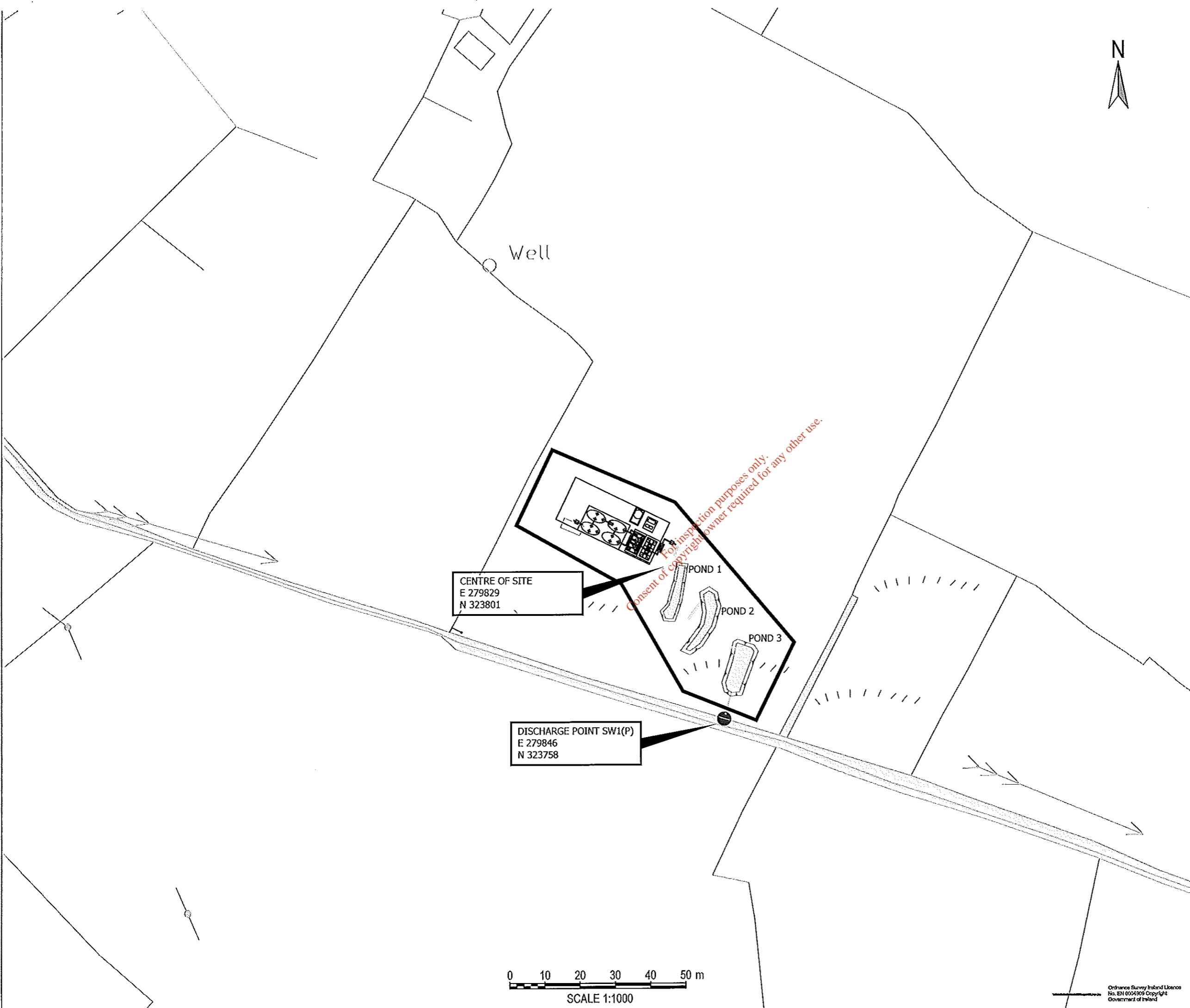


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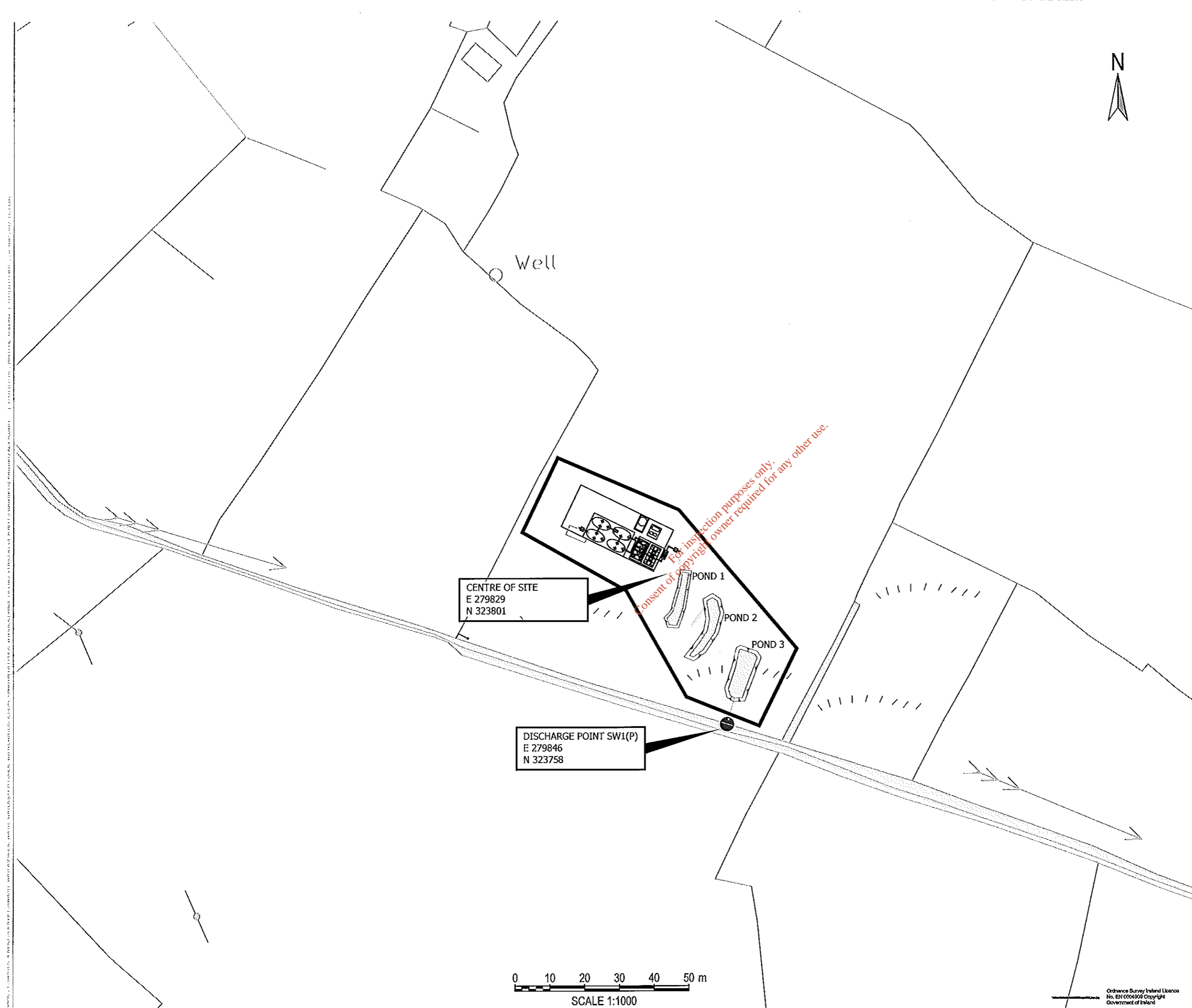
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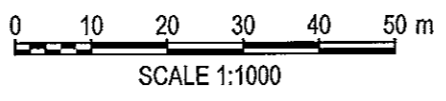
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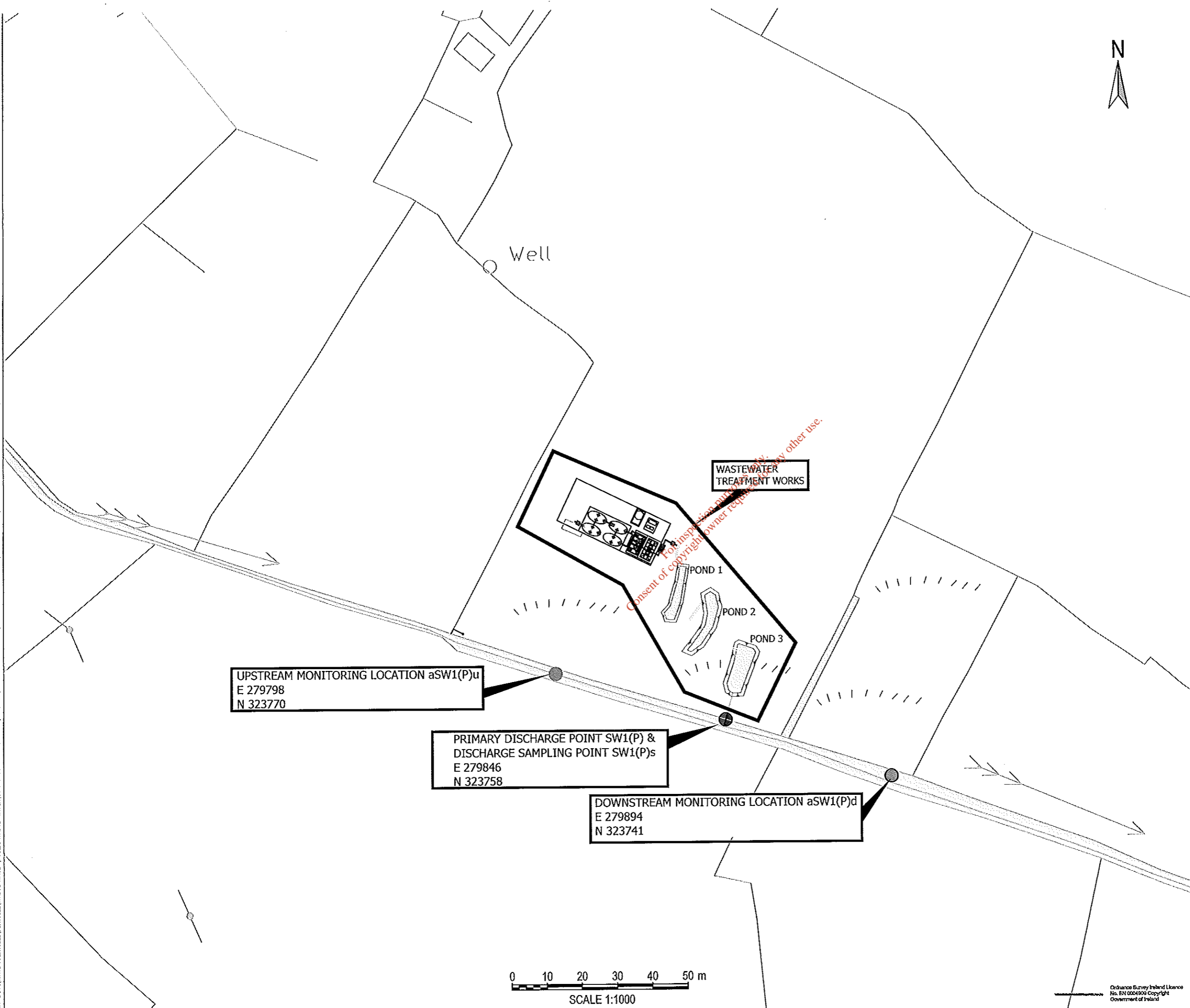
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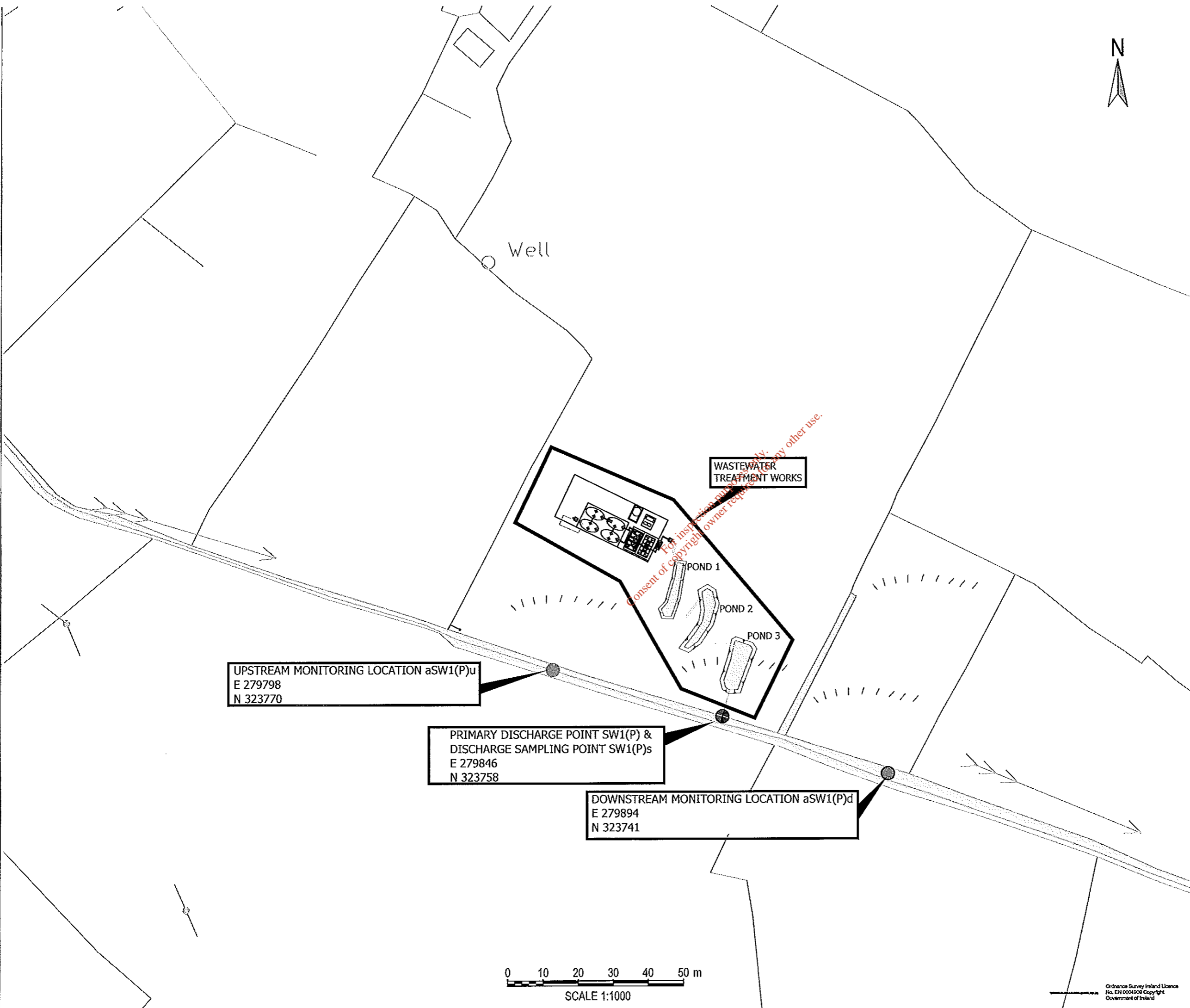


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e-mail: Info@plmcc.com

Project:
ANNYALLA
CERTIFICATE OF AUTHORISATION

Drawing Title:
WASTE WATER TREATMENT PLANT
MONITORING AND SAMPLING LOCATIONS
ASSOCIATED WITH PRIMARY DISCHARGE POINT

Scale @	A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS	HS	15.06.09	CS	15.06.09	TK	15.06.09
Project No.	Office	Type	Drawing No.		Revision		
C007400			DRAWING 4		A		



- LEGEND:**
- DISCHARGE POINT
 - MONITORING LOCATION
 - SAMPLING POINT

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Rev. A: WWP moved to correct location, reed beds & IGS amended, project title amended. SM M.C.C 29/05/12

REV	DESCRIPTION	BY	CHK	APP	DATE
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Comhairle Contae Mhuineacháin



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NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARHAM, DUBLIN 14



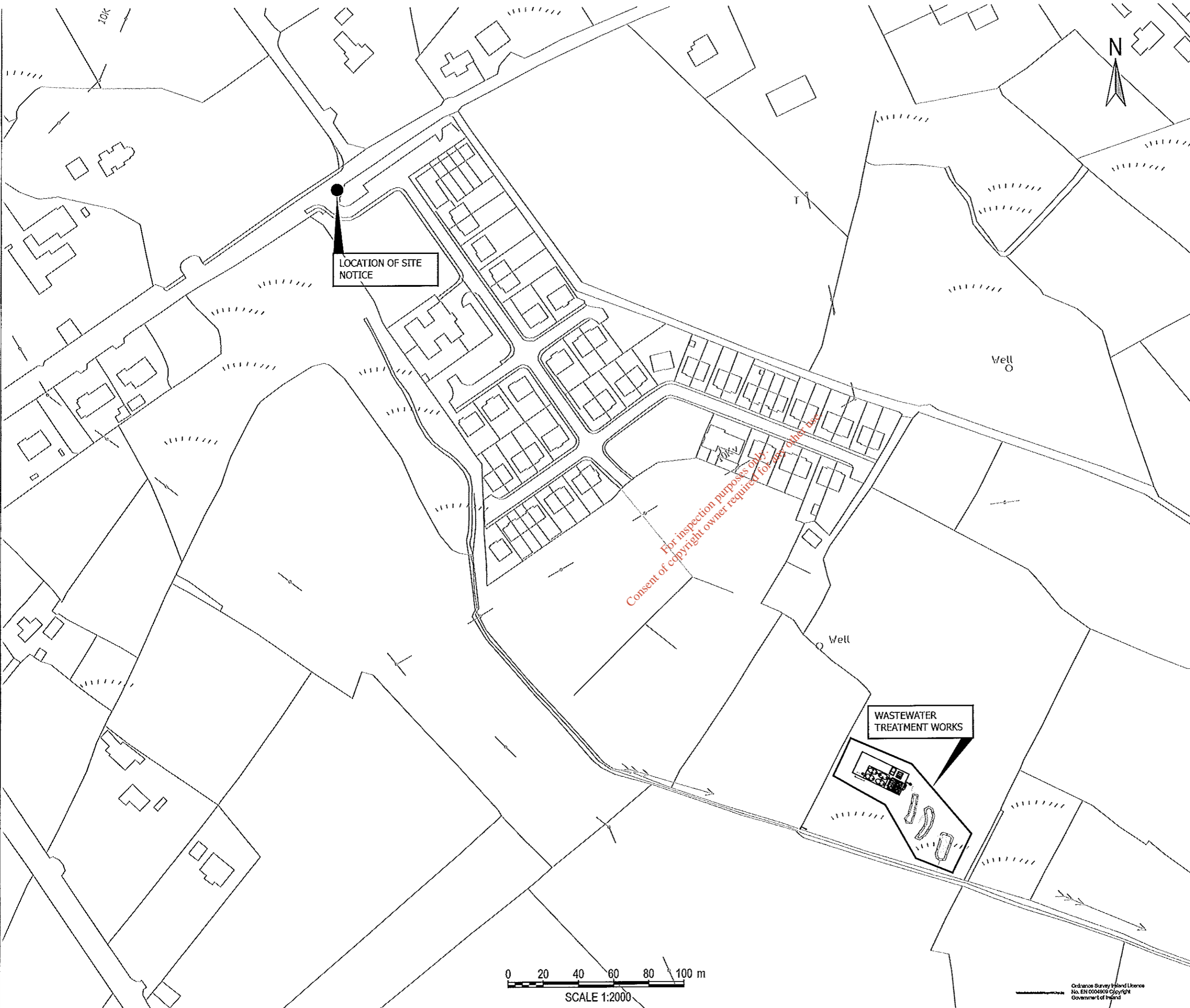
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Project:
ANNYALLA
CERTIFICATE OF AUTHORISATION

Drawing Title:
**WASTE WATER TREATMENT PLANT
MONITORING AND SAMPLING LOCATIONS
ASSOCIATED WITH PRIMARY DISCHARGE POINT**

Scale	AS SHOWN	Office	Type	Project No.	Drawing No.	Revision
A3	HS			C007400	DRAWING 4	A

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LEGEND:

Rev. A: WTP moved to correct location, reed beds amended, project title amended. SM M.C.C 29/05/12


REV	DESCRIPTION	BY	CHK	APP	DATE
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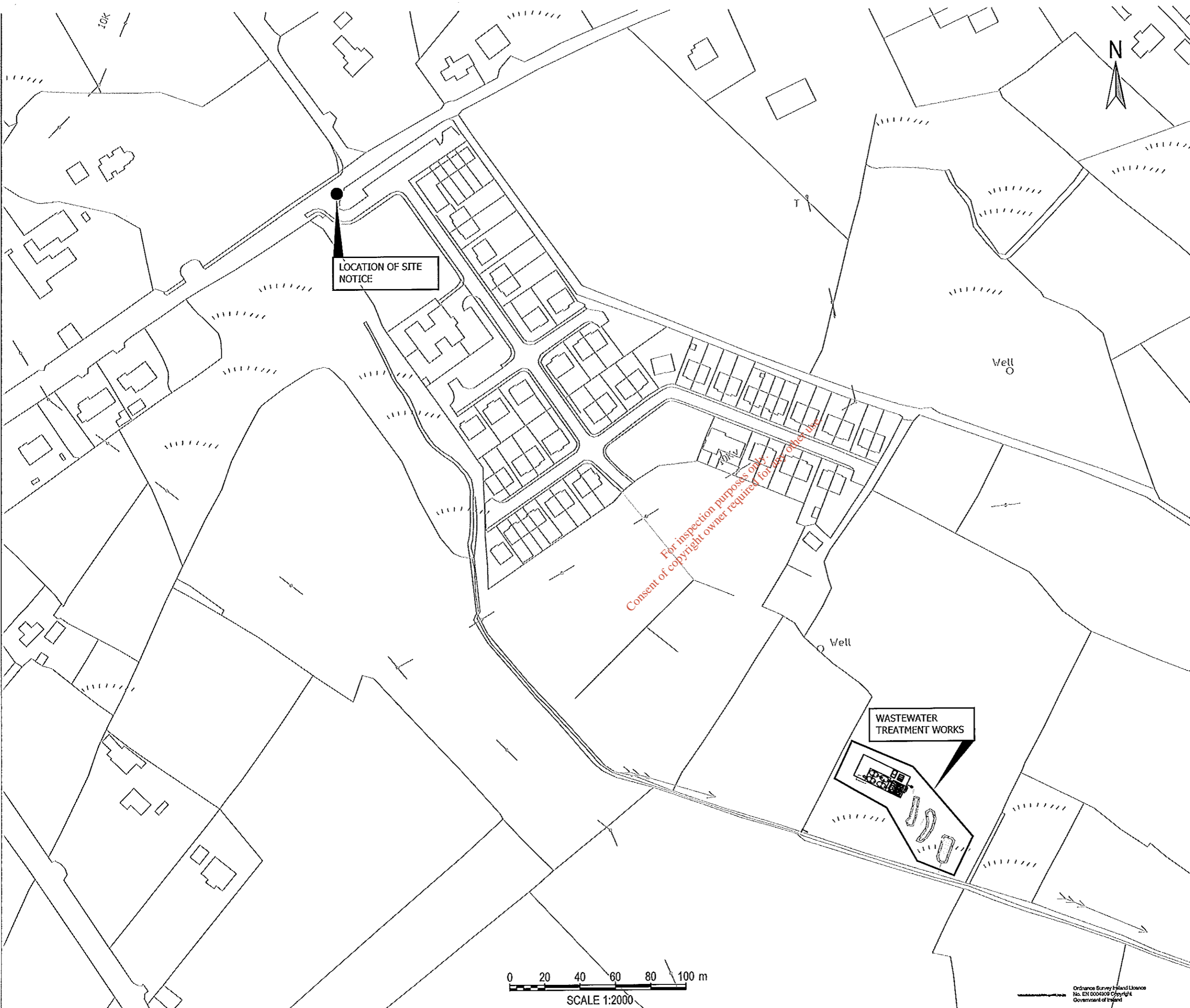


Project:
ANNYALLA
CERTIFICATE OF AUTHORISATION

Drawing Title:
WASTE WATER TREATMENT WORKS
LOCATION OF SITE NOTICE

Scale @	A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS	15.06.09	CS	15.06.09	TK	15.06.09	
Project No.	Office	Type	Drawing No.	Revision			
C007400			DRAWING 5	A			

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LEGEND:


Rev. A: WWTp moved to correct location, reed beds amended, project title amended. SM M.C.C 29/05/12

REV	DESCRIPTION	BY	CHK	APP	DATE
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e-mail: Info@phmcc.com

Project:
ANNYALLA
CERTIFICATE OF AUTHORISATION

Drawing Title:
WASTE WATER TREATMENT WORKS
LOCATION OF SITE NOTICE

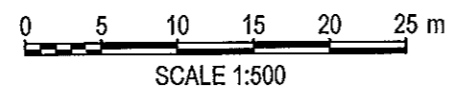
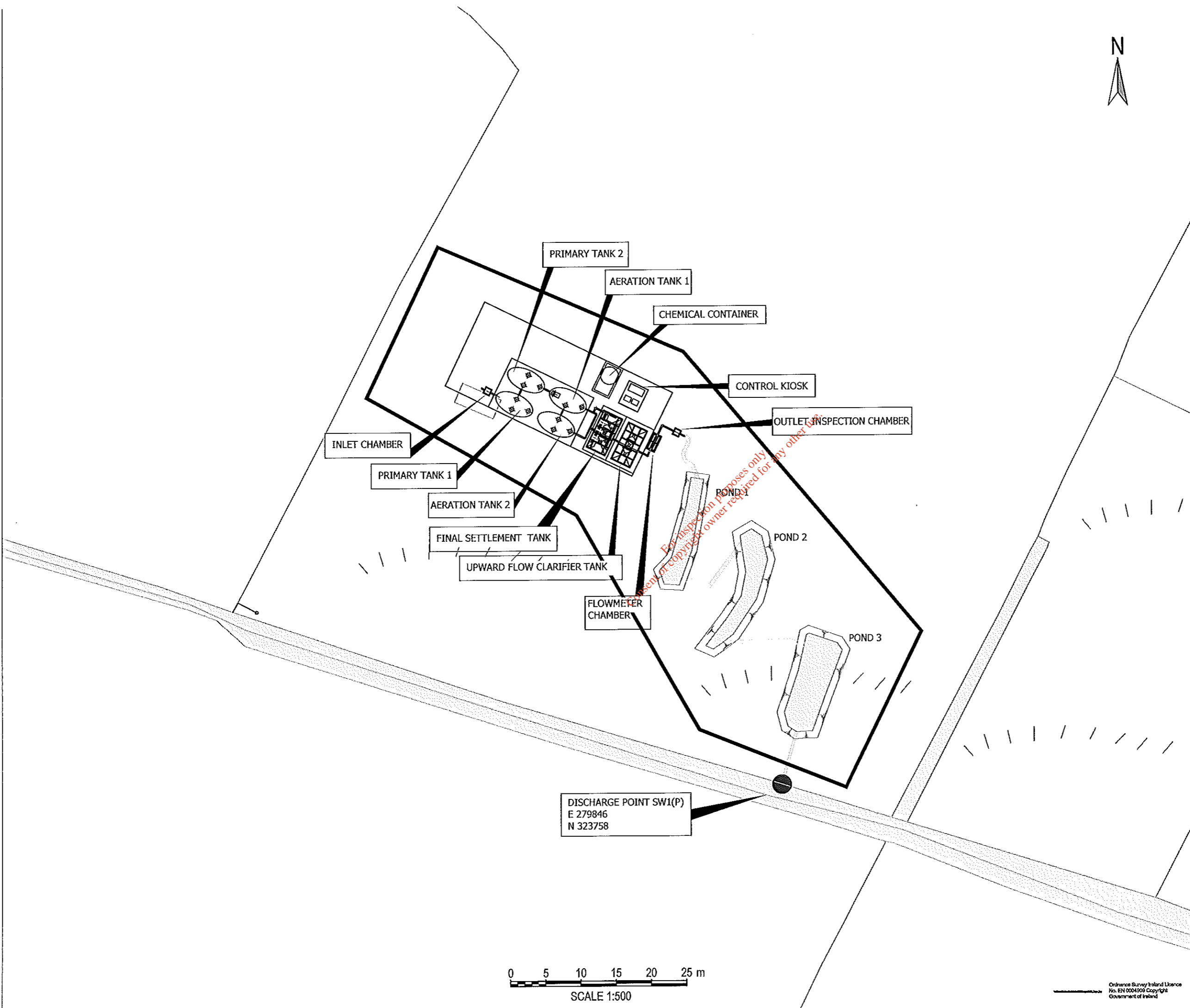
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AS SHOWN		HS	15.06.09	CS	15.06.09	TK	15.06.09
Project No.	Office	Type	Drawing No.	Revision			
C007400			DRAWING 5	A			

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Rev. A: WTP moved to correct location & reed beds & IGS amended, project title amended. SM M.C.C 29/05/12


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Project:
ANNYALLA
CERTIFICATE OF AUTHORISATION

Drawing Title:
WASTE WATER TREATMENT PLANT
GENERAL ARRANGEMENTS OF TREATMENT PLANT

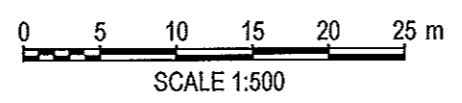
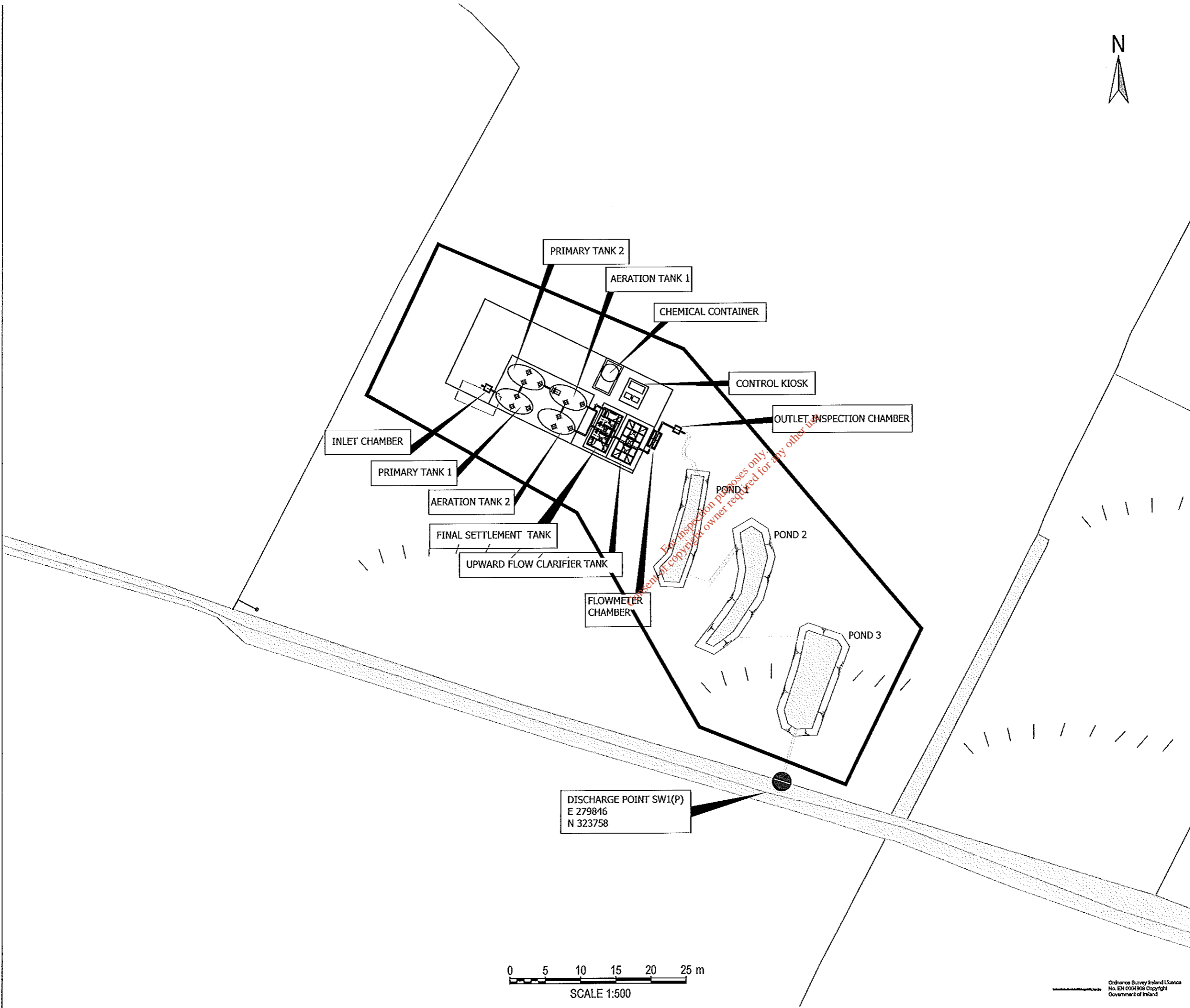
Scale @	A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN		HS	15.06.09	CS	15.06.09	TK	15.06.09
Project No.	Office	Type	Drawing No.	Revision			
C007400			DRAWING 6	A			

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LEGEND:



Rev. A: WWTP moved to correct location & reed beds & IGS amended, project title amended. SM M.C.C 29/05/12

REV	DESCRIPTION	BY	CHK	APP	DATE
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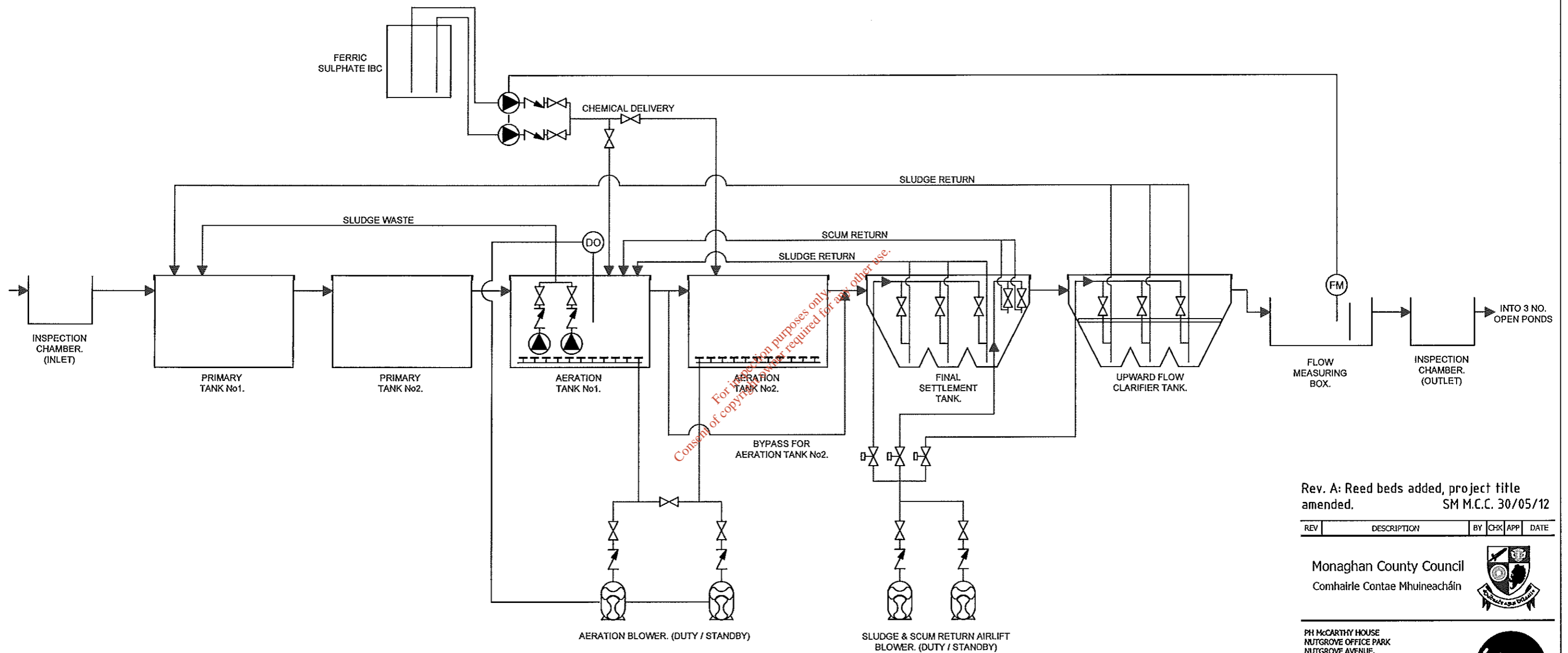
Project:
ANNYALLA
CERTIFICATE OF AUTHORISATION

Drawing Title:
WASTE WATER TREATMENT PLANT
GENERAL ARRANGEMENTS OF TREATMENT PLANT

Scale @	A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN		HS	15.06.09	CS	15.06.09	TK	15.06.09
Project No.	Office	Type	Drawing No.	Revision			
C007400			DRAWING 6	A			

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Rev. A: Reed beds added, project title amended. SM M.C.C. 30/05/12

REV	DESCRIPTION	BY	CHK	APP	DATE
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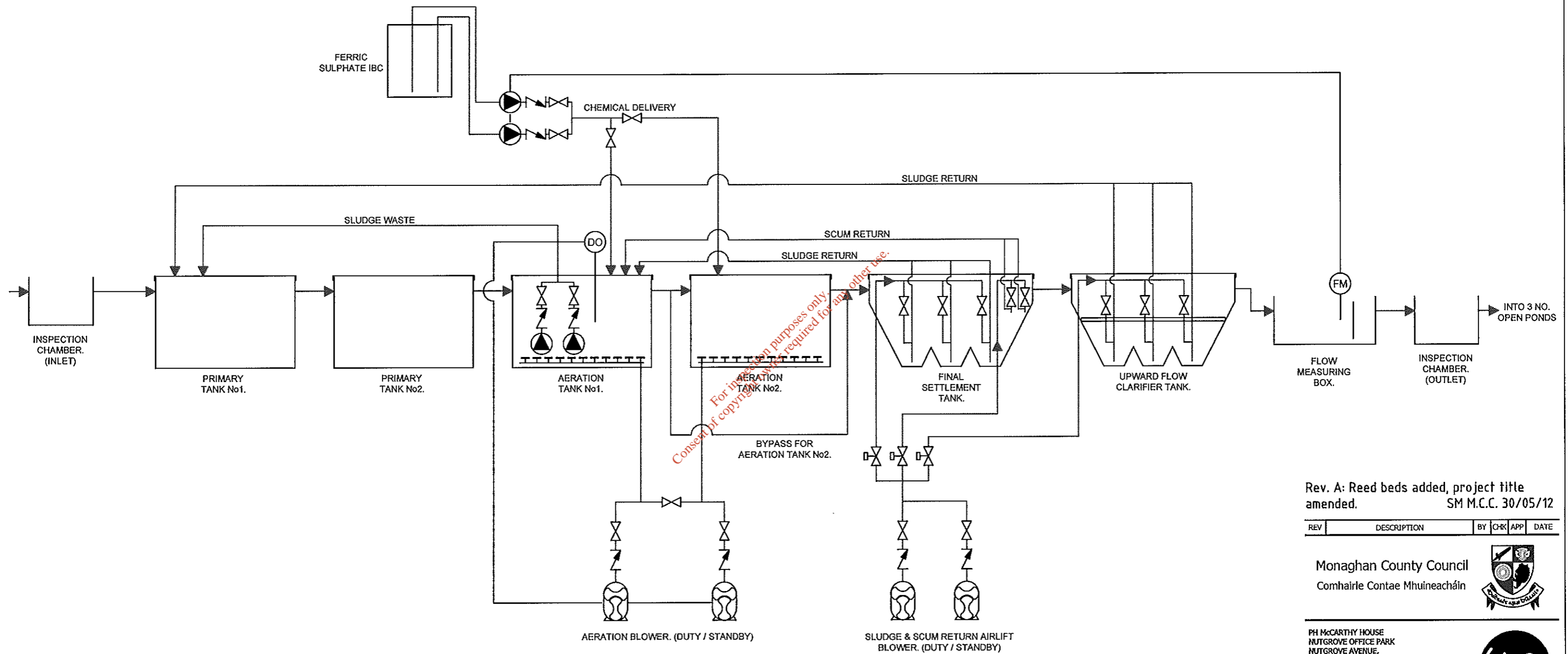
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RATHFARNHAM, DUBLIN 14



Project:
ANNYALLA
CERTIFICATE OF AUTHORISATION

Drawing Title:
WASTE WATER TREATMENT PLANT
SCHEMATIC FLOW DIAGRAM OF TREATMENT PLANT

Scale @	A3	Drawn	Date	Checked	Date	Approved	Date
AS SHOWN	HS	15.06.09	CS	15.06.09	TK	15.06.09	
Project No.	Office	Type	Drawing No.	Revision			
C007400			DRAWING 7	A			



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Rev. A: Reed beds added, project title amended. SM M.C.C. 30/05/12

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Project:
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CERTIFICATE OF AUTHORISATION

Drawing Title:
WASTE WATER TREATMENT PLANT
SCHEMATIC FLOW DIAGRAM OF TREATMENT PLANT

Scale @	AS SHOWN	Drawn	Date	Checked	Date	Approved	Date
		HS	15.06.09	CS	15.06.09	TK	15.06.09
Project No.	Office	Type	Drawing No.	Revision			
C007400			DRAWING 7	A			