THREEMILEHOUSE WASTE WATER TREATMENT WORKS

WASTE WATER DISCHARGE CERTIFICATE OF AUTHORISATION

Monaghan County Council
County Offices
The Glen
Co. Monaghan

DECEMBER 2009

This is a draft document and is subject to revision.

Waste Water Discharge Certificate of Authorisation Application Form

EPA Ref. Nº: *(Office use only)*	

Environmental Protection Agency
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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	Delete reference to Design Build and Operate	To accurately reflect the information required for the small schemes programme
		Delete the requirement to provide contact information for the associated waste water treatment plant	To accurately reflect the information required and the scale of the waste water works
		Replace references to the Water Services investment Programme with the Small Schemes Programme	To accurately reflect the information required for the small schemes programme
		Update references to new legislation	To reflect changes in legislation
		Inclusion of the requirement to submit information on private WWTPs within the agglomeration.	To obtain an overview of all discharges within the agglomeration.

Environmental Protection Agency

Application for a Waste Water Discharge Certificate of Authorisation

Waste Water Discharge (Authorisation) Regulations, 2007.

CONTENTS

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 (S.I. No. 684 of 2007) 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 (S.I. No. 684 of 2007). 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. **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 (S.I. No. 684 of 2007) 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. <u>The abbreviation "N/A" should not be used</u>.

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.

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 (S.I. No. 684 of 2007).

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

- *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.

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 Nº A.1**

Non Technical Summary

Monaghan County Council is making an application to the Environmental Protection Agency (EPA) for a Waste Water Discharge Certificate of Authorisation for the Threemilehouse Waste Water Treatment Plant (WWTP) and agglomeration in compliance with the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

Under Schedule 2 of the above regulations, the prescribed date for submission of Waste Water Discharge Licence Applications for agglomerations (with discharges with a population equivalent of less than 500 PE) is 22nd December 2009. The WWTP at Threemilehouse falls under this category, having an agglomeration with a design population equivalent of 250 PE and a current estimated PE of 133.

The waste water works serving the Threemilehouse village and the immediate environs comprises a network of gravity sewers, a pumping station, associated rising main and a Waste Water Treatment Works.

The waste water treatment plant, which provides treatment for a design load of 250 PE, comprises settlement, followed by a rotating biological contactor and clarification by reed beds. Sludge from the Threemilehouse Waste Water Treatment plant is tankered to Monaghan Town WWTP for treatment. The plant is supervised/manned for approximately two hours Monday to Friday, giving a total of approximately ten hours a week.

The primary discharge of the waste water works is to the Threemilehouse River (at National Grid Reference 262216E, 330133N) in the townland of Drumguill, Co. Monaghan. The

associated Waste Water Treatment Plant is located at 262203E 330148N also in the townland of Drumguill, Co. Monaghan.

The Threemilehouse River flows into the Conawary River which is a Tributary of the River Blackwater. The receiving water is not identified as a "sensitive" waterway under the Urban Waste Water Treatment Regulations S.I. 254 2001. The same stretch of river is also not classified as a "salmonid river" under S.I. 293 of 1988. The river is located within the Neagh Bann IRBD. The River Blackwater is however designated Nutrient Sensitive from the confluence of the River Shambles to Newmills Bridge.

There are no Natura 2000 Sites (SPA's and SAC's) in the vicinity of the wastewater treatment plant or in the Blackwater Catchment. The Corcreeghy Lake and Woodland pNHA (Site Code: 004783) is located approximately 1.2km downstream (as the crow flies) of the discharge. The Corcreeghy lake and woodland is a relatively undisturbed area featuring marsh margins at the lough shore and further from the shoreline there is extensive areas of wet woodland featuring Willow (*Salix* spp) and Alder (*Alnus* spp). The rare marsh fern (*Thelypteris palustris*) is thriving in this location. This lake is designated as a fine example of intact transition from open water to wet woodland together with the rare species contained within. The Corcreeghy Lake and Woodlands are sufficiently downstream of the Threemilehouse discharge point.

The overall River Water Framework Directive status for the Threemilehouse River is 1b, hence the water body is thought to be at risk of failing to meet good status in 2015.

The treated effluent has an average BOD concentration of 11.8 mg/l and average suspended solids concentration of 5.6 mg/l and COD concentration of 53.6mg/l. Average concentrations of nutrients are as follows; orthophosphate 2.165 mg/l (P), average Total Phosphorus 4.6 mg/l (P) and Total Nitrogen 30.9 mg/l (N).

Monaghan Co. Co. monitors the river both upstream and downstream of the discharge from the Waste Water Works. Results indicate relatively good water quality in the river, with an orthophosphate level recorded at 0.047 mg/l P, ammonia level of 0.06 mg/l NH_3-N, BOD of <2 mg/l, TP of 0.09mg/l, TN of 3.31mg/l N and suspended solids of 6.7 mg/l. Dangerous substances concentrations were below detection level for 11 of the 19 parameters tested in October 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

Results from the downstream monitoring site (aSW1(P)d) indicates generally good water quality with an orthophosphate level of 0.049 mg/l P, ammonia 0.09mg/l NH_3-N, BOD of 2.1 mg/l, TP of 0.11 mg/l, TN of 3.69mg/l N and suspended solids levels of 11.44 mg/l. Dangerous substances concentrations were below detection level for 11 of the 19 parameters tested in October 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

The nearest EPA biological monitoring stations are Conawary (Lower) (Station Number 1100) which is downstream of the discharge point and Conawary (Upper) (Station Number 0700) which is located upstream of the discharge point. The baseline Q value at the Conawary (Lower) station was 3. The current MRP value is 40ug/l and the current Q Value (2003-2005) is 3. The standard to be achieved by 2007 was 3-4 or 50ug/l. This standard was achieved.

The baseline Q value at the Conawary (Upper) station was 4. The current MRP value is 60ug/l and the current Q Value (2003-2005) is 2. The standard to be achieved by 2007 was 4 or 30ug/l. Neither standard were achieved. The suspected cause for this was agricultural pollution.

Results taken on 6/10/09 upstream and downstream of the discharge point on the Threemilehouse River would indicate that the discharge is not impacting on the quality of the waterbody. An MRP (derived from Total P) concentration of 0.03mg/l was recorded upstream and downstream of the discharge.

Due to lack of flow data on the receiving water, the assimilative capacity was unable to be calculated. However, water quality monitoring results (EPA and Monaghan Co Co Data) would indicate that the discharges from the works are not having a significant detrimental impact on the receiving environment and that that the Environmental Objective contained within the Surface Water Regulations 2009 (S.I. No. 272 of 2009) are being met.

SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration:	Threemilehouse

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
	County Offices
	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
	County Offices
	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:	Not Applicable
	Not Applicable
Tel:	Not Applicable
Fax:	Not Applicable
e-mail:	Not Applicable

*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.

Attachment B.1 should contain appropriately scaled drawings / maps (≤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*:	Mark Johnston
Address:	Threemilehouse Waste Water Treatment Plant
	Drumguill, County Monaghan
Grid ref (6E, 6N)	262203E 330148N
Level of Treatment	Tertiary

***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 (≤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	Drumguill, Threemilehouse, County Monaghan
Grid ref (6E, 6N)	262216E 330133N

Attachment B.3 should contain appropriately scaled drawings / maps (≤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 (≤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 (≤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

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***	√

Local Authority Planning File Reference Nº:	Not Applicable

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

Attachment B.6 should contain ***the most recent*** planning permission, including a copy of ***all*** conditions, 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.*

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	Current PE: 133 Design PE: 250
Data Compiled (Year)	2009
Method	Property Counts

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.

Threemilehouse is a small-nucleated settlement on the Monaghan - Newbliss road approximately 8 km from Monaghan. It is centred on a crossroads with a Catholic Church overlooking the village. The village of Threemilehouse has grown in the last 25 years mainly through the development of social housing erected by Monaghan County Council. A small tributary river runs through the village and the village nestles in a river valley between several undulating hills (Source: Monaghan Development Plan 2007-2013).

As stated in Chapter 3 Settlement Strategy of the Monaghan County Development Plan 2007-2013, there is 33 hectare of land within the development envelope of which approximately 19 ha are available for development. From the table below, 13 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
Threemilehouse	33	19	13	195

At low density (15 houses per hectare) it is anticipated that approximately 195 housing units could be built during the Development Plan period if all the land within the development limit was used for residential development. This could be a maximum population increase of 567 based on an average household occupancy of 2.91 (Source: Central Statistics Office Census 2006, Average number of persons per private household in permanent housing units in the Aggregate Town and Aggregate Rural areas of each Province, County and City, 2006).

Should these developments be connected to the Threemilehouse WWTW, this would give a PE of 700 (worst case scenario) which would leave the treatment plant well over capacity and in need of expansion.

It should also be noted that in the current economic climate it is probable that not all the housing permissions applied for within the timeframe of the licence for will be realised

Planning Permissions

Monaghan County Councils ePlan was consulted with regard to planning permission granted/conditional planning permission from 2007-present.

Table 2 below tabulates planning permission granted/conditional (from 2007 to present) and associated population equivalents resulting from these permissions. This table was compiled in using Monaghan County Council's ePlan. The existing loading of the plant is approximately 133 PE. The total committed (conditional or granted) but not yet contributing is 64 (based on planning permissions granted from 2007 to present (**Table 2**)). The design capacity of the plant is 250.

Table 2 below tabulates planning permission granted (from 2008 to present) and associated population equivalents resulting from these permissions.

File Number	Description	No of Units	Additional PE (Based on 2.91 Occupancy)
P08374	22 no. fully serviced dwellings comprising	22	64
		22	**64**

Threemilehouse		
Existing PE	**Pending PE (from Planning Permission)**	**Potential increase to 2015**
133	64	
Total (Existing + Pending Projected)		**197**

As can be seen above, an approximate estimate for the plant loading in 2015 (life span of licence) is **197 PE**. As the plant is currently designed to cater for a PE of 250, it will be able to accommodate the extra hydraulic and organic load without posing an environmental risk to the receiving water habitat. However, it should be noted that Condition 2 of the planning permission (P071893) states that the applicant "*requested to liaise with MCC water services with a view to jointly increasing the capacity of the existing MCC STW on its current site, to a sufficient capacity to treat all waste waters produced".*

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, S.I. No. 684 of 2007.

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 and 2003, as amended by Section 13 of Protection of the Environment Act, 2003.

There have been no Section 63 notices issued by the Agency in relation to the Threemilehouse Waste Water Treatment 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
		√

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.

C.1 (i) Threemilehouse Waste Water Works

The waste water works serving the Threemilehouse village and the immediate environs comprises a network of gravity sewers, a pumping station, associated rising main and a Waste Water Treatment Works with a design capacity of 250 PE. The current approximate loading to the plant is 133 PE

The primary discharge of the waste water works is to the Threemilehouse River (at National Grid Reference 262216E, 330133N) in the townland of Drumguill, Co. Monaghan. The associated Waste Water Treatment Plant is located at 262203E 330148N also in the townland of Drumguill, Co. Monaghan.

The plant is supervised/manned for approximately two hours Monday to Friday, giving a total of approximately ten hours a week.

1.1 Waste Water Treatment Plant

The site boundary and a schematic flow diagram of the plant is shown on **Drawing 2** of **Attachment B.2** and **Drawing 3** in **Attachment C.1** respectively.

The waste water treatment plant, which provides treatment for a design load of 250 PE, comprises settlement, followed by a rotating biological contactor and clarification by reed beds. Sludge from the Threemilehouse Waste Water Treatment plant is tankered to Monaghan Town WWTP for treatment.

There are no site plans or drawings of the general arrangement of the treatment plant available.

1.2 Treatment

Inlet Works

Flow through the works is by gravity and is screened. The inlet works comprises of screen (15mm bar screen, manually cleaned by rake – see photo 1 below) and a flume. Level measurement is available but not operational.

Photograph 1 Inlet Works

Treatment

Flow passes by gravity from the inlet works and is split between two parallel primary settling tanks. Floated sludge is trapped by an underflow baffle, preventing it from entering the zone of the v-notched weir.

Photograph 2 Settling Tanks

Following primary settlement, flow passes to a rotating biological contactor (RBC). The RBC is rotated slowly by a small electric motor and is arranged so that a proportion of the media is submerged in the effluent at any time. As the RBC rotates, the media is subjected alternately to wastewater and air, encouraging an aerobic, biologically active film of biomass to establish on the media sheets, oxidising the pollutants in the sewage.

Photograph 3 Rotating Biological Contactor

The flow passes from the RBC to a humus tank. Flows enters the humus tank through a diffuser drum ensuring the flow is directed evenly toward the v-notched weir.

Photograph 4 Humus Tank

Effluent passes over the v-notched weir, is collected in a channel and piped to a reed bed for final clarification. A pumped sludge return is provided to the inlet of the primary settling tank.

Sludge

The settling tanks are de-sludged by tanker every 2 months. The sludge is transported to Monaghan Town WWTP for further treatment.

C.1.1 Storm Water Overflows

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

- 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.

There are no storm water overflows associated with this plant

C.1.2 Pumping Stations

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.

There are two pumping stations on the network.

- There are two pumps at each station, operating normally as Duty / Standby. In case of high level, the pumps automatically operate Duty / Assist.
- In case of power failure, the stations rely on the connection of a mobile generator.
- No storage capacity is available at the pumping station.
- There are records of three spills per year.

Primary Discharge Point - SW1(P)

The primary discharge point SW1(P) discharges to the Threemilehouse River at NGR 262205E 330168N in the townland of Drumguill, County Monaghan. The location of the discharge is shown on **Drawing 3 of Attachment B.3.** No construction drawings of the discharge point are available.

Discharge Point/Storm Over Flow Code	Name	Easting	Northing	Type	Receiving Waters	Receiving Water System Type
SW1(P)	Threemilehouse WWTW	262216	330133	Open Pipe Discharge	Threemilehouse River	Pipe to Open Channel

Photograph 5 Discharge Point

Environmental Monitoring & Sampling

Sampling of the primary discharge and influent of the Threemilehouse Waste Water Treatment Works are undertaken every 8 weeks. Monitoring of the upstream and downstream is also taken every 8 weeks.

Monaghan County Council Laboratory is on the register of approved laboratories submitting data to the EPA. This register has been compiled in compliance with Section 66 of the EPA Act 1992.

Section 66 of the Environmental Protection Agency Act 1992 provides for the establishment of an intercalibration programme for the purpose of assessing analytical performance and ensuring the validity and comparability of environmental data for laboratories which submit data to the Agency. It also provides for the establishment of a register of quality approved laboratories.

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.

The variability of the discharges and their effects on the receiving environment has been considered in determining the sampling programme. Equipment calibration and equipment maintenance are carried out in order to ensure accurate and reliable monitoring.

Euro Environmental Services, Drogheda, Co. Louth have sampled and analysed for the dangerous substances and characterisation of emission parameters in October 2009. Details of their accreditation of analysis are included in **Attachment C.1**.

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
	✓	

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 2008 and 2009 is contained in **Table D.1(i) 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

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.

There are no discharges to groundwater.

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.

There are no independently owned/private waste water treatment plants operating within the agglomeration.

Attachment included	Yes	No
		√

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_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING
SW1(P)	Primary	Monaghan	River	Threemilehouse River	Not Designated	262216	330133

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/.

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/.

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.

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 E.1**. Composite sampling is in place on the primary discharge.

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.

Environmental Monitoring & Sampling

Sampling of the primary discharge and influent of the Threemilehouse Waste Water Treatment Works are undertaken every 8 weeks. Monitoring of the upstream and downstream receiving water is carried out also every 8 weeks.

Monaghan County Council Laboratory is on the register of approved laboratories submitting data to the EPA. This register has been compiled in compliance with Section 66 of the EPA Act 1992.

Section 66 of the Environmental Protection Agency Act 1992 provides for the establishment of an intercalibration programme for the purpose of assessing analytical performance and ensuring the validity and comparability of environmental data for laboratories which submit data to the Agency. It also provides for the establishment of a register of quality approved laboratories.

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.

The variability of the discharges and their effects on the receiving environment has been considered in determining the sampling programme. Equipment calibration and equipment maintenance are carried out in order to ensure accurate and reliable monitoring.

Euro Environmental Services, Drogheda, Co. Louth have sampled and analysed for the dangerous substances and characterisation of emission parameters in October 2009. Details of their accreditation of analysis are included in **Attachment C.1**.

Monaghan County Council's sampling and monitoring procedures are also included in **Attachment E.2.**

Attachment E.2 should contain any supporting information.

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	266216	330133	N
aSW1(P)u	Primary	M	262227	330147	N
aSW1(P)d	Primary	M	262195	330115	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 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.

The Urban Waste Water Treatment Regulations, 2001 states that "*A sanitary authority shall ensure by 31 December 2005 that urban waste water entering a collecting system shall before discharge be subject to appropriate treatment in the following cases: a) in respect of discharges to freshwater and estuaries from agglomerations with a population equivalent of less than 2,000*"

In these regulations Appropriate Treatment refers to " *treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of the Directive and of other Community Directives*"

For the purposes of this assessment the standards as outlined in the regulations were used to assess the effluent quality.

The Urban Waste Water Treatment Directive 91/271/EEC sets standards for final effluent discharged to the receiving waters as follows;

- Biochemical Oxygen Demand 25 mg/L
- Chemical Oxygen Demand 125 mg/L
- Total Suspended Solids 35 mg/L

The following table shows results of samples taken in Threemilehouse wastewater treatment plant:

Final Effluent Results 2008/2009

Date	BOD	COD	SS
28/01/2008	10	36	8
19/02/2008	2	52	5
26/03/2008	6	43	3
22/04/2008	19	78	5.2

Date	BOD	COD	SS
28/05/2008	46	191	10
09/07/2008	7	23	12
27/08/2008	8	45	14.4
24/09/2008	2	22	3
22/10/2008	2	39	7
09/12/2008	3	24	3
14/01/2009	33	67	3
24/03/2009	25	74	3
12/05/2009	10	28	3
10/06/2009	2	44	2
10/07/2009	<2	58	<2
Average	**11.8**	**53.6**	**5.6**

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

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

Assessment of Impact on Receiving Surface

The outfall from the Threemilehouse Waste Water Plant discharges to the Threemilehouse River at National Grid Reference 262216E 336133N in the Townland of Drumguill, Co. Monaghan.

The Threemilehouse River flows into the Conawary River which is a Tributary of the River Blackwater (see **Figure 1** below).

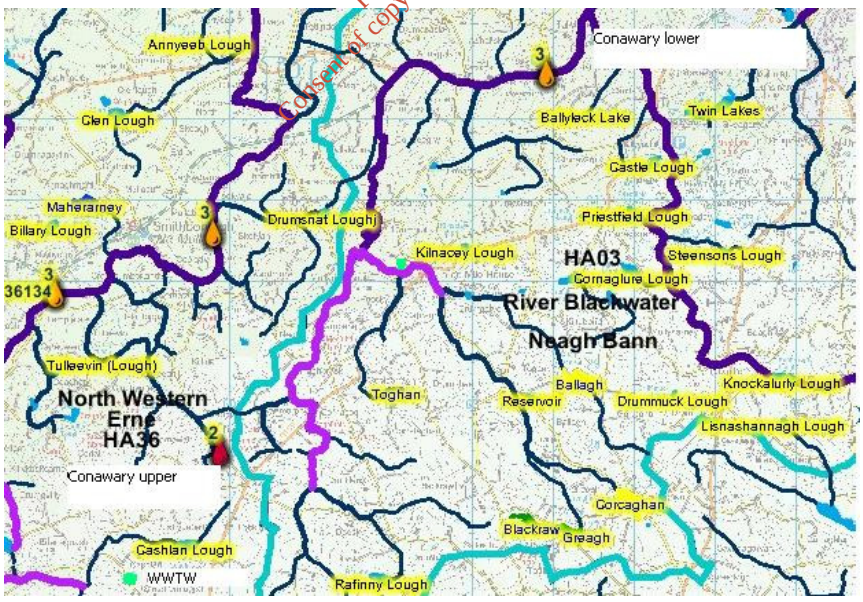

Figure 1 Location of WWTW and Discharge (Source: EPA ENVision Mapping)

The receiving water is not identified as a "sensitive" waterway under the Urban Waste Water Treatment Regulations S.I. 254 2001. The same stretch of river is also not classified as a "salmonid river" under S.I. 293 of 1988. The river is located within the Neagh Bann IRBD. The River Blackwater is however designated Nutrient Sensitive from the confluence of the River Shambles to Newmills Bridge.

There are no Natura 2000 Sites (SPA's and SAC's) in the vicinity of the wastewater treatment plant or in the Blackwater Catchment. The Corcreeghy Lake and Woodland pNHA (Site Code: 004783) is located approximately 1.2km downstream (as the crow flies) of the discharge. Corcreeghy lake and woodland is a relatively undisturbed area featuring marsh margins at the lough shore and further from the shoreline there is extensive areas of wet woodland featuring Willow (*Salix* spp) and Alder (*Alnus* spp). The rare marsh fern (*Thelypteris palustris*) is thriving in this location. This lake is designated as a fine example of intact transition from open water to wet woodland together with the rare species contained within.

The Threemilehouse discharge point is at a sufficient distance upstream of the Corcreeghy Lake and Woodlands so not as to impact on the conservation objectives and integrity of the pNHA.

The overall River Water Framework Directive status for the Threemilehouse River is 1b, hence the water body is thought to be at risk of failing to meet good status in 2015.

The overall River Water Framework Directive status for the ThreeMileHouse, Trib of Blackwater Sub Basin is 1a, hence the water body is at risk of failing to meet good status in 2015 (Source: Water Matters Report see **Attachment F.1**).

The treated effluent has an average BOD concentration of 11.8 mg/l and average suspended solids concentration of 5.6 mg/l and COD concentration of 53.6mg/l. Average concentrations of nutrients are as follows: orthophosphate 2.165 mg/l (P), average Total Phosphorus 4.6 mg/l (P) and Total Nitrogen 30.9 mg/l (N).

Monaghan Co. Co. monitors the river both upstream and downstream of the discharge from the Waste Water Works. These locations are shown on **Drawing 4** of **Attachment B3**. Monitoring data collected for the year 2008 and 2009 is presented in **Tables F.1(i)a aSW1(P)u** and **aSW1(P)d**. Monitoring results for dangerous substances relate to a once-off samples collected in October 2009 and are presented in **Tables F.1(i)b aSW(P)u** and **aSW(P)d**.

Monaghan County Councils upstream monitoring results indicate relatively good water quality in the river, with an orthophosphate level recorded at 0.047 mg/l P, ammonia level of 0.06 mg/l NH_3-N, BOD of <2 mg/l, TP of 0.09mg/l, TN of 3.31mg/l N and suspended solids of 6.7 mg/l. Dangerous substances concentrations were below detection level for 11 of the 19 parameters tested in October 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

Results from the downstream monitoring site (aSW1(P)d) indicates generally good water quality with an orthophosphate level of 0.049 mg/l P, ammonia 0.09mg/l NH_3-N, BOD of 2.1 mg/l, TP of 0.11 mg/l, TN of 3.69mg/l N and suspended solids levels of 11.44 mg/l. Dangerous substances concentrations were below detection level for 11 of the 19 parameters tested in October 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

The nearest biological monitoring stations are Conawary (Lower) (Station Number 1100) which is downstream of the discharge point and Conawary (Upper) (Station Number 0700) which is located upstream of the discharge point.

The baseline Q value at the Conawary (Lower) station was 3. The current MRP value is 40ug/l and the current Q Value (2003-2005) is 3. The standard to be achieved by 2007 was 3-4 or 50ug/l. This standard was achieved.

The baseline Q value at the Conawary (Upper) station was 4. The current MRP value is 60ug/l and the current Q Value (2003-2005) is 2. The standard to be achieved by 2007 was 4 or 30ug/l. Neither standards were achieved. The suspected cause for this was agricultural pollution (EPA Water Quality in Ireland 2004-2006).

Results taken on taken on 6/10/09 upstream and downstream of the discharge point on the Threemilehouse River would indicate that the discharge is not impacting on the quality of the waterbody. An MRP (derived from Total P) concentration of 0.03mg/l was recorded upstream and downstream of the discharge.

Due to lack of flow data on the receiving water, the assimilative capacity was unable to be calculated. However, water quality monitoring results (EPA and Monaghan Co Co Data) would indicate that the discharges from the works are not having a significant detrimental impact on the receiving environment and that that the Environmental Objective contained within the Surface Water Regulations 2009 (S.I. No. 272 of 2009) are being met.

- 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.

  Monitoring of the receiving surface water has been completed for the primary discharge and upstream and downstream monitoring points.

- Details of monitoring of the receiving ground 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. 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.

  Monitoring of ground water was not applicable.

  A reed bed operates as a polishing filter to reduce nutrient contents further after the primary and secondary treatment prior to the discharge being discharge to surface water. The groundwater characteristics of the area are outlined below:

National Draft Generalised Bedrock Map

Rockunit Code: OM
Description: Ordovician Metasediments

Neagh Bann RBD Subsoils

Parent Material Code: TLPSsS
Subsoil Name: Till derived chiefly from Lower Palaeozoic rocks
Description: Sandstone and shale till (Lower Palaeozoic)
County: MONAGHAN

Neagh Bann Interim Vulnerability

Vulnerability Code: H
Vulnerability Description: High

National Draft Bedrock Aquifer Map

Aquifer Code: Pl
Aquifer Description: Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones

Source: OSI / DCENR 2009

Summary Information for Keady Waterbody

Waterbody Category: Groundwater Waterbody
Water Body Name: Keady

Chemical and Quantitative Status Report
Overall Status Result: Good

Risk Report
Overall Risk Result: 2a Probably Not At Risk

Objectives Report
Overall Objective: Protect

Source: Water Matters http://www.wfdireland.ie/maps.html

- 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

- 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.

Water Quality Management Plans or Catchment Management Plan

The Neagh Bann International River Basin District (RBD) is one of three RBDs that together form the North South Shared Aquatic Resource (NS Share) Project. It was set up to implement the objectives of the Water Framework Directive in the region. This Directive is the most substantial and innovative piece of European Union water legislation to date. It sets out a detailed framework for the protection, improvement and sustainable use of our waters (Source: Neagh Bann RBD).

A Draft River Basin Management Plan for the Neagh Bann International River Basin District has been produced in accordance with the requirements of the Water Framework Directive. The Neagh Bann International River Basin District is cross-border; partly in Ireland and partly in Northern Ireland.

A copy of the summary leaflet of the Draft River Basin Management Plan for the Neagh Bann International River Basin District Plan is contained in **Attachment G2**.

In support of the Draft River Basin Management Plan documentation, the Water Matters reports are attached in **Attachment F.1** which has been generated by the Water Matters website.

Urban Waste Water Treatment Regulations 2001 (UWWT) (S.I. 254 of 2001)

The Urban Waste Water Treatment Regulations 2001 (S.I. 254 of 2001) place a responsibility on local authorities providing treatment of urban waste water to monitor the discharges to surface and ground waters. The receiving water is not classified as a 'sensitive' water course under the Urban Waste Water Regulations 2001(S.I 254 of 2001). The minimum standards set out in the second schedule of the regulations are shown below:

Parameters	Concentration	Minimum percentage of reduction[1]
BOD	25mg/l	70-90
COD	125mg/l	75
SS	35mg/l	90

[1] Reduction in relation to the load of the influent.

BOD
All results show compliance with Biochemical Oxygen Demand standards of less than 25mg/l apart from on the 28/05/09 when a concentration of 46mg/l was recorded (see **Attachment D** and **Attachment E**). A total average percentage reduction of 94% was achieved over the above time period.

COD
All show compliance with the Urban Waste Water Regulations 2001 (S.I. No.254) concentration of 125mg/l part from on the 28/05/08 when a COD concentration of 191mg/l was recorded (see **Attachment D** and **Attachment E**). A total average percentage reduction of 89% was achieved over the above time period.

SS
All show compliance with the Urban Waste Water Regulations 2001 (S.I. No.254) concentration of 35mg/l (see **Attachment D** and **Attachment E**). A total average percentage reduction of 97% was achieved over the above time period.

Influent Concentration				
	BOD (mg/l)	COD (mg/l)	SS (mg/l)	Total P (mg/l) P
Average Concentration	188	445	153.9	17

Effluent Concentration				
	BOD (mg/l)	COD (mg/l)	SS (mg/l)	Total P (mg/l) P
Average Concentration	11.8	53.6	5.6	4.6

With regard to Total P, a total average percentage reduction of 73% was achieved over the above time period Jan 2008 - October 2009.

From the above tables above it can be seen that at present the existing waste water treatment plant is meeting the required standards as set out in the Urban Waste Water Regulations 2001(S.I 254 of 2001) for the limits set on BOD, COD and suspended solids.

European Communities Quality of Salmonid Rivers Regulations S.I. 293/1988

The Threemilehouse River is not designed as a Salmonid River under the European Communities Quality of Salmonid Rivers Regulations S.I. 293/1988.

Water Quality (Phosphorous) Regulations 1998 (S.I. 258/1998)

The Water Quality (Phosphorous) Regulations 1998 (S.I. 258/1998) require that water quality must be improved upon or in cases of an existing high water quality this standard must be maintained. In light of this the Biological Quality (Q) rating system was assigned by the Environmental Protection Agency (EPA).

Water courses that had an unsatisfactory Q rating in 1997 were highlighted and an improvement of the Q value or median annual molybdate reactive phosphorus (MRP) values must be achieved by the deadline year 2007.

The nearest biological monitoring stations are Conawary (Lower) (Station Number 1100) which is downstream of the discharge point and Conawary (Upper) (Station Number 0700) which is located up stream of the discharge point.

The baseline Q value at the Conawary (Lower) station was 3. The current MRP value is 40ug/l and the current Q Value (2003-2005) is 3. The standard to be achieved by 2007 was 3-4 or 50ug/l. This strange was achieved.

The baseline Q value at the Conawary (Upper) station was 4. The current MRP value is 60ug/l and the current Q Value (2003-2005) is 2. The standard to be achieved by 2007 was 4 or 30ug/l. Neither standard were achieved.

Results taken on taken on 7/10/09 upstream and downstream of the discharge point on the Threemilehouse River would indicate that the discharge is not impacting on the quality of the waterbody in terms of MRP. An MRP (derived from Total P) concentration of 0.03mg/l and 0.04mg/l were recorded upstream and downstream of the discharge.

With regard to effluent Total P concentrations, a total average percentage reduction of 73% is being achieved, with an average effluent concentration of 4.6mg/l.

Water Framework Directive (2000/60/EC)

The overall River Water Framework Directive status for the Threemilehouse River is 1b, hence the water body is thought to be at risk of failing to meet good status in 2015.

The overall River Water Framework Directive status for the ThreeMileHouse, Trib of Blackwater Sub Basin is 1a, hence the water body is at risk of failing to meet good status in 2015 (Source: Water Matters Report see **Attachment F.1**).

- 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 both in the effluent and in the stream upstream and downstream of the discharge point as detailed in **Tables D.1** and **F.1** 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.

Not Applicable

- 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) a site (until the adoption, in respect of the site, of a decision by the European Commission under Article 21 of Council Directive 92/43/EEC for the purposes of the third paragraph of Article 4(2) of that Directive) —

    (i) notified for the purposes of Regulation 4 of the Natural Habitats Regulations, subject to any amendments made to it by virtue of Regulation 5 of those Regulations,

    (ii) details of which have been transmitted to the Commission in accordance with Regulation 5(4) of the Natural Habitats Regulations, or

    (iii) added by virtue of Regulation 6 of the Natural Habitats Regulations to the list transmitted to the Commission in accordance with Regulation 5(4) of those Regulations,

  (b) a site adopted by the European Commission as a site of Community importance for the purposes of Article 4(2) of Council Directive 92/43/EEC[1] in accordance with the procedures laid down in Article 21 of that Directive,

  (c) a special area of conservation within the meaning of the Natural Habitats Regulations, or

  (d) an area classified pursuant to Article 4(1) or 4(2) of Council Directive 79/409/EEC[2];

[1]Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ No. L 206, 22.07.1992)

[2]Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (OJ No. L 103, 25.4.1979)

There are no Natura 2000 Sites (SPA's and SAC's) in the vicinity of the wastewater treatment plant or in the Blackwater Catchment. There is a pNHA approximately Corcreeghy Lake and Woodland (Site Code: 004783). This is approximately 1.2km (as the crow flies). Corcreeghy lake and woodland is a relatively undisturbed area featuring marsh margins at the lough shore and further from the shoreline there is extensive areas of wet woodland featuring Willow (*Salix* spp) and Alder (*Alnus* spp). The rare marsh fern (*Thelypteris palustris*) is thriving in this location. This lake is so designated as a fine example of intact transition from open water to wet woodland together with the rare species contained within.

The Corcreeghy Lake and Woodlands is a sufficient downstream of the Threemilehouse discharge point, hence the conservation objectives and integrity of the pNHA will not be impacted.

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.

- 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 are no modelling details pertaining to the discharges from the agglomeration.

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
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

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.

There are no water abstraction points downstream of the wastewater treatment plant.

Attachment F.2 should contain any supporting information.

SECTION G: PROGRAMMES OF IMPROVEMENTS

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

There is no programme of improvements for the Threemilehouse Waste Water Treatment Works during the timeframe of the licence (i.e. over the next 6 years).

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).

Compliance Water Quality (Dangerous Substances) Regulations, 2001 (S.I. No. 12 of 2001 and Dangerous Substances Directive 2006/11/EC

The Dangerous Substances Regulations 2001 prescribe water quality standards in relation to certain substances in surface waters, e.g. rivers, lakes and tidal waters. The substances include certain pesticides (Atrazine, Simazine, and Tributyltin), solvents (Dichloromethane, Toluene, and Xylene), metals (Arsenic, Chromium, Copper, Lead, Nickel, and Zinc) and certain other compounds (Cyanide and Fluoride). The Regulations give further effect to the EU Dangerous Substances Directive (76/464/EC) and give effect to certain provisions of the EU Water Framework Directive (2000/60/EC).

Dangerous Substances have been tested on the 6/10/2009 by Euro Environmental on behalf of Monaghan County Council for the discharge. The results shown in **D.1 (i)**, show that there is no significant impact is made by the waste water treatment plant on the receiving environment.

Water Framework Directive 2000/60/EC

The overall River Water Framework Directive status for the Threemilehouse River is 1b, hence the water body is thought to be at risk of failing to meet good status in 2015.

The overall River Water Framework Directive status for the ThreeMileHouse, Trib of Blackwater Sub Basin is 1a, hence the water body is at risk of failing to meet good status in 2015 (Source: Water Matters Report see **Attachment G.2**).

Birds Directive 79/409/EEC

Discharges from the Threemilehouse agglomeration are not likely to have a significant effect on any site designated under the Birds Directives.

Groundwater Directives 80/68/EEC & 2006/118/EC

The WWTP will ensure compliance with the Groundwater Directive as groundwater will not be affected by the WWTP discharge.

Drinking Water Directives 80/778/EEC

There are no drinking water abstraction points downstream of the WWTP. Discharges from the WWTP do not affect any drinking abstraction points.

Urban Waste Water Treatment Directive 91/271/EEC

The Urban Waste Water Treatment Directive (91/271/EEC) and Environmental Protection Agency Act, 1992 (Urban Waste Water Treatment) Regulations, 1994 set out the timetable by which various forms of treatment and collection must to be provided for waste waters from different population equivalents.

The Urban Waste Water Treatment Regulations, 2001 (S.I. 254 of 2001), were made on 14 June 2001 and amended on 15 July 2004. The Regulations give further effect to the provisions of EU Council Directive 91/271/EEC of 21 May 1991, as amended concerning urban waste water treatment, and Water Framework Directive 2000/60/EC of 23 October 2000.

As noted in the previous section for the purposes of this assessment the standard are outlined in the regulations were used to assessment the effluent quality.

At present the existing waste water treatment plant is fully meeting the required standards as set out in the Urban Waste Water Regulations 2001(S.I 254 of 2001) for the limits set on BOD, COD and suspended solids.

Habitats Directive 92/43/EEC

Discharges from the Threemilehouse agglomeration are not likely to have a significant effect on any site designated under the Habitats Directives.

Environmental Liabilities Directive 2004/35/EC

The Environmental Liability Directive aims to prevent and remedy environmental damage. The intention of this legislation is to hold operators whose activities have caused environmental damage financially liable for remedying this damage, and it aims to hold those whose activities have caused an imminent threat of environmental damage liable for taking preventive actions. There is no evidence of environmental damage caused by this WWTP.

Bathing Water Directive 76/160/EEC

The Threemilehouse River is not designated as a bathing area under the Bathing Water Directive and emissions from the WWTP will not result in the contravention of the directive.

Shellfish Waters Directive (2006/113/EC)

The Threemilehouse WWTP discharges to an inland surface watercourse that does not support any reported bivalve and gastropod molluscs as outlined within the directive, hence the WWTP will not have any effect upon the Shellfish Directive 2006/113/EC.

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).

European Communities Environmental Objectives (Surface Waters) Regulations 2009

The European Communities Environmental Objectives (Surface Waters) Regulations 2009 have been developed for the purposes of responding further to the requirements of:

- The Water Framework Directive (2000/60/EC) which requires that all surface waters achieve 'good status' by 2015.
- The Dangerous Substances Directive (2006/11/EC – formerly 76/464/EC) on pollution caused by certain dangerous substances discharged into the aquatic environment.
- A judgment of the European Court of Justice in June 2005 in relation to the Dangerous Substances Directive.
- A proposal for a Directive of the European Parliament and of the Council on water quality standards (Common Position adopted in June 2008.

The Regulations give legal status to the criteria and standards to be used for classifying surface waters in accordance with the ecological objectives approach of the Water Framework Directive. The classification of waters is a key step in the river basin management planning process and is central to the setting of objectives and the development of programmes of measures. Waters classified as 'high' or 'good' must not be allowed deteriorate. Waters classified as less than good must be restored to at least good status within a prescribed timeframe. The environmental targets or goals and the programmes of measures to be included in river basin management plans must therefore reflect these requirements.

With regard to the receiving waters, the Environmental Objectives set for surface waters in the European Communities Environmental Objectives (surface Waters) Regulations 2009 for good status have been met for BOD and MRP and Total Ammonia (95%ile).

Phosphorous Regulations (S.I. No. 258 of 1998)

Monaghan County Council has no programme of improvements planned for the wastewater treatment plant at Threemilehouse for the term of this license application. Included in **Attachment G.2** is a report carried out by Monaghan County Council detailing the present phosphate implementation measures that are currently in place for the County.

Monaghan County Council has a responsibility under the Phosphorus Regulations 1998 (S.I. No. 258 of 1998) to maintain and/or improve surface water quality in rivers and lakes in their functional area.

Phosphorus Removal

The treatment works does not includes a facility for the removal of phosphorus. However, wetlands were constructed to cater for the existing load generated by the agglomeration. A reed bed operates as a polishing filter to reduce nutrient (including phosphorous) contents further after the primary and secondary treatment. An average total phosphorous percentage reduction of 73% is achieved by the Threemilehouse plant, with an average effluent concentration of 4.6mg/l.

The Council Phosphate Implementation Report 2006 is contained in **Attachment G.2.**

Water Quality Management Plans or Catchment Management Plans

The summary leaflet of the Draft River Basin Management Plan for the Neagh Bann International River Basin District summary leaflet is contained in **Attachment G.2**.

The Water Matters Reports are also contained in **Attachment F.1**

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 Waste Water Treatment Works.

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.

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 (S.I. No. 684 of 2007).

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 :** 10 12 09
(on behalf of the organisation)

Print signature name: MARK JOHNSTON

Position in organisation: SEE

Agglomeration details

Leading Local Authority	Monaghan County Council
Co-Applicants	
Agglomeration	Threemilehouse Waste Water Treatment Works
Population Equivalent	250
Level of Treatment	Tertiary
Treatment plant address	Drumguill, Threemilehouse, Co. Monaghan
Grid Ref (12 digits, 6E, 6N)	262203 / 330148
EPA Reference No:	

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

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:	Threemilehouse Waste Water Treatment Works	
Location:	Drumguill, Threemilehouse, Co. Monaghan	
Grid Ref (12 digits, 6E, 6N)	262216 / 330133	
Name of Receiving waters:	Threemilehouse River	
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)	DWF or 95%ile flow of receiving water body not known. Design PE 250 Current PE 133	

Emission Details:

(i) Volume emitted			
Normal/day	24 m^3	Maximum/day	45 m^3
Maximum rate/hour	1.875 m^3	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.0005 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	24 hr flow proportional	= 7.5	
Temperature	°C	24 hr flow proportional	= 11.3	
Electrical Conductivity (@ 25°C)	µS/cm	24 hr flow proportional	= 1018	
Suspended Solids	mg/l	24 hr flow proportional	= 5.6	0.13344
Ammonia (as N)	mg/l	24 hr flow proportional	= 25.9	0.7416
Biochemical Oxygen Demand	mg/l	24 hr flow proportional	= 11.8	0.2832
Chemical Oxygen Demand	mg/l	24 hr flow proportional	= 53.6	1.3176
Total Nitrogen (as N)	mg/l	24 hr flow proportional	= 30.9	0.6552
Nitrite (as N)	mg/l	24 hr flow proportional	= 0.3	0.008376
Nitrate (as N)	mg/l	24 hr flow proportional	= 3.33	0.0792
Total Phosphorous (as P)	mg/l	24 hr flow proportional	= 4.6	0.108
OrthoPhosphate (as P)	mg/l	24 hr flow proportional	= 2.165	0.696
Sulphate (SO_4)	mg/l	24 hr flow proportional	= 128.7	3.0875
Phenols (Sum)	µg/l	24 hr flow proportional	< 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.

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	< 0.28	0
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	< 0.96	0
Chromium	µg/l	24 hr flow proportional	= 2.8	0.0000672
Copper	µg/l	24 hr flow proportional	= 6.6	
Cyanide	µg/l	24 hr flow proportional	< 5	0
Flouride	µg/l	24 hr flow proportional	= 470	0.00528
Lead	µg/l	24 hr flow proportional	< 0.38	0
Nickel	µg/l	24 hr flow proportional	= 3.3	0.0000792
Zinc	µg/l	24 hr flow proportional	= 11.6	0.000278
Boron	µg/l	24 hr flow proportional	= 224.1	0.00537
Cadmium	µg/l	24 hr flow proportional	< 0.09	0
Mercury	µg/l	24 hr flow proportional	< 0.03	0
Selenium	µg/l	24 hr flow proportional	= 1.4	0.0000336
Barium	µg/l	24 hr flow proportional	= 41.1	0.0009864

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 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	8760

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

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)	262195 / 330115

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	12/05/09	10/06/09	14/07/09	07/10/09			
pH				= 7.9	Grab	0.01	Method 4500-H+/Electrometry
Temperature				= 8.4	Grab	0	0
Electrical Conductivity (@ 25°C)				= 257	Grab	0.5	Method 2510 B/Electrometry
Suspended Solids	= 8	= 25	= 19	< 2	Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)				= 0.09	Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	= 2	= 2	= 2	< 2	Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 21	= 27	= 25	= 8	Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen				= 4.52	Grab	0	DO Meter
Hardness (as $CaCO_3$)				= 80	Grab		Colorimetry
Total Nitrogen (as N)	= 2.25	= 3.53	= 1.83	= 6.12	Grab	1	Calculation
Nitrite (as N)				= 0.01	Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)				= 1.08	Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.09	= 0.18	= 0.14	= 0.081	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)				= 0.049	Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)				= 22.73	Grab	1.39	Method 4500-SO42 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:	

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)	262195 / 330115

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	07/10/09						
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	1	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	= 5.1				Grab	0.93	USEPA Method 3125B ICPMS
Copper	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 160				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 0.6				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 2				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 5.4				Grab	4.6	USEPA Method 3125B ICPMS
Boron	= 102.4				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.03				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 1.7				Grab	0.74	USEPA Method 3125B ICPMS

Barium	= 47.7				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

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)	262227 / 330147

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	12/05/09	10/06/09	14/07/09	07/10/09			
pH				= 8	Grab	0.01	Method 4500-H+/Electrometry
Temperature				= 8.4	Grab	0	0
Electrical Conductivity (@ 25°C)				= 254	Grab	0.5	Method 2510 B/Electrometry
Suspended Solids	= 3	= 13	= 2	< 2	Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)				= 0.06	Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	= 2	= 2	= 2	< 2	Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 20	= 16	= 23	= 15	Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen				= 4.31	Grab	0	DO Meter
Hardness (as $CaCO_3$)				= 83	Grab		Colorimetry
Total Nitrogen (as N)	= 2.34	= 5.76	= 2.09	= 3.36	Grab	1	Calculation
Nitrite (as N)				= 0.01	Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)				= 1.11	Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.09	= 0.12	= 0.1	= 0.08	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)				= 0.047	Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)				= 23.35	Grab	1.39	Method 4500-SO42-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:	

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)	262227 / 330147

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	07/10/09						
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	1	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	= 0.8				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 160				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 0.5				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 1.9				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 8.9				Grab	4.6	USEPA Method 3125B ICPMS
Boron	= 137.3				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.03				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 1				Grab	0.74	USEPA Method 3125B ICPMS

Barium	= 50.3				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

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 appropiate 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,	Not Applicable	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 waste water treatment plant and/or the waste water discharge point or points to which the application relates,	Not Applicable	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	Not Applicable	Yes
(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,	Not Applicable	Yes
(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.	Not Applicable	Yes
(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,	Not Applicable	Yes
(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,	Not Applicable	Yes
(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,	Not Applicable	Yes
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,	Not Applicable	Yes
(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,	Not Applicable	Yes
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,	Not Applicable	Yes
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.	Not Applicable	Yes
(n)	Any other information as may be stipulated by the Agency.	Not Applicable	Yes
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,	Not Applicable	Yes
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,	Not Applicable	Yes
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -	Not Applicable	Yes
(c) (i)	the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and	Not Applicable	Yes
(c) (ii)	the point or points at which monitoring and sampling are undertaken or are to be undertaken,	Not Applicable	Yes
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	Not Applicable	Yes

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 agancy.	Attached	Yes
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.	Attached	Yes
2	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.	Attached	Yes
3	1 CD of geo-referenced digital files provided.	Attached	Yes
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**
3	2 CD versions of EIS, as PDF files, provided.	Not Applicable	Yes
1	EIA provided if applicable	Not Applicable	Yes
2	2 hardcopies of EIS provided if applicable.	Not Applicable	Yes
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 B.1	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,	Section B.2	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,	Sections B.2 & B.3	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	Section B.8	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 C.1 & F.1	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.1 & Attachment F.1	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,	Sections E.2, E.3 & E.4 & Attachments E.2 & E.4	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 E.4	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 C.1	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,	Section F.2 Attachment F.1	Yes
(l)	give details of any designation under any Council Directive or Regulations that apply in relation to the receiving waters,	Section F.1	Yes
(m)	give details of compliance with any applicable monitoring requirements and treatment standards,	Sections E.2 & E.4	Yes
(n)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work,	Section G.1	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 B.8	Yes

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Accreditation Certificate – Euro Environmental Services Ltd.

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Water Matters Reports

SECTION G PROGRAMME OF IMPROVEMENTS

Attachment G.2: Draft River Basin Management Plan for the Neagh Bann International River Basin District – Summary Leaflet

Monaghan County Councils Phosphate Implementation Report 2006

Attachment B.1

N

DRUMGUILL

KILNACLAY

ROOSKY
(ED DRUMSNATY)
RUSCAIGH
[TRC: DROIM SEACHTA]

CABRAGH
(Monaghan By)

DRUMGARVE

Flax Mill

Kilnaclay Lough

WASTEWATER
TREATMENT WORKS

0 50 100 150 200 250 m
SCALE 1:5000

LEGEND:

LICENCE APPLICATION AREA

REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: dublin@wyg.com

Project:
THREEMILEHOUSE
DISCHARGE LICENCE APPLICATION

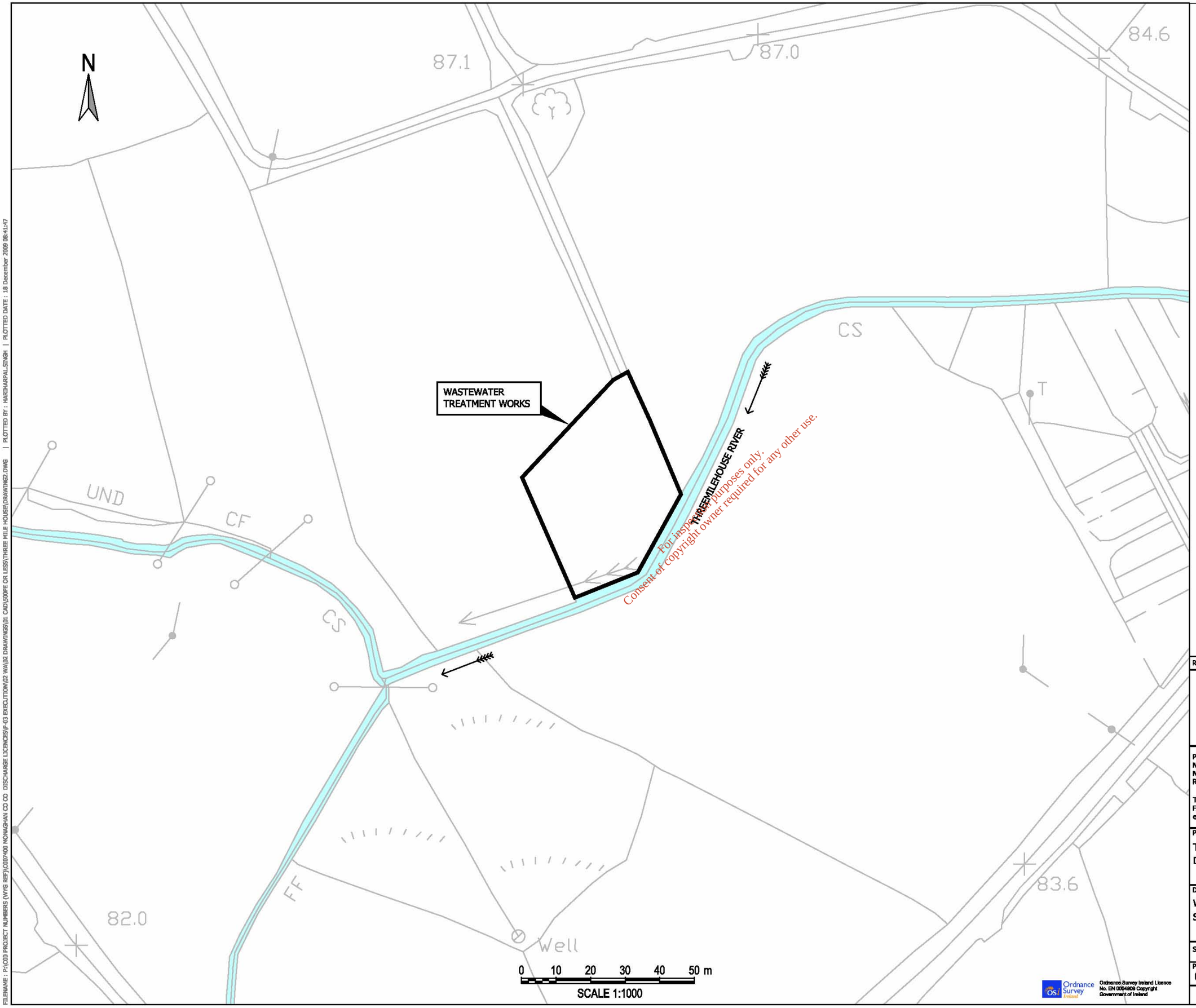
Drawing Title:
WASTE WATER TREATMENT WORKS
AGGLOMERATION PLAN

Scale @ A3	Drawn Date	Checked Date	Approved Date
1:5000	HS 09.11.09	CS 16.12.09	SJM 16.12.09

Project No.	Office	Type	Drawing No.	Revision
COO7400	1117	WA	DRAWING 1	0

FILENAME : P:\COO PROJECT NUMBERS (WYG REF)\COO7400 MONAGHAN CO CO DISCHARGE LICENCES\P-03 EXECUTION\02 WA\02A DRAWINGS\01 CAD\50KFE OR LESS\THREE MILE HOUSE\DRAWING1.DWG | PLOTTED BY : HARDHARPAL.SINGH | PLOTTED DATE : 18 December 2009 08:41:11

Attachment B.2



REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: dublin@wyg.com

Project:
THREEMILEHOUSE
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT WORKS
SITE BOUNDARY

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
1:1000	HS	09.11.09	CS	16.12.09	SJM	16.12.09

Project No.	Office	Type	Drawing No.	Revision
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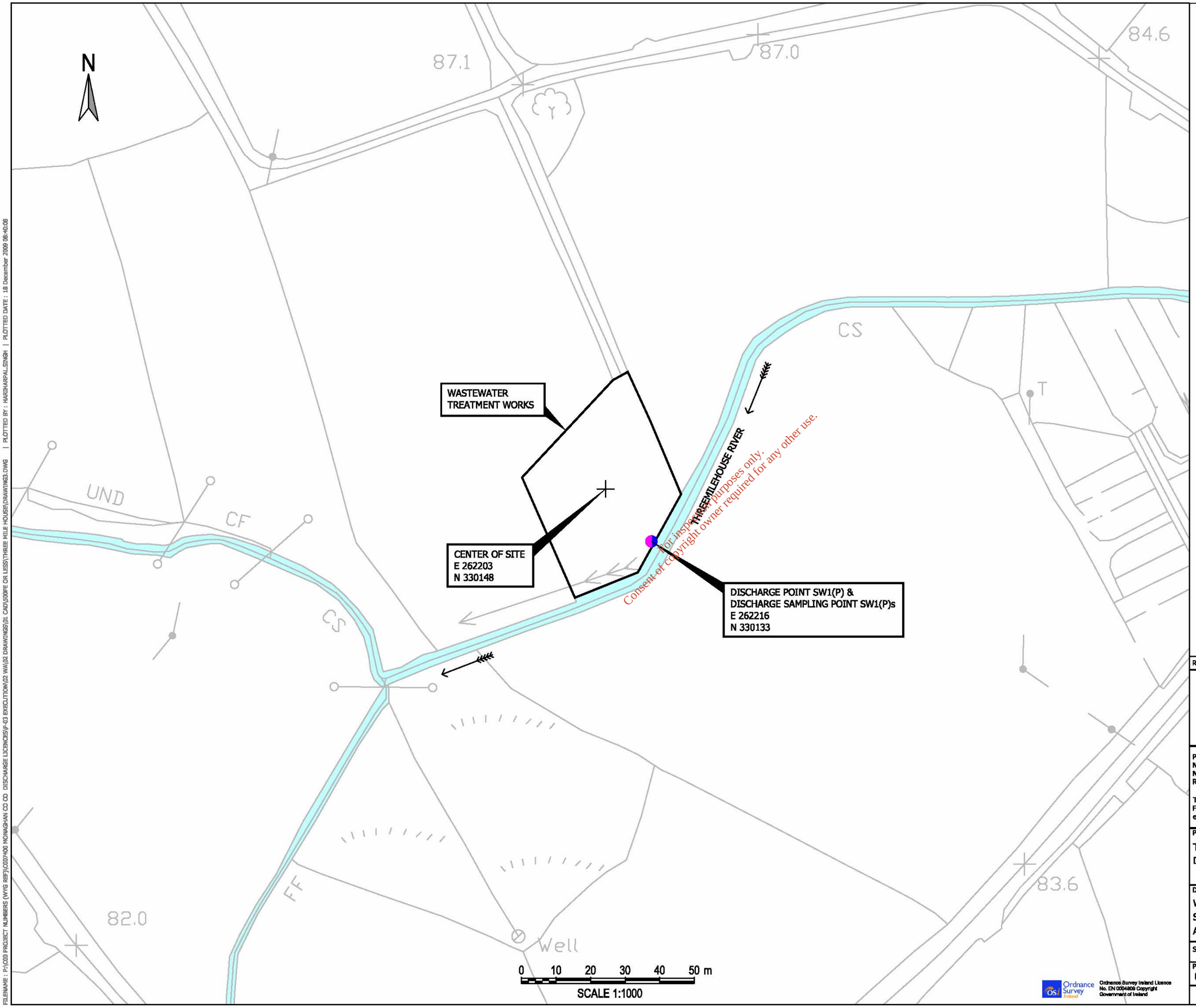
Attachment B.3



LEGEND:

- DISCHARGE POINT
- SAMPLING POINT

REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

PH McCARTHY HOUSE
NUTGROVE OFFICE PARK
NUTGROVE AVENUE,
RATHFARNHAM, DUBLIN 14

TEL: +353 (0) 1291 4800
FAX: +353 (0) 1298 9521
e-mail: dublin@wyg.com

Project:
THREEMILEHOUSE
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT WORKS
SITE PLAN AND BOUNDARY
ASSOCIATED WITH PRIMARY DISCHARGE POINT

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
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Project No.	Office	Type	Drawing No.	Revision
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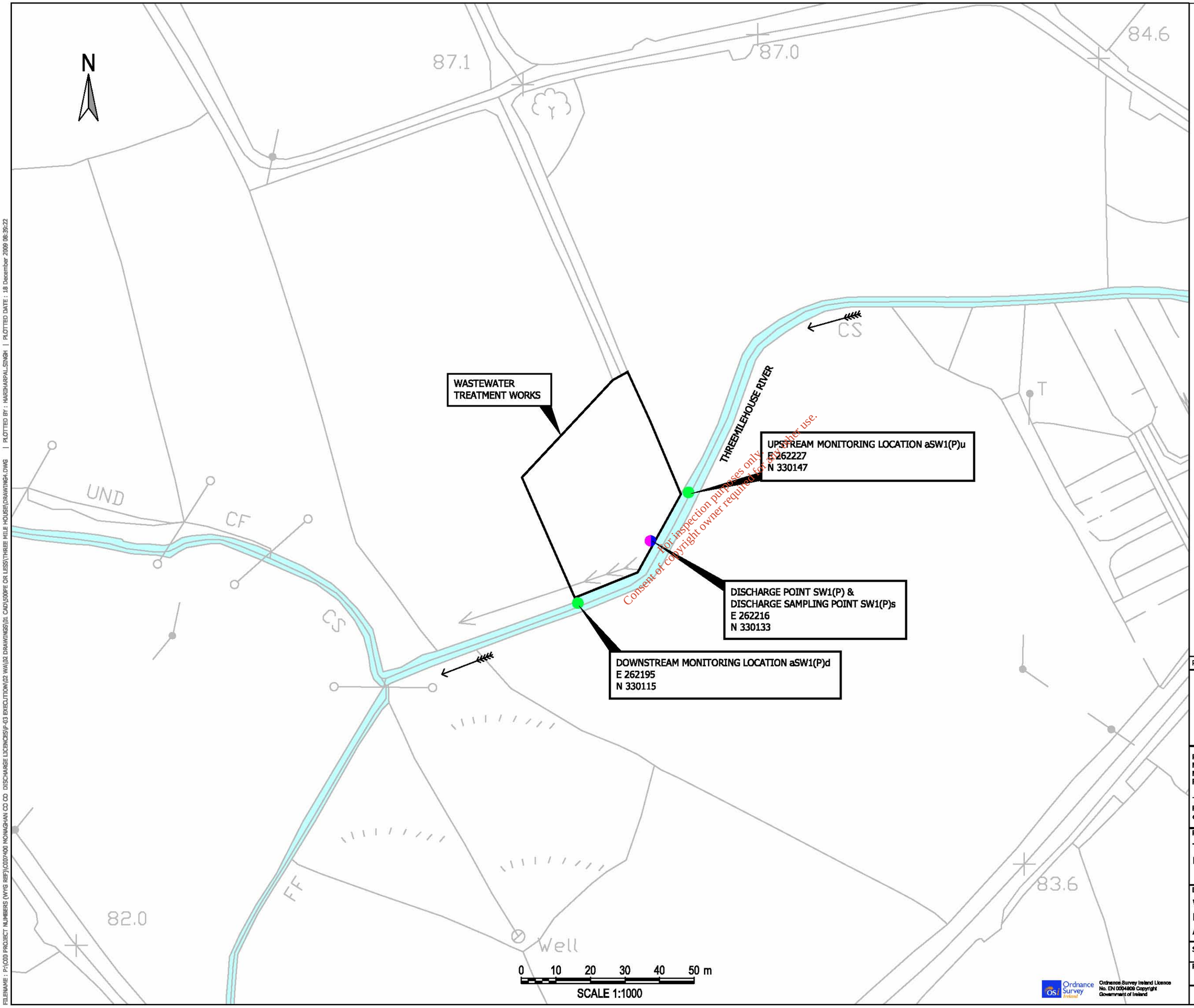

LEGEND:

- SAMPLING POINT
- MONITORING LOCATION
- DISCHARGE POINT

REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

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e-mail: dublin@wyg.com

Project:
THREEMILEHOUSE
DISCHARGE LICENCE APPLICATION

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

Scale @ A3	Drawn	Date	Checked	Date	Approved	Date
1:1000	HS	09.11.09	CS	16.12.09	SJM	16.12.09

Project No.	Office	Type	Drawing No.	Revision
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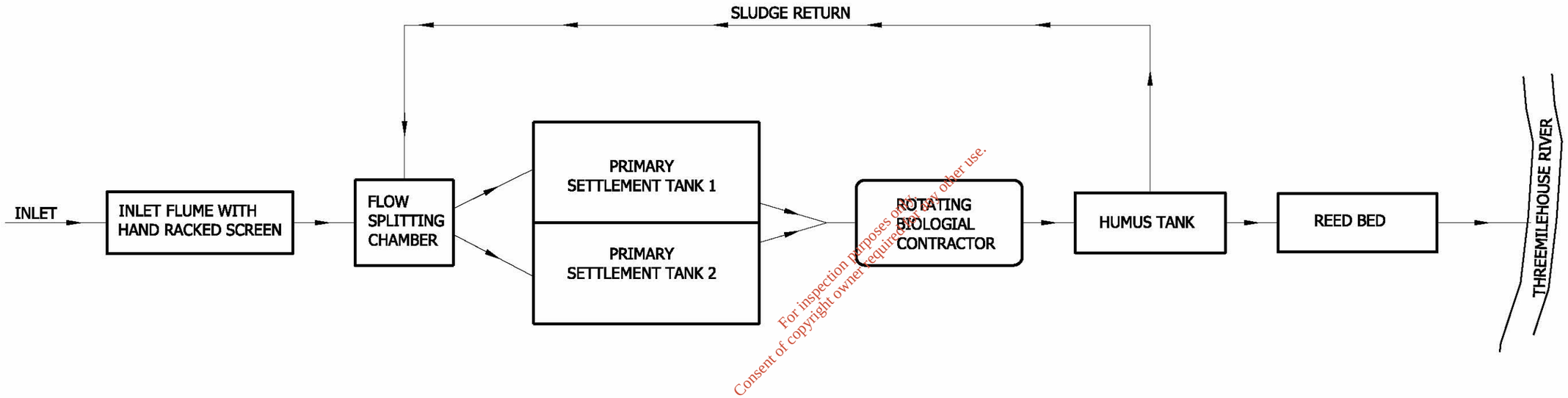
Attachment C.1



REV	DESCRIPTION	BY	CHK	APP	DATE

Monaghan County Council
Comhairle Contae Mhuineacháin

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FAX: +353 (0) 1298 9521
e-mail: dublin@wyg.com

Project:
THREEMILEHOUSE
DISCHARGE LICENCE APPLICATION

Drawing Title:
WASTE WATER TREATMENT WORKS
SCHEMATIC FLOW DIAGRAM

Scale @ A3	Drawn Date	Checked Date	Approved Date
N.T.S	HS 09.11.09	GMC 16.12.09	SJM 16.12.09

Project No.	Office	Type	Drawing No.	Revision
C007400	1117	WA	DRAWING 5	0

Irish National Accreditation Board

Wilton Park House, Wilton Place, Dublin 2, Ireland. Tel +353 1 6073003 Fax +353 1 6073109 E-mail inab@inab.ie Web www.inab.ie

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 C 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.

Irish National Accreditation Board

Wilton Park House
Wilton Place
Dublin 2

Tel: 353-1-607 3003
Fax: 353-1-607 3109
Email: inab@inab.ie
http://www.inab.ie

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

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

Irish National Accreditation Board

Wilton Park House
Wilton Place
Dublin 2

Tel: 353-1-607 3003
Fax: 353-1-607 3109
Email: inab@inab.ie
http://www.inab.ie

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

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.

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.

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.

EURO environmental services

Chemical Testing Laboratory

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

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		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, 20th Edition Method 4500-H^+B – SOP 110
05 Trade Wastes *Industrial Waters*	Conductivity (5µs – 100,000 µscm^{-1})	Standard Methods for the examination of Water and wastewater, 20th Edition Method 2510B – SOP 112
	BOD (2-6mg/L)	Standard Methods for the examination of Water and wastewater, 20th Edition Method 5210B – SOP 113
	COD (5-60,000 mg/L)	Standard Methods for the examination of water and wastewater, 20th Edition Method 5220D – SOP 107
766 Waters		
.01 Waters for potable and domestic purposes .04 Sewage .05 Trade Wastes *Industrial Waters* .99 Other Waters *Surface Waters* *Groundwaters*	Chloride (20 –10,000mg/L) Ammonia (0.2 – 1000 mg/L as N) Total Oxidised Nitrogen (TON) (1 – 8 mg/L as N)	Standard Methods for the examination of water and wastewater, 20th Edition Method 4500 – C-E – SOP 100 Standard Methods for the examination of water and wastewater, 20th Edition Method 4500 NH_3F – SOP 114 Standard Methods for the examination of water and wastewater, 20th Edition Method 4500 $N0_3H$ – SOP 151

EURO environmental services

Chemical Testing Laboratory

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

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 *Industrial Waters* .99 Other Waters *Surface Waters* *Groundwaters*	Orthophosphate (0.1 – 1000 mg/L as P)	Documented in-house methods based on Standard Methods for the examination of water and wastewater, 20th Edition. Method 4500 – P E – SOP 117
	Sulphate (10 – 30 mg/L as SO_4)	Standard Methods for the examination of water and wastewater, 20th Edition. Method 4500-S O_4^2E– SOP 119
	Total Phosphate (0.1 – 0.5 mg/L as P) (0.5 – 4 mg/L as P)	Standard methods for the examination of water and wastewater, 20th Edition. Method 4500-P B – SOP 166
	Na, Ca, K and Mg ICP-MS run (0.5 – 100 ppm)	Standard methods for the examination of water and wastewater, 20th Edition. Method 3120 B – SOP 184
	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)	Based on USEPA methods, 524.2 SOP 179
	THMs (Trihalomethanes): Chlororform Bromochloromethane Dibromocloromethane Bromoform (5 - 200µg/L)	Based on USEPA methods, 524.2 SOP 186

EURO environmental services

Chemical Testing Laboratory

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO. 119T

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 *Industrial Waters* .99 Other Waters *Surface Waters* *Groundwaters*	Hardness (Total) (100 – 400 mg/L $CaCO_3$)	Standard Methods for the Examination of Water and Wastewater, 20th Edition Method 2340 C SOP 111
	Alkalinity (Total) (50 – 10,000 mg/L $CaCO_3$)	Standard Methods for the Examination of Water and Wastewater, 20th Edition Method 2320 B SOP 102
.04 Sewage .05 Trade Wastes *Industrial Waters* .99 Other Waters *Surface Waters* *Groundwaters*	Colour (Apparent) (10 – 500ptCo Units)	Standard Methods for the Examination Of Water and Wastewater, 20th Edition Method 2120 B SOP 108
	Turbidity (0.01 – 1100 NTU)	Standard Methods for the Examination Of Water and Wastewater, 20th Edition Method 2130 A SOP 109

Attachment D.1

Table D.1(i) Threemilehouse Influent Data

Influent	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP (mg P/l)	Ortho P mg/l P	Total N mg/l N	NH_3-N mg/l N	Nitrate NO_3	Nitrite NO_2	TON mg/l N	TKN mg/l N	Conductivity uscm	pH	Phenols Total	Sulphate	Temp
Inflow	26/03/2008	C	113	504	181	7.788			96.56				0.24	96.32					
Inflow	09/07/2008	C	218	416	119.6	48.3			83.6	44.3									
Inflow	27/08/2008	C	186	298	128	9.3			54	44.4									
Inflow	14/07/2009	C	285	735	277	10.38			78.44				0.14	78.3					
Inflow	07/10/2009	C	140	273	64	9.48	3.1	8.412	88.15	66.95	3.03	<0.015	3.03	85.12	1224	7.1	<.10	107.69	12.8

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:	Threemilehouse Waste Water Treatment Works	
Location:	Drumguill, Threemilehouse, Co. Monaghan	
Grid Ref (12 digits, 6E, 6N)	262216 / 330133	
Name of Receiving waters:	Threemilehouse River	
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)	DWF or 95%ile flow of receiving water body not known. Design PE 250 Current PE 133	

Emission Details:

(i) Volume emitted			
Normal/day	24 m^3	Maximum/day	45 m^3
Maximum rate/hour	1.875 m^3	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.0005 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	24 hr flow proportional	= 7.5	
Temperature	°C	24 hr flow proportional	= 11.3	
Electrical Conductivity (@ 25°C)	µS/cm	24 hr flow proportional	= 1018	
Suspended Solids	mg/l	24 hr flow proportional	= 5.6	0.13344
Ammonia (as N)	mg/l	24 hr flow proportional	= 25.9	0.7416
Biochemical Oxygen Demand	mg/l	24 hr flow proportional	= 11.8	0.2832
Chemical Oxygen Demand	mg/l	24 hr flow proportional	= 53.6	1.3176
Total Nitrogen (as N)	mg/l	24 hr flow proportional	= 30.9	0.6552
Nitrite (as N)	mg/l	24 hr flow proportional	= 0.3	0.008376
Nitrate (as N)	mg/l	24 hr flow proportional	= 3.33	0.0792
Total Phosphorous (as P)	mg/l	24 hr flow proportional	= 4.6	0.108
OrthoPhosphate (as P)	mg/l	24 hr flow proportional	= 2.165	0.696
Sulphate (SO_4)	mg/l	24 hr flow proportional	= 128.7	3.0875
Phenols (Sum)	µg/l	24 hr flow proportional	< 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.

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	< 0.28	0
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	< 0.96	0
Chromium	µg/l	24 hr flow proportional	= 2.8	0.0000672
Copper	µg/l	24 hr flow proportional	= 6.6	
Cyanide	µg/l	24 hr flow proportional	< 5	0
Flouride	µg/l	24 hr flow proportional	= 470	0.00528
Lead	µg/l	24 hr flow proportional	< 0.38	0
Nickel	µg/l	24 hr flow proportional	= 3.3	0.0000792
Zinc	µg/l	24 hr flow proportional	= 11.6	0.000278
Boron	µg/l	24 hr flow proportional	= 224.1	0.00537
Cadmium	µg/l	24 hr flow proportional	< 0.09	0
Mercury	µg/l	24 hr flow proportional	< 0.03	0
Selenium	µg/l	24 hr flow proportional	= 1.4	0.0000336
Barium	µg/l	24 hr flow proportional	= 41.1	0.0009864

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.

Attachment E.1

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	8760

Attachment E.2

SAMPLING PROCEDURES

Revision History	
Rev. No.	**Reason for Revision**
00	Initial Release

Circulation List		
Name	**Signature**	**Date**

SAMPLING PROCEDURES

1. SAFETY PRECAUTIONS

The following safety precautions shall be followed at all times:

1. 1. Sampling using Boats

Always wear a lifejacket while boating on waters of any kind.
Always wear non-slip footwear (studded waders should not be worn).
Always have more than one person on board. At least one person must be fully familiar with boating techniques and competent to handle the boat.

1. 2. Sampling in Water

Operations requiring personnel to enter water that is more than knee deep or where the water velocity is sufficiently fast (e.g. flood conditions) or where the substratum is slippery or unstable notwithstanding the depth of water, should be carried out by a team of two or more people. Biological sampling should never be carried out under flood conditions.

1. 3. Sampling from Road Bridges

Always exercise care when taking water samples from road bridges irrespective of width and ensure vehicles are parked in suitable parking spaces. Reflective clothing should be worn even in full daylight.

1. 4. Sampling after Dark

If taking samples during the hours of darkness, this should always be done by a team of two people, properly equipped with reflective clothing and adequate lighting for samples from road bridges and further equipped with lifejackets if sampling from river banks. If sampling in a river, one person should remain on shore adjacent to the sampler and in a position to offer immediate assistance if required. The use of a lifeline is recommended.

1. 5. Sampling of effluents/polluted waters

When sampling domestic, agricultural, industrial or sewage discharges or when taking samples from suspect or polluted rivers protective gloves should be worn. All cuts/abrasions should be covered and antiseptic wipes should be used to clean exposed parts of the skin after sampling.

2. 1. Sampling devices

Any sampling devices used e.g. buckets, depth samplers, telescopic samplers etc. must be clean before use and should if possible be rinsed with an aliquot of the material to be sampled before the final sample is taken.

2. 2. Sample Containers

The appropriate container must be used for each type of analysis required. Sample containers must be chemically clean or sterile as required and should be filled as follows:

General chemical parameters: 1 or 2 litre plastic bottle – rinse bottle and cap with sample.

Coliforms, Total Counts, Faecal Streptococci : Sterile 300ml glass bottle containing sodium thiosulphate - DO NOT RINSE

Oil/Diesel (DRO's, TPH's): 1 litre glass bottle – DO NOT RINSE

Volatile Organic Compounds: 40ml amber bottle with added ascorbic acid - DO NOT RINSE and fill to overflowing with no air space

Pesticides & other organics: 2 x 1 litre amber glass bottles - DO NOT RINSE

If Phenols or cyanides are required the sample must be returned to the lab within 4 hours of sampling in order to properly preserve the sample.

3. 1. Sampling from Rivers/streams following a pollution incident

If a probable source of the pollution has been ascertained, the river samples should be taken in the following order:- downstream sample, upstream sample and discharge. The downstream sample should be taken at the end of the mixing zone (where the pollution stream is fully mixed with the main body of the water). This can be easy to see if the discharge is very discoloured but can be difficult to establish for clearer discharges. DO measurements taken across the width of the stream/river can help map the presence of the plug of pollution. If necessary more than one downstream sample should be taken. Every effort should be made to ensure no mud/bottom debris is taken up with the water sample as this can affect the analytical results. The sampling container should be rinsed with an aliquot of sample which is then discarded. Take care when discarding this initial sample not to disturb the bottom sediment. Refill the sampling container, rinse the sample bottle if specified above and then fill with sample. DO and temperature should be measured if required either in the stream itself or in the sampling container (bucket) and the details recorded. The sample bottle should be unambiguously marked with the sample location details and a record kept of the date and time of sampling. If a microbiological sample is required, immerse the bottle under the surface of the water before removing the cap and re-stopper under water. If the discharge is from a point source e.g. pipe, manhole, it is possible to estimate a rough flow rate/volume by timing how long it takes to fill the bucket/sample container. If the sample is taken from a specific premises with an unambiguously polluting discharge and a prosecution is envisaged, a duplicate sample should be offered to the polluter for private analysis.

3. 2. Sampling Drinking Water

It is usual to take drinking water samples from taps in private houses/public buildings etc. at various locations along a distribution system and not directly at the water treatment plant. It is important to ensure that the water sampled is coming directly from the mains supply and not from a holding tank/hot water tank. Samples should not be taken from mixer taps as there is a possibility of cross contamination from the hot water system. The tap should be thoroughly sterilised using either a flame or sterile wipes/spray and then left to run for several minutes to ensure a fresh sample.

3. 2. Sampling Drinking Water - continued

Usually a microbiological sample and a chemical sample are taken for analysis. A sterile sampling bottle must be used for the microbiological sample and care should be taken when sampling to ensure that the sample is taken aseptically. Do not rinse the sterile bottle as it contains a chemical to destroy any chlorine present in the water. The chemical sample bottle may be rinsed with the sample and then filled. Both bottles should be clearly and unambiguously marked.

4.1. Laboratory Requirements

The laboratory should be notified in advance that it is planned to take samples especially if it is necessary that the samples be analysed on the day taken (e.g. Friday). If the laboratory has been notified and subsequently no samples are taken, it is also important that the laboratory be informed, otherwise they may be holding up some analyses to wait for the samples to arrive. If it will not be possible to deliver the samples within normal working hours (9.15 – 17.15), the laboratory must be contacted and an arrangement made to deliver the samples out of hours. All samples arriving at the laboratory must be accompanied by a chain of custody sheet signed both by the sampler and the laboratory staff member receiving the samples. This sheet should have full details of all the samples taken, location/unique identifying details, date and time of sampling etc. so that no uncertainty can arise in the event of prosecution.

Attachment E.4

TABLE 1- ATTACHMENT E4

Threemilehouse Effluent

Effluent	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP (mg P/l)	Ortho P mg/l P	Total N mg/l N	NH_3-N mg/l N	Nitrate NO_3	Nitrite NO_2	TON mg/l N	TKN mg/l N	Conductivity uscm	pH	Phenols Total	Sulphate	Temp
Effluent	28/01/2008	C	10	36	8	2.74			19.08				0.04	19.04					
Effluent	19/02/2008	C	2	52	5	5.38			8.99				0.03	8.96					
Effluent	26/03/2008	C	6	43	3	1.85			27.47				0.03	27.44					
Effluent	22/04/2008	C	19	78	5.2	6.80			58.00	38.40									
Effluent	28/05/2008	C	46	191	10	6.80			66.00	39.50									
Effluent	09/07/2008	C	7	23	12	6.40			32.40	18.90									
Effluent	27/08/2008	C	8	45	14.4	0.08			17.80	1.71									
Effluent	24/09/2008	C	2	22	3	2.72			7.87				0.03	7.84					
Effluent	22/10/2008	C	2	39	7	3.12			2.52				0.28	2.24					
Effluent	09/12/2008	C	3	24	3	4.39			27.46				0.58	26.88					
Effluent	14/01/2009	C	33	67	3	9.77			40.91				0.03	40.88					
Effluent	24/03/2009	C	25	74	3	5.88			37.00				0.04	36.96					
Effluent	12/05/2009	C	10	28	3	3.63			22.23				0.95	21.28					
Effluent	20/05/2009	C	2	36	3	4.80			28.17				0.73	27.44					
Effluent	10/06/2009	C	2	44	2	6.02			65.55				0.03	65.52					
Effluent	14/07/2009	C	3	51	2	5.88			25.53				0.03	25.50					
Effluent	07/10/2009	C	<2	58	<2	2.24	0.730	2.165	37.84	30.92	3.33	0.349	3.38	34.16	1018	7.5	<.10	128.65	11.3

TABLE 2 - ATTACHMENT E4

aSW1(P)u Upstream Monitoring Point

U/S	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP (mg P/l)	Ortho P mg/l P	Total N mg/l N	NH3-N mg/l N	Nitrate NO3	Nitrite NO2	TON mg/l N	TKN mg/l N	Conductivity uscm	DO mg/l	pH	Phenols Total	Sulphate	Temp
USW	19/02/2008	G	2	14	3	0.12	0.04		4.13				3.01	1.12						
USW	22/04/2008	G	4	27	4.8	0.08	0.03		2.50	0.05										
USW	09/07/2008	G	3	33	20.8	0.11	0.03		3.60	0.06										
USW	24/09/2008	G	2	18	5	0.06	0.02		2.75				1.75	1.00						
USW	22/10/2008	G	2	17	6	0.06	0.02		3.17				1.49	1.68						
USW	24/03/2009	G	2	13	3	0.06	0.02		3.35				1.67	1.68						
USW	12/05/2009	G	2	20	3	0.09	0.03		2.34				1.22	1.12						
USW	10/06/2009	G	2	16	13	0.12	0.04		5.76				1.28	4.48						
USW	14/07/2009	G	2	23	2	0.10	0.03		2.09				1.19	0.90						
USW	07/10/2009	G	<2	15	<2	0.08	0.03	0.047	3.36	0.06	1.11	0.01	1.12	2.24	254.00	4.31	8.00	<.10	23.35	8.40

TABLE 3- ATTACHMENT E4

aSW1(P)d Downstream Monitoring Point

DSW	Date of Sampling	Sample Type (C or G)	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	MRP (mg P/l)	Ortho P mg/l P	Total N mg/l N	NH3-N mg/l N	Nitrate NO3	Nitrite NO2	TON mg/l N	TKN mg/l N	Conductivity uscm	DO %	DO mg/l	pH	Phenols Total	Sulphate	Temp
DSW	19/02/2008	G	2	14	3	0.08	0.025		8.58				2.98	5.60							
DSW	22/04/2008	G	4	28.7	12.8	0.13	0.042		2.50	0.26											
DSW	09/07/2008	G	2	25	25.2	0.12	0.037		4.10	0.09											
DSW	24/09/2008	G	2	17	3	0.05	0.016		2.81				1.81	1.00							
DSW	22/10/2008	G	2	22	4	0.08	0.027		2.49				1.49	1.00							
DSW	24/03/2009	G	2	22	3	0.19	0.062		2.66				1.66	1.00							
DSW	12/05/2009	G	2	21	8	0.09	0.028		2.25				1.25	1.00							
DSW	10/06/2009	G	2	27	25	0.18	0.057		3.53				1.29	2.24							
DSW	14/07/2009	G	2	25	19	0.14	0.046		1.83				1.23	0.60							
DSW	07/10/2009	G	<2	8	<2	0.081	0.03	0.049	6.12	0.09	1.08	0.01	1.08	5.04	257		4.52	7.9	<.10	22.73	8.4

Attachment F.1

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)	262195 / 330115

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	12/05/09	10/06/09	14/07/09	07/10/09			
pH				= 7.9	Grab	0.01	Method 4500-H+/Electrometry
Temperature				= 8.4	Grab	0	0
Electrical Conductivity (@ 25°C)				= 257	Grab	0.5	Method 2510 B/Electrometry
Suspended Solids	= 8	= 25	= 19	< 2	Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)				= 0.09	Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	= 2	= 2	= 2	< 2	Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 21	= 27	= 25	= 8	Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen				= 4.52	Grab	0	DO Meter
Hardness (as $CaCO_3$)				= 80	Grab		Colorimetry
Total Nitrogen (as N)	= 2.25	= 3.53	= 1.83	= 6.12	Grab	1	Calculation
Nitrite (as N)				= 0.01	Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)				= 1.08	Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.09	= 0.18	= 0.14	= 0.081	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)				= 0.049	Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)				= 22.73	Grab	1.39	Method 4500-SO42 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:	

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)	262195 / 330115

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	07/10/09						
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	1	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	= 5.1				Grab	0.93	USEPA Method 3125B ICPMS
Copper	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 160				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 0.6				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 2				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 5.4				Grab	4.6	USEPA Method 3125B ICPMS
Boron	= 102.4				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.03				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 1.7				Grab	0.74	USEPA Method 3125B ICPMS

Barium	= 47.7				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

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)	262227 / 330147

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	12/05/09	10/06/09	14/07/09	07/10/09			
pH				= 8	Grab	0.01	Method 4500-H+/Electrometry
Temperature				= 8.4	Grab	0	0
Electrical Conductivity (@ 25°C)				= 254	Grab	0.5	Method 2510 B/Electrometry
Suspended Solids	= 3	= 13	= 2	< 2	Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)				= 0.06	Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	= 2	= 2	= 2	< 2	Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 20	= 16	= 23	= 15	Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen				= 4.31	Grab	0	DO Meter
Hardness (as $CaCO_3$)				= 83	Grab		Colorimetry
Total Nitrogen (as N)	= 2.34	= 5.76	= 2.09	= 3.36	Grab	1	Calculation
Nitrite (as N)				= 0.01	Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)				= 1.11	Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.09	= 0.12	= 0.1	= 0.08	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)				= 0.047	Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)				= 23.35	Grab	1.39	Method 4500-SO42-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:	

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)	262227 / 330147

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	07/10/09						
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	1	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	= 0.8				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 160				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 0.5				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	= 1.9				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	= 8.9				Grab	4.6	USEPA Method 3125B ICPMS
Boron	= 137.3				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.03				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	= 1				Grab	0.74	USEPA Method 3125B ICPMS

Barium	= 50.3				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

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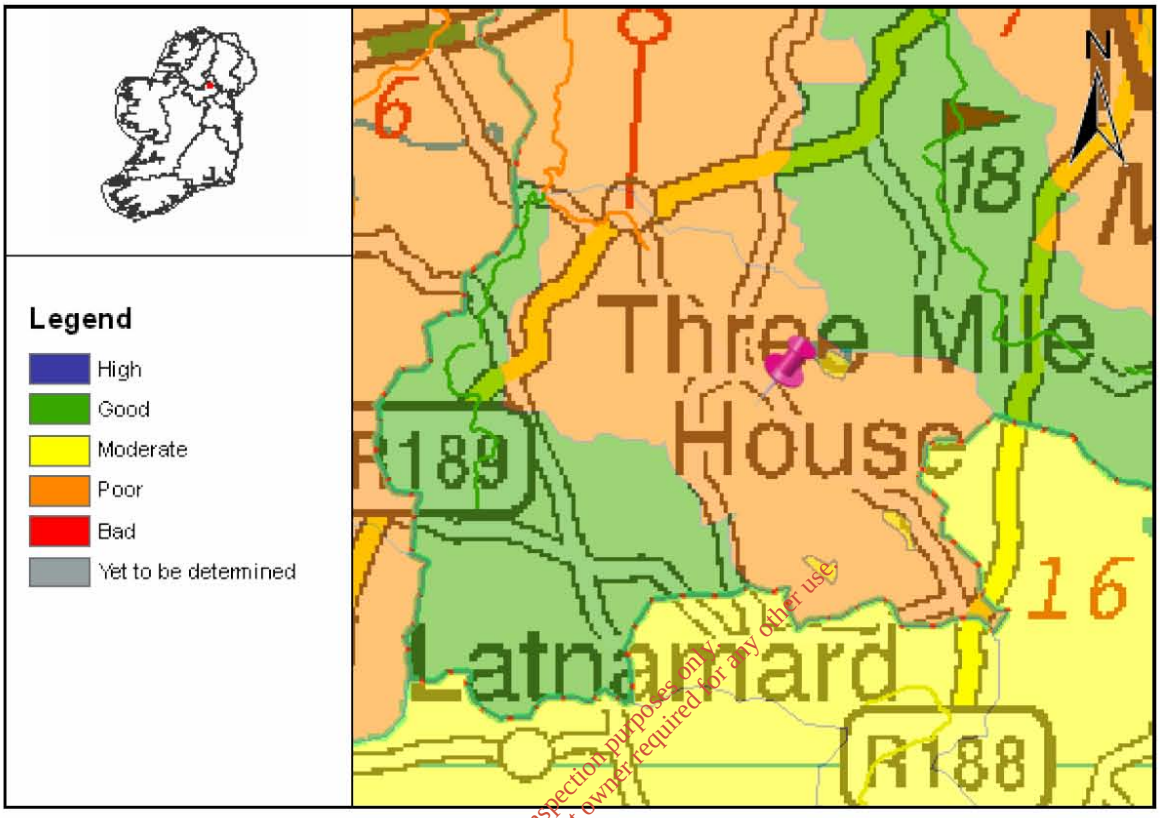
Full Report for Waterbody ThreeMileHouse, Trib of Blackwater



Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Summary Information:

WaterBody Category:	Subbasin Waterbody
WaterBody Name:	ThreeMileHouse, Trib of Blackwater
WaterBody Code:	IE_NB_03_36
Overall Status:	Poor
Overall Objective:	Restore
Overall Risk:	1a At Risk
Applicable Supplementary Measures:	Unsewered; Urban & Industrial; Morphology; Forestry;

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Report data based upon Draft RBMP, 22/12/2008.

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Status Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

Overall Status Result: Poor

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	Status Element Description	Result
EX	Status from Monitored or Extrapolated Waterbody	NB_06_406
	Biological Elements	
Q	Macroinvertebrates (Q-Value)	n/a
F	Fish	n/a
DI	Phytobenthos (Diatoms)	n/a
FPM	Status value as determined by Margartifera	n/a
	Supporting Elements	
MOR	Hydromorphology	n/a
SP	Specific Pollutants	n/a
PC	General Physico-Chemical	n/a
	Chemical Status	
PAS	Chemical Status	n/a
	Overall Ecological Status	
O	Overall Ecological Status	Poor

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Risk Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

Overall Risk Result: 1a At Risk

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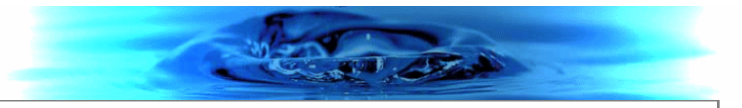
	Risk Test Description	Risk
	Point Risk Sources	
RP1	WWTPs (2008)	2b Not At Risk
RP2	CSOs	2b Not At Risk
RP3	IPPCs (2008)	2b Not At Risk
RP4	Section 4s (2008)	2b Not At Risk
RPO	Overall Risk from Point Sources - Worst Case (2008)	2b Not At Risk
	Diffuse Risk Sources	
RD1	EPA diffuse model (2008)	1b Probably At Risk
RD2a	Road Wash - Soluble Copper	2b Not At Risk
RD2b	Road Wash - Total Zinc	2b Not At Risk
RD2c	Road Wash - Total Hydrocarbons	2b Not At Risk
RD3	Railways	2b Not At Risk
RD4a	Forestry - Acidification (2008)	2b Not At Risk
RD4b	Forestry - Suspended Solids (2008)	2b Not At Risk
RD4c	Forestry - Eutrophication (2008)	2a Probably Not At Risk
RD5a	Unsewered Areas - Pathogens (2008)	1a At Risk
RD5b	Unsewered Phosphorus (2008)	1a At Risk
RD5	Overall Unsewered (2008)	1a At Risk
RD6a	Arable	2b Not At Risk
RD6b	Sheep Dip	2b Not At Risk
RD6c	Forestry - Dangerous Substances	2b Not At Risk
RDO	Diffuse Overall -Worst Case (2008)	1a At Risk

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009



	Morphological Risk Sources	
RM1	Channelisation (2008)	2b Not At Risk
RM2	Embankments (2008)	2b Not At Risk
RM3	Impoundments	2b Not At Risk
RM4	Water Regulation	2b Not At Risk
RMO	Morphology Overall - Worst Case (2008)	2b Not At Risk
	Q/RDI or Point/Diffuse	
QPD	Q class/EPA Diffuse Model or worst case of Point and Diffuse (2008)	1a At Risk
	Hydrology	
RHY1	Water balance - Abstraction	2b Not At Risk
	Overall Risk	
RA	Rivers Overall - Worst Case (2008)	1a At Risk

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Objectives Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

Overall Objective: Restore

neagh bann international river basin district

	Objectives Description	Result
	Objectives	
OB1	Objective 1 - Protected Areas	Restore
OB2	Objective 2 - Protect High and Good Status	Not Applicable
OB3	Objective 3 - Restore Less Than Good Status	Not Applicable
OB4	Objective 4 - Reduce Chemical Pollution	Not Applicable
OBO	Overall Objective	Restore
	Deadline	
YR	Default Year by which the objective must be met	2015
EX	Revised Objective Deadline	2021
OBO	Overall Objective and Deadline	Restore - 2021

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Basic Measures Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

neagh bann international river basin district

	Basic Measures Description	Applicable
	Key Directives	
BA	Bathing Waters Directive	No
BI	Birds Directive	No
HA	Habitats Directive	No
DW	Drinking Waters Directive	Yes
SEV	Major Accidents and Emergencies (Seveso) Directive	Yes
EIA	Environmental Impact Assessment Directive	Yes
SE	Sewage Sludge Directive	Yes
UW	Urban Waste Water Treatment Directive	No
PL	Plant Protection Products Directive	Yes
NI	Nitrates Directive	Yes
IP	Integrated Pollution Prevention Control Directive	Yes
	Other Stipulated Measures	
CR	Cost recovery for water use	Yes
SU	Promotion of efficient and sustainable water use	Yes
DWS	Protection of drinking water sources	Yes
AB	Control of abstraction and impoundments	Yes
PT	Control of point source discharges	Yes
DI	Control of diffuse source discharges	Yes
GWD	Authorisation of discharges to groundwater	No
PS	Control of priority substances	Yes
MOR	Control of physical modifications to surface waters	Yes
OA	Controls on other activities impacting on water status	Yes
AP	Prevention or reduction of the impact of accidental pollution incidents	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Urban and Industrial Discharges Supplementary Measures Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

neagh bann international river basin district

	Point discharges to waters from municipal and industrial sources	Result
PINDDIS	Is there one or more industrial discharge (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) contained within the water body?	No
PINDDISR	Are there industrial discharges (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) that cause the receiving water to be 'At Risk' within the water body?	No
PB1	Basic Measure 1 - Measures for improved management.	No
PB2	Basic Measure 2 - Optimise the performance of the waste water treatment plant by the implementation of a performance management system.	No
PB3	Basic Measure 3 - Revise existing Section 4 license conditions and reduce allowable pollution load.	No
PB4	Basic Measure 4 - Review existing IPPC license conditions and reduce allowable pollution load.	No
PB5	Basic Measure 5 - Investigate contributions to the collection system from unlicensed discharges.	No
PB6	Basic Measure 6 - Investigate contributions to the collection system of specific substances known to impact ecological status.	No
PB7	Basic Measure 7 - Upgrade WWTP to increase capacity.	No
PB8	Basic Measure 8 - Upgrade WWTP to provide nutrient removal treatment.	No
PS1	Supplementary Measure 1 - Measures intended to reduce loading to the treatment plant.	No
PS2	Supplementary Measure 2 - Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants.	No
PS3	Supplementary Measure 3 - Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive.	No
PS4	Supplementary Measure 4 - Initiate research to verify risk assessment results and determine the impact of the discharge.	No
PS5	Supplementary Measure 5 - Use decision making tools in point source discharge management.	No
PS6	Supplementary Measure 6 - Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive.	No
PS7	Supplementary Measure 7 - Apply a higher standard of treatment (stricter emission controls) where necessary.	No

Date Reported to Europe: 22/12/2008

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PS8	Supplementary Measure 8 - Upgrade the plant to remove specific substances known to impact on water quality status.	No
PS9	Supplementary Measure 9 - Install ultra-violet or similar type treatment.	No
PS10	Supplementary Measure 10 - Relocate the point of discharge.	No

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Physical Modifications Supplementary Measures Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

neagh bann international river basin district

	Physical Modifications Supplementary Measures	Applicable
	Reduce	
SM1	Codes of Practice	Yes
SM2	Support for voluntary initiatives	Yes
	Remediate	
SM3	Channelisation impact remediation schemes	No
SM4	Channelisation investigation	No
SM5	Overgrazing remediation	No
SM6	Impassable barriers, impact confirmed, investigation into feasibility of remediation required	No
SM7	Impassable barriers investigation	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Unsewered Properties Supplementary Measures Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

neagh bann international river basin district

	Supplementary Measures for Unsewered Properties	Applicable
SP1	Amend building regulations	Yes
SP2	Establish certified expert panels for site investigation and certification of installed systems	Yes
SP3	Assess applications for new unsewered systems by applying risk mapping/decision support systems and codes of practice	Yes
SP4	Carry out an inspection programme in prioritised locations for existing systems and record results in an action tracking system	Yes
SP5	Enforce requirements for percolation	Following inspection
SP6	Enforce requirements for de-sludging	Yes
SP7	Consider connection to municipal systems	Where feasible

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

water matters
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Forestry Measures Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: ThreeMileHouse, Trib of Blackwater

WaterBody Code: IE_NB_03_36

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	Forestry Measures for	Applicable
	Forestry	
SF1	Management Instruments - Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures	No
SF2	Acidification - Avoid or limit afforestation on 1st and 2nd order stream catchments in acid sensitive areas	No
SF3	Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected and revise boundary conditions for afforestation in acid sensitive areas	No
SF10	Pesticide Use - Pre-dip trees in nurseries prior to planting out	No
SF11	Pesticide Use - Maintain registers of pesticide use	No
SF12	Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves	No
SF13	Acidification - Mitigate acid impacts symptomatically using basic material	No
SF14	Acidification - Manage catchment drainage to increase residence times and soil wetting	No
SF15	Acidification - Implement measures to increase stream production.	No
SF16	Eutrophication - Establish riparian zone management prior to clearfelling	No
SF17	Eutrophication and Sedimentation - Enhance sediment control	No
SF18	Eutrophication - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF19	Sedimentation - Establish riparian zone management prior to clearfelling	No
SF20	Sedimentation - Enhance sediment control	No
SF21	Sedimentation - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF22	Hydromorphology - Enhance drainage network management, minimise drainage in peat soils	No
SF23	Pesticide Use - Develop biological control methods	No

Date Reported to Europe: 22/12/2008

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SF4	Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites	No
SF5	Eutrophication and Sedimentation - Change the tree species mix on replanting	No
SF6	Eutrophication and Sedimentation - Limiting felling coup size	No
SF7	Eutrophication and Sedimentation - Establish new forest structures on older plantation sites	No
SF8	Hydromorphology - Audit existing drainage networks in forest catchments	No
SF9	Pesticide Use - Reduce pesticide usage	No

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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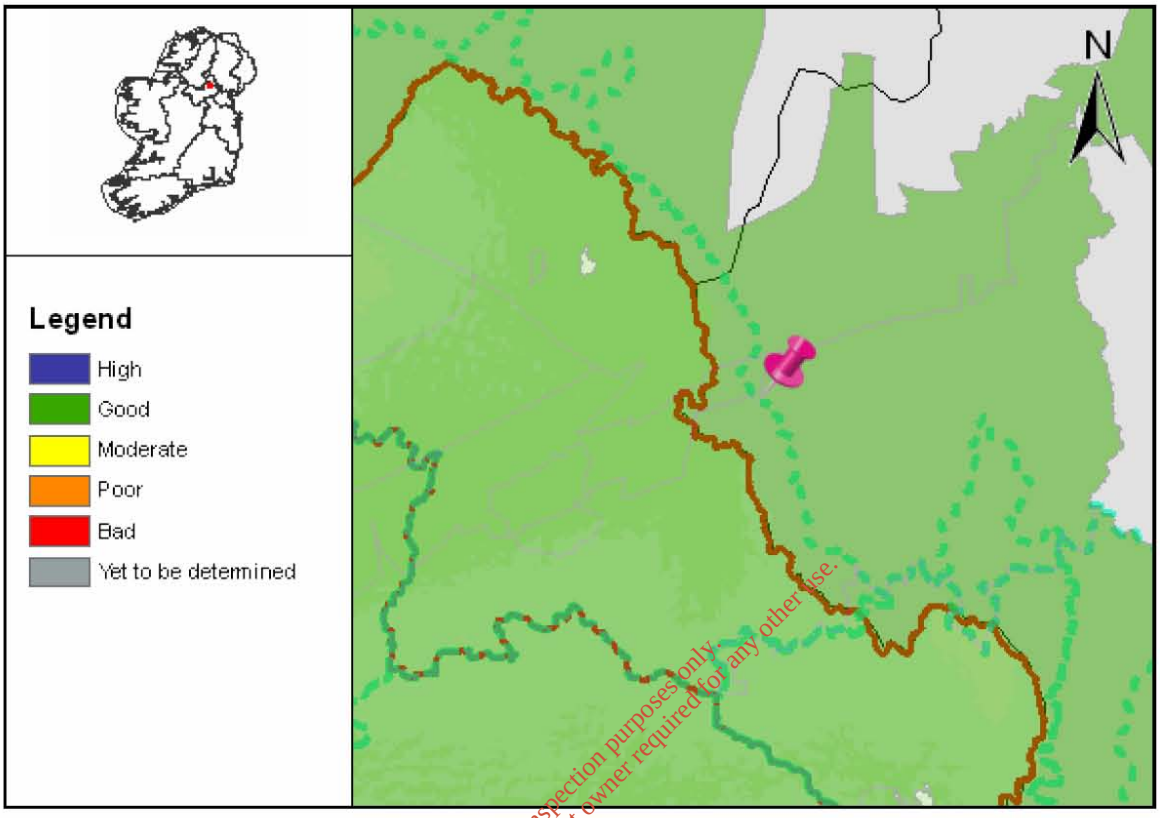
Full Report for Waterbody Keady



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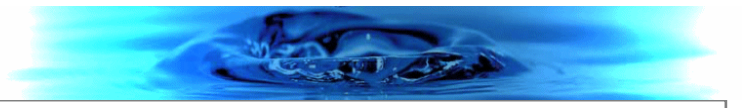

Summary Information:

WaterBody Category:	Groundwater Waterbody
WaterBody Name:	Keady
WaterBody Code:	IEGBNI_NB_G_011
Overall Status:	Good
Overall Objective:	Protect
Overall Risk:	2a Probably Not At Risk
Applicable Supplementary Measures:	Unsewered;
	Report data based upon Draft RBMP, 22/12/2008.

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Chemical and Quantitative Status Report

WaterBody Category: Groundwater Waterbody

WaterBody Name: Keady

WaterBody Code: IEGBNI_NB_G_011

Overall Status Result: Good

	Status Element Description	Result
	Groundwater Quality	
WB	Water Balance Status	GS-HC
INT	Saline Intrusions Status	GS-HC
DW	Drinking Waters Status	GS-HC
DIF	Diffuse Elements (General) Status	GS-HC
	Groundwater Quality (Point Source)	
CL	Contaminated Land Status	GS-HC
MI	Mine Status	GS-HC
UR	Urban Status	GS-HC
PTO	Overall Point Source Status	GS-HC
	Groundwater Quality (General)	
GQ	General Groundwater Quality Status	GS-HC
	Surface Water	
TC	Transitonal & Coastal Status	GS-HC
SWO	Surface Water Quality Overall Status	GS-LC
SWQ	Surface Water Quantity Overall Status	GS-HC
	Groundwater Dependent Terrestrial Ecosystems	
TE	GWDTE Status	GS-HC
	Overall	
QUO	Overall Quantitative Status	GS-HC
O	Final Status Classification	Good

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Risk Report

WaterBody Category: Groundwater Waterbody

WaterBody Name: Keady

WaterBody Code: IEGBNI_NB_G_011

Overall Risk Result: 2a Probably Not At Risk

	Risk Test Description	Risk
	Groundwater Quality	
WB	Water Balance Risk	2b Not At Risk
INT	Intrusions Risk	2b Not At Risk
DW	Drinking Waters Risk	2b Not At Risk
DIF	Diffuse Elements (General) Risk	2a Probably Not At Risk
	Groundwater Quality (Point Risk)	
LF	Landfill Risk	2b Not At Risk
QY	Quarry Risk	2b Not At Risk
UW	UWWT Risk	2b Not At Risk
CL	Contaminated Land Risk	2b Not At Risk
MI	Mine Risk	2b Not At Risk
UR	Urban Risk	2b Not At Risk
	Groundwater Quality (General)	
GQ	General Groundwater Quality Risk	2a Probably Not At Risk
	Surface Water	
RV	River Risk	2a Probably Not At Risk
TC	Transitonal & Coastal Risk	2b Not At Risk
SWO	Surface Water Quality Overall Risk	2a Probably Not At Risk
SWQ	Surface Water Quantity Overall Risk	2b Not At Risk
	Groundwater Dependent Terrestrial Ecosystems	
TE	GWDTE Risk	2b Not At Risk
	Overall Risk	
RA	Overall Risk	2a Probably Not At Risk

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Objectives Report

WaterBody Category: Groundwater Waterbody

WaterBody Name: Keady

WaterBody Code: IEGBNI_NB_G_011

Overall Objective: Protect

	Objectives Description	Result
	Objectives	
OB1	Groundwater Quantitative Objective	Protect
OB2	Groundwater Chemical Objective	Protect
OBO	Overall Objective	Protect
	Deadline	
EX	Revised Objective Deadline	2015
OBO	Overall Objective and Deadline	Protect

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Basic Measures Report

WaterBody Category: Groundwater Waterbody

WaterBody Name: Keady

WaterBody Code: IEGBNI_NB_G_011

	Basic Measures Description	Applicable
	Key Directives	
BA	Bathing Waters Directive	Yes
BI	Birds Directive	No
HA	Habitats Directive	No
DW	Drinking Waters Directive	Yes
SEV	Major Accidents and Emergencies (Seveso) Directive	Yes
EIA	Environmental Impact Assessment Directive	Yes
SE	Sewage Sludge Directive	Yes
UW	Urban Waste Water Treatment Directive	Yes
PL	Plant Protection Products Directive	Yes
NI	Nitrates Directive	Yes
IP	Integrated Pollution Prevention Control Directive	Yes
	Other Stipulated Measures	
CR	Cost recovery for water use	Yes
SU	Promotion of efficient and sustainable water use	Yes
DWS	Protection of drinking water sources	Yes
AB	Control of abstraction and impoundments	Yes
PT	Control of point source discharges	Yes
DI	Control of diffuse source discharges	Yes
GWD	Authorisation of discharges to groundwater	Yes
PS	Control of priority substances	No
MOR	Control of physical modifications to surface waters	No
OA	Controls on other activities impacting on water status	Yes
AP	Prevention or reduction of the impact of accidental pollution incidents	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

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Unsewered Properties Supplementary Measures Report

WaterBody Category: Groundwater Waterbody

WaterBody Name: Keady

WaterBody Code: IEGBNI_NB_G_011

[redacted]

	Supplementary Measures for Unsewered Properties	Applicable
SP1	Amend building regulations	Yes
SP2	Establish certified expert panels for site investigation and certification of installed systems	Yes
SP3	Assess applications for new unsewered systems by applying risk mapping/decision support systems and codes of practice	Yes
SP4	Carry out an inspection programme in prioritised locations for existing systems and record results in an action tracking system	Yes
SP5	Enforce requirements for percolation	following inspection
SP6	Enforce requirements for de-sludging	Yes
SP7	Consider connection to municipal systems	Where feasible

Date Reported to Europe: 22/12/2008

Date Report Created 11/12/2009

Attachment G.2

water matters

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neagh bann international river basin district

Summary Leaflet

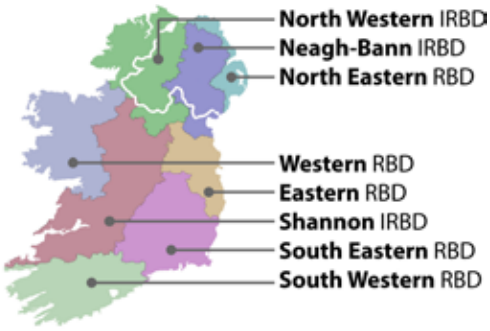
Draft River Basin Management Plan for the Neagh Bann International River Basin District

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 Neagh Bann District.



Since 2000, the 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 Neagh Bann 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 Neagh Bann District?	The outcome of this planning process is a tailored action plan for the Neagh Bann District. We have proposed a detailed suite of measures setting out what, where and when actions are needed and who will do them.

Neagh Bann 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 Neagh Bann District

Surface Water Category	High	Good	Moderate	Poor	Bad	Yet to be Determined
Rivers and canals (number) % of total	(0) 0	(76) 23.1	(149) 45.3	(71) 21.6	(15) 4.6	(18) 5.5
Lakes and reservoirs (km²) % of total	(0) 0	(0.17) 0.04	(3.48) 0.87	(6.63) 1.66	(388.7) 97.42	(0) 0
Estuaries (km²) % of total	(0) 0	(0) 0	(41.72) 100			(0) 0
Coastal (km²) % of total	(0) 0	(184.56) 55.7	(108.39) 32.7			(38.45) 11.6

Groundwater status in the Neagh Bann District

Groundwater	Good	Poor
Chemical Status (km²) % of total	(6,683) 88.8	(843) 11.2
Quantitative Status (km²) % of total	(6,759) 89.8	(767) 10.2
Combined Status (km²) % of total	(6,683) 88.8	(843) 11.2

Protected Areas

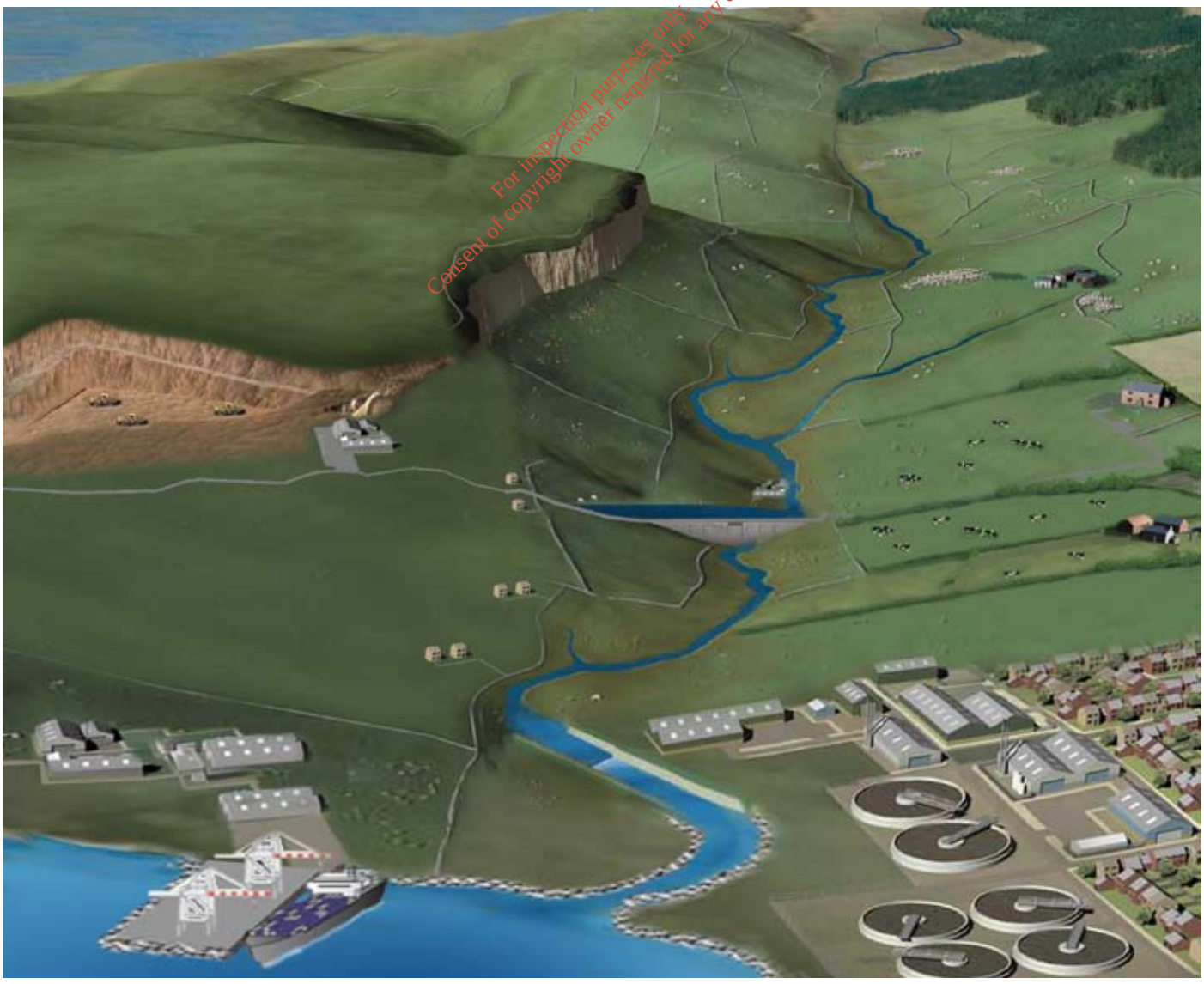
Protected areas must achieve good or high status to support their designations, with specific targets for protection of priority species or habitats. There are 94 protected areas amongst the shared waters of the Neagh Bann International River Basin District. In the whole District there are 650 protected areas. These include drinking water sources such as Monalty Lough and Spelga Dam; the shellfish waters include Carlingford Lough; the bathing waters include Portstewart and Castlerock beaches. Nutrient-sensitive areas include Lough Muckno, the River Blackwater and Lough Neagh, Special Areas of Conservation include the Bann Estuary and Slieve Gullion and Special Protection Areas include Carlingford Lough and Lough Neagh/Lough Beg.

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 Neagh Bann District, they include climate change, aquaculture and invasive alien species, 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

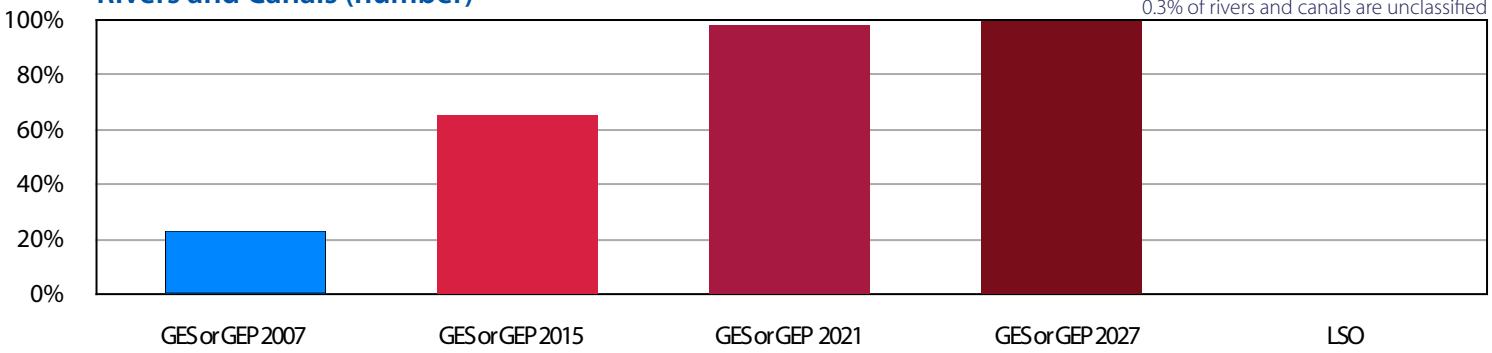
These charts show the improvements we expect in each category of waters over three cycles of the river basin district planning process.

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.

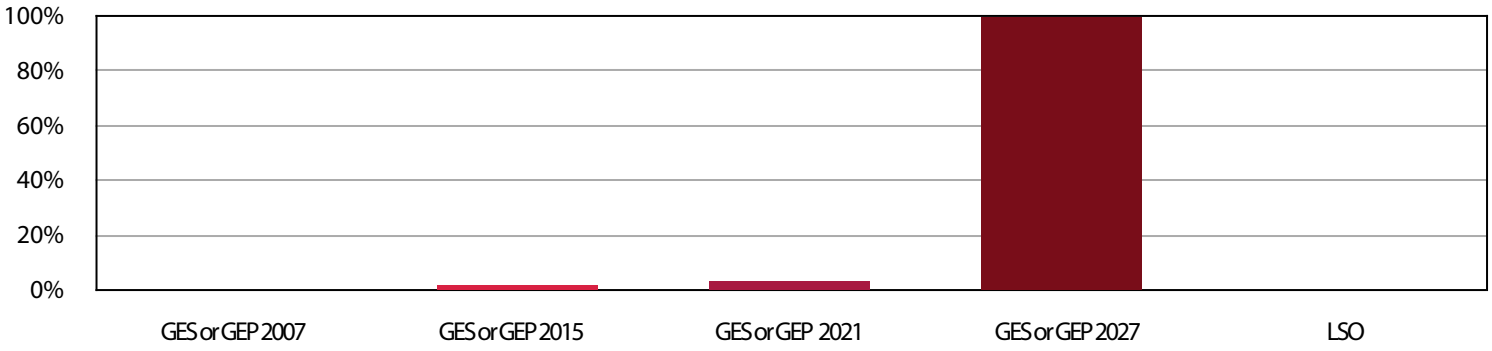
LSO means **less stringent objective**, which means that the waters won't achieve good status or good potential before 2027.

Rivers and Canals (number)

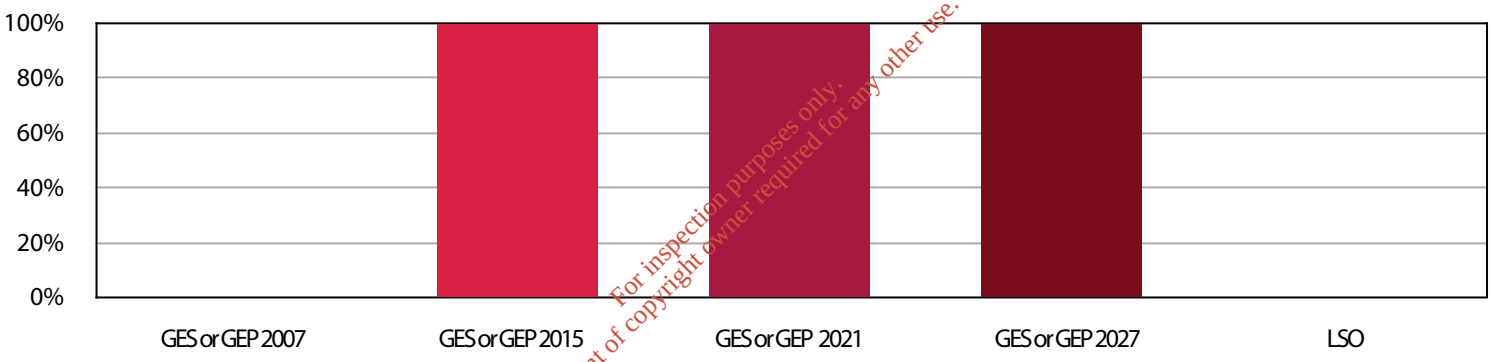
0.3% of rivers and canals are unclassified



Lakes and Reservoirs (km²)

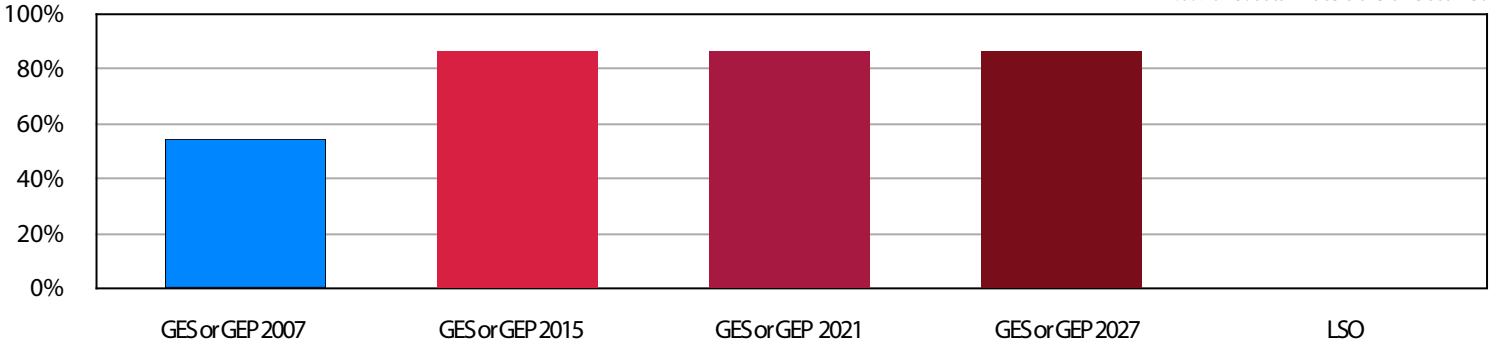


Estuaries (km²)

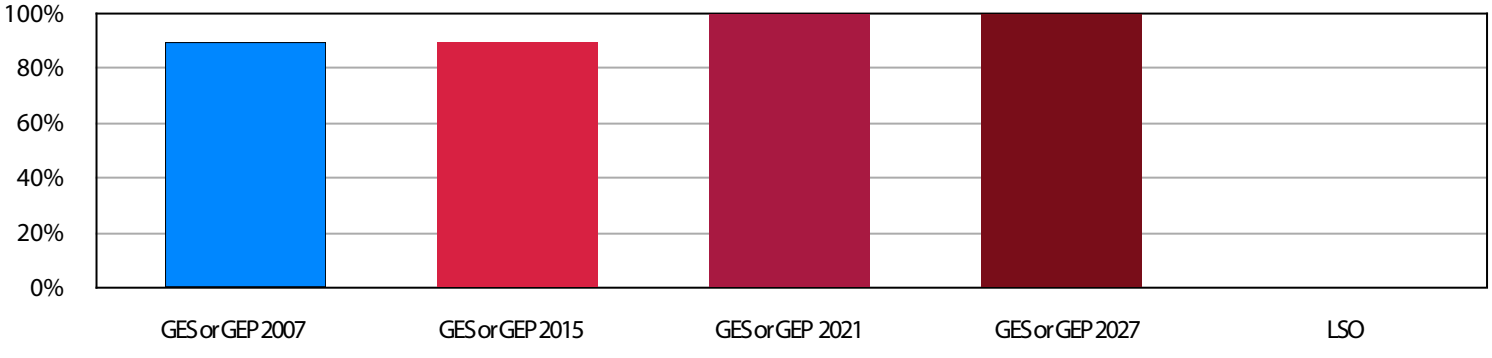


Coastal Waters (km²)

11.6% of coastal waters are unclassified



Groundwaters (km²)



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:

Martin Murray
Monaghan County Council
Environment Section
County Offices
The Glen
Monaghan
Co Monaghan
mpmurray@monaghancoco.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.nbirbd.com).

Implementation

The Neagh Bann 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 Monaghan, Cavan, Louth, and Meath 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 Neagh Bann District, it is envisaged that a unit will be set up by Monaghan 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 ≤ 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	Currrent 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.

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
Maghery, 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
Bunnoe 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 the2004 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	Comm./Industrial	Housing Dev/ other	Other	Totals
2003-2003	113	93	52		258
2004-2005	205	346	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.

TABLE 1.1: RIVER WATER QUALITY STANDARDS TO BE ACHIEVED BY 2007												
Monaghan		Implementation Report Year		2006								
River Name	River Code	Biological Monitoring Station	Station Location Name	Grid Reference	Grid Ref. Cont	Baseline Q-value	Is Baseline Quality Satisfactory ? Yes/No	Current Q-Value (2003-2005)	Current MRP Value ug/l P (04-05)	Standard to be Achieved by 2007 Q Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard Been Achieved?
				Easting	Northing							
CONAWARY (LOWER)	03C02	1100	White Br	263920	332650	3	n	3	40	3-4	50	y
CONAWARY (UPPER)	36C11	0700	Br N of Roosky	261500	330300	4	y		60	4	30	n