EMYVALE WASTE WATER TREATMENT WORKS

WASTE WATER DISCHARGE LICENCE APPLICATION

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

MARCH 2009

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This is a draft document and is subject to revision.

Waste Water Discharge Licence Application Form

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EPA Ref. Nº: *(Office use only)*	

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Tracking Amendments to Draft Application Form

Version No.	Date	Amendment since previous version	Reason
V. 1.	11/10/07	N/A	
V. 2.	18/10/07	Inclusion of a Note 1 superscript for Orthophosphate in Tables D.1(i)(b) & D.1(ii)(b).	To highlight the requirement for filtered samples in measurement of O-Phosphate for waste water discharges.
V.3.	13/11/07	Amend wording of Section F.2 to include 'abstraction'. Amend wording of Checklist in Annex to reflect wording of Regulation 16(5) of S.I. No. 684 of 2007. Inclusion of unique point code for each point of discharge and storm water overflow.	To accurately reflect the information required To accurately reflect the Regulations and to obtain the application documentation in appropriate format. To aid in cross-referencing of application documentation.
V.4	18/04/08	Inclusion of requirement to provide name of agglomeration to which the application relates. Amend wording of Section B.7. (iii) to reflect the title of Water Services Authority. Addition of new Section B.9 (ii) in order to obtain information on developments yet to contribute to the waste water works. Addition of sub-sections C.1.1 & C.1.2 in order to clarify information required for Storm water overflow and pumping stations within the works. Amend Section D.1 to include a requirement for monitoring data for influent to waste water treatment	To accurately determine the agglomeration to be licensed. To accurately reflect the Water Services Act, 2007. To obtain accurate population equivalent figures for the agglomeration. To obtain accurate information on design and spill frequency from these structures. To acquire information on the population loading onto the plant and to provide information on performance rates within the plant.

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		plants, where available. Amend wording of Section E.1 to request information on composite sampling/flow monitoring provisions.	To acquire accurate information on the sampling and monitoring provisions for discharges from the works.
V.5	07/07/2008	Amend wording of B.7 (iii) to include reference to Water Services Authorities. Amend Section G.1 to include Shellfish Waters Directive.	To accurately reflect the Water Services Act, 2007 requirements.
V.6	26/08/2007	Amendments to Section D to reflect new web based reporting. Amended requirements for reporting on discharges under E.1 Waste Water Discharge Frequency and Quantities. Amendment to Section F.1 to specify the type of monitoring and reporting required for the background environment. Removal of Annexes to application form.	To clarify the reporting requirements. To streamline reporting requirements. To clarify the reporting requirements for ambient monitoring. To reflect the new web based reporting requirements.

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Environmental Protection Agency
Application for a Waste Water Discharge Licence
Waste Water Discharge (Authorisation) Regulations 2007.

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ABOUT THIS APPLICATION FORM

This form is for the purpose of making an application for a Waste Water Discharge Licence under the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) or for the review of an existing Waste Water Discharge licence.

The Application Form **must** be completed in accordance with the instructions and guidance provided in the *Waste Water Discharge Licensing Application Guidance Note.* The Guidance Note gives an overview of Waste Water Licensing, outlines the licence 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 Licence must contain the information prescribed in the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007). Regulation 16 of the Regulations sets out the statutory requirements for information to accompany a licence 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 in respect of Regulation 16 requirements, please complete the Regulation 16 Checklist provided in Annex 2.

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.

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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.

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PROCEDURES

The procedure for making and processing of applications for waste water discharge licences, and for the processing of reviews of such licences, appear 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.

Prior to submitting an application the applicant must publish in a newspaper circulating in the area, and erect at the point nearest to the waste water treatment plant concerned or, if no such plant exists, at a location nearest the primary discharge point, a notice of intention to apply. An applicant, not being the local authority in whose functional area the relevant waste water discharge, or discharges, to which the relevant application relates, takes place or is to take place, must also notify the relevant Local Authority, in writing, of their intention to apply.

An application for a licence must be submitted on the appropriate form (available from the Agency) 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.

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

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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.

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SECTION A: NON-TECHNICAL SUMMARY

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

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the discharge of waste water associated with the waste water works. This description should also indicate 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**

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Non Technical Summary

Monaghan County Council is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the existing Waste Water Works at Emyvale. The Waste Water Works comprises a network of gravity sewers and five small pumping stations, pumped sewers and the wastewater treatment plant at Emyvale. There are no storm water overflows associated with the treatment works.

The Waste Water Treatment Works design capacity is 2000 PE. The Works currently collects and treats domestic and trade effluent from a population equivalent of approximately 1045. The Waste Water Treatment Plant treats in the region of 184 cubic metres of effluent ever day and provides secondary treatment with nutrient removal (phosphorus reduction) for the effluent. The treated effluent has an average BOD concentration of 24.7mg/l and average suspended solids concentration of 27 mg/l. Average concentrations of nutrients are as follows; orthophosphate 3.6 mg/l (P), Total Phosphorus 15.36 mg/l (P) and Total Nitrogen 15.6 mg/l (N).

The primary discharge of the Waste Water Works is to the Mountain Water River at 267964E, 343554N in the townland of Derrygasson Upper, Co. Monaghan. The associated Waste Water Treatment Plant is located at 267951E, 343612N in the townland of Derrygasson Upper, Co. Monaghan.

The Mountain Water River is not a designated Salmonid Water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor is it identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA. The River is a tributary of the Blackwater Monaghan

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which is designated as sensitive from the confluence of the River Shambles to Newmills Bridge under the Urban Waste Water Treatment Regulations 2001.

The Dry Weather Flow (DWF) of the Mountain Water River was calculated based on the catchment area of the Mountain Water River and the flows in the Blackwater Monaghan. The average flow was calculated as 1.49m^3/sec with a 95%ile flow of 0.099m^3/sec and 50%ile flow of 0.72m^3/sec.

A Q value of 3-4 was recorded upstream of the discharge point (1st Bridge upstream of Emyvale) in 2004. Previous Q values of 4 and 4-5 were recorded at this location in 2001 and 1998 respectively. EPA Physiochemical water quality monitoring data at this site from 2001 and 2003 gave a median BOD level of 1.6mg/l, Ortho-phosphate level 0.04mg P/l, Oxidised Nitrogen 0.9 mg N/l and Total Ammonia level of 0.03 mg N/l.

A Q value of 3 was recorded downstream of the discharge point (Br 1.1km d/s of Emyvale) in 2004, 2001 and 1998. EPA Physiochemical water quality monitoring data at this site from 2001 and 2003 gave a median BOD level of 2.2mg O2/l, Ortho-phosphate level 0.05mg P/l, Oxidised Nitrogen 0.9 mg N/l and Total Ammonia level of 0.09 mg N/l.

The overall River Water Framework Directive status for the Mountain Water River is 1a, hence it is at risk of failing to meet good status in 2015.

Monaghan County Councils upstream monitoring results indicate relatively good water quality in the river, with the average orthophosphate level recorded at 0.02 mg/l P, average ammonia levels of 0.216 mg/l NH_3-N, average BOD of 2 mg/l, average TP of 0.22mg/l, average TN of 0.61mg/l N and average suspended solids of 7.75mg/l. Dangerous substances concentrations were below detection level for 16 of the 19 parameters tested in February 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

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Results from the downstream monitoring site (aSW1(P)d) indicates generally good water quality with average orthophosphate levels of 0.2 mg/l P, average ammonia 0.2 mg/l NH_3-N, average BOD of 2.6 mg/l, average TP of 0.2mg/l, average TN of 1.6mg/l N and average suspended solids of 7.5mg/l. Dangerous substances concentrations were below detection level for 15 of the 19 parameters tested in February 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

In summary, there is significant dilution capacity within the receiving water, even at low flows, to assimilate discharges from the Waste Water Works. Physiochemical water quality monitoring in the River both upstream and downstream of the primary discharge from the Waste Water Works indicate that the discharge from the works are not having a significant detrimental impact on the receiving environment.

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SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration:	Emyvale

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 licence application relates. It should have the boundary of the agglomeration to which the licence 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.

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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:	
Tel:	
Fax:	
e-mail:	

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*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 (authorisation) licence application.

Design, Build & Operate Contractor Details

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

*Where a design, build & operate contract is in place for the waste water works, or any part thereof, the details of the contractor should be provided.

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**
	√	

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

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

Name*:	Eugene Farmer (Technician)
Address:	Emyvale WWTW, Derrygasson Upper,
	Co. Monaghan
Grid ref (6E, 6N)	267951E, 343612N
Level of Treatment	Secondary
Primary Telephone:	047 30500
Fax:	047 82739
e-mail:	Eugene.Farmer@monaghantc.ie

***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.

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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.

Type of Discharge	Open Pipe Discharge
Unique Point Code	SW1(P)
Location	Mountain Water River at the Townland of Derrygasson Upper, Co. Westmeath
Grid ref (6E, 6N)	267964 E, 343554N

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
	√	

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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.

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

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
		√

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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**
		√

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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***	

Part 8 Planning Permission was obtained for Emyvale WWTW. Relevant documents are attached in **Attachment B6**,

Local Authority Planning File Reference Nº:	P06/8009

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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.

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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.7 (iii) Other Relevant Water Services Authorities

Regulation 13 of the Waste Water Discharge (Authorisation) Regulations, 2007 requires all applicants, not being the water services authority in whose functional area the relevant waste water discharge or discharges, to which the relevant application relates, takes place or is to take place, to notify the relevant water services authority of the said application.

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

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Relevant Authority Notified	Yes	No
		√

Attachment B.7(iii) should contain a copy of the notice issued to the relevant local authority.

Attachment included	Yes	No
		√

B.8 Notices and Advertisements

Regulations 10 and 11 of the Waste Water Discharge (Authorisation) Regulations, 2007 require all applicants to advertise the application in a newspaper and by way of a site notice. See *Guidance Note.*

Attachment B.8 should contain a copy of the site notice and an appropriately scaled drawing (≤A3) showing its location. **The original application must include the original page of the newspaper in which the advertisement was placed**. The relevant page of the newspaper containing the advertisement should be included with the original and two copies of the application.

Attachment included	Yes	No
	√	

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B.9 (i) Population Equivalent of Agglomeration

TABLE B.9.1 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	1045 – Current 2000 - Design
Data Compiled (Year)	2007
Method	Based on house/business count

Emyvale is situated in North Monaghan on the N2 Dublin/Derry Road, approximately 10 kilometres north of monaghan town and 8km Kilometres south Aughnacloy Co Tyrone. The village is situated within the fertile Blackwater River Basin. The population equivalent of Emyvale village was last estimated at approximately 1045 persons. This figure is based on house counts and business capacity in 2007.

The domestic population growth rate and population projection over the period of the licences are based on the population change between 2002 and 2006 (Census 2006) of 12.1%. The duration of the licence is 6 years therefore based on the latter; a growth rate

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of 18.1% is predicted, giving a protected population of 1234 (excluding pending planning permissions.

B.9 (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 water habitat.

As stated in the Emyvale Village Plan 2007-2013 and in Chapter 3 Settlement Strategy of the Monaghan County Development Plan 2007-2013, there is 143 hectare of land within the development envelope of which approximately 59 ha are available for development. From **Table 1** below 41 hectares of land is available for residential development (70% of lands available).

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Village	Lands within Dev. Envelope ha	Lands Available for Dev. ha	Lands Residential Dev. ha (70% of lands available)	House Capacity @ 15 houses per hectare
Emyvale	143	59	41	615

At low density (15 houses per hectare) it is anticipated that approximately 615 housing units could be built during the Development Plan period if all land within the development limit was used for residential development. This could be a maximum population increase of 1906 based on an average household occupancy of 3.1. This would give a PE of 2951 (worst case scenario) which would be over the design capacity.

Table 2 below tabulates planning permission granted (from 2008 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 1045 PE. The total committed but not yet contributing is 31.1 (based on planning permissions granted from 2008 to present (**Table 2**)). The design capacity of the plant is 1750, therefore the available capacity is 1018.9PE.

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File Number	Description	No of Units	Additional PE (Based on 3.1 Occupancy)
07947	Residential units	63	195.3
0739	Residential units	1	3.1
071582	Residential units	4	12.4
07787	Residential units	2	6.2
07726	Residential units	15	46.5
		85	**263.5**

As can be seen below, an approximate estimate for the plant loading in 2015 (life span of licence) is **1460 PE**. As the plant is currently designed to cater for a PE of 2000, it will be able to accommodate the extra hydraulic and organic load without posing an environmental risk to the receiving water habitat.

Emyvale		
Existing PE	Pending PE	Projected increase to 2015
1045	263.5	189
Total (Existing + Pending Projected)		**1460**

It should 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.

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B.9 (iii) FEES

State the relevant Class of waste water discharge as per Column 1 of the Second Schedule, 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 more than 10,000	€15,000

Appropriate Fee Included	Yes	No
		√

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B.10 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), 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.10 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.11 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 Emyvale Waste Water Works under the Environmental Protection Agency Acts, 1992 and 2003, as amended by Section 13 of Protection of the Environment Act, 2003.

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Attachment B.11 should contain a summary of any relevant correspondence issued in relation to a Section 63 notice.

Attachment included	Yes	No
		√

B.12 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.

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

Attachment included	Yes	No
		√

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SECTION C: INFRASTRUCTURE & OPERATION

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

C.1 Operational Information Requirements

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

C.1.1 Storm Water Overflows

There are no storm water overflows operational in the system.

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.

C.1.2 Pumping Stations

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

The locations of the 5 Pumping Stations associated with the works are shown in **Drawing 6** of **Attachment C1**.

- Number of duty and standby pumps at each pump station;

1 duty and 1 standby in each pump station

- The measures taken in the event of power failure;

No action is taken during power cuts

- Details of storage capacity at each pump station;

There is additional storage only in the Strurhnamullen (24 hour storage)

- Frequency and duration of activation of emergency overflow to receiving waters. Clarify the location where such discharges enter the receiving waters.

There are no emergency overflows

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C.1 (i) Emyvale Waste Water Works

The Waste Water Works serving the town of Emyvale and the immediate environs comprises a network of gravity sewers, 5 pumping stations and associated rising main and a Waste Water Treatment Works with a design capacity of 2000P.E. There are no storm water overflows associated with the treatment works.

The primary discharge of the Waste Water Works is to the Mountain Water River at 267864E, 343554N in the townland of Derrygasson Upper, Co. Monaghan. The associated Waste Water Treatment Plant is located at 267951E, 343612N in the townland of Derrygasson Upper, Co. Monaghan.

Pumping Station

There are five pumping stations associated with the works (**Drawing 6** of **Attachment C1**). Each pump station has 1 duty pump and 1 standby pump. There is additional storage capacity at on one of the pumping station. The Strurhnamullen has a 24 hrs additional storage capacity (National Grid Reference 267365E 343816N).

There are no emergency overflows at the pumping stations.

Emyvale Waste Water Treatment Plant

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1.1 Waste Water Treatment Plant

1.1.1 General

The Waste Water Treatment Plant (WWTP) which provides treatment for a design load of 2000 population equivalent provides biological treatment in Rotating Biological Contactors and percolating filters followed by settlement and clarification and tertiary treatment to reduce phosphate levels. The plant is designed to produce a fully nitrified effluent of 25:35mg/l BOD:SS. Sludge dewatering is removed from site and taken to Monaghan wastewater treatment works further treatment. The site plan and general arrangement of the Waste Water Treatment Plant is shown on **Drawing 2** of **Attachment B2** and **Drawing 7** of **Attachment C1** respectively and a schematic flow diagram of the plant is shown on **Drawing 8.**

The treatment plant has a design PE of 2000 and 6 DWF to allow for the current and future development in the village. The table below summarises the design influent characteristics.

PE	DWF (m^3/day)	6 DWF (m^3/day)	6 DWF (l/sec)	BOD5 (Kg/day)	SS (kg/day)
2000	360	2160	25	120	150

1.12 Treatment

The incoming sewage is screened prior to passing to a pumping station with two submersible pumps which pump the flows to 4 primary settlement tanks. After settlement the flows pass to 2 No Rotating Biological Contactors (RBC) in GRP enclosures in a concrete chamber.

After treatment in the RBCs the flows pass to two biological filters with plastic media. Flows are pumped from the RBCs to a high level chamber from where it flows to the

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percolating filters. The treated effluent flows from the filters to three final settling tank prior to discharge to the river.

The treatment works includes a facility for the reduction of phosphates. Phosphorous is reduced by simultaneous precipitation by the addition of ferric sulphate. Ferric sulphate is injected into the incoming sewage at the inlet works. Ferric Sulphate is stored in a polypropylene storage tank in a bund.

C.1(iii) Information on the Location of the Overflows and Final Discharge Locations from Such Overflows

The primary discharge point SW1(P) discharges to the Mountain Water River. The location of the discharge is shown on **Drawing 3 of Attachment B3.**

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

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Attachment included	Yes	No
	√	

C.2 Outfall Design and Construction

Provide details on the primary discharge point & secondary discharge points and storm overflows to include reference, location, design criteria and construction detail.

Primary Discharge Point - SW1(P)

The primary discharge (SW1(P)) of the Waste Water Works is to the Mountain Water River at 267964E, 343554N in the townland of Derrygasson Upper, Co. Monaghan (see **Drawing 3 of Attachment B.3**).

Attachment C.2 should contain any supporting documentation on the design and construction of any and all discharge outfalls, including stormwater overflows, from the waste water works.

Attachment included	Yes	No
	√	

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SECTION D: DISCHARGES TO THE AQUATIC ENVIRONMENT

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

Give particulars of the source, location, nature, composition, quantity, level and rate of discharges arising from the agglomeration and, where relevant, the period or periods during which such emissions 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 D.1(i), (b) & (c) and D.1(ii), (b) & (c) of Annex 1 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.

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D.1 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 D.1(i)(a), (b) & (c), should be completed for the primary discharge point from the agglomeration and Tables D.1(ii)(a), (b) & (c) should be completed for **each** secondary discharge point, where relevant. Table D.1(iii)(a) 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 plant this data should also be provided in response to Section D.1.

Monitoring data for the influent for 2007 to 2009 is contained in **Table D.1(iv) Attachment D.1.**

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

Supporting information should form **Attachment D.1**

Attachment included	**Yes**	**No**
	√	

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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 Co. Co.	River	Mountain Water River	Not Designated	267964	343554

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.

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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 E.1(i) 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 E.1(ii) 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 meters.

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

Composite sampling is in place on the primary discharge

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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 emission and its effect on the receiving environment should be considered.

Details of any accreditation or certification of analysis should be included.

Environmental Monitoring & Sampling

The Monaghan County Council laboratory carries out the sampling of the discharges from the Emyvale Waste Water Treatment Plant and the monitoring of the water in the Mountain Water River upstream and downstream of the primary discharge. Sampling of the primary discharge from the Emyvale Waste Water Treatment Works and the monitoring of the upstream and downstream monitoring locations are undertaken every 6 weeks. At present composite samples are taken of the influent and effluent and grab samples are taken for upstream and downstream monitoring points.

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Flow totals are recorded by flow meters and flow trends are recorded and stored on the telemetry system at the Plant. The flow totals are obtained from the flow meter and are recorded automatically.

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.

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Further details on the sampling programme schedule for Emyvale are detailed below.

Plant Name	Design	Min No of Samples	Raw Influent	Final Effluent	River Up Stream	River Down stream	Total
Emyvale	PE 2000	6	6	6	6	6	24

Euro Environmental Services, Drogheda, Co. Louth have sampled and analysed for the dangerous substances and characterisation of emission parameters in 2009. Details of their accreditation of analysis are 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:

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PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SW1(P)s	Primary	S	267968 E	343563 N	N
aSW1(P)u	Primary	M	267744 E	343773 N	N
aSW1(P)d	Primary	M	268460 E	343137 N	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 16(1)(h) of the Waste Water Discharge (Authorisation) Regulations 2007 requires all applicants in the case of an existing waste water treatment plant 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 16(1)(l) of the regulations requires applicants to give details of compliance with any applicable monitoring requirements and treatment standards.

Sampling Data

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

Monitoring Requirements & Treatment Standards

Emyvale Waste Water Works complies with the monitoring and treatment standards specified in the Urban Waste Water Treatment Regulations S.I 254 of 2001.

Attachment E.4 should contain any supporting information.

Attachment included	Yes	No
	√	

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

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

Detailed 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).

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. Assessment of Impact on Receiving Surface or Ground Water

- Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

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General

The outfall from the Emyvale Waste Water Plant discharges to the Mountain Water River at 267864E, 343554N in the townland of Derrygasson Upper, Co. Monaghan.

The Mountain Water River is not a designated Salmonid Water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor is it identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA. The Mountain Water River is a tributary of the Blackwater Monaghan which is designated as sensitive from the confluence of the River Shambles to Newmills Bridge under the Urban Waste Water Treatment Regulations 2001.

The treated effluent has an average BOD concentration of 24.7mg/l and average suspended solids concentration of 27 mg/l. Average concentrations of nutrients are as follows; orthophosphate 3.6 mg/l (P), Total Phosphorus 15.36 mg/l (P) and Total Nitrogen 15.6 mg/l (N).

The Dry Weather Flow (DWF) of the Mountain Water River was calculated based on the catchment area of the Mountain Water River and the flows in the Blackwater Monaghan. The average flow was calculated as 1.49m^3/sec with a 95%ile flow of 0.099m^3/sec and 50%ile flow of 0.72m^3/sec.

A Q value of 3-4 was recorded upstream of the discharge point (1st Bridge upstream of Emyvale) in 2004. Previous Q values of 4 and 4-5 were recorded at this location in 2001 and 1998 respectively. EPA Physiochemical water quality monitoring data at this site from 2001 and 2003 gave a median BOD level of 1.6mg/l, Ortho-phosphate level 0.04mg P/l, Oxidised Nitrogen 0.9 mg N/l and Total Ammonia level of 0.03 mg N/l.

A Q value of 3 was recorded downstream of the discharge point (Br 1.1km d/s of Emyvale) in 2004, 2001 and 1998. EPA Physiochemical water quality monitoring data at this site from 2001

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and 2003 gave a median BOD level of 2.2mg O2/l, Ortho-phosphate level 0.05mg P/l, Oxidised Nitrogen 0.9 mg N/l and Total Ammonia level of 0.09 mg N/l.

The overall River Water Framework Directive status for the Mountain Water River is 1a, hence it is at risk of failing to meet good status in 2015.

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 2007 and 2008 is presented in **Tables F.1(i)a aSW1(P)u** and **aSW1(P)d**. Monitoring results for dangerous substances relate to a one-off samples collected in March 2009 and are presented in **Table 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 the average orthophosphate level recorded at 0.02 mg/l P, average ammonia levels of 0.216 mg/l NH_3-N, average BOD of 2 mg/l, average TP of 0.22mg/l, average TN of 0.61mg/l N and average suspended solids of 7.75mg/l Dangerous substances concentrations were below detection level for 16 of the 19 parameters tested in February 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 average orthophosphate levels of 0.2 mg/l P, average ammonia 0.2 mg/l NH_3-N, average BOD of 2.6 mg/l, average TP of 0.2mg/l, average TN of 1.6mg/l N and average suspended solids of 7.5mg/l. Dangerous substances concentrations were below detection level for 15 of the 19 parameters tested in February 2009. No levels exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

The impact of the primary discharge point on the Mountain Water River is evaluated in the Assimilative Capacity calculations below.

The Mountain Water River flow has been estimated based on the catchment area and the flows in the River Blackwater Monaghan (see below):

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Blackwater Monaghan (OPW Data)

Average Flow (m^3/s)	1.3456
95-percentile flow (m^3/s)	0.09
50-percentile flow (m^3/s)	0.65
Catchment Area	65 km^2

Average flow ($m^3/s/km^2$)	(1.3456/65) = 0.0207
95-percentile flow ($m^3/s/km^2$)	(0.09/65) = 0.00138
50-percentile flow ($m^3/s/km^2$)	(0.65/65) = 0.01

Mountain Water River

Approximate Catchment Area for River = 72km^2

Average Flow (m^3/s) = (0.0207 x 72) = 1.49
95-percentile flow (m^3/s) = (0.00138 x 72) = 0.099
50-percentile flow (m^3/s) = (0.01 x 72) = 0.72

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Assimilative Capacity

The assimilative capacity has been assessed using the following Formula:

$$CR = \frac{(C1 * Q1) + (C2 * Q2)}{(Q1 + Q2)}$$

Where;

CR = concentration in river
C1 = concentration in discharge
C2 = concentration in river u/s of discharge
Q1 = flow of discharge
Q2 = Flow in river u/s of discharge.

The assimilative capacity calculations have been carried out using the average and maximum concentration of parameters in the discharge effluent. Both average and maximum concentrations of parameters in the river upstream of the discharge were considered (Monaghan County Council Data). In summary, calculations have been carried out for three scenarios (i) Current Load - Average Case Scenario (i.e. average effluent conc.), (ii) Current Load - Worst Case Scenario (max. effluent conc.) and (iii) the Plant Design Load.

Note: There is no particular designation of the Mountain Water River. It is not designated as sensitive water, fisheries or bathing water. However it is a valuable salmonid river (ERFB, 2006), therefore the EQS from the European Communities (Quality of Salmonid Waters) Regulations, 1988 have been used in the assimilative capacity calculations. The EQS for OP related to the designated target value for the River.

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Results

Assimilation capacity calculations indicate that the EQS are met downstream of the discharge point for all parameters apart from OP for the average and maximum river concentrations (see **Table 4** below). With regard to the maximum concentrations in the river, the OP standard is breached by 0.194mg/l. The OP standard is breached by 0.104mg/l for the average river concentration.

Table 4: Assimilative Calculation Results Summary Table – Current Load - Average Case Scenario (Bold = EQS Breach)

Parameter	Resultant Conc. In River mg/l (Max)	Resultant Conc. In River mg/l (Average)	EQS (Salmonid Regs)
BOD	4.4359	2.8011	<5
COD	60.4612	29.9867	
SS	13.2948	7.8617	<25
TN	2.4822	1.2193	<5
TP	1.0058	0.2520	
OP	**0.22482**	**0.13495**	<0.03

With regard to the "worst case scenario", the EQS are met downstream of the discharge point for all parameters apart from OP and BOD (see **Table 5** below). With regard to the maximum concentrations in the river, the BOD standard is breached by 0.7mg/l. The OP standard is breached by 0.201mg/l and 0.111mg/l for the maximum and average river concentration respectively.

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Table 6: Assimilative Calculation Results Summary Table – Current Load Worst Case Scenario (Bold = EQS Breach)

Parameter	Resultant conc. In River mg/l (Max)	Resultant Conc. In River mg/l (Average)	EQS (Salmonid Regs)
BOD	**5.07**	3.44	<5
COD	62.63	32.16	
SS	15.15	9.71	<25
TN	2.90	1.63	<5
TP	1.10	0.34	
OP	**0.231**	**0.141**	<0.03

However it must be noted that although the OP ESQ was not achieved, there is no significant difference upstream or downstream of the discharge point suggesting that other sources such as rural and agricultural runoff may be contributing to this breach in standard (see **Table 7**).

Table 7 Ortho Phosphate Results Upstream and Downstream of the Discharge Point

Average Case Scenario		
Upstream	**Downstream**	**Diff (U/S - D/S)**
Max Conc	**Max Conc**	
0.22	0.225	0.00482
Upstream	**Downstream**	
Average Conc	**Average Conc**	
0.13	0.135	0.00495

Worst Case Scenario		
Upstream	**Downstream**	**Diff (U/S - D/S)**
Max Conc	**Max Conc**	
0.22	0.231	0.01110
Upstream	**Downstream**	
Average Conc	**Average Conc**	
0.06	0.06004	0.00004

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Design Discharges

If effluent design standards of BOD 25mg/l and SS 35 mg/l are met and the design flow from the plant of 360m^3/day are met then the assimilation calculations indicate that the plant catering for a 2000 PE loading will not result in a breach in EQSs for BOD and SS concentrations in the river (**Table 6**).

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Table 6: Assimilative Calculation Results Summary Table – Design Load

Parameter	Resultant Conc. In River mg/l (Max)	Resultant Conc. In River mg/l (Average)	EQS (Salmonid Regs)
BOD	4.9441	2.5451	<5
SS	6.2116	1.5383	<25

Summary

Assimilation capacity calculations indicate that the EQS are met downstream of the discharge point for the average and worst case scenarios (see **Tables 5** and **6** below), with the exception of the OP standard which is breached for both the average and worst case scenarios and BOD which is marginally breached for the worst case scenario. .

In summary, there is significant dilution capacity within the receiving water, even at low flows, to assimilate discharges from the Waste Water Works. Physiochemical water quality monitoring in the River both upstream and downstream of the primary discharge from the Waste Water Works indicate that the discharge from the works are not having a significant detrimental impact on the receiving environment.

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- Details of all monitoring of the receiving water should be supplied via the following web based link:http://78.137.160.73/epa_wwd_licensing/. Tables F.1(i)(a) & (b) 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 F.1(i)(a) & (b). Monitoring of surface water shall be carried out at not less than two points, one upstream from the discharge location and one downstream.

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

- For discharges from secondary discharge points Tables F.1(ii)(a) & (b) should be completed. Furthermore, provide summary details and an assessment of the impacts of any existing or proposed emissions on the surface water or ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made.

There are no secondary discharge points. **Tables F.1 (ii) (a) & (b)** are therefore not completed.

There are no impacts on ground water or other environmental media. The impact of the primary discharge point on the Mountain Water River is evaluated in the Assimilative Capacity calculations above.

- Provide details of the extent and type of ground emissions at the works. For larger discharges to groundwaters, e.g., from Integrated Constructed Wetlands, large scale percolation areas, etc., a comprehensive report must be completed which should include, inter alia, topography, meteorological data, water quality, geology, hydrology, and hydrogeology. The latter must in particular present the aquifer classification and vulnerability. The Geological Survey of Ireland

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Groundwater Protection Scheme Dept of the Environment and Local Government, Geological Survey of Ireland, EPA (1999) methodology should be used for any such classification. This report should also identify all surface water bodies and water wells that may be at risk as a result of the ground discharge.

There are no ground water emission at the works.

- 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 water.

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

There is no particular designation of the Mountain Water River. It is not designated as sensitive water, fisheries or bathing water. The Mountain Water River is a tributary of the Blackwater (Monaghan) River which is designated as sensitive from the confluence of the River Shambles to Newmills Bridge

- 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 Mountain Water River upstream and downstream of the discharge point as detailed in **Tables D1** and **F1** show a level below those in the Water Quality (Dangerous Substances) Regulations 2001 and therefore the emissions are not considered likely to impair the environment.

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- In circumstances where water abstraction points exist downstream 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.

The nearest water abstraction is Emy Lough at 269089E, 343436N.

The assimilative capacity of the river would suggest that the discharges from the waste water works will not have significant effects on faecal coliform, salmonella and protozoan pathogen numbers in the environment.

- 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,

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(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)

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.

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- Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.

The impact of the discharge from the Emyvale wastewater treatment works has been calculated in the Assimilative Capacity calculations above. These results show that the impact of the discharge can be assimilated into the river and will not have a pollution effect over long distances.

- This section should also contain full details of any modelling of discharges from the agglomeration. Full details of the assessment and 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**
	√	

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Table 4: Assimilative Capacity Calculations:

Table 4a Current Discharge (1045 PE) – Average Case Scenario

	C1		Q1	C2a	C2b	Q2							
Parameter	**Aver. Effluent Conc. mg/l**	Average Effluent Flow m3/day	Aver. Discharge Flow L/sec	Max Conc. In River EPA Data 2001-2003	Median Conc. In river EPA Data 2001-2003	Flow in river (95%ile) l/sec	C1*Q1	C2a*Q2	C2b*Q2	Q1+Q2	Resultant conc. In river mg/l (C2a)	Resultant Conc. In River mg/l (C2b)	**EQS (Salmonid Regs)**
BOD	24.70	184	2.12962963	**4**	**2.33**	99	52.60185	396	230.67	101.1296	**4.4359**	**2.8011**	<5
COD	81.9	184	2.12962963	**60**	**28.87**	99	174.4167	5940	2858.13	101.1296	**60.4612**	**29.9867**	
SS	27.00	184	2.12962963	**13**	**7.45**	99	57.5	1287	737.55	101.1296	**13.2948**	**7.8617**	<25
TN	15.6	184	2.12962963	**2.2**	**0.91**	99	33.22222	217.8	90.09	101.1296	**2.4822**	**1.2193**	<5
TP	3.60	184	2.12962963	**0.95**	**0.18**	99	7.666667	94.05	17.82	101.1296	**1.0058**	**0.2520**	
OP*	3.60	184	2.12962963	**0.22**	**0.13**	1490	7.666667	327.8	193.7	1492.13	**0.22482**	**0.1350**	<0.03

*Average Flow

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Table 4b Current Discharge (1045 PE) – Worst Case Scenario

	C1		Q1	C2a	C2b	Q2							
Parameter	**Max Effluent Conc. mg/l**	Average Effluent Flow m3/day	Aver. Discharge Flow L/sec	Max Conc. In River EPA Data 2001-2003	Median Conc. In river EPA Data 2001-2003	Flow in river (95%ile) l/sec	C1*Q1	C2a*Q2	C2b*Q2	Q1+Q2	Resultant conc. In river mg/l (C2a)	Resultant Conc. In River mg/l (C2b)	**EQS (Salmonid Regs)**
BOD	55.0	184	2.12962963	**4**	**2.33**	99	117.1296	396	230.67	101.1296	**5.07**	**3.44**	<5
COD	185.0	184	2.12962963	**60**	**28.87**	99	393.9815	5940	2858.13	101.1296	**62.63**	**32.16**	
SS	115.0	184	2.12962963	**13**	**7.45**	99	244.9074	1287	737.55	101.1296	**15.15**	**9.71**	<25
TN	35.3	184	2.12962963	**2.2**	**0.91**	99	75.17593	217.8	90.09	101.1296	**2.90**	**1.63**	<5
TP	8.00	184	2.12962963	**0.95**	**0.18**	99	17.03704	94.05	17.82	101.1296	**1.10**	**0.34**	
OP*	8.00	184	2.12962963	**0.22**	**0.13**	1490	17.03704	327.8	193.7	1492.13	**0.23110**	**0.14123**	<0.03

*Average Flow

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Table 4c Design Load (2000PE)

	C1		Q1	C2a	C2b	Q2							
Parameter	**Design Conc. mg/l**	**Design Flow m^3/day**	Aver. Discharge Flow L/sec	Max Conc. In River EPA Data 2001-2003	Median Conc. In river EPA Data 2001-2003	Flow in river (95%ile) l/sec	C1*Q1	C2a*Q2	C2b*Q2	Q1+Q2	Resultant conc. In river mg/l (C2a)	Resultant Conc. In River mg/l (C2b)	**EQS (Salmonid Regs)**
BOD	25	360	4.16666667	**4.1**	**1.6**	99	104.1667	405.9	158.4	103.1667	**4.9441**	**2.5451**	<5
SS	35	360	4.16666667	**5**	**0.13**	99	145.8333	495	12.87	103.1667	**6.2116**	**1.5383**	<25

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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.

The nearest water abstraction is Emy Lough at 269089E, 343436N (see **Drawing 9** of **Attachment F2**.

The assimilative capacity of the Mountain Water River would suggest that the discharges from the waste water works will not have significant effects on faecal coliform, salmonella and protozoan pathogen numbers in the environment and will not pose a risk to the water quality of Emy Lough.

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
NB_ABS0033	1050 (700 domestic and 350 non domestic)	1400 m^3/day	Point Code Provide label ID's		269089	343436	N

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

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

Attachment F.2 should contain any supporting information.

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SECTION G: PROGRAMMES OF IMPROVEMENTS

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

G.1 Compliance with Council Directives

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

- Dangerous Substances Directive 2006/11/EC,
- Water Framework Directive 2000/60/EC,
- Birds Directive 79/409/EEC,
- Groundwater Directives 80/68/EEC & 2006/118/EC,
- Drinking Water Directives 80/778/EEC,
- Urban Waste Water Treatment Directive 91/271/EEC,
- Habitats Directive 92/43/EEC,
- Environmental Liabilities Directive 2004/35/EC,
- Bathing Water Directive 76/160/EEC, and
- Shellfish Waters Directive (79/923/EEC).

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

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

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Attachment included	Yes	No
		√

G.2 Compliance with Water Quality Standards for Phosphorus Regulations (S.I. No. 258 of 1998).

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 Water Quality Standards for Phosphorous Regulations (S.I. No. 258 of 1998) 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 identified as the principal sources of pollution under the P regulations.

Water Quality Management Plans or Catchment Management Plans

The Neagh-Bann International River Basin District and a River Basin Management Plan will be formulated and implemented for this district in the future. See **Attachment G2** for summary leaflet**.**

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Waste Water Treatment Works - Phosphorus Removal

The treatment works includes a facility for the reduction of phosphates. Phosphorous is reduced by simultaneous precipitation by the addition of ferric sulphate. Ferric sulphate is injected into the incoming sewage at the inlet works.

There is an average 34 % reduction of P concentration between the inlet and outlet to the plant (based on data from 2006 – February 2009).

Table 1: TP Concentration of Inlet and Outlet

Date of Sampling	Total P mg/l P	Total P mg/l P
	Influent	Effluent
7/19/2006	6.3	1.8
10/19/2006	5.8	3.32
5/18/2008	4.16	6.32
9/19/2008	0.07	0.08
11/12/2008	3.90	1.09
2/10/2009	7.61	4.01
2/25/2009	7.355	6.70

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The nearest "Baseline Monitoring Station" to the plant is at the Bridge upstream of Emyvale which is upstream of the discharge from the point. Monaghan County Councils "Phosphate Implementation Report 2006" indicates that the 2007 MRP target value of 30ug/l was achieved at this site (see **Attachment G2**).

The nearest "Baseline Monitoring Station" downstream of the plant is at the bridge 1.1km downstream of Emyvale. Monaghan County Councils "Phosphate Implementation Report 2006" indicates that the current Q value at this site for 2003-2005 was Q3 with a MRP value of 40ug/l P (2004-2005). Hence, the target Q value for this station was Q4 or an MRP an annual median orthophosphate concentration target of 30ug/l (see **Attachment G2**). This standard has not been achieved.

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

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

Attachment included	Yes	No
	√	

G.3 Impact Mitigation

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

No Programme of Improvements has been prioritised for the development.

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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 Overflow

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
		√

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SECTION H: DECLARATION

Declaration

I hereby make application for a waste water discharge licence/revised licence, 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 :** 31.3.09
(on behalf of the organisation)

Print signature name: MARK JOHNSTON

Position in organisation: SENIOR EXECUTIVE ENGINEER

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Agglomeration details

Leading Local Authority	Monaghan County Council
Co-Applicants	
Agglomeration	Emyvale Waste Water Treatment Works
Population Equivalent	2000
Level of Treatment	Secondary
Treatment plant address	Emyvale Derrygasson Upper Co. Monaghan
Grid Ref (12 digits, 6E, 6N)	267951 / 343612
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

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

Discharge Point Code: SW-1

Local Authority Ref No:		
Source of Emission:	Emyvale Water Treatment Works	
Location:	Emyvale, Derrygasson Upper, Co.Monaghan	
Grid Ref (12 digits, 6E, 6N)	267964 / 343554	
Name of Receiving waters:	Mountain Water River	
Water Body:	River Water Body	
River Basin District	Neagh Bann IRBD	
Designation of Receiving Waters:	Not Applicable	
Flow Rate in Receiving Waters:	1.49	$m^3.sec^{-1}$ Dry Weather Flow
	0.099	$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)		

Emission Details:

(i) Volume emitted			
Normal/day	184 m^3	Maximum/day	212 m^3
Maximum rate/hour	8.8 m^3	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.0024 m^3/sec		

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

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
pH	pH	24 hr flow proportional	= 7.75	
Temperature	°C	24 hr flow proportional	= 9.3	
Electrical Conductivity (@ 25°C)	µS/cm	24 hr flow proportional	= 964	
Suspended Solids	mg/l	24 hr flow proportional	= 115	21.16
Ammonia (as N)	mg/l	24 hr flow proportional	= 38	6.992
Biochemical Oxygen Demand	mg/l	24 hr flow proportional	= 55	10.12
Chemical Oxygen Demand	mg/l	24 hr flow proportional	= 185	34.04
Total Nitrogen (as N)	mg/l	24 hr flow proportional	= 35.3	6.49
Nitrite (as N)	mg/l	24 hr flow proportional	= 0.139	0.025
Nitrate (as N)	mg/l	24 hr flow proportional	= 41	7.54
Total Phosphorous (as P)	mg/l	24 hr flow proportional	= 8	1.472
OrthoPhosphate (as P)	mg/l	24 hr flow proportional	= 8	1.472
Sulphate (SO_4)	mg/l	24 hr flow proportional	= 83.6	15.38
Phenols (Sum)	µg/l	24 hr flow proportional	< 0.1	0.0184

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

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

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
Atrazine	µg/l	24 hr flow proportional	< 0.01	0
Dichloromethane	µg/l	24 hr flow proportional	< 1	0
Simazine	µg/l	24 hr flow proportional	< 0.01	0
Toluene	µg/l	24 hr flow proportional	< 1	0
Tributyltin	µg/l	24 hr flow proportional	< 0.2	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	< 0.93	0
Copper	µg/l	24 hr flow proportional	= 31.4	2.11
Cyanide	µg/l	24 hr flow proportional	< 5	0
Flouride	µg/l	24 hr flow proportional	= 0.17	0.011
Lead	µg/l	24 hr flow proportional	< 0.38	0
Nickel	µg/l	24 hr flow proportional	< 0.47	0
Zinc	µg/l	24 hr flow proportional	= 36.7	2.46
Boron	µg/l	24 hr flow proportional	= 115.6	7.76
Cadmium	µg/l	24 hr flow proportional	< 0.09	0
Mercury	µg/l	24 hr flow proportional	< 0.2	0
Selenium	µg/l	24 hr flow proportional	= 1	0.067
Barium	µg/l	24 hr flow proportional	= 13	0.873

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

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

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)
SW-1	365	67160

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

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)	Complies with Definition of Storm Water Overflow

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

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	268460 / 343137

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	10/02/08	26/02/08	18/05/08	19/06/08			
pH					Grab	0.01	Method 4500-H+/Electrometry
Temperature					Grab	0	0
Electrical Conductivity (@ 25°C)	= 374				Grab	0.5	Method 2510 B/Electrometry
Suspended Solids		= 3	= 3		Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)		= 0.11	= 0.26		Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand		< 2			Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand		= 30			Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen		< 2	< 2		Grab	0	DO Meter
Hardness (as $CaCO_3$)					Grab	0	0
Total Nitrogen (as N)		= 0.69	= 1.16		Grab	1	Calculation
Nitrite (as N)					Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)					Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)		= 0.18	= 0.13	= 0.19	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)					Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)					Grab	1.39	Method 4500-SO42-E/Colorimetry
Phenols (Sum)					Grab	0.1	EPA Method 525 GCMS

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

Additional Comments:	No Hardness Data Available

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Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	19/09/08	12/11/08	10/02/09	25/02/09			
pH			= 7.9	= 8	Grab	0.01	Method 4500-H+/Electrometry
Temperature			= 3	= 8.1	Grab	0	0
Electrical Conductivity (@ 25°C)				= 532	Grab	0.5	Method 2510 B/Electrometry
Suspended Solids	= 3	= 3	= 4	= 3	Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)	< 0.06		< 0.06	= 0.11	Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	< 2	< 2	< 2	< 2	Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 33	= 14	= 17	= 24	Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen	< 2	< 2		= 8.62	Grab	0	DO Meter
Hardness (as $CaCO_3$)				= 0	Grab	0	0
Total Nitrogen (as N)	= 0.75	= 0.53	= 1.73	= 4.68	Grab	1	Calculation
Nitrite (as N)			= 0.004	= 0.028	Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)			= 1.17	= 3.53	Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)		= 0.08	= 0.15	= 0.596	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)			= 0.086	= 0.547	Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)			= 18.09	= 40.24	Grab	1.39	Method 4500-SO42-E/Colorimetry
Phenols (Sum)			< 0.1	< 0.1	Grab	0.1	EPA Method 525 GCMS

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

Additional Comments:	No Hardness Data Available

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Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	18/05/09						
pH					Grab	0.01	Method 4500-H+/Electrometry
Temperature					Grab	0	0
Electrical Conductivity (@ 25°C)					Grab	0.5	Method 2510 B/Electrometry
Suspended Solids					Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)					Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	< 2				Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 21				Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen					Grab	0	DO Meter
Hardness (as $CaCO_3$)					Grab	0	0
Total Nitrogen (as N)					Grab	1	Calculation
Nitrite (as N)					Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)					Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)					Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)					Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)					Grab	1.39	Method 4500-SO42-E/Colorimetry
Phenols (Sum)					Grab	0.1	EPA Method 525 GCMS

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

Additional Comments:	No Hardness Data Available

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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	268460 / 343137

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	10/02/09						
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	< 1				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	= 4.2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 0.2				Grab	0.03	Method 4500 F - E Colorimetry
Lead	= 0.6				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	< 0.47				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	< 4.6				Grab	4.6	USEPA Method 3125B ICPMS
Boron	< 4.2				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	< 0.74				Grab	0.74	USEPA Method 3125B ICPMS

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Barium	= 63.5				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

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

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	267744 / 343773

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	26/02/08	18/05/08	19/09/08	12/11/08			
pH					Grab	0.01	Method 4500-H+/Electrometry
Temperature					Grab	0	0
Electrical Conductivity (@ 25°C)					Grab	0.5	Method 2510 B/Electrometry
Suspended Solids	< 3	= 3	= 3	< 3	Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)	= 0.09	= 0.13	< 0.06		Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	< 2	< 2	< 2	< 2	Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 33	= 20	= 36	= 16	Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen					Grab	0	DO Meter
Hardness (as $CaCO_3$)					Grab	0	0
Total Nitrogen (as N)	= 0.74	= 0.71	= 0.58	= 0.39	Grab	1	Calculation
Nitrite (as N)					Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)					Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.15	= 0.06	= 0.95	= 0.07	Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)					Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)					Grab	1.39	Method 4500-SO42-E/Colorimetry
Phenols (Sum)					Grab	0.1	EPA Method 525 GCMS

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

Additional Comments:	No Hardness Data Available No hardness data available

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Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	10/02/09	25/02/09					
pH	= 7.8	= 8			Grab	0.01	Method 4500-H+/Electrometry
Temperature	= 3	= 8.1			Grab	0	0
Electrical Conductivity (@ 25°C)	= 381	= 487			Grab	0.5	Method 2510 B/Electrometry
Suspended Solids		= 5			Grab	3	Method 2540 D/Filtration/Dry in 104C
Ammonia (as N)	< 0.06	< 0.06			Grab	0.06	Method 4500NH3F/Colorimetry
Biochemical Oxygen Demand	< 2	< 2			Grab	2	Method 5210 B/Electrometry
Chemical Oxygen Demand	= 22	= 20			Grab	5	Method 5220 D/Spectrophotometry
Dissolved Oxygen		= 9.79			Grab	0	DO Meter
Hardness (as $CaCO_3$)		= 0			Grab	0	0
Total Nitrogen (as N)	= 1.29	= 1.41			Grab	1	Calculation
Nitrite (as N)	< 0.003	= 0.005			Grab	0.003	Method 4500-NO2-B/Colorimetry
Nitrate (as N)	= 0.73	= 0.85			Grab	0.09	Method 4500-NO3-H/Colorimetry
Total Phosphorous (as P)	= 0.04	= 0.039			Grab	0.042	Method 4500-P E/Colorimetry
OrthoPhosphate (as P)	= 0.03	= 0.011			Grab	0.004	Method 4500-P E/Colorimetry
Sulphate (SO_4)	= 17.56	= 33.17			Grab	1.39	Method 4500-SO42-E/Colorimetry
Phenols (Sum)	< 0.1	< 0.1			Grab	0.1	EPA Method 525 GCMS

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

Additional Comments:	No Hardness Data Available No hardness data available

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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	267744 / 343773

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	10/02/09						
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	< 1				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	= 3.2				Grab	0.2	USEPA Method 3125B ICPMS
Cyanide	< 5				Grab	5	Hach Water Analysis Handbook 2nd Edition
Flouride	= 0.17				Grab	0.03	Method 4500 F - E Colorimetry
Lead	< 0.38				Grab	0.38	USEPA Method 3125B ICPMS
Nickel	< 0.47				Grab	0.47	USEPA Method 3125B ICPMS
Zinc	< 4.6				Grab	4.6	USEPA Method 3125B ICPMS
Boron	< 4.2				Grab	4.2	USEPA Method 3125B ICPMS
Cadmium	< 0.09				Grab	0.09	USEPA Method 3125B ICPMS
Mercury	< 0.2				Grab	0.2	USEPA Method 3125B ICPMS
Selenium	< 0.74				Grab	0.74	USEPA Method 3125B ICPMS

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Barium	= 58.8				Grab	0.74	USEPA Method 3125B ICPMS

Additional Comments:	

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Annex 2: Check List For Regulation 16 Compliance

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

In each case, refer to the attachment number(s), of your application which contains(s) the information requested in the 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,	Section B.1 of Application	Yes
(b)	give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant,	Section B.1 of Application	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,	Section B.1 of Application	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	Section B.9 of Application	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,	Attachment D.1	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.	Section F of Application	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,	Sectin E & Attachment E	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,	Attachment E.4	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,	Section G of Application	Yes
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,	Section F.1 of Application	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,	Section F.1 of Application	Yes
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,	Section G of Application & Attachment G2	Yes
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.	N/A	Yes
(n)	Any other information as may be stipulated by the Agency.	N/A	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,	Attachment B.8	Yes
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,	N/A	Yes
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -	see below	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	Attachment B.3, C.2 & D.2	Yes
(c) (ii)	the point or points at which monitoring and sampling are undertaken or are to be undertaken,	Attachments B.3, D.1 & E.3	Yes
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	Section B.9(iii) of Application	Yes

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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.	Yes	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.	Yes	Yes
2	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.	Yes	Yes
3	1 CD of geo-referenced digital files provided.	Yes	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**
1	EIA provided if applicable	Not applicable	Yes
2	2 hardcopies of EIS provided if applicable.	Not applicable	Yes
3	2 CD versions of EIS, as PDF files, provided.	Not applicable	Yes

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