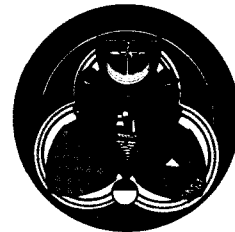


# Comhairle Contae Chorcaí Cork County Council

Annabella,  
Mallow,  
Co. Cork.  
Tel: (022) 21123 • Fax: (022) 21983  
Email: northcork@corkcoco.ie  
Web: www.corkcoco.ie



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R-phost: northcork@corkcoco.ie  
Suíomh Gréasáin: www.corkcoco.ie

To : Environmental Protection Agency,  
Johnstown Castle.

19<sup>th</sup> September, 2008

Re : Waste Water Discharge Licence Application for the Agglomeration of  
**Rathcormack.**

Dear Sir/Madam,

Please find enclosed Cork Co Council's Waste Water Discharge Licence Application  
for the Agglomeration of **Rathcormack.**

The following documentation is enclosed:

- 1 No. signed original in hardcopy
- 1 No. copy in hardcopy
- 2 No. CD-ROM with all documentation in electronic searchable PDF (OCR'd format)
- 2 No. CD-ROM with Autocad, Excel Data, Table D.2, Table E.3 and Table F.2

The content of the electronic files is a true copy of the original hardcopy.

Signed :

  
**Thomas G. Stritch,**  
**DIRECTOR OF SERVICES (Northern Division)**



This is a draft document and is subject to revision.



# Waste Water Discharge Licence Application Form

EPA Ref. N<sup>o</sup>:  
(Office use only)

**Environmental Protection Agency**  
PO Box 3000, Johnstown Castle Estate, Co. Wexford  
Lo Call: 1890 335599 Telephone: 053-9160600 Fax: 053-9160699  
Web: [www.epa.ie](http://www.epa.ie) Email: [info@epa.ie](mailto:info@epa.ie)

## 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'.	To accurately reflect the information required
		Amend wording of Checklist in Annex to reflect wording of Regulation 16(5) of S.I. No. 684 of 2007.	To accurately reflect the Regulations and to obtain the application documentation in appropriate format.
		Inclusion of unique point code for each point of discharge and storm water overflow.	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.	To accurately determine the agglomeration to be licensed.
		Amend wording of Section B.7. (iii) to reflect the title of Water Services Authority.	To accurately reflect the Water Services Act, 2007.
		Addition of new Section B.9 (ii) in order to obtain information on developments yet to contribute to the waste water works.	To obtain accurate population equivalent figures for the agglomeration.
		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.	To obtain accurate information on design and spill frequency from these structures.
		Amend Section D.1 to include a requirement for monitoring data for influent	To acquire information on the population loading onto the plant and to provide information on performance rates within

## Waste Water Discharge Authorisation Application Form

		to waste water treatment plants, where available. Amend wording of Section E.1 to request information on composite sampling/flow monitoring provisions.	the plant. 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](http://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.

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

## PROCEDURES

The procedure for making and processing of applications for waste water discharge 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.

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

Additional information may need to be submitted beyond that which is explicitly requested on this form. Any references made should be supported by a bibliography. The Agency may request further information 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 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 N° A.1**

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## SECTION A: NON-TECHNICAL SUMMARY

The village of Rathcormack is located 22km north of Cork City, along the R639, formerly the N8. The village has experienced substantial construction and population growth in the last number of years.

### The Waste Water Works and the Activities Carried Out Therein

The wastewater in Rathcormack is collected in a partially combined foul and separate foul sewerage drainage network. The wastewater from both the centre and northern section of the village gravitates to the pumping station. From the pump station the sewerage is pumped through a 200mm diameter rising main to the manhole at the crossroads on Canon Street. The wastewater arising from the south-western parts of the village drains directly to the confluence of network at Canon Street. From the manhole at the crossroads on Canon Street the wastewater gravitates to the wastewater treatment plant.

Rathcormack WWTP is currently designed for a Population Equivalent (PE) of 800, which was commissioned in 1998. Activated Sludge is the process employed at the Rathcormack waste water treatment plant. Influent initially gravitates into a circular concrete aeration tank (invert of existing overground inlet sewer is 495mm below top wall level of aeration tank). The effluent then flows into the hopper bottomed settling tank. The solids settle while the supernatant flows over the weir and discharges to the river. Sludge may be returned from the settling tank to the aeration tank and excess sludge is removed from the settling tank as required and removed off site for disposal.

Currently the WWTP is receiving flows ranging from 500m<sup>3</sup>/d to 300m<sup>3</sup>/d, with an average flow of 400m<sup>3</sup>/d entering the plant. Based average hydraulic load of 180l/d/p, the PE equates to 2,200.

A new WWTP is due to be constructed to cater for a PE of 4,000 and BOD loading of 240Kg/d to ensure compliance with the urban wastewater regulations. Additional lands have been acquired adjacent to the existing WWTP site to cater for the new WWTP. Tenders have been received and the tender evaluation process is being undertaken at present.

The Contract for the new WWTP includes for the following elements:

- Construction of new Inlet Works
- Construction of new Secondary Treatment Works
- Construction of Tertiary Treatment Works
- Provision of Sludge Holding Tank
- Construction of new Outlet Works and Outfall
- Miscellaneous Mechanical and Electrical Works
- Control / Staff Facilities Building
- Site Roads and Footpaths
- New Site Fencing
- Decommissioning of the existing treatment plant
- Landscaping and screen planting

Rathcormack WWTP is operated by Cork County Council. The plant is operated by a caretaker who duties also involves the maintenance of a number of other small WWTP's in the area. The caretaker is on duty from 8.00am to 5.30pm Monday – Saturday. The new WWTP shall be operated by a dedicated caretaker, with responsibility of one other plant.

## **The sources of emissions from the waste water works**

The pollution load for the Rathcormack agglomeration arises from the following areas:

- Domestic population
- Commercial premises
- Industrial premises
- School & crèches
- Infiltration

The sewerage from all commercial and industry is collected via the public sewer and treated in conjunction with the domestic waste at the WWTP.

The current flow which is received at the plant varies from 500m<sup>3</sup>/d to 300m<sup>3</sup>/d, with an average flow of 400m<sup>3</sup>/d entering the plant. The new WWTP shall be designed to cater for a flow 952m<sup>3</sup>/d, based on a DWF of 4,000 pe at 238l/h/d.

## **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 final effluent is discharged to the River Bride, which is adjacent to the wastewater treatment plant site. The maximum flow to the existing WWTP (which does not have any flow measurement monitors) is in the order of 500m<sup>3</sup>/d to 300m<sup>3</sup>/d. The flow from the new wastewater treatment plant shall be designed for 1DWF of 952m<sup>3</sup>/d to the maximum capacity of the plant which is 6DWF (5,712m<sup>3</sup>/d). The new plant shall be designed to cater for 3DWF, and flows in excess of 3DWF shall overflow to the storm overflow facilities, flows in excess of 6DWF shall overflow to the receiving waters

## **The proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works**

### **Technology**

The new WWTP shall have a sufficient number of standby pumps, streams, storm holding facilities, sludge holding facilities, etc is provided to ensure continuation of the wastewater treatment.

The new plant shall include the following elements:

- Inlet Screening
- Inlet flume
- 3 nr Sequence Batch Reactors
- 2r Sand Filters
- Picket Fence Thickener
- 3 nr automatic samplers

### **Techniques**

The new WWTP shall be operated and managed in accordance with the Performance Management System, developed by the Water Service National Training Group (WSMTG).

**Further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused**

Rathcormack Wastewater Treatment Plant is due to be upgraded to cater for 4000 PE under the Serviced Land Initiative Funding Programme. Additional lands have been acquired adjacent to the existing site and works are due to commence following the completion of the award process. The indicative design incorporates three number Sequence Batch Reactors, followed tertiary treatment using two number sand filters. The new plant also includes Phosphorus Removal and for the provision of Picket Fence Thickener.

The upgrading of the plant shall ensure that the basic obligations of the operator are being adhered to.

### **Measures planned to monitor emissions into the environment**

The Cork County Council Environmental Laboratory carries out sampling of the influent and effluent biannually. Sampling, Monitoring and analysis of the wastewater sludge is also undertaken by the Environmental Laboratory.

The Cork County Council Environmental Department located in Inniscarra takes samples from the River Bride upstream and downstream of the wastewater treatment plant approximately 6 times per year. Samples of the influent and effluent are also taken at these times.

The new wastewater treatment plant shall be equipped with automatic samplers on the inlet, overflow and outlet lines.

The EU Water Framework Directive Monitoring Programme is to be fully operational by the year 2012. This monitoring programme was prepared by the EPA to meet the requirements of the EU Water Framework Directive (2000/60/EC) and National Regulations implementing the Water Framework Directive (S.I. No. 722 of 2003) and National Regulations implementing the Nitrates Directive (S.I. No. 788 of 2005). The River Bride is to have a number of operational monitoring sites under this monitoring programme.

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## SECTION B: GENERAL

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

### B.1 Agglomeration Details

<b>Name of Agglomeration:</b>	Rathcormack & Environs
-------------------------------	------------------------

#### 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.

<b>Name*:</b>	Cork County Council
<b>Address:</b>	Northern Division
	Annabella
	Mallow
	Co. Cork
<b>Tel:</b>	022 21123
<b>Fax:</b>	022 21983
<b>e-mail:</b>	<a href="mailto:Frank.cronin@corkcoco.ie">Frank.cronin@corkcoco.ie</a>

\*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.

<b>Name*:</b>	Frank Cronin
<b>Address:</b>	Northern Division
	Annabella
	Mallow
	Co. Cork
<b>Tel:</b>	022 21123
<b>Fax:</b>	022 21983
<b>e-mail:</b>	<a href="mailto:Frank.cronin@corkcoco.ie">Frank.cronin@corkcoco.ie</a>

\*This should be the name of person nominated by the water services authority for the purposes of the application.

#### Co-Applicant's Details

<b>Name*:</b>	Not Applicable
<b>Address:</b>	Not Applicable
<b>Tel:</b>	Not Applicable
<b>Fax:</b>	Not Applicable
<b>e-mail:</b>	Not Applicable

\*This should be the name of a water services authority, other than the lead authority, where multiple authorities are the subject of a waste water discharge (authorisation) licence application.

## Design, Build & Operate Contractor Details

<b>Name*:</b>	Not Applicable
<b>Address:</b>	Not Applicable
<b>Tel:</b>	Not Applicable
<b>Fax:</b>	Not Applicable
<b>e-mail:</b>	Not Applicable

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

Attachment included	Yes	No
	√	

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

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

<b>Name*:</b>	Flannan Groarke, Senior Executive Engineer
<b>Address:</b>	Cork County Council
	Courthouse Road
	Fermoy
	Co. Cork
<b>Grid ref (6E, 6N)</b>	180954 E 090746 N
<b>Level of Treatment</b>	Secondary
<b>Primary Telephone:</b>	025 31947
<b>Fax:</b>	025 32331
<b>e-mail:</b>	flannan.groarke@corkcoco.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 ( $\leq A3$ ) of the site boundary and overall site plan, including labelled discharge, monitoring and sampling points. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.1, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

Attachment included	Yes	No

	√	
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### 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.

<b>Type of Discharge</b>	300mm diameter outfall pipe from wastewater treatment plant. Open Pipe
<b>Unique Point Code</b>	SW 01 - RATH
<b>Location</b>	WWTP at Bridgeland East, Rathcormack
<b>Grid ref (6E, 6N)</b>	180980E, 090731N

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

Attachment included	Yes	No
	√	

### B.4 Location of Secondary Discharge Point(s)

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

<b>Type of Discharge</b>	225mm diameter outfall pipe from pumping station. Open Pipe
<b>Unique Point Code</b>	SW 02 - RATH
<b>Location</b>	Pumping Station, Knocknabooly, Rathcormack
<b>Grid ref (6E, 6N)</b>	180938E, 091613N

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

Attachment included	Yes	No
	√	

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

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

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

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

Attachment included	Yes	No
		√

### B.6 Planning Authority

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.

<b>Name:</b>	Cork County Council
<b>Address:</b>	Planning Department
	County Hall
	Carrigrohane Road
	Cork
<b>Tel:</b>	021-4276891
<b>Fax:</b>	021-4867007
<b>e-mail:</b>	planninginfo@corkcoco.ie

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

<b>has been obtained</b>	√	<b>is being processed</b>	
<b>is not yet applied for</b>		<b>is not required</b>	

<b>Local Authority Planning File Reference N°:</b>	Not Applicable
--	----------------

**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.

<b>Name:</b>	Health Service Executive
<b>Address:</b>	North Cork Area Headquarters
	Gouldshill House
	Mallow, Co. Cork
<b>Tel:</b>	022-30200
<b>Fax:</b>	022-30211
<b>e-mail:</b>	gerry.oconnell@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.

<b>Name:</b>	Not Applicable
<b>Address:</b>	Not Applicable
<b>Tel:</b>	Not Applicable
<b>Fax:</b>	Not Applicable
<b>e-mail:</b>	Not Applicable

Relevant Authority Notified	Yes	No
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		√
--	--	---

**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 ( $\leq A3$ ) 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
	√	

## 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.

<b>Population Equivalent</b>	<b>4000</b>
<b>Data Compiled (Year)</b>	<b>2007</b>
<b>Method</b>	<b>Census Data</b>

## 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.

The current population equivalent being treated at Rathcormack WWTP is 2200 based on a flow survey carried out in July 2007.

All developments with granted planning permission and all developments under construction have been included in the agglomeration. The additional p.e. due to the granted planning permissions is estimated at 800, this additional planning's are subject to the construction of the new WWTP. There are currently no planning permissions granted in relation to non domestic activities.

At present Rathcormack Wastewater Treatment Plant, is overloaded and therefore the plant does not have adequate capacity to accommodate any further loadings until the new wastewater treatment plant is commissioned.

Part VIII Planning has been received for the construction of the new WWTP and at present the contract award process is being undertaken for the new 4,000 p.e WWTP. Upon completion of the 4,000 p.e WWTP the plant shall have be capable of accommodating additional hydraulic and organic loading without posing an environmental risk to the receiving water habitat.

### 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 €)
	€25,000

Appropriate Fee Included	Yes	No
	√	

### 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.

Cork County Council has applied to the Department of Environment, Heritage and Local Government under the Serviced Land Initiative scheme for the provision of a new wastewater treatment plant. Approval for the project has yet to be received for the plant.

A new WWTP is due to be constructed to cater for a PE of 4,000 and BOD loading of 240Kg/d to ensure compliance with the urban wastewater regulations. Tenders have been received and contractor selected and it is envisaged works shall begin in September 2008.

The Contract for the upgrade of the WWTP includes for the following elements:

- Construction of new Inlet Works
- Construction of new Secondary Treatment Works
- Provision of Sludge Holding Tank
- Construction of new Outlet Works and Outfall
- Miscellaneous Mechanical and Electrical Works

- Control / Staff Facilities Building
- Site Roads and Footpaths
- New Site Fencing
- Decommissioning existing treatment plant
- Landscaping and screen planting

It is envisaged the new WWTP shall take in the order of 12 months to be constructed. Therefore the plant is envisaged to be operational by September 2009.

**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.

#### Not Applicable

There was no Section 63 notice issued by the Environmental Protection Agency to Cork County Council in relation to the waste works in Rathcormack under Environmental Protection Agency Acts, 1992 and 2003, as amended by Section 13 of Protection of the Environment Act, 2003.

**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. **Not**

#### Applicable

Rathcormack Wastewater Works does not require a Foreshore Act License under the Foreshore Act 1933.

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

Attachment included	Yes	No
		√

## SECTION C: INFRASTRUCTURE & OPERATION

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

### C.1 Operational Information Requirements

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

#### C.1.1 Storm Water Overflows

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

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

#### C.1.2 Pumping Stations

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

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

### **Existing WWTP Description**

The existing WWTP for Rathcormack village is designed for a Population Equivalent (PE) of 800, which was commissioned in 1998. The influent flows by gravity from the village to the treatment plant. Rathcormack Wastewater Treatment Works is located 1km south of the village centre off the R639 and the area of the site is approximately 0.35 hectares.

Activated Sludge is the process employed at the Rathcormack waste water treatment plant. Influent initially gravitates into a circular concrete aeration tank (invert of existing over ground inlet sewer is 495mm below top wall level of aeration tank). The effluent then flows into the hopper bottomed settling tank. The solids settle while the supernatant flows over the weir and discharges to the river. Sludge may be returned from the settling tank to the aeration tank and excess sludge is removed from the settling tank as required and removed off site for disposal.

The effluent is discharged to the adjacent River Bride via a 300mm concrete open pipe.

Currently the WWTP is receiving flows ranging from 500m<sup>3</sup>/d to 300m<sup>3</sup>/d, with an average flow of 400m<sup>3</sup>/d entering the plant. Based average hydraulic load of 180l/h/d, the PE equates to 2,200.

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## **Process Description of the Proposed New Plant by EPS**

### **Article I. Introduction**

The E.P.S. design herein for Rathcormack Waste Water Treatment Plant designed in accordance with BATNEEC and the EPS design standards.

The treated effluent will comply with the standards shown in the following table:

<b>Parameter</b>	<b>Concentration (mg/l)</b>
BOD <sub>5</sub> (mg/l)	10
COD (mg/l)	70
Suspended Solids (mg/l)	15
TP (mg/l)	1.0

**TABLE 1 – EFFLUENT LIMITS DISCHARGE**

### **Article II. General Plant Description**

The new Wastewater Treatment Works will have an ultimate design flow of 238 m<sup>3</sup>/h (peak flow) for a Population Equivalent of 4,000 PE.

(Please read in conjunction with Flow Diagram rev 0 and GA Drawing which are submitted)

The E.P.S. proposal shall be based on Sequential Batch Reactors.

The following provisions shall be incorporated in the design:

- Automatic inlet screenings removal including screenings washing, dewatering and disposal facility
- Storm overflow, storm water return pumps including automatic washing system
- The Biological Treatment includes 3 No. SBR
- Provision for a balance tank including feed forward pumps
- Provision for Aeration System
- Chemical Phosphorous removal
- Provision of 1 No. on site Sludge Holding Tank @ 3%DS
- Tertiary treatment based on 2 no. sand filters

### **Article III. Particular Plant Description**

#### **F01 Inlet Works**

The maximum incoming flow to the inlet works shall be 238 m<sup>3</sup>/h (Peak Flow).

#### **THE INLET WORKS SHALL CONSISTS OF:**

- Duty/Standby automatic inlet screening removal arrangement that will remove solids in excess of 6 mm, each rated for 238m<sup>3</sup>/h (Peak flow).
- Storm overflow facility, storm water return pumps, tipping buckets

## **F02 Biological Treatment**

E.P.S. proposes a Sequential Batch Reactor Process.

### **(a) Sequential Batch Reactor (SBR)**

The flow shall gravitate into the SBR tanks for treatment after screening.

Flow to each SBR shall be recorded.

Provision shall be made within each SBR for DO meter.

The system shall be based around three reaction vessels. SBR tanks act as a balance tank, aeration chamber, and settlement tank. Following preliminary treatment, the wastewater enters a distribution chamber. An actuated penstock on the inlet to each SBR dictates which SBR receives flow. Provision shall be made for air blowers to serve each SBR as required with a common standby. Air blowers shall be controlled by an individual D.O. meter per SBR.

The system shall be design to allow fill, aerate for a preset time (refer to SBR cycle chart). Once the preset time for fill, aeration is complete, settlement stage starts. Once the preset settlement time expires the decanted supernatant shall be discharged by a floating arm draw-off assembly, which shall be connected to a winch at the top of the tank. Once the decant cycle is complete, the floating arm draw off shall be returned to the park position by the electric winch, and the cycle shall be repeated.

#### **1. SBR Sequence of Operation:**

- a. Fill - incoming screened and de-gritted raw sewage with the biological mass in to SBR.
- b. Aeration - Aeration shall be supplied by fine bubble diffused aeration system. The oxygen brings the biological mass from a latent state to a food-consuming active state
- c. React Cycle - during this phase the raw sewage flow ceases and is transferred to the second SBR. The biological mass now breaks down the remaining sewage and consumes it as food
- d. Settle - Aeration is inhibited, and the biological mass begins to settle. The biological mass continues to use oxygen and goes to a latent state when all the oxygen is consumed
- e. Draw/Decant - After settling occurs, a clear liquid shall form at the top of the tank. This liquid shall be through the decant arm
- f. Sludge Wasting - At the end of the process cycle a percentage of the biological mass shall be pumped from the SBRs to the sludge thickeners. This shall maintain the correct concentration of biomass within the SBR.



Provision shall be made within SBR for a fine bubble diffused aeration system. Air shall be supplied to the FBDA system by 4 No. air blowers, 3 no. dedicated duty blower per SBR and 1 no. common standby.

Scum shall be removed using a surface scum scraper, into box into sludge holding tank.

Sludge draw off from the each SBR will include 1 no. Waste Activated Sludge (WAS) duty per SBR and 1 no. common standby.

The supernatant from the sludge storage tank shall flow by gravity to the supernatant to the splitter chamber for recycling through the works.

### **F03 Phosphorous Removal**

#### **(a) Chemical treatment**

Phosphorous exists in three main forms in wastewater; ortho-phosphate, polyphosphate and organic phosphate. During aerobic treatment, the latter two forms are converted to ortho-phosphate, which is the easiest form to precipitate using chemical addition.

E.P.S. proposes to remove phosphorous using chemical dosing of Ferric Sulphate ( $\text{Fe}_2\text{SO}_4$ ). It is proposed to dose  $\text{Fe}_2\text{SO}_4$  directly into splitter chamber.

### **F04 Sludge treatment and storage**

#### **(a) Sludge Holding Tank**

Wasted sludge shall have a solids content of 0.75% DS and shall be pumped from each SBR into the sludge holding tank to be thickened to 3 %DS.

### **F05 Tertiary Treatment**

Water from SBR is fed into an area below the entire sand bed. As the water rises to the surface, the particles if dirt remain between the grains of sand. Once the water is above the sand bed, it is clean for further treatment.

Sand filter shall be a self-cleaning sand filter, which operates continuously.

### **F06 Final Effluent**

Final effluent prior to discharge to an outfall shall be subject to outflow measurement and sampling.

Outfall shall be sized to cater for a population equivalent of 20,000 PE. A composite flow proportional wastewater sampler shall provide sampling.

### **F07 Instrumentation**

#### **(a) Flow Metering**

- 1 no. Inlet flow
- 1 no. Outlet flow
- 1 no. Flow to treatment
- 1 no. Storm return flow

- 1 no. Storm overflow flow

**(b) Dissolved Oxygen (DO) Metering**

- 1 no. each SBR Tank

**(c) Automatic Sampler**

- 1 no. on inlet flow
- 1 no. on outlet flow
- 1 no. on combined outlet flow of storm & main plant

**Article IV. Design Calculations**

**F01 Inlet Works**

**(a) Inlet Screen Removal**

<b>Peak Flow</b>	238 m <sup>3</sup> /h = 66.11 l/s
<b>No. Required</b>	1 No. (Duty)
<b>Screen Type</b>	Automatic Screen
<b>Aperture Size</b>	6 mm
<b>By-Pass Screen size</b>	6 mm
<b>Screenings removal</b>	> 90% volume
<b>Screenings compaction</b>	> 30%DS
<b>Screenings Storage</b>	Wheelie bin

**(b) Storm tank and Storm Return Pumps**

<b>FFT</b>	119 m <sup>3</sup> /h
<b>No. of Tanks</b>	1 No. Existing
<b>No. Return Pumps Required:</b>	2 No. (Duty//Standby)
<b>Flow Rate Each:</b>	119 m <sup>3</sup> /h = 33.06 l/s

**F02 Secondary Treatment**

**(a) Sequential Batch Reactor**

**(i) Scenario 1: (Average Daily Flow and maximum BOD load)**

BOD Load	= 240 kg BOD/d
MLSS	= 3,500 mg/L
Design F/M Ratio	= 0.1 kg BOD/kg MLSS
Cycle Times:	
Fill	= 4 h
Aerate	= 2 h
Settle	= 1 h

Decant	= 1 h (including wasting)
TOTAL	= 8 h/Cycle
No. of Cycles /Tank	= 3 Cycles/Tank.d
Total No. Cycles	= 3 Cycles/Tank.d x 3 no. SBR = 9 Cycles/d
No. SBR Required	3
SBR Tank Working Volume (each)	315 m <sup>3</sup>
Dimensions	10 m x 7.5 m x 4.5 m side wall
Decant Depth	1.60 m
Sludge Age	21.5 d
Decant Time	1h
Aeration/d	12 h
$\alpha$	0.6
$\beta$	0.95
Oxygen Transfer factor	1.2
Aeration Required/SBR.d	168.5 kg O <sub>2</sub> /d
Aeration Required/h	14 kg O <sub>2</sub> /h
Safety Factor	1.5
Aeration required	21 kg O <sub>2</sub> /h
Water Depth	4.2 m
Aeration Flow rate	334 Nm <sup>3</sup> /h
No. of blowers	4 No. (3Duty/Standby)
No. of Duty Blowers	3
Total Flow rate req	335 Nm <sup>3</sup> /h

Each SBR tank will contain the following mechanical and electrical equipment

- 1 No. Ultrasonic level sensor
- 1 Floating arm draw off c/w actuated winch
- 1 No. uPVC lateral pipework grids c/w diffuser network
- 1 No. Dissolved oxygen monitor
- 1 No. Sludge wasting pump

	10	11	12	13	14	1				
w	FA	A	A	S	Dw	F	F	F	FA	A
A	F	F	F	FA	A	S	Dw	F	F	F
S	A	S	Dw	F	F	FA	A	A	S	P

**F03 Chemical Phosphorous Removal**

(See in conjunction with excel spread sheet)

**(a) Chemical Dosing for Phosphorous Removal**

Phosphorous Influent	9.5 kg P/d
Phosphorous Effluent Limit	0.95 kg P/d
Fe required for P removal	1.25 mol Fe/ 1 mol P
Chemical Treatment	98.22 L Ferric Solution/d
40% pump stroke	5.7 l/h
No. Dosing pumps	2 no. (Duty/Standby)
Flow rate (each)	13 l/h
Storage Volume	5 m <sup>3</sup>
Storage Type	Bulk Tank + bund

**F04 Sludge Thickening and Storage****(a) Sludge holding Tank**

BOD Load	240 kg BOD/d
Kg D.S./kg BOD	1
Estimated Sludge production	240 kg/d
@ 0.75% DS	32 m <sup>3</sup> /d
Wasting time @ FFT	1 h/d
Wasting flow rate/SBR	10.6 m <sup>3</sup> /h
No. Sludge Emergency Tank Required	1
Dimensions (each)	Ø 8.94 m x 4.5 m side wall
Liquid depth	4.2 m
Outlet % Dry Solids	3%
Volume of Sludge per day	8 m <sup>3</sup> /d @ 3%DS
Volume of Sludge Storage Tank	263 m <sup>3</sup>
Storage Capacity	4 days @ 2 %DS

Note:  $\rho$  is assumed at 1,000kg/m<sup>3</sup>

**(b) Waste Activated Sludge (WAS) Pumps**

WAS Pumps/SBR	4 No. (3Duty/1Standby)
Each Flow Rate	10.6 m <sup>3</sup> /h

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

Attachment included	Yes	No
	√	

## 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, SW01-Rathcormack

<b>Type of Discharge</b>	300mm diameter concrete outfall pipe from wastewater treatment plant. Open Pipe
<b>Unique Point Code</b>	SW01-RATH
<b>Location</b>	Approximately 1km south of the village centre, off the R639
<b>Grid ref (6E, 6N)</b>	180980E, 090731N

The primary discharge point, SW01-RATH, is the main outlet from Rathcormack Wastewater Treatment Plant. The concrete outfall runs in a southerly direction approximately 65m from the outlet manhole across to the river. The point of discharge is an open pipe, which discharges directly to the river.

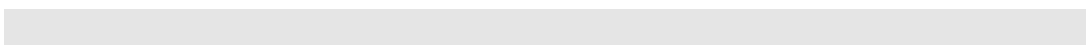
### Secondary Discharge Point, SW02-Rathcormack

<b>Type of Discharge</b>	225mm diameter uPVC overflow pipe from sump at the pumping station
<b>Unique Point Code</b>	SW02-Rath
<b>Location</b>	Located within the village centre, off the L5798
<b>Grid ref (6E, 6N)</b>	180938E, 091613N

The secondary discharge point, SW02-Rathcormack, is an emergency overflow from the overflow sump at the pumping station. The outfall runs in a southerly direction approximately 50m to the Shanowen River, which is a tributary of the River Bride. The point of discharge is an open pipe.

**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
		√



## 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/](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.**

### 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/](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.

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

Attachment included	Yes	No
	√	

## D.2 Tabular Data on Discharge Points

Applicants should submit the following information for each discharge point:

**Table D.2:**

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING
SW 1-RATH	Primary	Cork County Council	River	River Bride	-	180980	090731
SW 1-RATH	Primary	Cork County Council	River	Shanowen River	-	180938	091613

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](http://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/](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/](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.

On the existing WWTP a composite sampler is located on the outlet line of the plant. With the upgrade of the plant, 3 Nr composite samplers are due to be provided.

### 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.

**Attachment E.2** should contain any supporting information.

Attachment included	Yes	No
	√	

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### E.3. Tabular data on Monitoring and Sampling Points

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

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SW01	Primary	Sampling	180985	090733	No
aSW01u	u/s	Sampling	180830	090615	No
aSW01d	d/s	Sampling	181283	090689	No

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](http://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.

**Attachment E.4** should contain any supporting information.

Attachment included	Yes	No
	√	

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

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

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.
- 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/](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.
- 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.
- 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 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.

- 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.
- 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.
- 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.
- Indicate whether or not emissions from the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have a significant effect on –
  - (a) a site (until the adoption, in respect of the site, of a decision by the European Commission under Article 21 of Council Directive 92/43/EEC for the purposes of the third paragraph of Article 4(2) of that Directive) –
    - (i) notified for the purposes of Regulation 4 of the Natural Habitats Regulations, subject to any amendments made to it by virtue of Regulation 5 of those Regulations,
    - (ii) details of which have been transmitted to the Commission in accordance with Regulation 5(4) of the Natural Habitats Regulations, or
    - (iii) added by virtue of Regulation 6 of the Natural Habitats Regulations to the list transmitted to the Commission in accordance with Regulation 5(4) of those Regulations,
  - (b) a site adopted by the European Commission as a site of Community importance for the purposes of Article 4(2) of Council Directive 92/43/EEC<sup>1</sup> 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<sup>2</sup>;

<sup>1</sup>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)

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

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

Attachment included	Yes	No
	√	

### Water Quality Standards

The Water Framework Directive (WFD) aims to establish an integrated approach to water protection, improvement and sustainable use. In order to achieve the requirements of the WFD, Ireland has been divided into a number of River Basin Districts or management units. The South Western River Basin District (SWRBD) comprises substantially the counties of Cork and Kerry, all of Cork City, and also parts of counties Limerick, South Tipperary and Waterford.

The River Bride is included in the SWRBD. The overall objectives of the SWRBD project include the following:

- Strengthen compliance with EU Directives and national legislation
- Collect and analyse information to determine water quality and identify possible threats to water status
- Prevent further deterioration and protect/enhance water quality
- Develop a programme of measures to address all significant pressures and sources of impact on aquatic ecosystems and groundwater
- Encourage and facilitate public participation including the maintenance of a project website
- Promote sustainable water use

In order to achieve these objectives the following project tasks have been identified:

- Identify pressures on water bodies and assess risk of not achieving compliance with the Water Framework Directive
- Prepare a Characterisation Report
- Identify Heavily Modified (HMWB) and Artificial Water Bodies (AWB)
- Establish risk to waters from Hazardous Substances
- Establish data management system and GIS
- Prepare programme of measures
- Review of monitoring needs
- Design monitoring programme
- Prepare River Basin Management Strategy
- Assist public participation in the project
- Prepare printed reports
- Assist capacity building

The SWRBD have yet to set water quality standards for the River Bride under a water quality or catchments management plan. The River Basin Management System currently being developed will include a programme of measures and a River Basin Management Strategy, designed to achieve at least good status for

all waters by 2015, and to maintain high status where it exists. Therefore discharges from Rathcormack Wastewater Treatment Plant cannot cause deterioration in good water quality under the Water Framework Directive at present.

The River Bride is not a designated Shellfish area under the Shellfish Waters Regulations, S.I.200 of 1994. The River Blackwater, into which the River Bride flows, is also not designated under these regulations.

The River Bride is designated as a Salmonid Water under Salmonid Water Regulations, S.I. 293 of 1988.

The River Bride is not designated a Bathing Water under the Bathing Water Regulations, S.I. 178 of 1998 as amended.

The River Bride is not a designated Sensitive Area under the Urban Wastewater Treatment Regulations 2001 (S.I. 254 of 2001). The River Blackwater downstream of Mallow Railway to Ballyduff Bridge is a designated Sensitive Area. This is not within 2km of any discharge point from Rathcormack Wastewater Treatment wastewater works.

Water is abstracted at west of Bridesbridge village in the townland of Deerpark, by Conna Regional Water Supply. Approximately 1136m<sup>3</sup>/d is abstracted from the River Bride.

### **Areas of Conservation**

The Department of the Environment, Heritage and Local Government is responsible for the designation of conservation sites in Ireland. It is required under European law and national laws to conserve habitats and species, through designation of conservation areas under Special Areas of Conservation, Natural Heritage Areas and Special Protected Areas.

#### *Special Areas of Conservation*

Candidate Special Areas of Conservation (cSACs) are protected under the European Union (EU) Habitats Directive (92/43/EEC), as implemented in Ireland by the European Communities (Natural Habitats) Regulations, 1997.

The Blackwater River cSAC (Site Code: 002170) is very large, extending from the tidal estuary of the river at Youghal Co. Cork to the upper tributaries and their flood plains, in Cos. Cork Kerry, Limerick, Tipperary and Waterford, the, including the 3km downstream of discharge area along the River Flesk is a designated Special Area of Conservation.

The cSAC is designated on the basis of the presence of a large number of EU Habitats Directive Annex 1 habitats and Annex 2 species.

The Blackwater River Site Synopsis is included in this attachment.

#### *Natural Heritage Areas*

The River Bride does not flow through any Natural Heritage Areas (NHA). Natural Heritage Areas are the basic designation for wildlife. An NHA is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection.

Under the Wildlife Amendment Act 2000, NHAs are legally protected from damage from the date they are formally proposed for designation.

#### *Special Protected Areas*

Special Protection Areas (SPAs) are designated in order to safeguard certain habitats pursuant to EU Directive requirements. The EU Birds Directive (79/409/EEC) requires designation of SPAs for listed rare and vulnerable species, migratory species and wetlands.

No designated special protected areas are located along the River Bride. There are areas of the River Blackwater that are designated SPAs, however these are located downstream of Fermoy and therefore greater than 2km from all discharge points.

#### **Receiving Water Quality Requirement**

Water Quality analysis data for the River Bride was obtained from Cork County Council. The EPA also takes samples from three locations along the River Bride in the vicinity of the treatment plant. These are located 5.5km upstream of the WWTP at Nr Shanbally House, at the Br S of Rathcormack adjacent to the WWTP and 5km downstream of the WWTP discharge at 0.3km d/s Bride Br (RHS).

*Table F1-1: Biological Quality Rating for River Bride*

Sampling Location	EPA Biological Quality Rating (Q values)			
	1995 -1997	2001 – 2003	2006	Target
Nr Shanbally House	4	4	4	4
Br S of Rathcormack	4	4	4	4
0.3km s/s Bride Br (RHS)	4	4	4	4

The Royal Commission in its report on Water Quality Guidelines recommends that "in all circumstances effluent discharges which are calculated to raise the BOD of the receiving water, outside the mixing zone, by more than 1 mg/l should be discouraged". The average existing background level for BOD is estimated at 1mg/l. Therefore the receiving water limiting value for BOD for this river is 2mg/l.

The standard water quality requirements for dangerous substances are based on the Water Quality (Dangerous Substances) Regulations 2001.

Hence, the principal receiving water quality requirements are given in Table 3 below: -

*Table F1-2: Receiving Water Quality Limiting Values*

Parameter	Water Quality Standard (mg/l)
Chromium	30
Copper	30
Lead	10
Nickel	50
Zinc	100

**Based on Hardness of receiving waters >100mg/l CaCO<sub>3</sub>**



### Effluent Standards

The treated effluent quality requirements shown in the table below are determined with respect to the EC Urban Wastewater Directive, given effect in Irish Law by S.I.254 of 2001.

Table F1-3: Minimum Effluent Standards based on S.I.254 of 2001 and Recorded Effluent Concentrations

Parameter	Effluent Standards (mg/l)	Actual Concentrations* (mg/l)
Biological Oxygen Demand (BOD)	25	39
Suspended Solids (SS)	35	53

\*Actual Concentration is the average effluent concentrations recorded at the outlet of the WWTP by Cork County Council Wastewater Laboratory during the period Feb '08 to July '08.

From Table 3 above, it is evident that treated effluent from the Rathcormack wastewater treatment plant is exceeding the quality of effluent standards set out in the above legislation.

### Assimilative Capacity of the Receiving Water

#### a) Mass Balance Equation for Orthophosphate:

Gauge number 18011, adjacent to the location of discharge.

Median flow of River (station n. 18011) = 2.47 m<sup>3</sup>/sec

Median oPO<sub>4</sub>-P in River (upstream) = 0.05 mg/L

Average volume of discharge = 0.008 m<sup>3</sup>/sec

Median value for oPO<sub>4</sub>-P in discharge = 3.81 mg/L

$$C_{\text{final}} = \frac{(2.47 \times 0.05) + (0.008 \times 3.81)}{2.47 + 0.008}$$

$$C_{\text{final}} = 0.06 \text{ mg/L oPO}_4\text{-P}$$

The increase in Orthophosphate due to the discharge of Rathcormack WWTP is 10 mg/L.

#### b) Mass Balance Equation for BOD:

Gauge number 18011, adjacent to the location of discharge.

Flow of River (95%) = 0.32 m<sup>3</sup>/sec

Average BOD in River (upstream) = 1.39 mg/L

Average volume of discharge = 0.008 m<sup>3</sup>/sec

Average BOD in discharge = 26 mg/L

$$C_{\text{final}} = \frac{(0.32 \times 1.39 + (0.008 \times 26))}{0.32 + 0.008}$$

$C_{\text{final}} = 1.99 \text{ mg/L BOD}$

The increase in BOD due to the discharge of Rathcormack WWTP is 0.60mg/L.

c) **Mass Balance Equation for Suspended Solids:**

Gauge number 18011, adjacent to the location of discharge.

Flow of River (95%) = 0.32 m<sup>3</sup>/sec

Average Suspended Solids in River (upstream) = 6.33 mg/L

Average volume of discharge = 0.008 m<sup>3</sup>/sec

Average Suspended Solids in discharge = 33.6 mg/L

$$C_{\text{final}} = \frac{(0.32 \times 6.33) + (0.008 \times 33.6)}{0.32 + 0.008}$$

$C_{\text{final}} = 7.01 \text{ mg/L Suspended Solids}$

The increase in Suspended Solids due to the discharge of Rathcormack WWTP is 0.68 mg/L.

d) **Mass Balance Equation for Total Phosphate:**

Gauge number 18011, adjacent to the location of discharge.

50% Median flow of River (station n. 18011) = 2.47 m<sup>3</sup>/sec

Median TPO<sub>4</sub>-P in River (upstream) = 0.2 mg/L

Average volume of discharge = 0.008 m<sup>3</sup>/sec

Median TPO<sub>4</sub>-P in discharge = 3.81 mg/L

$$C_{\text{final}} = \frac{(2.47 \times 0.2) + (0.008 \times 3.81)}{2.47 + 0.008}$$

$$C_{\text{final}} = 0.21 \text{ mg/L TPO}_4\text{-P}$$

The increase in Total Phosphate due to the discharge of Rathcormack WWTP is 10 mg/L.

e) **Mass Balance Equation for Total Nitrogen:**

Gauge number 18011, adjacent to the location of discharge.

Flow of River (95%) = 0.32 m<sup>3</sup>/sec

Average Total Nitrogen in River (upstream) = 2.7 mg/L

Average volume of discharge = 0.008 m<sup>3</sup>/sec

Average Total Nitrogen in discharge = 35.22mg/L

$$C_{\text{final}} = \frac{(0.32 \times 2.7) + (0.008 \times 35.22)}{0.32 + 0.008}$$

$$C_{\text{final}} = 3.49 \text{ mg/L Total Nitrogen}$$

The increase in Total Nitrogen due to the discharge of Rathcormack WWTP is 0.79 mg/L.

f) **Mass Balance Equation for Sulphate:**

Gauge number 18011, upstream location of discharge.

Flow of River (95%) = 0.32 m<sup>3</sup>/sec

Average Sulphate in River (upstream) = 30 mg/L

Average volume of discharge = 0.008m<sup>3</sup>/sec

Average Sulphate of discharge = 60.83 mg/L

Average Sulphate in River (downstream) = 30 mg/L

$$C_{\text{final}} = \frac{(0.32 \times 30) + (0.008 \times 60.83)}{0.32 + 0.008}$$

$$C_{\text{final}} = 30.75 \text{ mg/L Sulphate}$$

The increase in Sulphate due to the discharge of Rathcormack WWTP is 0.75mg/L.

g) **Mass Balance Equation for Ammonia-N:**

Gauge number 18011, upstream location of discharge.

Flow of River (95%) = 0.32 m<sup>3</sup>/sec

Average Ammonia-N in River (upstream) = 0.1 mg/L

Average volume of discharge = 0.008m<sup>3</sup>/sec

Average Ammonia-N in discharge = 25 mg/L

Average Ammonia-N in River (downstream) = 0.1 mg/L

$$C_{\text{final}} = \frac{(0.32 \times .1) + (0.008 \times 25)}{0.32 + 0.008}$$

$C_{\text{final}}$  = 0.71 mg/L Sulphate

The increase in Ammonia due to the discharge of Rathcormack WWTP is 0.61mg/L.

Assimilative Capacity Calculations were not performed for the following parameters, as the substances were below the limit of detection in the upstream samples, in the discharge samples and in the downstream samples:

- (a) Chromium
- (b) Copper
- (c) Lead
- (d) Nickel
- (e) Cadmium
- (f) Barium
- (g) Boron
- (h) Zinc
- (i) Fluoride

***Discharges in proximity of Wastewater Works***

Water quality analysis data presented in Tables 5 & 6 below was recorded by Cork County Council wastewater laboratory and covers a sampling period from April 2008 to July 2008.

*Table F1-5: Upstream Water Quality*

Parameter	Upstream Monitoring Station					
	26/03/2008	03/04/2008	24/04/2008	12/06/2008	10/07/2008	17/07/2008
Ph	-	-	-	-	-	7.8

BOD	1.8	<1.0	1.72	<1.0	1.82	<1.0
SS	23	<2.5	5	<2.5	<2.5	<2.5
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ortho-Phosphate	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table F1-6: Downstream Water Quality

Parameter	Downstream Monitoring Station					
	26/03/2008	03/04/2008	24/04/2008	12/06/2008	10/07/2008	17/07/2008
Ph	-	-	-	-	-	7.8
BOD	1.09	<1.0	1.77	1.28	<1.0	<1.0
SS	<2.5	<2.5	3	<2.5	<2.5	<2.5
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ortho-Phosphate	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

The data in the above tables confirms the wastewater discharge has little effect on the overall river quality given adequate flow in the river and dispersion time.

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

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	Conna Reginal Water Supply	1136 m <sup>3</sup> /day	Point Code Provide label ID's	5Km	184559	091382	N

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

The effluent from the primary discharge point is discharged to the River Bride, while the secondary discharge point is discharged to the Shanowen River, which later joins the River Bride. Approximately 5km downstream of the WWTP, Conna Regional Water Supply abstracts water. Approximately 1,136m<sup>3</sup>/day is abstracted from the River Bride and treated at Conna Regional Water Treatment Plant.

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](http://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.

Attachment F.2 includes

- Cryptosporidium Risk Assessment for Conna Regional
- Agglomeration for Conna Regional Distribution Network.
- Table F 2

## 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).

Rathcormack WWTP is due to be upgraded to 4,000 PE plant to ensure compliance with the relevant regulations. The improvements include the provision of

- Automatic screen at the inlet works,
- Storms holding tanks
- Secondary Treatment by means of 3 nr Sequence Batch Reactor
- Tertiary treatment by means of sand filters
- Civil works shall incorporate the installation of UV Treatment on the outlet works at later date, if required
- Sludge Holding Facilities by means of Picket Fence Thickener
- Phosphorous Removal by means of Ferric Dosing

Tenders have been received for the project and the contract award process is being undertaken to appoint a Contractor.

### Water Framework Directive 2000/60/EC

The Water Framework Directive (WFD) aims to establish an integrated approach to water protection, improvement and sustainable use. In order to achieve the requirements of the WFD, Ireland has been divided into a number of River Basin Districts or management units. The South Western River Basin District (SWRBD) comprises substantially the counties of Cork and Kerry, all of Cork City, and also parts of counties Limerick, South Tipperary and Waterford.

The overall objectives of the South Western River Basin District project include the following:

- Strengthen compliance with EU Directives and national legislation
- Collect and analyse information to determine water quality and identify possible threats to water status
- Prevent further deterioration and protect/enhance water quality
- Develop a programme of measures to address all significant pressures and sources of impact on aquatic ecosystems and groundwater

- Encourage and facilitate public participation including the maintenance of a project website
- Promote sustainable water use

In order to achieve these objectives the following project tasks have been identified:

- Identify pressures on water bodies and assess risk of not achieving compliance with the Water Framework Directive
- Prepare a Characterisation Report
- Identify Heavily Modified (HMWB) and Artificial Water Bodies (AWB)
- Establish risk to waters from Hazardous Substances
- Establish data management system and GIS
- Prepare programme of measures
- Review of monitoring needs
- Design monitoring programme
- Prepare River Basin Management Strategy
- Assist public participation in the project
- Prepare printed reports
- Assist capacity building

The EPA also takes samples from four locations along the River Flesk downstream (d/s) of the WWTP. These are located at the following:

- Condonstown Bridge 0.35 km d/s
- Ballinallig Bridge 2.35 km d/s
- Ballyglissane 5.35 km d/s
- Br u/s of confluence of River Bride

Table G1-1: Upstream Water Quality

Parameter	Upstream Monitoring Station					
	26/03/2008	03/04/2008	24/04/2008	12/06/2008	10/07/2008	17/07/2008
Ph	-	-	-	-	-	7.8
BOD	1.8	<1.0	1.72	<1.0	1.82	<1.0
SS	23	<2.5	5	<2.5	<2.5	<2.5
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ortho-Phosphate	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table G1-2: Downstream Water Quality

Parameter	Downstream Monitoring Station					
	26/03/2008	03/04/2008	24/04/2008	12/06/2008	10/07/2008	17/07/2008
Ph	-	-	-	-	-	7.8
BOD	1.09	<1.0	1.77	1.28	<1.0	<1.0
SS	<2.5	<2.5	3	<2.5	<2.5	<2.5
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ortho-Phosphate	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

The data in the above tables confirms the wastewater discharge has little effect on the overall river quality given adequate flow in the river and dispersion time.

The data in the above tables confirms the wastewater discharge has little effect on the overall river quality given adequate flow in the river and dispersion time.

### **Birds Directive 79/409/EEC**

Special Protection Areas (SPAs) are designated in order to safeguard certain habitats pursuant to EU Directive requirements. The EU Birds Directive (79/409/EEC) requires designation of SPAs for listed rare and vulnerable species, migratory species and wetlands.

No designated special protected areas are located along the River Flesk. There are areas of the River Bride which are designated SPAs however these are located downstream of Fermoy and therefore, greater than 2km from all discharge points.

### **Groundwater Directives 2006/118/EC**

The Groundwater Directive 2006/118/EC has been developed in response to the requirements of Article 17 of the Water Framework Directive: Strategies to prevent and control pollution to groundwater. Groundwater Quality standards are to be established by the end of 2008.

There are no large public groundwater sources in the area. Charleville, Millstreet, Ballinatona and Fermoy are the closest PWS that utilise ground water for large water supplies.

With the proper mitigation measures in place the operation of the wastewater treatment plant does not have any significant negative impacts on the existing groundwater.

### **Drinking Water Directives 80/778/EEC**

Water is abstracted from the River Bride for treatment at Conna Regional Water Supply, the abstraction point is located 5km downstream of the WWTP discharge point.

### **Urban Waste Water Treatment Directive 91/271/EEC**

The Urban Wastewater Treatment Regulations (S.I. 254 of 2001) gives effect to provisions of the Urban Wastewater Treatment Directive (91/271/EEC). The 2001 Irish Regulations cover the various requirements in relation to the collection and treatment of urban wastewater.

Article 4(1)(c) states that "In the case of urban wastewater entering collecting systems, a sanitary authority shall provide treatment plants, which provide for secondary treatment or an equivalent treatment by 31 December 2005 in respect of all discharges to freshwaters and estuaries from agglomerations with a population equivalent of between 2,000 and 10,000."

The current Rathcormack Wastewater Treatment Plant was commissioned in 1998 and was designed to treat effluent to a 25/35ppm standard, while the effluent standard for the proposed WWTP is 10/15ppm.



The Second Schedule (Part 1) of the 2001 Regulations states that effluent should be treated to the following standards.

*Table G1-3: Minimum Effluent Standards based on SI 254 of 2001*

Parameter	Conc. (mg/l)	Minimum Percentage of Reduction
Biochemical Oxygen Demand (BOD)	25	70 - 90
Chemical Oxygen Demand (COD)	125	75
Suspended Solids	35	90

The current WWTP is not achieving the required level of treatment, however the proposed new WWTP shall achieve a greater level of treatment. Efficiencies of BOD, COD and SS removal for the plant is typically in order of 50%. The effect of the discharges on the quality of the receiving waters is assessed in Attachment F1.

The Third Schedule of the 2001 Regulations gives a list of Sensitive areas.

Article 4(2)(a) states that all discharges into Sensitive Areas require more stringent treatment than secondary treatment. The River Bride is not a designated Sensitive Area. The River Blackwater downstream of Mallow Railway Bridge to Ballyduff Bridge is designated a Sensitive Area. This is not within 2km of any discharge point from the Rathcormack wastewater treatment works.

The Fifth Schedule of the 2001 Regulations gives a methodology for monitoring the final effluent from the wastewater treatment plant. Item 3 states "The minimum annual number of samples shall be determined according to the size of the treatment plant and be collected at regular intervals during the year." For a PE of between 2000-9999 4 samples should be taken each year. Cork County Council wastewater laboratory carries out regular testing at the outlet of the treatment plant.

### **Shellfish Directive 79/923/EEC**

The River Bride is not a designated Shellfish Area under the Shellfish Waters Regulations, S.I. 200 of 1994. The River Blackwater, into which the River Flesk flows (after joining the River Bride), is also not designated under these regulations.

### **Habitats Directive 92/43/EEC**

Candidate Special Areas of Conservation (cSACs) are protected under the European Union (EU) Habitats Directive (92/43/EEC), as implemented in Ireland by the European Communities (Natural Habitats) Regulations, 1997.

The Blackwater River cSAC (Site Code: 002170) is very large, extending from the tidal estuary of the river at Youghal Co. Cork to the upper tributaries and their flood plains, in Cos. Cork Kerry, Limerick, Tipperary and Waterford.

The cSAC is designated on the basis of the presence of a large number of EU Habitats Directive Annex 1 habitats and Annex 2 species. Many of these are estuarine habitats and species found only in the lower reaches of the River Blackwater, however a number may be present in the River Bride section of the cSAC including, for example the Annex 1 habitats, 'alluvial wet woodlands',

'floating river vegetation', and 'old oak woodlands'; and the Annex 2 species sea lamprey, river lamprey, brook lamprey, Atlantic salmon, freshwater pearl-mussel and otter.

The Blackwater River Site Synopsis is included in this attachment.

### **Environmental Liabilities Directive 2004/35/EC**

The Environmental Liability Directive is about preventing and remedying environmental damage. It aims to hold operators whose activities have caused environmental damage financially liable for remedying this damage, and it aims to hold those whose activities have caused an imminent threat of environmental damage liable for taking preventive actions.

Cork County Council Wastewater Laboratory carries out monitoring of the effluent from the wastewater treatment plant on a regular basis.

Failure to meet the specified treated effluent standards may result in final penalties to Cork County Council. As a result, the risk of environmental pollution from the treatment plant may be reduced.

### **Bathing Water Directive 76/160/EEC**

The River Bride is not designated a Bathing Water under the Bathing Water Regulations, S.I. 178 of 1998 as amended.

### **Dangerous Substances Directive 2006/11/EC**

The level of dangerous substances in both the effluent discharged from Rathcormack wastewater treatment plant and the river itself is significantly lower than the concentration limits set in the directive.

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

Attachment included	Yes	No
	√	

### **G.2 Compliance with 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.

The treated effluent from Rathcormack WWTP is discharged to the River Bride, which is a tributary of the River Blackwater. The EPA has a number of monitoring points along the River Bride.

Up Stream of discharge the Q Value is 4, after the discharge of the effluent the Q Value remains at 4. However downstream towards the village of Castleyons the Q value is 3, this reduction of Q rating may be due to the discharge of effluent from Castleyons Septic Tank, which has since been replaced with a new WWTP in 2007.

### **Receiving Water Quality Requirement based on Phosphorus Regulations 2008**

The effluent arising from the WWTP is discharge to the River Flesk, which flows adjacent to the WWTP site boundary. The River Flesk is a tributary of the River Bride, which is in turn a tributary of the Blackwater River (Munster).

The EPA have three number stations on the River Flesk, upstream along the Flesk (Upper) the Q value of the river is 3, while downstream following the confluence of the Flesk (lower) to the main artery of the River the Q value is 3-4, the third monitoring station by the EPA along the River Flesk prior to the confluence of the River Flesk and River Bride shows a Q value of 4.

### **Effluent Standards**

The treated effluent quality requirements are determined with respect to the EC Urban Wastewater Directive, given effect in Irish Law by S.I.254 of 2001. The wastewater treatment processes should reduce nutrients in the final effluent. The minimum effluent standard based on S.I.254 of 2001 for Phosphorus in wastewater effluent is 2mg/l.

As a natural consequence of secondary treatment, there will be an uptake of phosphorous for biomass synthesis at the wastewater treatment plant in Rathcormack. This is evident from Tables 3 & 4 below showing the uptake of phosphorus through the wastewater treatment plant.

*Table G2-3: Phosphorus Levels in Influent to WWTP*

Parameter	Inlet Monitoring Station	
	04/06/08	17/07/08
Ortho-Phosphate	8.22	14.72

*Table G2-4: Phosphorus Levels in Effluent from WWTP*

Parameter	Outlet Monitoring Station	
	04/06/08	17/07/08
Ortho-Phosphate	-	1.12

**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.

Rathcormack WWTP is due to be upgraded to 4,000 PE plant to ensure compliance with the relevant regulations. The improvements include the provision of

- Automatic screen at the inlet works,
- Storms holding tanks
- Secondary Treatment by means of 3 nr Sequence Batch Reactor
- Tertiary treatment by means of sand filters
- Civil works shall incorporate the installation of UV Treatment on the outlet works at later date, if required
- Sludge Holding Facilities by means of Picket Fence Thickener
- Phosphorous Removal by means of Ferric Dosing

Tenders have been received for the project and the contract award process is being undertaken to appoint a Contractor.

**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.

There are no overflows other than those from the primary and secondary overflows.

**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**

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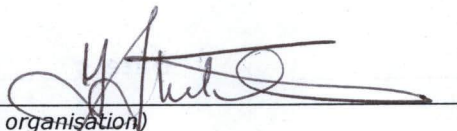
**Declaration**

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 :   
(on behalf of the organisation)

Date : 19<sup>th</sup> September 2008.

Print signature name: THOMAS G. STRITCH

Position in organisation: DIRECTOR OF SERVICES

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**SECTION I: JOINT DECLARATION****Joint Declaration** <sup>Note1</sup>

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.

**Lead Authority**

**Signed by :** \_\_\_\_\_ **Date :** \_\_\_\_\_  
(on behalf of the organisation)

**Print signature name:** \_\_\_\_\_

**Position in organisation:** \_\_\_\_\_

**Co-Applicants**

**Signed by :** \_\_\_\_\_ **Date :** \_\_\_\_\_  
(on behalf of the organisation)

**Print signature name:** \_\_\_\_\_

**Position in organisation:** \_\_\_\_\_

**Signed by :** \_\_\_\_\_ **Date :** \_\_\_\_\_  
(on behalf of the organisation)

**Print signature name:** \_\_\_\_\_

**Position in organisation:** \_\_\_\_\_

**Note 1:** In the case of an application being lodged on behalf of more than a single water services authority the following declaration must be signed by all applicants.



## 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 contain(s) the information requested in the appropriate sub-article.

<b>Regulation 16(1) In the case of an application for a waste water discharge licence, the application shall -</b>		<b>Attachment Number</b>	<b>Checked by Applicant ✓</b>
<b>(a)</b>	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,		
<b>(b)</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,		
<b>(c)</b>	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,		
<b>(d)</b>	state the population equivalent of the agglomeration to which the application relates,		
<b>(e)</b>	specify the content and extent of the waste water discharge, the level of treatment provided, if any, and the flow and type of discharge,		
<b>(f)</b>	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.		

<b>Regulation 16(1) continued.../</b>		<b>Attachment Number</b>	<b>Checked by Applicant ✓</b>
<b>(g)</b>	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,		
<b>(h)</b>	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,		
<b>(i)</b>	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,		
<b>(j)</b>	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,		
<b>(k)</b>	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,		
<b>(l)</b>	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives or Regulations,		
<b>(m)</b>	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.		
<b>(n)</b>	Any other information as may be stipulated by the Agency.		



<b>Regulation 16(3)</b> Without prejudice to Regulation 16 (1) and (2), an application for a licence shall be accompanied by -		<b>Attachment Number</b>	<b>Checked by the applicant ✓</b>
<b>(a)</b>	a copy of the notice of intention to make an application given pursuant to Regulation 9,		
<b>(b)</b>	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,		
<b>(c)</b>	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -		
	(i) the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and		
	(ii) the point or points at which monitoring and sampling are undertaken or are to be undertaken,		
<b>(d)</b>	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.		
<b>Regulation 16(4)</b> 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.			
<b>Regulation 16(5)</b> 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 format specified by the Agency.			
	Signed original.		
	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.		
	1 CD of geo-referenced digital files provided.		
<b>Regulation 17</b> 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			
	EIA provided if applicable		
	2 hardcopies of EIS provided if applicable.		
	2 CD versions of EIS, as PDF files, provided.		

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## ANNEX 1: TABLES / ATTACHMENT

Attachment	Description
A1 Map 1	1:50,000 Location Map
A1 Map 2	Site Location of WWTP & Pumping Stations
A1 Map 3	Proposed Wastewater Treatment Plant – Site Layout
A1 Map 4	Existing Wastewater Treatment Plant – Site Layout
B1 Map 5	Agglomeration
B2 Map 6	Location of Waste Water Treatment Plant
B3 Map 7	Location of Primary Discharge Point SW01 Rath
B4 Map 8	Location of Secondary Discharge Point SW01 Rath
B5	Not Applicable
B6	Part VIII Planning
B7	Not Applicable
B8 Map 9	Location of Site Notice
B8	Notice & Advertisement
B10	WSIP Programme
B 11	Not Applicable
B 12	Not Applicable
C1 Map 10	Existing Wastewater Treatment Plant
C1 Map 11	Proposed Wastewater Treatment Plant
C1 Drg 1	Schematic of Existing Wastewater Treatment Plant
C1 Drg 2	Schematic of Proposed Wastewater Treatment Plant
C2	Not Applicable
D1	Influent Results
Section D2	Discharge Points
Section E3	Monitoring & Sampling Points
E4	Monitoring Results
F1	Flow Survey Assimilative Capacity Laboratory Test Results SAC Blackwater River Site Synopsis
F2 Map 12	Agglomeration Map for Conna Regional Water Supply Network
F2	Conna Regional Water Abstraction Results Conna Regional Cryptosporidium Risk Assessment Abstraction Points
G1	SAC Blackwater River Site Synopsis WSIP Programme
G2	WSIP Programme Laboratory Test Results
G3	WSIP Programme
G4	Not Applicable