This is a draft document and is subject to revision.

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Waste Water Discharge Licence Application Form

EPA Ref. Nº: *(Office use only)*	

Environmental Protection Agency
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Tracking Amendments to Draft Application Form

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

		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.

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

CONTENTS

ABOUT THIS APPLICATION FORM

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

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

A valid application for a Waste Water Discharge Licence must contain the information prescribed in the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007). Regulation 16 of the Regulations sets out the statutory requirements for information to accompany a licence application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in the Regulations. In order to ensure a legally valid application in respect of Regulation 16 requirements, please complete the Regulation 16 Checklist provided in Annex 2.

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

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. <u>The abbreviation "N/A" should not be used</u>.

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

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

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

The provision of information in an application for a waste water discharge licence which is false or misleading is an offence under Regulation 35 of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

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

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

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

SECTION A: NON-TECHNICAL SUMMARY

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

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

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

A description of:

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

Supporting information should form **Attachment Nº A.1**

SECTION A: NON-TECHNICAL SUMMARY

The town of Newmarket is situated along the River Dalua, approximately 5km from the town of Kanturk, in northwest Cork. The town has experienced minor housing developments in recent years, however local road structure and services have been improved to promote the Newmarket potential as an important local centre for the North Cork region.

The Waste Water Works and the Activities Carried Out Therein

The wastewater in Newmarket is collected in a partially combined foul and separate foul sewerage drainage network. The wastewater from both the village gravitates to the wastewater treatment plant, which is located adjacent to Anne's Bridge.

Newmarket WWTP has two distinct systems catering for the Population Equivalent (PE) of 1000. The systems employed at Newmarket WWTP are the following:

- Old Percolating Filters – Designed for a PE of 500
- New Extended Aeration Package Plant designed for a PE of 1000

The influent is initially screened at the automatic screen which was installed as part of the recent upgrade. From the automatic screen the influent proceeds to a Splitter Chamber / Sump, where the influent is divided between the new Package Plant and the old Percolating Filters.

From the Sump / Splitter Chamber influent gravitates to 2 Nr Primary sedimentation Tanks and from these tank the effluent is siphoned to the 2 Nr Percolating Filters. Following percolation of the effluent through the media the influent gravitates to the 2 Nr Humus Tanks. After the Humus Tank effluent discharges via a 225mm diameter concrete outfall. Sludge from the Humus Tank is wasted to the 5 Nr Sludge Drying Beds on site.

Influent being treated by the Package Plant is pumped from the Splitter Chamber / Sump to the recently installed unit. The Package Plant consists of 2 Nr steel constructed units. Each steel tank is divided into an aeration compartment and a clarifier. Following aeration and clarification to effluent is discharged to the same outfall as the Percolating Filters.

Waste activated sludge is forwarded to the Sludge Drying Beds.

A storm overflow is present at the automatic screen chamber and also at the Splitter Chamber / Sump, where the storm flows overflow to the storm tank. In the event of the storm flow exceeding the capacity of the storm tank the storm effluent overflows via a 225mm concrete outfall to the adjacent river.

The Scum Draw Off from the Package Plant and supernatant form the Primary Sedimentation tanks are also forwarded to the Sludge Drying bed. In addition sludge arising from the storm tank are also directed to the Drying Beds. On the out let of the sludge drying beds is a 150mmPVC overflow outfall to the River. This overflow is closed and not is use.

Currently the WWTP is receiving flows ranging from 800m^3/d to 1100m^3/d, with an average DWF of 930m^3/d entering the plant. The average flow is 929m^3/d with infiltration making up approximately 69% of the flows.

Newmarket 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 sources of emissions from the waste water works

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

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

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

Currently the WWTP is receiving flows ranging from 800m^3/d to 1100m^3/d, with an average DWF of 929m^3/d entering the plant. However foul wastewater flow is estimated at 289m^3/d with infiltration making up the remaining amount of the flow arriving to the plant.

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 Dalua, which is adjacent to the wastewater treatment plant site. The maximum flow to the existing WWTP is in the order of 800m^3/d to 1100m^3/d.

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

Technology

The WWTP has a sufficient number of standby pumps, generator, etc is provided to ensure continuation of the wastewater treatment.

The treatment works consists of the following elements:

- Inlet Works
- Splitter Chamber / Sump
- Sedimentation Tank
- Percolating Filters
- Humus Tank
- Storm Tank
- Sludge Drying Beds
- Package Plant
- Outfall to River Dalua

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

Recently the Package Plant and Inlet works were installed in 2008 at Newmarket WWTP.

A Preliminary Report has been undertaken with regard to the Collection System and WWTP. The Report recommends that the following works be carried out:

- Replace Roundwall Pumping Station
- Replace / Upgrade & carry out remedial works on the collection system for the Town
- Carry out further improvements to the WWTP

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 Dalua 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).

List of Attachments include the following:

- Location Map Scale 1:50,000 — Attachment A1 Map 1
- Site Location Map of WWTP — Attachment A1 Map 2
- Site Layout of WWTP — Attachment A1 Map 3

SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration:	Newmarket & 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.

Name*:	Cork County Council
Address:	Northern Division
	Annabella
	Mallow
	Co. Cork
Tel:	022 21123
Fax:	022 21983
e-mail:	Frank.cronin@corkcoco.ie

*This should be the name of the water services authority in whose ownership or control the waste water works is vested.

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

Name*:	Frank Cronin
Address:	Northern Division
	Annabella
	Mallow
	Co. Cork
Tel:	022 21123
Fax:	022 21983
e-mail:	Frank.cronin@corkcoco.ie

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

Co-Applicant's Details

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

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

Design, Build & Operate Contractor Details

Name*:	Not Applicable
Address:	Not Applicable
Tel:	Not Applicable
Fax:	Not Applicable
e-mail:	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 (≤A3) of the agglomeration served by the waste water works showing the boundary clearly marked in red ink. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.2, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

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

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

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

Name*:	Mort Ahern
Address:	Newmarket WWTP
	Newmarket
	Co. Cork
Grid ref (6E, 6N)	131004E 106841N
Level of Treatment	Secondary
Primary Telephone:	029-60018
Fax:	029-60874
e-mail:	Mort.ahern@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 (≤A3) of the site boundary and overall site plan, including labelled discharge, monitoring and sampling points. These drawings / maps should also be provided as geo-referenced digital drawing files (e.g., ESRI Shapefile, MapInfo Tab, AutoCAD or other upon agreement) in Irish National Grid Projection. These drawings should be provided to the Agency on a separate CD-Rom containing sections B.1, B.3, B.4, B.5, C.1, D.2, E.3 and F.2.

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

B.3 Location of Primary Discharge Point

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

Type of Discharge	225mm diameter concrete outfall pipe from wastewater treatment plant. Open pipe
Unique Point Code	SW – 01 NEWM
Location	WWTP site Longacre, Newmarket
Grid ref (6E, 6N)	130956E, 106837N

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

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

B.4 Location of Secondary Discharge Point(s)

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

Type of Discharge	225 diameter concrete pipe, expanding to 300mm rigid plastic pipe 8m prior to entry to River. Open Pipe
Unique Point Code	SW -02 NEWM
Location	WWTP site Longacre, Newmarket
Grid ref (6E, 6N)	

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

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

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

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

Type of Discharge	225 diameter concrete pipe
Unique Point Code	SW -03 NEWM
Location	Pumping Station site at Roundwall
Grid ref (6E, 6N)	132140E 107310N

Type of Discharge	225 diameter PVC pipe high level overflow at MH, discharging to open field drain which in turn discharges to the Dalua River
Unique Point Code	SW -04 NEWM
Location	Boherbue Road, adjacent to Tennis Courts.
Grid ref (6E, 6N)	131360E 107278N

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

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

B.6 Planning Authority

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

Name:	Cork County Council
Address:	Planning Department
	County Hall
	Carriagrohane Road
	Cork
Tel:	021 4276891
Fax:	021 4867007
e-mail:	Planninginfo@corkcoc.ie

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

has been obtained	√	***is being processed***	
is not yet applied for		***is not required***	

Local Authority Planning File Reference Nº:	Not Applicable

Attachment B.6 should contain ***the most recent*** planning permission, including a copy of ***all*** conditions, and where an EIS was required, copies of any such EIS and any certification associated with the EIS, should also be enclosed. Where planning permission is not required for the development, provide reasons, relevant correspondence, *etc.*

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

B.7 Other Authorities

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

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

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

Within the SFADCo Area	**Yes**	**No**
		√

B.7 (ii) Health Services Executive Region

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

Name:	Health Service Executive
Address:	North Cork Area Headquarters
	Gouldhill
	Mallow, Co. Cork
Tel:	022 30200
Fax:	022 30211
e-mail:	Gerry.oconnell.ie

B.7 (iii) Other Relevant Water Services Authorities

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

Name:	Not Applicable
Address:	Not Applicable

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

Relevant Authority Notified	**Yes**	**No**
		√

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

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

B.8 Notices and Advertisements

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

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

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

B.9 (i) Population Equivalent of Agglomeration

TABLE B.9.1 POPULATION EQUIVALENT OF AGGLOMERATION

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

Population Equivalent	**1,400**
Data Compiled (Year)	**2006**
Method	**Hydraulic Flow**

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 Newmarket WWTP is 1,000 which based on a flow and load survey, in conjunction with census data for Newmarket, which was undertaken for the Preliminary Report for Newmarket Sewerage Scheme Upgrade

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 400. There are currently no planning permissions granted in relation no non domestic activities.

The Sewerage Collection System for Newmarket agglomeration, is subject to financial resources being made available, due to be upgraded under the WSIP.

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 €)**
	€15,000

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.

As Part of the Water Services Investment Plan, Newmarket Sewerage System is listed to advance through Planning and the scheme is estimated to cost €3,152,000

The following is a summary of the works proposed in the Preliminary Report:-

Collection System

- Upgrade the existing sewers to a separate foul and storm system in the Pound Hill/Garraunwarrig Upper area
- Provide foul and storm sewers on the Kanturk Road
- Carry out remedial works on the existing foul sewer in the Orchard Avenue area.
- Upgrade the existing storm sewers in Avenue Demesne
- Replace the existing Church Street (east) foul sewer
- Replace the existing inaccessible and unsafe Roundwall Pumping Station
- Replace the existing Main Street to Church Street (west) foul sewer
- Replace and extend the existing Church Street (west) storm sewer

- Replace and extend the existing Island Road foul sewer
- Provide separate storm sewer for Island Road
- Replace the existing Kerry Road combined sewer with separate sewers
- Replace the existing High Street Foul Sewer
- Replace the existing Charleville Road combined sewer with new separate sewers
- Replace existing foul sewer in Barry's Place and Murphy's Place
- Replace section of Scarteen foul sewer and also carry out trenchless repairs
- Provide manholes on Scarteen Street storm sewer
- Provide manholes on the High Street storm sewer
- Provide a foul sewer from industrial zoned land to Scarteen Street
- Carry out trenchless repairs on existing foul sewer west of Scarteen Bridge
- Replace and extend the existing foul sewer on Ballydesmond Road
- Replace section of foul sewer from New Street to WWTP
- Carry out trenchless repairs on New Street foul sewer
- Jet clean and reline foul sewer entering WWTP

The 9.3km of pipelaying works proposed for the foul and storm collection systems may be summarised as follows (existing/new denotes whether they are replacing or extending the existing collection system): -

		225 mm	300 mm	375 mm	450 mm	525 mm
Foul	Existing	3,521 m	94 m			
	New	2,236 m				
Storm	Existing	148 m	87 m	78 m		
	New	1,423 m	932 m	668 m	123 m	49 m

In addition to the above, the following is a summary of the trench less repair works to be carried out on the existing collection system:

Jet-Clean & Re-Line (m)	Intrusion Removal (No.)	Patch Repair (No.)
450	19	26

Some cleaning works are required in the Mill Stream and Rampart Stream, as well as the construction of a screen structure on the Rampart Stream.

Wastewater Treatment Plant

- Repair cracks in walls of primary settling tank
- Provide sludge scraper and scum trough in the primary settling tank
- Increase storm tank capacity
- Level overflow weir in existing storm tank
- Replace distribution arms of trickling filters with low maintenance variety
- Raise distribution arms for maximum additional filter media hydraulically achievable
- Replace under sized humus tank with circular final clarifier
- Provide sludge pumping station
- Repair any defects in sludge holding tanks and replace blockwork with RC
- Carry out refurbishment works to inlet pipe supports
- Provide flow meters and composite samplers at inlet and outlet pipework
- Provide chemical dosing facilities for Phosphorus removal
- Widen access road and fence off
- Provide palisade fencing around WWTP site
- Provide administration building

- Provide permanent resurfacing for access road and site

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.

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

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

B.12 Foreshore Act Licences.

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

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

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

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.

General Description of New Wastewater Treatment Plant

Article I. Introduction

E.P.S. intend to provide a Waste Water Treatment Plant designed in accordance with BATNEEC and the Urban Waste Water Directive 1994. The treated effluent would comply with the standards shown in the following table:

Parameter	Effluent Limit
BOD	25 mg/L
SS	35mg/L

TABLE 1 – EFFLUENT LIMITS DISCHARGE

Article II. Plant Description

The new Wastewater Treatment Works have an ultimate design flow of 238 m^3/d (1DWF) for a Population Equivalent of 1000 PE.

The E.P.S. proposal is based on the factory built extended aeration package sewage treatment plant i.e. "Compact Effluent Treatment Plant" as manufactured by E.P.S. Ltd, with equipment necessary for the efficient operation of the plant.

For a PE of 1000 2 No. package plants each designed for a PE of 500 shall be installed.

The following provisions are incorporated in the design:

1. Automated Inlet 6mm Fine Screen and grit unit designed to screen 18l/s complete with a screenings disposal facility.
2. 2 x CAS units

F01 Inlet Works

The maximum incoming flow to the inlet works will be 18l/s. The inlet works shall comprise of 1 No. Mechanical Screen and grit unit which will have a 6mm aperture size.

All screenings are washed, separated and deposited in skips for removal off site.

F02 Biological Treatment

E.P.S. propose 2 No. Compact Effluent Treatment package plants each designed to cater for a PE of 500.

The plant shall be of steel construction, divided into two major sections: an aeration compartment and a clarifier, and fitted with galvanised fabrications for corrosion protection. The principal items of equipment in each unit shall include an inlet box, an aeration header with drop pipes and diffusers, roots type blower, including motor, controls, drives and fittings on a base plate, flow baffles, overflow weir, scum box, DO meter.

The contoured aeration walls will ensure efficient movement of the tank contents preventing solids accumulation and settlement. Fine Bubble Diffusers on both sides of the chamber inlet shall give a controlled mixing pattern within the tank, maintaining solids in suspension and preventing dead spots.

Following aeration mixed liquor activated sludge shall pass into the settlement chamber, where conditions are favourable for solids to settle resulting in an effluent that meets the required standards.

Settled solids in the bottom of the clarifier shall be returned back to the aeration zone (RAS) and excess sludge (WAS) shall be wasted to the sludge drying beds.

Settled solids are returned by means of a submersible pump arrangement while excess sludge shall be wasted on a timed basis.

The max tank surface loading equates to approximately 18m3/m2/d (0.75m/hr). Tanks are equipped with an inlet scum and sludge draw- off pipework, "V" notch weir plate and baffle-plate and scum collector.

The plant also incorporates a Sludge Holding Tank for the storage and mixing of waste activate sludge.

The supernatant from the Sludge Holding Tank overflows by gravity to the to the inlet works for recycle through the process.

Article III. Process Design

F01 Inlet Works

(a) Inlet Screen

No. Required:	1 No. (Duty)
Flow Rate:	18 L/s
Screening Size:	6 mm

F02 Biological Treatment

(a) Compact Effluent Treatment 500PE

BOD Load	30 kg BOD/d
[MLSS]	3,500 mg/L
F/M ratio	0.10 kg BOD/kg MLSS
No. Required	1
Aeration Zone Volume	785 m^3 (7 h RT @ 3DWF)

Package Plant Dimensions = 13.6m Length, 3m Width, 3m height.
No of Package Plants = 2

(b) RAS/WAS Pumps

Recycle to aeration zone	2.7l/s
No. Pumps required	2 (Duty/Standby)
Estimated WAS produced	22.5 kg DS/d
@ 0.60% and ρ = 1000	2.8 m^3/d (per unit)

F03 Sludge Holding Tank

EPS propose to reuse the existing sludge drying beds

F04 Storm Tank

Storm Return Pumps	5 l/sec
Arrangement	**DUTY**

General Description of Old Wastewater Treatment Plant

The existing wastewater treatment plant is located adjacent to the River Dalua south of Anne's Bridge, approximately 800m to the west of the town. The WWTP was originally built in the 1950s and was designed to receive wastewater from a combined collection system and had a capacity of 500 PE.

There is an overflow chamber at the inlet works to the WWTP and overflows from this chamber are discharged directly to the River Dalua without any treatment. The existing treatment process is primary settlement followed by percolating filters, with plastic media. The original 1950s stone media was replaced with plastic random media in 1989.

The trickling filters are followed by secondary settlement in humus tanks. Effluent from the humus tanks is discharged to the River Dalua. There is circular storm holding tank adjacent to the primary settlement tank. This was added to the WWTP in 1989 and was designed to provide 2 hours retention to flows of between 3 to 6 DWF.

There are sludge drying beds at the site. These are currently utilised as sludge holding tanks and the sludge is taken off site to Kanturk for storage prior to being spread on agricultural land. The process pipework varies between 100mm and 225mm diameter. There are 2 separate outfalls for the treated wastewater and the bypass wastewater.

Inlet Works

The old inlet works at the head of the primary settling tank include an overflow chamber. The original 1950s design required the influent to flow through a 1.7m long concrete channel with an adjustable brass weir plate on the side.

This weir plate would have been set manually to limit the maximum allowable flow through the plant. This weir plate has since been removed and replaced with a permanent steel plate of sufficient height to ensure that little or no flow is lost through overtopping. This arrangement pushes greater flows to the primary settling tanks than originally intended. A 350mm wide emergency overflow between the original overflow channel and 20mm coarse screens remains in place and is now used to divert flows to the 225mm diameter WWTP bypass pipework once the maximum hydraulic capacity of the inlet is exceeded.

Additional works have been carried out at the Inlet Works due to the installation of the Package Plant.

Primary Settling Tanks

The primary settlement tank is rectangular in plan and is divided into 2 sections operating in parallel. Each section is 7.7m long and 2.5m wide with a depth of 1.8-2.2m, giving a total surface area of 38m2 and a total volume of 81m3. The discharge weir length for each section is 2.5m, i.e. 5m in total.

Percolating Filters

Secondary treatment is carried out in two 10m diameter trickling filters with a plastic media depth of approximately 1.4m, giving a total volume of 220m3.

Cork County Council replaced the original crushed stone media with *Flocor RS* random plastic media in 1989. *Flocor RS* is a plastic corrugated tube, which has an open structure allowing good circulation in and around the media. It has a surface area of 230m2/m3 medium with a >97% void space.

The organic loading rate controls the trickling filter performance and not the hydraulic application rate. The BOD loading on the media can vary between 0.1 and 1 kgBOD/m3/day, but is generally between 0.25 and 0.4 kgBOD/m3/day for a 90-95% BOD removal. This contrasts with 80-90% BOD removal for crushed stone media for similar loading rates. The increased BOD removal performance is due to increased surface area and voidage of the plastic media compared with crushed stone media.

The minimum irrigation rate desirable is 1m3 wastewater per m2 of media plan area.

Humus Tanks
The purpose of gravity settling following filtration is to collect biological growth, or humus, flushed from the filter media. These solids are generally well-oxidised particles that settle readily. The depth of accumulated sludge rarely exceeds 0.3m

The two existing humus tanks are rectangular in plan and are 4m long and 1.85m wide with a varying depth of 0.5 to 1.3m, giving a total surface area of 15m2 and a total volume of just 14m3. The discharge weir length is 3.7m.

Sludge Beds
The existing sludge drying beds consist of 5 no. 3.6m x 8.5m tanks with an average depth of 0.85m. When the first three sludge-drying beds were constructed in 1955, 0.35m of graded layers of broken stone and filter sand were placed on the floors reducing the available fill depth to 0.5 m. The beds were extended to five drying beds at some stage, obviously in an effort to improve drying performance. However, the stone and sand has since been removed and the beds are currently used as simple sludge holding tanks.

The total volume available for sludge storage is 130m3, say 100m3 to allow for 200mm freeboard. The sludge is collected by tractor and tanker and brought to Kanturk at approximately 6-week intervals.

General Description of Pumping Station

The Roundwall pumping station is located north of Demesne Park and adjacent to the R576 Kanturk Road where it crosses the Rampart Stream. It is accessed through a standard 0.9m wide doorway and down a very steep slope. There is no vehicular access for maintenance or removal of rags, etc.

The pumping station is a two storey concrete structure. A concrete ramp leads up to the first floor door. The first floor houses no equipment except the ESB meter and incoming switch fuses.

The ground floor of the building houses the pumping station valves and has removable floor panels over a 3.2m x 1.3m x 1.25m deep sump. This sump houses two submersible pumps, controlled by floats, and a coarse Bar Screen. The screen helps prevent the pumps blocking. However, flows to the sump overflow do not have to pass through the screen and are
discharged directly to the Rampart Stream.

The sump inlet pipework is 150mm ductile iron with an isolation valve. There is also an inlet manhole to the rear of the building. There are overflows in both the inlet manhole and the pump sump. The inlet manhole overflow is poorly formed and a concrete block is used to prevent flows from being continuously discharged to the Rampart Stream.

The pump outlets have isolation and non-return valves and discharge to a 150mm rising main. There is a lifting beam above the centre line of the pumps to assist removal from the sump. The control panel is wall mounted. There is one fluorescent light in the pumphouse and a wall mounted electric heater.

The pumps are ABS 4" submersible pumps (Duty/Standby), which average approximately 2-3 hours/day pumping but have operated up to 15 hours/day during spells of wet weather. The Caretaker switches the two pumps between duty and standby as he deems appropriate.

The float controls on the pumps need to be cleaned on a regular basis as they rag up and this prevents them from operating correctly. The pump sump also has to be washed down completely about 4 to 5 times a year to remove a build-up of grease. The Caretaker has tapped the main water pipe by the door way to the site and runs a plastic pipe above ground
to the pumphouse for washing.

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, SW-01 Newmarket

Type of Discharge	225mm diameter concrete outfall pipe from wastewater treatment plant. Open pipe
Unique Point Code	SW – 01 NEWM
Location	WWTP site Longacre, Newmarket
Grid ref (6E, 6N)	130956E, 106837N

The Primary discharge Point, SW01- NEWM is the main outlet from Newmarket WWTP. The outfall runs is a westerly direction for a distance of approximately 10m.

Secondary Discharge Point, SW-02 Newmarket

Type of Discharge	225 diameter concrete pipe, expanding to 300mm rigid plastic pipe 8m prior to entry to River. Open Pipe
Unique Point Code	SW -02 NEWM

Location	WWTP site Longacre, Newmarket
Grid ref (6E, 6N)	130947E, 106845N

The secondary discharge Point, SW03- NEWM is the outlet from the storm tank at Newmarket WWTP. The outfall runs is a westerly direction for a distance of approximately 30m.

Storm Water Overflow Point, SW-03 Newmarket

Type of Discharge	225 diameter concrete pipe
Unique Point Code	SW -03 NEWM
Location	Pumping Station site at Roundwall
Grid ref (6E, 6N)	132140E 107310N

The secondary discharge Point, SW03- NEWM is the discharge pipe for the high level overflow at the inlet to the Pumping Station and also the overflow at the inlet to the sump at Roundwall Pumping Station. The outfall runs is an easterly direction for a distance of approximately 60m.

Storm Water Overflow Point, SW-04 Newmarket

Type of Discharge	225 diameter PVC pipe high level overflow at MH, discharging to open field drain which in turn discharges to the Dalua River
Unique Point Code	SW -04 NEWM
Location	Boherbue Road, adjacent to Tennis Courts.
Grid ref (6E, 6N)	131360E 107278N

The secondary discharge Point, SW04- NEWM is the discharge pipe for the high level overflow at a foul manhole and overflows to a storm pipe which discharges to an open drain approximately 150m away from the Manhole. This drain discharges to the Dalua River at Anne's Bridge (upstream of the WWTP Discharge)

Attachment C.2 should contain any supporting documentation on the design and construction of <u>any and all</u> 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/. ***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/. 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
SW01 - NEWM	Primary	Cork County Council	River	Dalua River		130956	106837
SW02 - NEWM	Secondary	Cork County Council	River	Dalua River		130947	106845
SW03 – NEWM	Storm	Cork County Council	Stream	Rampart		132140	107310
SW04 - NEWM	Storm	Cork County Council	River	Dalua River		131360	107278

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

SECTION E: MONITORING

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

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

Provide an estimation of the quantity of waste water likely to be emitted in relation to all primary and secondary discharge points applied for. This information should be included in Table E.1(i) via the following web based link: http://78.137.160.73/epa_wwd_licensing/.

Provide an estimation of the quantity of waste water likely to be emitted in relation to all storm water overflows within the agglomeration applied for. This information should be included in Table E.1(ii) via the following web based link: http://78.137.160.73/epa_wwd_licensing/.

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

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
	√	

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	130956	106837	No
aSW01u	u/s	Sampling	130994	106754	No
aSW01d	d/s	Sampling	132454	104564	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. 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/. 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[1] in accordance with the procedures laid down in Article 21 of that Directive,

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

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

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

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

- 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.**

The plant is performing satisfactorily at present and operating within the requirements of the following legislation. The WWTP was recently upgraded with the augmentation of the Percolating Filters System with the Aeration Package Plant. The Collection system for the Town is recommended to be upgraded as part of the Newmarket Sewerage Scheme Upgrade, to be undertaken as part of the Water Services Investment Plan.

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 or 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 Dalua River 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 has proposed water quality standards for the Dalua River under a water quality / catchments management plan. The Dalua is classified as Moderate ecological quality status on the ground of biological quality data. Note also this is located in a *Margaritifera margaritifera* (freshwater pearl mussel)

which is a protected area and for such sites the water quality standards that need to be achieved will be higher than for other areas as these are a species of high conservation importance. As such high/good status water bodies automatically default to Moderate Status.

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 Newmarket Wastewater Treatment Plant cannot cause deterioration in good water quality under the Water Framework Directive at present.

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

The Dalua River is not designated a Salmonid Water under Salmonid Water Regulations, S.I. 293 of 1988, however the River Blackwater which the DaluaRiver joins, is designated Salmonid Water under Salmonid Water Regulations, S.I. 293 of 1988.

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

The Dalau River 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 Newmareket Wastewater Treatment wastewater works.

Downstream of the discharge points, the Dalau River joins through the Allow River which traverses through Kanturk town. Water is not abstracted from the Dalua River, Allow River or River Blackwater for towns of Newmarket or Kanturk.

Kanturk and Newmarket Towns are supplied by Ballinatona Springs PWS, which is located approximately 6km northwest of Newmartket Town. The Spring Supply is situated adjacent to the Dalua River, upstream of the discharge at Newmarket Town by approximately 6.3Km.

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, including the Awbeg River 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. 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 Dalua River 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.

Natural Heritage Areas
The Dalua River does not flow through a Proposed 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 Dalua River. 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 Dalua River was obtained from Cork County Council. The EPA also takes samples from a number of locations along the Dalau River. In the vicinity of the treatment plant, five nr monitoring stations are relevant to Buttevant WWTP. These stations are the flowing:

- Aldworths Bridge – upstream of Newmarket WWTP discharge point by approximately 1.6km along the Dalua River
- Ford North of Curraduff – upstream of Newmarket WWTP discharge point by approximately 1.7km along the Glenlara River
- 0.3km d/s Annes Bridge – downstream of Newmarket WWTP discharge point by approximately 170m
- D/s (50m) Owenare River Confluence - downstream of Newmarket WWTP discharge point by approximately 4.7km
- Ford West of Liscongil House - downstream of Newmarket WWTP discharge point by approximately 9km

Note the Rampart Stream joins the Dalua River at approximately 6.5km downstream of the discharge point at the WWTP and this confluence is between Owenare River Confluence Station and Ford West of Liscongil House Station.

Table F1-1: Biological Quality Rating for Dalua River – Upstream & Downstream of Discharge

Sampling Location	**EPA Biological Quality Rating (Q values)**			
	1995 -1997	**2001 – 2003**	**2006**	**Target**
Aldworths Bridge	3 - 4	4	N/D	4
Ford North of Curraduff	3	4	4	3-4
0.3km d/s Annes Bridge	3	3	3-4	3-4
D/s (50m) Owenare River Confluence	4-5	4	4	4-5
Ford West of Liscongil House	4-5	4	4	4-5

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 CaCO3

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	20.23
Suspended Solids (SS)	35	31.94

*Actual Concentration is the average effluent concentrations recorded at the outlet of the WWTP by Cork County Council Wastewater Laboratory during the period Feb '06 to Dec '08.

From Table 4 above, it is evident that treated effluent from the Newmarket wastewater treatment plant is compliant with the quality of effluent standards set out in the above legislation.

Assimilative Capacity of the Receiving Water

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

Median flow of River = 1.808 m^3/sec
Median oPO_4-P in River (upstream) = 0.075 mg/L

Average volume of discharge = 0.004 m^3/sec
Median value for oPO_4-P in discharge = 2.512 mg/L

$$C_{final} = \frac{(1.808 \times 0.075) + (0.004 \times 2.512)}{1.808 + 0.004}$$

C_{final} = 0.08 mg/L oPO_4-P

The increase in Orthophosphate due to the discharge of Newmarket WWTP is 5 μg/L.

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

Flow of River (95%) = 0.2 m^3/sec
Average BOD in River (upstream) = 4.2 mg/L

Average volume of discharge = 0.004 m^3/sec
Average BOD in discharge = 20.23 mg/L

$$C_{final} = \frac{(0.2 \times 4.2) + (0.004 \times 20.23)}{0.2 + 0.004}$$

C_{final} = 4.51 mg/L BOD

The increase in BOD due to the discharge of Newmarket WWTP is 0.31 mg/L.

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

Flow of River (95%) = 0.2m^3/sec
Average Suspended Solids in River (upstream) = 8.0 mg/L

Average volume of discharge = 0.004 m^3/sec
Average Suspended Solids in discharge = 31.94 mg/L

$$C_{final} = \frac{(0.2 \times 8.0) + (0.004 \times 31.94)}{0.2 + 0.004}$$

C_{final} = 8.47 mg/L Suspended Solids

The increase in Suspended Solids due to the discharge of Newmarket WWTP is 0.47 mg/L.

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

50% Median flow of River = 1.808 m^3/sec
Median TPO_4-P in River (upstream) = 0.2 mg/L

Average volume of discharge = 0.004 m^3/sec
Median TPO_4-P in discharge = 2.83 mg/L

$$C_{final} = \frac{(1.808 \times 0.2) + (0.004 \times 2.83)}{1.808 + 0.004}$$

C_{final} = 0.206 mg/L TPO_4-P

The increase in Total Phosphate due to the discharge of Newmarket WWTP is 6 μg/L.

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

Flow of River (95%) = 0.2 m^3/sec
Average Total Nitrogen in River (upstream) = 4.0 mg/L

Average volume of discharge = 0.004 m^3/sec
Average Total Nitrogen in discharge = 10.67 mg/L

$$C_{final} = \frac{(0.2 \times 4.0) + (0.004 \times 10.67)}{0.2 + 0.007}$$

C_{final} = 4.07 mg/L Total Nitrogen

The increase in Total Nitrogen due to the discharge of Newmarket WWTP is 0.07 mg/L.

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

Flow of River (95%) = 0.2m^3/sec
Average Sulphate in River (upstream) = 30 mg/L

Average volume of discharge = 0.004 m^3/sec
Average Sulphate of discharge = 30 mg/L

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

$$C_{final} = \frac{(0.2 \times 30) + (0.004 \times 30)}{0.2 + 0.004}$$

C_{final} = 30.0 mg/L Sulphate

The increase in Sulphate due to the discharge of Newmarket WWTP is 0 mg/L.

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

Flow of River (95%) = 0.2 m^3/sec
Average Ammonia-N in River (upstream) = 0.7mg/L

Average volume of discharge = 0.004 m^3/sec
Average Ammonia-N in discharge = 1.76 mg/L

Average Ammonia-N in River (downstream) = 0.055 mg/L

$$C_{final} = \frac{(0.2 \times 0.7) + (0.004 \times 1.76)}{0.2 + 0.004}$$

C_{final} = 0.72 mg/L Ammonia

The increase in Ammonia due to the discharge of Newmarket WWTP is 0.02 mg/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 in Nov 2008.

Table F1-5: Upstream Water Quality

Parameter	**Upstream Monitoring Station**	
	13/11/08	**27/11/08**
Ph	7.5	7.4
BOD	-	4.2
SS	-	8
Ammonia	-	0.7
Ortho-Phosphate	<0.05	.1

Table F1-6: Downstream Water Quality

Parameter	**Upstream Monitoring Station**	
	13/11/08	**27/11/08**
Ph	7.5	7.7
BOD	-	5
SS	-	0.1
Ammonia	<0.1	<0.1
Ortho-Phosphate	<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.

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

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

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

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

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

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

There are no drinking water abstraction points downstream or down gradient of the discharge point.

Attachment F.2 should contain any supporting information.

SECTION G: PROGRAMMES OF IMPROVEMENTS

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

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).

The plant is performing satisfactorily at present and operating within the requirements of the following legislation. The WWTP was recently upgraded with the augmentation of the Percolating Filters System with the Aeration Package Plant. The Collection system for the Town is recommended to be upgraded as part of the Newmarket Sewerage Scheme Upgrade, to be undertaken as part of the Water Services Investment Plan.

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 or 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 three locations along the Daula River downstream (d/s) of the WWTP (prior to discharge of Kanturk agglomeration). These are located at the following:

- 0.3Km d/s Annes Bridge – 170m d/s
- D/s (50m) Owenare River Confluence – 4.7km d/s
- Ford Wat Of Liscongil House – 9km d/d

Table G1-1: Upstream Water Quality

Parameter	**Upstream Monitoring Station**	
	13/11/08	**27/11/08**
Ph	7.5	7.4
BOD	-	4.2
SS	-	8
Ammonia	-	0.7
Ortho-Phosphate	<0.05	0.1

Table G1-2: Downstream Water Quality

Parameter	**Upstream Monitoring Station**	
	13/11/08	**27/11/08**
Ph	7.5	7.7
BOD	-	5
SS	-	0.1
Ammonia	<0.1	<0.1
Ortho-Phosphate	<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.

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 Dalua River. There are areas of the River Blackwater 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.

Ballinatona PWS is the closest PWS that utilise ground water for medium sized 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

There are no areas along the Dalua River or River Blackwater downstream of Buttevant WWTP designated for the abstraction of water intended for human consumption.

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 Newmarket Package Wastewater Treatment Plant was commissioned in 2008, which augments the old Percolating Filters installed in the 1950's. The new Package Plant was designed to treat effluent to a 25/35ppm standard.

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 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 Dalua River 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 form the Newmarket 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 Dalau River 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.

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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.

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 Dalua River 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 Buttevant 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.

Receiving Water Quality Requirement based on Phosphorus Regulations 2008

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

The EPA have a number of stations on the Dalua River, upstream along the Dalau the Q value of the river is 3-4 at the two locations, while downstream of the River the Q value is 3-4. Kanturk agglomerations discharge downstream of Newmarket Agglomeration.

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

Newmarket 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**	
	08/08	**11/08**
Ortho-Phosphate	0.92	2.15

Table G2-4: Phosphorus Levels in Effluent from WWTP

Parameter	**Outlet Monitoring Station**	
	08/08	**11/08**
Ortho-Phosphate	0.95	085

From above, it is evident that treated effluent from the Newmarket wastewater treatment plant is compliant with the quality of effluent standards set out in the Urban Waste Water Directive criteria for discharges to sensitive water even though this designation does not apply for this area.

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.

Recently the new package WWTP was installed to augment the old Percolating Filters. The package plant was financed by Small Schemes Programme.

As Part of the Water Services Investment Plan, Newmarket Sewerage System is listed to advance through Planning and the scheme is estimated to cost €3,152,000

The following is a summary of the works proposed in the Preliminary Report:-

Collection System

- Upgrade the existing sewers to a separate foul and storm system in the Pound Hill/Garraunwarrig Upper area
- Provide foul and storm sewers on the Kanturk Road
- Carry out remedial works on the existing foul sewer in the Orchard Avenue area.
- Upgrade the existing storm sewers in Avenue Demesne
- Replace the existing Church Street (east) foul sewer
- Replace the existing inaccessible and unsafe Roundwall Pumping Station
- Replace the existing Main Street to Church Street (west) foul sewer
- Replace and extend the existing Church Street (west) storm sewer

- Replace and extend the existing Island Road foul sewer
- Provide separate storm sewer for Island Road
- Replace the existing Kerry Road combined sewer with separate sewers
- Replace the existing High Street Foul Sewer
- Replace the existing Charleville Road combined sewer with new separate sewers
- Replace existing foul sewer in Barry's Place and Murphy's Place
- Replace section of Scarteen foul sewer and also carry out trenchless repairs
- Provide manholes on Scarteen Street storm sewer
- Provide manholes on the High Street storm sewer
- Provide a foul sewer from industrial zoned land to Scarteen Street
- Carry out trenchless repairs on existing foul sewer west of Scarteen Bridge
- Replace and extend the existing foul sewer on Ballydesmond Road
- Replace section of foul sewer from New Street to WWTP
- Carry out trenchless repairs on New Street foul sewer
- Jet clean and reline foul sewer entering WWTP

The 9.3km of pipe laying works proposed for the foul and storm collection systems may be summarised as follows (existing/new denotes whether they are replacing or extending the existing collection system): -

		225 mm	**300 mm**	**375 mm**	**450 mm**	**525 mm**
Foul	Existing	3,521 m	94 m			
	New	2,236 m				
Storm	Existing	148 m	87 m	78 m		
	New	1,423 m	932 m	668 m	123 m	49 m

In addition to the above, the following is a summary of the trench less repair works to be carried out on the existing collection system:

Jet-Clean & Re-Line (m)	**Intrusion Removal (No.)**	**Patch Repair (No.)**
450	19	26

Some cleaning works are required in the Mill Stream and Rampart Stream, as well as the construction of a screen structure on the Rampart Stream.

Wastewater Treatment Plant

- Repair cracks in walls of primary settling tank
- Provide sludge scraper and scum trough in the primary settling tank
- Increase storm tank capacity
- Level overflow weir in existing storm tank
- Replace distribution arms of trickling filters with low maintenance variety
- Raise distribution arms for maximum additional filter media hydraulically achievable
- Replace under sized humus tank with circular final clarifier
- Provide sludge pumping station
- Repair any defects in sludge holding tanks and replace blockwork with RC
- Carry out refurbishment works to inlet pipe supports
- Provide flowmeters and composite samplers at inlet and outlet pipework
- Provide chemical dosing facilities for Phosphorus removal
- Widen access road and fence off
- Provide palisade fencing around WWTP site
- Provide administration building

- Provide permanent resurfacing for access road and site

With these recent improvements to the collection system and WWTP it will ensure that discharges from the agglomeration will not result in significant environmental pollution.

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.

As previously indicated in Section B10, a Preliminary Report is due to be submitted to the DOEH&LG, in relation to the Newmarket Wastewater Treatment Plant and collection system. Within this report, it recommends the replacement of the Roundawall Pumping Station.

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

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

SECTION H: DECLARATION

Declaration

I hereby make application for a waste water discharge licence/revised licence, pursuant to the provisions of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

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

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

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

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

Print signature name: _____

Position in organisation: _____

SECTION I: JOINT DECLARATION

Joint Declaration [Note1]

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.