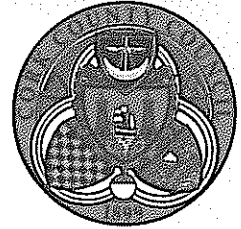


Comhairle Contae Chorcaí Cork County Council

County Hall,
Cork, Ireland.
Tel: (021) 4276891 • Fax: (021) 4276321
Web: www.corkcoco.ie
Halla an Chontae,
Corcaigh, Éire.
Fón: (021) 4276891 • Faics: (021) 4276321
Suíomh Gréasáin: www.corkcoco.ie



Environmental Protection Agency,
Office of Climate change and resource Unit,
Licencing Unit ,
P.O.Box 3000,
Johnstown Castle Estate,
County Wexford.

Our Ref.: MS/KIL/0609

15th June 2009

Sub.: Waste Water Discharge License Application for the Agglomeration of
Kilbrittain , County Cork.

Dear Sir/Madam,

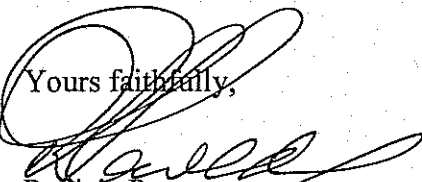
Please find enclosed the waste water discharge license application for
the agglomeration of Kilbrittain .

The following are the documents enclosed as per the application guide note.

- 1 No. signed hard copies of Originals.
- 1 No. hard copy of Originals.
- 2 No. CD-ROM with documentation in electronic searchable PDF,
- 1 No. CD-ROM with GIS Data, Table D.2 ,Table E.3.and Table F.2

The content of the electronic files is true copy of the original hard copy.

Yours faithfully,


Patricia Power
Director of Services





Waste Water Discharge Licence Application Form

EPA Ref. N^o:
(Office use only)

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Environmental Protection Agency
PO Box 3000, Johnstown Castle Estate, Co. Wexford
Lo Call: 1890 335599 Telephone: 053-9160600 Fax: 053-9160699
Web: www.epa.ie Email: info@epa.ie

Tracking Amendments to Draft Application Form

Version No.	Date	Amendment since previous version	Reason
V. 1.	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.

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

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Waste Water Discharge Authorisation Application Form

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ABOUT THIS APPLICATION FORM

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

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

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

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

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

PROCEDURES

The procedure for making and processing of applications for waste water discharge licences, and for the processing of reviews of such licences, appear in the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) and is summarised below. The application fees that shall accompany an application are listed in the Third Schedule to the Regulations.

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

An application for a licence must be submitted on the appropriate form (available from the Agency) with the correct fee, and should contain relevant supporting documentation as attachments. The application should be based on responses to the form and include supporting written text and the appropriate use of tables and drawings. Where point source emissions occur, a system of unique reference numbers should be used to denote each discharge point. These should be simple, logical, and traceable throughout the application.

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

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

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

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

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

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

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

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

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

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SECTION A: NON-TECHNICAL SUMMARY

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

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

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

A description of:

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

Supporting information should form **Attachment N° A.1**

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SECTION A: NON-TECHNICAL SUMMARY

The Waste Water Works and the Activities Carried Out Therein

Kilbrittain is located in south Cork approximately 10km south of Bandon on the Regional Road R603.

The waste water collection system for Kilbrittain is a partially combined system. There are a number of separate storm drains in the village. Surface water is collected and discharged to local watercourses; foul sewerage is collected and discharged to the WWTP. The Waste water Treatment Plant is located to the west of the village, just off the R603 road to Ballinspittle.

Waste water flows by gravity from the village to the WWTP. The treatment plant was commissioned in 2006 with a design capacity of 800 PE and currently serves 598 PE.

On entering the WWTP the waste water is directed through the forward feed pump station upstream of the spiral screen. The flow then enters the screw conveyor screen where screenings above 6mm are removed from the waste water. A manual by-pass screen is provided as back-up during screen breakdown or servicing. The waste water then enters forward feed pump station 2 downstream of the inlet screen. Both forward feed pump stations are fitted with high level overflows and two submersible pumps.

The secondary treatment consists of an aeration tank and a clarifier which are partially buried concrete tanks with a half bridge scrapper and 2 RAS/WAS pumps. Flow enters the aeration tank from the forward feed pump station 2. Air is then dispersed in the aeration tank via a series of air diffusers punted on the floor of the tank. Air is supplied to the diffusers from air blowers adjacent to the aeration tank.

Flows gravitate from the aeration tank to the clarifier tank. The flow enters the clarifier and overflows a bellmouth into the diffusion drum. The sludge on the floor of the tank is directed into a central hopper by a 75-degree slope on the floor and a rotating scraper mechanism. Under normal operation the sludge pumps recycle the sludge to the aeration tank. As the concentration of the sludge increases the operator will manually direct waste sludge to the sludge holding tank.

Flow directed from the sludge pumps by the operator enters the sludge holding tank. The contents are allowed to settle with heavy solids sinking to the bottom of the tank and supernatant rising to the surface. The supernatant then gravitates back to the forward feed pumping station. The sludge collection at the bottom of the tank can be drawn off via a vacuum tanker connected to a bauer coupling on the sludge holding tank. Scum in the clarifier is directed to a scum collection box by a rotating scum skimmer and flows by gravity to the sludge holding tank.

The clarifier effluent overflows through a V-notched weir and flows to the outlet flume. This treated effluent exits the plant through the outlet flume to the Kilbrittain River.

Currently, according to Response Engineering results (see attachment F1), the WWTP is receiving flows of approximately 88m³/d, giving an average population equivalent of 390 (based on an a contributing 225l/PE/d), however, a house count of the area shows a PE of 598, with the recent census showing similar figures of 559.

The sources of emissions from the waste water works

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

- Domestic population
- Commercial premises
- Infiltration

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

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 current design capacity of Kilbriain WWTP is 800 PE based on 225l/head/day.

Final effluent is being discharged into the Kilbriain River, analysis of the discharge has shown that the effluent discharge is up to standards and does not have negative impacts on the river. There has been a few issues with phosphorus levels but ferric dosing will be introduced to combat this.

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, automatic sample facilities, etc is provided to ensure continuation of the wastewater treatment.

The treatment plant includes the following elements:

- Screw Conveyor Inlet Screening
- Forward Feed Pumping Stations
- Aeration tank
- Sludge Holding Tank
- A secondary settlement tank (clarifier) with sludge return-pump

Techniques

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

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

The treatment plant in Kilbriain is a relatively new plant it was commissioned in 2006. There have been problems recently with phosphorus levels being emitted from the plant, however, ferric dosing will be implemented in the plant to combat this issue. This is due to be implemented by the end of June 2009.

There is an instrumentation and control system together with on site monitoring and sampling provided to ensure satisfactory operation of the plant.

Measures planned to monitor emissions into the environment

The Cork County Council Environmental Laboratory does not carry out sampling of the influent and effluent at Kilbriain WWTP, nor is sampling carried out on the Kilbriain River. However, for the purposes of this Waste Water Discharge Licence sampling was carried out on one occasion.

List of Attachments include the following:

- Location Map Scale 1:25,000 Attachment A1 Map 1
- Site Location Map of WWTP Attachment A1 Map 2
- Site Layout Attachment A1 Map 3

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SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration: Kilbriain Agglomeration

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:	Southern Division
	County Hall
	Carrigrohane Road
	Co. Cork
Tel.:	021 427 6891
Fax:	021 427 6321
e-mail:	patricia.power@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*:	Patricia Power
Address:	Area Operations South
	County Hall
	Carrigrohane Road
	Cork
Tel.:	021 4285 285
Fax:	021 4276 321
e-mail:	patricia.power@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*:	Response Engineering Ltd.
Address:	Railway Road
	Charleville
	Co. Cork.
Tel:	063 33400
Fax:	063 33401
e-mail:	ajohnston@response-group.ie

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

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

Attachment included	Yes	No
	√	

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

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

Name*:	Ailish Johnston
Address:	Response Engineering Ltd.
	Railway Road
	Charleville
	Co. Cork.
Grid ref (6E, 6N)	152671E, 46849N
Level of Treatment	Secondary
Primary Telephone:	063 33400
Fax:	063 33401
e-mail:	ajohnston@response-group.ie

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

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

Attachment included	Yes	No
	√	

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	150mm open pipe discharging from outlet flume directly to the River
Unique Point Code	SW01 - Kilbrit
Location	Kilbrittain River, Kilbrittain
Grid ref (6E, 6N)	152671E, 46831N

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

Attachment included	Yes	No
	√	

B.4 Location of Secondary Discharge Point(s)

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

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

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

Attachment included	Yes	No
	√	√

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

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

Type of Discharge	150mm open pipe from forward feed pumping stations directly to the river
Unique Point Code	SW02 - Kilbrit
Location	Kilbritten River, Kilbritten
Grid ref (6E, 6N)	152658E, 46832N

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

Attachment included	Yes	No
	√	

B.6 Planning Authority

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

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

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

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

Local Authority Planning File Reference N^o:	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 South
	Áras Sláinte
	Wilton Road, Cork
Tel.:	021 4545011
Fax:	021 4927228
e-mail:	Not Available

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 ($\leq A3$) showing its location. **The original application must include the original page of the newspaper in which the advertisement was placed.** The relevant page of the newspaper containing the advertisement should be included with the original and two copies of the application.

Attachment included	Yes	No
	√	

B.9 (i) Population Equivalent of Agglomeration

TABLE B.9.1 POPULATION EQUIVALENT OF AGGLOMERATION

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

Population Equivalent	598 (Actual) 800 (Design Capacity)
Data Compiled (Year)	2005/2006
Method	Desk Study

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 Kilbriittain WWTP is approx 598. This is based on a desk study with figures published in the contract documents for the operation of the plant and also the census of 2006 show close figures of 559.

All developments with granted planning permission and all developments under construction have been included in the agglomeration. There are currently no planning permissions granted in relation to non domestic activities.

At present Kilbriittain Wastewater Treatment Plant, is operating a lot less than its potential capacity. Therefore the plant has adequate capacity to accommodate any extra hydraulic and organic loading without posing additional environmental risk to the receiving habitat.

B.9 (iii) FEES

State the relevant Class of waste water discharge as per Column 1 of the Second Schedule, and the appropriate fee as per Columns 2 or 3 of the Third Schedule of the Waste Water Discharges (Authorisation) Regulations 2007, S.I. No. 684 of 2007.

Class of waste water discharge	Fee (in €)
Discharge from agglomeration with a population equivalent of 500 to 1000	€10,000

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.

Not Applicable

Attachment B.10 should contain the most recent development programme, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

Attachment included	Yes	No
		√

B.11 Significant Correspondence

Provide a summary of any correspondence resulting from a Section 63 notice issued by the Agency in relation to the waste water works under the Environmental Protection Agency Acts, 1992 and 2003, as amended by Section 13 of Protection of the Environment Act, 2003.

Not Applicable

There was no Section 63 notice issued by the Environmental Protection Agency to Cork County Council in relation to the wastewater treatment works in Kilbrittain 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.

Not Applicable

Kilbriittain Waste Water Treatment Plant does not require a Foreshore Act Licence under the Foreshore Act 1933.

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

	Yes	No √
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SECTION C: INFRASTRUCTURE & OPERATION

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

C.1 Operational Information Requirements

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

C.1.1 Storm Water Overflows

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.1.1 Storm Water Overflows

Excess flows entering the forward feed pumping stations 1 and 2 are discharged to the Kilbrittain River via a 150mm wavin storm water discharge pipe. There is no information regarding the frequency of storm water overflows or the quantities discharged.

There are no designated bathing waters, fresh fish areas or shellfish areas that are affected by the storm water overflow. Nor are there any downstream abstraction points intended for human consumption. Therefore the quality standards or objectives for the aquatic environment considered in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows' (1995) are not applicable to this storm water overflow.

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.

C.1.2 Pumping Stations

There are no pumping stations operating within the waste water works.

C.1 Waste Water Treatment Plant

The waste water treatment plant in Kilbrittain is constructed close to an existing septic tank for the village. The septic tank was serving a population equivalent of 187. The septic tank was decommissioned and the treatment plant replaced it. The treatment plant is located to the South West of the village just off the R603.

The influent flows by gravity from the village to the treatment plant. The plant has the hydraulic design capacity to treat waste water discharges for up to a population equivalent of 800.

The design dry weather flow (DWF) for the plant is 180m³/day, which is based on a population equivalent of 800 contributing 225 l/head/day. This equates to an average flow of 7.5m³/hr. The current PE being served by the WWTP is 598, which equates to a DWF of 135 m³/day.

The following drawings, showing the locations of the treatment plant and discharge point, along with a schematic plan of the plant are included in the attachment.

Table C1-1: Table of Attachments

Item	Title	Attachment. No.
1	1/1,250 Wastewater Treatment Plant Site Plan	C1-Map 9
2	Schematic Showing Treatment Plant Processes	C1-Drg1

General Description of the Plant

The plant is based on the air aeration activated sludge process. The plant is sized to a population equivalent (PE) of 800. The secondary treatment in the plant is used in order to achieve the required 25/125/30 mg/l BOD/COD/SS and 2mg/l Total Phosphorus standard required.

The plant operates as follows:

1. The waste water enters the plant through the forward feed pump station upstream of the spiral screen. The flow then enters the screw conveyor screen where screenings above 6mm are removed from the waste water. A manual by-pass screen is provided as back-up during screen breakdown or servicing. The waste water then enters forward feed pump station 2 downstream of the inlet screen. Both forward feed pump stations are fitted with high level overflows and two submersible pumps.
2. The secondary treatment consists of an aeration tank and a clarifier which are partially buried concrete tanks with a half bridge scrapper and 2 RAS/WAS pumps. Flow enters the aeration tank from the forward feed pump station 2. Air is then dispersed in the aeration tank via a series of air diffusers punted on the floor of the tank. Air is supplied to the diffusers from air blowers adjacent to the aeration tank.
3. Flows gravitate from the aeration tank to the clarifier tank. The flow enters the clarifier and overflows a bellmouth into the diffusion drum. The sludge on the floor of the tank is directed into a central hopper by a 75-

degree slope on the floor and a rotating scraper mechanism. Under normal operation the sludge pumps recycle the sludge to the aeration tank. As the concentration of the sludge increases the operator will manually direct waste sludge to the sludge holding tank.

4. Flow directed from the sludge pumps by the operator enters the sludge holding tank. The contents are allowed to settle with heavy solids sinking to the bottom of the tank and supernatant rising to the surface. The supernatant then gravitates back to the forward feed pumping station. The sludge collection at the bottom of the tank can be drawn off via a vacuum tanker connected to a bauer coupling on the sludge holding tank. Scum in the clarifier is directed to a scum collection box by a rotating scum skimmer and flows by gravity to the sludge holding tank.
5. The clarifier effluent overflows through a V-notched weir and flows to the outlet flume. This treated effluent exits the plant through the outlet flume to the Kilbrittain River.

Supporting Design Calculations

1. Inlet Works

Type:	Spiral screen c/w integral compactor
flow:	0 – 10 l/s
Screening size:	6mm
Inclination:	35 - 40°
Quantity:	1

2. Forward Feed Pumps

No. of Pumps:	2 (Duty/Standby)
Duty:	6.25 l/s
Total Head:	5m approx
Installation:	Wet Well

3. Aeration System

No. of Diffusers:	40
Required air:	130Nm ³ /hr
No. of Air Blowers:	2 No. (Duty/Standby)
Duty (air blowers):	140 Nm ³ /hr
KW Rating:	4.0 kW

4. Final Clarifier

Internal Diameter:	6.99m
Quantity:	1
Supply:	50Hz
Motor Rating:	0.25kW

5. Sludge Holding Tank

Material:	Pre-cast concrete
Volume of Sludge Holding Tank:	36m ³
Dimensions (Elliptical Tank):	Internal Diameters (2.7m x 1.3m)
Quantity:	1

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

Attachment included	Yes	No
	√	

C.2 Outfall Design and Construction

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

Primary Discharge Point, SW01 - Kilbrit

Type of Discharge	150mm open pipe discharging from outlet flume directly to the River
Unique Point Code	SW01 - Kilbrit
Location	Kilbrittain River, Kilbrittain
Grid ref (6E, 6N)	152671E, 46831N

The primary discharge point, SW01 - Kilbrit, is the main outlet from Kilbrittain Waste Water Treatment Plant. The discharge from the WWTP flows by gravity approximately 20m from the outlet flume directly to the outfall on the Kilbrittain River. The point of discharge is a 150mm diameter open pipe.

Storm Water Overflow, SW02 - Kilbrit

Type of Discharge	150mm open pipe from forward feed pumping stations directly to the river
Unique Point Code	SW02 - Kilbrit
Location	Kilbrittain River, Kilbrittain
Grid ref (6E, 6N)	152658E, 46832N

The storm water overflow, SW02 – Kilbrit, is a 150mm diameter overflow pipe from the forward feed pumping stations. These overflows are used in times of high level influent due to storm water. The overflow flows by gravity from the forward feed pumping stations to a manhole and then flows by gravity

approximately 9.5m directly to the Kilbrittain River. The point of discharge is a 150mm diameter open pipe.

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

Attachment included	Yes	No
		√

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SECTION D: DISCHARGES TO THE AQUATIC ENVIRONMENT

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

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

Details of all discharges of waste water from the agglomeration should be submitted via the following web based link: http://78.137.160.73/epa_wwd_licensing/. The applicant should address in particular all discharge points where the substances outlined in Tables D.1(i), (b) & (c) and D.1(ii), (b) & (c) of Annex 1 are emitted.

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

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 - Kilbrit	Primary	Cork County Council	River	Kilbrittain River	Poor	152671	046831

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

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SECTION E: MONITORING

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

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

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

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

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

The primary discharge point has composite sampling (time and flow proportional capabilities) and continuous flow monitoring is also provided. For the secondary discharge there is no continuous flow monitoring provided.

E.2. Monitoring and Sampling Points

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

Reference should be made to the 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.

Monitoring in respect of Kilbrittain Waste Water Licence Application

The plant is currently being supervised by Response Engineering Ltd. Samples of the influent and effluent is taken on a weekly basis. Response mainly monitors the concentration of COD, BOD, SS, TP and pH. Examples of this influent and effluent can be found in Attachment E2. The Cork County Council Environmental Laboratory does not carry out sampling of the influent and effluent at Kilbrittain WWTP, nor is sampling carried out on the Kilbrittain River. However, for the purposes of this Waste Water Discharge Licence sampling was carried out on one occasion.

General Laboratory Information

The Waste Water Laboratory of Cork County Council is accredited for a number of analytical tests under the Irish National Accreditation Board (INAB) under the ISO 17025 international standard. The details of the Accreditation can be found in Attachment E.2. The Waste Water Laboratory of Cork County Council is currently accredited for the following parameters under the ISO 17025 system:

- pH
- Biochemical Oxygen Demand
- Chemical Oxygen Demand
- Suspended Solids
- Ammonia
- Ortho Phosphates
- Total Phosphates
- Chloride
- Sulphate

The laboratory perform a number of analytical tests e.g. fats, oil, grease and metals using an ICP-OES system and while the Waste Water Laboratory of Cork County Council is not currently accredited for extra tests the same analytical procedures and protocol are adhered to by the laboratory as would be required if the tests were accredited. The laboratory also participates in proficiency testing schemes which measure the accuracy of the results and performance of the laboratory in both the EPA scheme and the WRC Aquacheck scheme from the UK. The performance of the laboratory in these schemes is excellent and the non-accredited tests are within the performance criteria for the schemes as evaluated by the scheme coordinators.

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	152671	046831	y
aSW01u	u/s	Sampling	151151	047983	y
aSW01d	d/s	Sampling	153269	046699	y

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
	√	

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

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

Detailed information is required to enable the Agency to assess the existing receiving environment. This section requires the provision of information on the ambient environmental conditions within the receiving water(s) upstream and downstream of any discharge(s).

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

F.1. Assessment of Impact on Receiving Surface or Ground Water

- Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.
- Details of all monitoring of the receiving water should be supplied via the following web based link: http://08.137.160.73/epa_wvd_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.

- o 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.
- o 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.
- o 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.
- o Indicate whether or not emissions from the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have a significant effect on –
 - (a) 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/EEC¹ 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/EEC²;

¹Council 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)

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

- o Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.
- o This section should also contain full details of any modelling of discharges from the agglomeration. Full details of the assessment and any other relevant information on the receiving environment should be submitted as **Attachment F.1.**

Attachment included	Yes	No
	√	

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.

The receiving water body of the Kilbrittain WWTP is the Kilbrittain River, which discharges to Courtmacsherry Estuary. There are no discharges to ground, or any other media.

Specific localised EPA flow data is not available in the vicinity of the existing discharge points and thus figures have been taken from available South Western River Basin District data.

These flow estimates including 95%ile and median flows are shown in the table below.

Table F1-1: Flow Data

Parameter	RBD Data obtained from Cork County Council
95%ile (m³/s)	0.06283
Median (m³/s)	0.367442

With an estimated 95-percentile flow (i.e. a flow that is exceeded 95% of the time) of 62.83 l/sec, or 5,428m³/day, there are 40 dilutions available in the Kilbrittain River for the existing discharge (135 m³/d).

Water Quality Standards

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

The Kilbrittain 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 have determined the Ecological Status as poor for the Kilbrittain River due to the Physiochemical status. The Water Framework Objectives are included as attachment F1.

Designations under relevant directives

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

The Kilbrittain River is not designated a Salmonid Water under Salmonid Water Regulations, S.I. 293 of 1988. However, it is a river discharging into Courtmacsherry estuary which is a proposed Special Area of Conservation. The major river draining to this estuary, the Argideen, is listed as a Salmonid water in the First Schedule of S.I. 293 of 1988 Quality of Salmonid Waters Regulations. It could be argued that if conditions in the Kilbrittain River were improved to a salmonid quality level, salmonid use of the stream would be possible, given the proximity of an established salmonid water.

The Kilbrittain River is not designated a Bathing Water under the Bathing Water Regulations, S.I. 178 of 1998 as amended. However, the Kilbrittain River flows into the Courtmacsherry Estuary where there are beaches located. The closest Designated Bathing Area to the WWTP discharge is Coolmain beach which is located approximately 4km downstream.

The Kilbrittain River is not a designated Sensitive Area under the Urban Waste Water Treatment Regulations 2001 (S.I. 254 of 2001). There is no sensitive area within 2km of any discharge point from Kilbrittain WWTP.

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 Kilbriittain River discharges into the sea at Courtmacsherry estuary, which is subject to growth of large algal mats in summer. This estuary, including the tidal stretch of the Kilbriittain River below Bateman's bridge has been designated as a Special Area of Conservation (site code 001230)

In the site description, this SAC is described as follows:

"Courtmacsherry Estuary is an important site for the complex of marine habitats found there and for the numbers of birds found there. It is of ornithological importance for the many waders and wildfowl that feed on the mud and sand-flats. The winter flocks of Golden Plover and Black tailed Godwit constitute nationally important numbers. At least nine other species occur in significant levels for the region: wigeon, Mallard, Red-breasted Merganser, Oystercatcher, Curlew and Redshank."

The Courtmacsherry Estuary site synopsis is included in this attachment.

Natural Heritage Areas

Natural Heritage Areas are the basic designation for wildlife. A NHA is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection.

The Kilbriittain River does not flow through any Natural Heritage Areas (NHA).

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 Kilbriittain River.

Receiving Water Quality Requirement

The EPA takes samples from two locations along the Kilbriittain River upstream of the treatment plant. These are located at Maulmane Bridge (approximately 3km North West of the treatment plant) and at Kilbriittain Bridge (approximately 180m North West of the treatment plant).

Table F1-2: Biological Quality Rating for kilbrittain River – upstream of Discharge

Sampling Location	EPA Biological Quality Rating (Q-Values)				
	1989	1994	1997	2000	2003
Maulmane Bridge	-	4	4	4	4
Kilbrittain Bridge	4	4	4	3-4	4

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 based on Hardness of receiving waters for some parameters.

Table F1-3: Receiving Water Quality Limiting Values

Parameter	Water Quality Standard (ug/l)
Atrazine	1.0
Dichloromethane	10.0
Simazine	1.0
Toluene	10.0
Tributyltin	0.001
Xylenes	10.0
Arsenic	25
Chromium	CaCO ₃ <100mg/l = 5, CaCO ₃ >100mg/l = 30
Copper	CaCO ₃ <100mg/l = 5, CaCO ₃ >100mg/l = 30
Cyanide	10
Fluoride	500
Lead	CaCO ₃ <100mg/l = 5, CaCO ₃ >100mg/l = 10
Nickel	CaCO ₃ <100mg/l = 8, CaCO ₃ >100mg/l = 50
Zinc	CaCO ₃ <10mg/l = 8, 10mg/l <CaCO ₃ <100mg/l = 50 CaCO ₃ >100=100

Effluent Standards

The design treated effluent quality is shown in the table below.

Table F1-4: Design Effluent Standards

Parameter	Effluent Standards (mg/l)	Actual Concentrations (mg/l)
Biological Oxygen Demand (BOD)	25	9.44
Chemical Oxygen Demand (COD)	125	31.44
Suspended Solids (SS)	30	14.75
Total Phosphorus	2	1.62

*Actual Concentration is the average effluent concentrations recorded at the outlet of the WWTP by Response Engineering Wastewater Laboratory during the period January '08 to April '09. A copy of these results is included in Attachment E2.

From Table F1-4 above, it is evident that treated effluent from the Kilbrittain wastewater treatment plant is compliant with the quality of effluent standards set out.

The Urban Wastewater Treatment Regulations S.I. 254 of 2001 require that wastewater arising from populations of less than 2000, shall, by the end of 2005, be subject to appropriate treatment prior to discharge. Appropriate treatment is defined as:

"...any process and / or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of the Directive and of other community Directives"

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

Assimilative Capacity of the Receiving Water

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

Median flow of River = 0.367442 m³/sec
Median oPO₄-P in River (upstream) = <0.05mg/L

Average volume of discharge = 0.00156 m³/sec
Median value for O-PO₄-P in discharge = 1.6 mg/L

$$C_{\text{final}} = \frac{(0.367442 \times 0.05) + (0.00156 \times 1.6)}{0.367442 + 0.00156}$$

$$C_{\text{final}} = <0.056 \text{ mg/L oPO}_4\text{-P}$$

The increase in Orthophosphate due to the discharge of Kilbrittain WWTP is <0.006mg/L. The C_{final} figure of 0.056mg/L is higher than the Proposed Water Quality Standards for Surface Water of 0.050mg/L, however, the change due to this figure is very minimal at only <0.006mg/L. The upstream figure of <0.05mg/L is also only a grab sample taken on one occasion which would not indicate a true figure for the river.

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

Flow of River (95%) = 0.06283 m³/sec
Average BOD in River (upstream) = 1.0 mg/L

Average volume of discharge = 0.00156 m³/sec
Average BOD in discharge = 25 mg/L

$$C_{\text{final}} = \frac{(0.06283 \times 1.0) + (0.00156 \times 25)}{\quad}$$

$$0.06283 + 0.00156$$

$$C_{\text{final}} = 1.58 \text{ mg/L BOD}$$

The increase in BOD due to the discharge of Kilbrittain WWTP is 0.58 mg/L.

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

$$\text{Flow of River (95\%)} = 0.06283 \text{ m}^3/\text{sec}$$

$$\text{Average Suspended Solids in River (upstream)} = 2.5 \text{ mg/L}$$

$$\text{Average volume of discharge} = 0.00156 \text{ m}^3/\text{sec}$$

$$\text{Average Suspended Solids in discharge} = 30 \text{ mg/L}$$

$$C_{\text{final}} = \frac{(0.06283 \times 2.5) + (0.00156 \times 30)}{0.06283 + 0.00156}$$

$$C_{\text{final}} = 3.17 \text{ mg/L Suspended Solids}$$

The increase in Suspended Solids due to the discharge of Kilbrittain WWTP is 0.67 mg/L.

Assimilative Capacity Calculations were not performed for the following parameters, as current levels are below those required by S.I. No. 12/2001

- (a) Arsenic
- (b) Chromium
- (c) Copper
- (d) Cyanide
- (e) Fluoride
- (f) Lead
- (g) Nickel
- (h) Zinc

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Provide details of the extent and type of ground emissions at the works.

There are no emissions to ground at the works.

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.

A screening programme was undertaken for the parameters set out in the Dangerous Substances Regulations S. I. No 12 of 2001 as per the table below. This programme measured the levels in the discharge from the WWTP and measured river levels (upstream and downstream of the primary discharge point) on the Kilbrittain River on one occasion. It is evident that all parameters measured downstream were found to be below levels required by the Dangerous Substances Regulations.

Table F1-5: Dangerous Substances Monitoring

Parameter	Effluent	Upstream	Downstream
-----------	----------	----------	------------

	11/05/2009	11/05/2009	11/05/2009
	µg/l	µg/l	µg/l
Phenols	<0.10	<0.10	<0.10
Atrazine	<0.01	<0.01	<0.01
Dichloromethane	<1	<1	<1
Simazine	<0.01	<0.01	<0.01
Toluene	<0.28	<0.28	<0.28
Xylenes	<1	<1	<1
Arsenic	<0.96	<0.96	<0.96
Chromium	*	<20	<20
Copper	*	<20	<20
Cyanide	<5	<5	<5
Flouride	<100	<100	<100
Lead	*	<10	<10
Nickle	*	<20	<20
Zinc	*	<20	<20
Boron	*	<20	<20
Cadmium	*	<20	<20
Mercury	<0.2	<0.2	<0.2
Selenium	1.6	2.1	2.7
Barium	*	26.87	24.49

In circumstances where water abstraction exist downstream of any discharge describe measures to be undertaken to ensure that discharges from the wastewater works will not have a significant effect on faecal coliform, salmonella and protozoan pathogen numbers, e.g., iardia, in the receiving water environment.

There are no abstractions downstream from the discharge points.

Indicate whether or not the emissions from the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have an effect a Natural Heritage Area, site of community importance under the habitats directive, special area of conservation or a site classified under the conservation of wildbirds directive.

It is not considered that the emissions for the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have an effect on a Natural Heritage Area, site of community importance under the habitats directive, special area of conservation or a site classified under the conservation of wildbirds directive, as the effluent standard from the plant is compliant with the quality of effluent standards set out in the EC Urban Wastewater Directive, given effect in Irish Law by S.I.254 of 2001, (Phosphorus due to be compliant again by the end of June 2009)

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

Given the nature and scale of the discharges to the receiving environment it is not considered necessary to provide any additional measures specific to minimising pollution over long distances or in the territory of other states.

Details of any modelling of discharges from the agglomeration.

No modelling has been undertaken of the discharges from the agglomeration.

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

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

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	Agglomeration Served	Abstraction Volume in m ³ /day	Point Code Provide label IDs	Distance Downstream in meters from emission point to abstraction point	6E- Digit GPS National Irish Grid Reference	6N- Digit GPS National Irish Grid Reference	Y = GPS Used N = GPS not used

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

The effluent from the primary discharge point is discharged to the Kilbriain River, the effluent from the secondary discharge point is also discharged to the Kilbriain River. The Kilbriain River flows directly into the Courtmacsherry Estuary.

There are no water abstractions further downstream of the discharges on the Kilbriain River.

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

Attachment F.2 should contain any supporting information.

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).

Dangerous Substances Directive 2006/11/EC

A screening programme was undertaken for all of the substances listed in S.I. No 12/2001 – Water Quality (Dangerous Substances) Regulations, 2001 with the exception of tributyltin.

The assessment for atrazine, dichloromethane, simazine, toluene, xylenes, arsenic, chromium, lead and nickel showed that the discharge from the WWTP, the upstream and downstream river samples were all below the level required by the Regulations.

The plant is operating satisfactorily at present and is operating within the requirements of the relevant legislation, outlined above

Water Framework Directive 2000/60/EC

The Kilbrittain River has been determined to have Poor Status under the Water Framework Directive.

The assimilative capacity assessments set out in Section F1 demonstrate that the current discharge is compliant with the water framework directive.

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 Kilbrittain River.

Groundwater Directives 2006/118/EC

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

There is one public groundwater source in the area, this is located approximately 220m south east of the WWTP, downstream of the discharge point. The source is a bored well located approximately 40m from the river. The groundwater source is a public supply which has a volume of 25m³/day supplying a population of 50. However, this water supply source is due to be replaced. Innishannon Regional water supply is due to be upgraded at the end of 2009 or the beginning of 2010, this upgraded network will supply water to Kilbrittain, replacing the supply from the bored well.

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 drinking water abstractions on the Kilbrittain River.

Urban Waste Water Treatment Directive 91/271/EEC

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

The Regulations require that waste water arising from populations of less than 2000, shall, by the end of 2005, be subject to appropriate treatment prior to discharge. Appropriate treatment is defined as:

"...any process and / or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions if the Directive and of other community Directives"

The Kilbrittain Wastewater Treatment Plant was commissioned in 2006 and was designed to treat effluent to a 25/30ppm standard. These standards have been adopted to ensure compliance with the requirements of the Waste Water Treatment Regulations (S.I. 254 of 2001) as set out above.

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

Table G1-1: 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 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 Kilbrittain River is not a designated Sensitive Area.

Shellfish Directive 79/923/EEC

The Kilbrittain River is not a designated Shellfish Area under the Shellfish Waters Regulations, S.I. 200 of 1994.

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 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 Kilbrittain River discharges into the sea at Courtmacsherry Estuary approximately 700m downstream of the discharge from the treatment plant. Courtmacsherry Estuary including the tidal stretch of the Kilbrittain River below Bateman's bridge has been designated as a Special Area of Conservation (site code 001230) which is subject to growth of large algal mats in summer.

The Courtmacsherry Estuary Site Synopsis is included in attachment F1.

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.

Response Engineering's Waste Water Laboratory carries out monitoring of the effluent from the waste water 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 Kilbrittain River is not designated a Bathing Water under the Bathing Water Regulations, S.I. 178 of 1998 as amended. However, the Kilbrittain River flows into the Courtmacsherry Estuary where there are beaches located. The closest Designated Bathing Area to the WWTP discharge is Coolmain beach which is located approximately 4km downstream.

Dangerous Substances Directive 2006/11/EC

The level of dangerous substances in both the effluent discharged from Kilbrittain 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 WWTP does not incorporate phosphorus removal facilities at present, however, ferric dosing is to be incorporated into the plant due to high levels of phosphorus being emitted from the plant. The incorporation of ferric dosing is due to be implemented by the end of June 2009. The plant discharges to the Kilbrittain River which has Poor Status under the Water Framework Directive. The Draft European Communities Environmental Objectives (Surface Waters) Regulations 2008 set out the requirement to achieve a Molbydate Reactive Phosphorus (MRP) of ≤ 0.050 mg/l based on mean flows for River Water Bodies classified as having Good/Moderate Status. As shown in the assimilative capacity in section F1 the C_{final} figure exceeds this slightly. However as stated in section F1 the upstream figure of < 0.05 mg/L for Orthophosphate is only a grab sample, the river was only tested on one occasion which indicates that the actual figure for Orthophosphate would more than likely be less than the figure shown of 0.05mg/L. Therefore the WWTP should not have a major negative impact on the status of the river, with the inclusion of phosphorus removal in the plant the levels of phosphorus being emitted will be reduced significantly.

The EPA has two monitoring stations along the Kilbrittain River upstream of the treatment plant. The Q value of the Kilbrittain River at these points in 2003 was 4. The objective of the SWRBD report is to restore the water quality.

Effluent Standards

The treated effluent quality requirements are determined with respect to the EC Urban Waste Water Directive, given effect in Irish Law by S.I.254 of 2001. The waste water treatment processes should reduce nutrients in the final effluent. The minimum effluent standard based on S.I.254 of 2001 for Total Phosphorus in waste water effluent is 2mg/l. With phosphorus removal due to be included in the plant the effluent should meet this standard.

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.

The waste water treatment plant is a relatively new plant and was commissioned in 2006, the plant is working satisfactorily. There have been problems recently with phosphorus levels being emitted from the plant, however, ferric dosing will be implemented in the plant to combat this issue. This is due to be implemented by the end of June 2009.

Discharges from the proposed WWTP will not affect groundwater. Nor should it affect the Special Area of Conservation or Designated Bathing Waters located downstream.

There are no Special Protection Areas, Natural Heritage Areas or European Sites which discharges from the proposed WWTP will affect. Nor are there any areas designated for the protection of shellfish or fresh water fish, or any water abstraction locations intended for human consumption that will be affected by the proposed WWTP discharges.

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.

Excess flows entering the forward feed pumping stations 1 and 2 are discharged to the Kilbrittain River via a 150mm wavin storm water discharge pipe. There is no information regarding the frequency of storm water overflows or the quantities discharged.

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

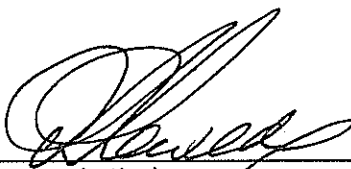
Declaration

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 : June 16 2009
(on behalf of the organisation)

Print signature name: F. Powell

Position in organisation: DIRECTOR OF SERVICES

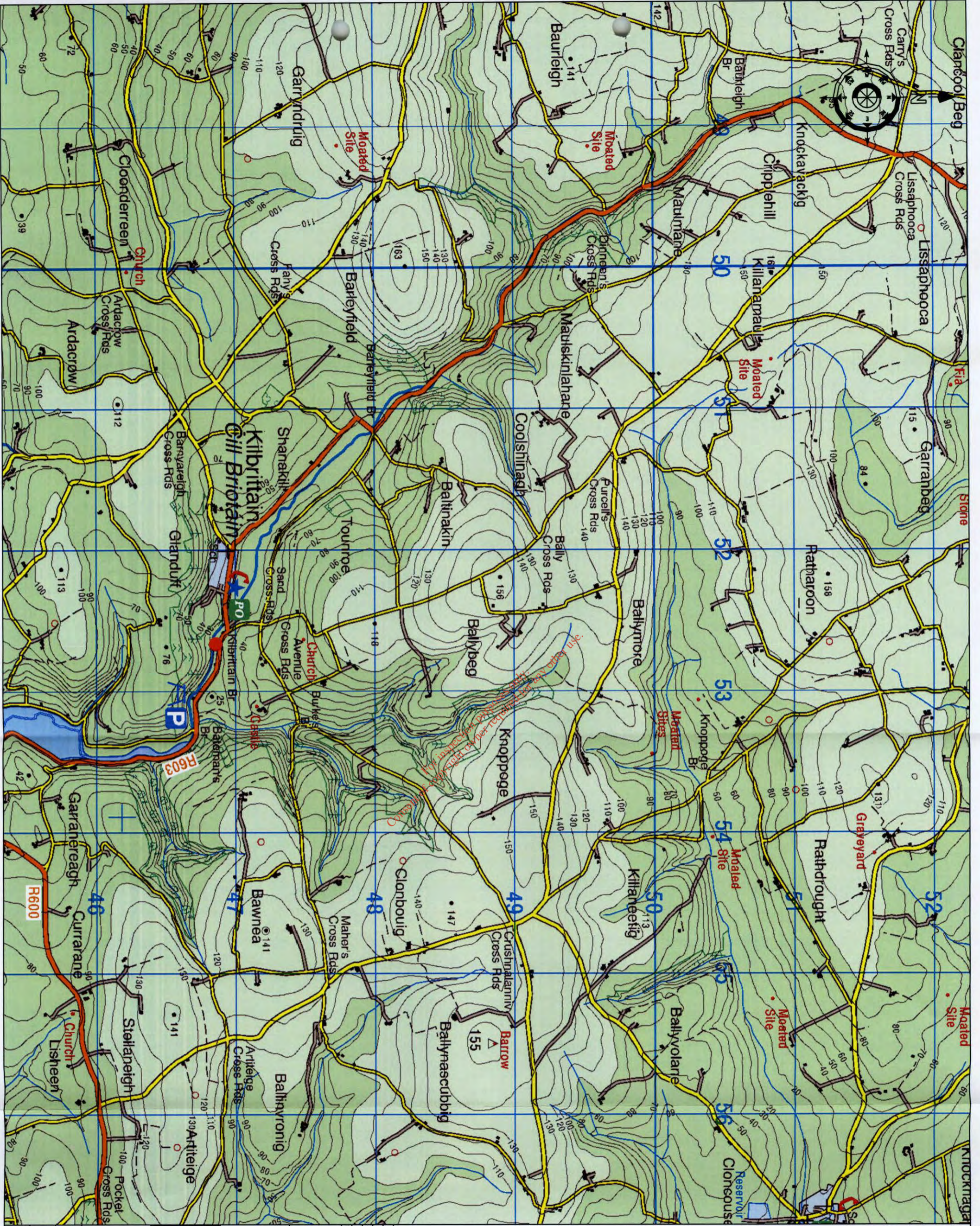
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Attachments Table of Contents:

Attachment	Description
A1 Map 1	1:25,000 Location Map
A1 Map 2	Site Location of WWTP
A1 Map 3	Site Layout
B1 Map 4	Agglomeration Boundary
B2 Map 5	Location of WWTP
B3 Map 6	Location of Primary Discharge Point
B4	Not Applicable
B5 Map 7	Location of Storm Water Overflow Point
B6	Part 10 Planning
B7	Not Applicable
B8 Map 8	Location of Site Notice
B8	Site Notice and Advertisement
B9	Payment Attached
B10	Not Applicable
B11	Not Applicable
B12	Not Applicable
C1 Map 9	Location of WWTP
C1 Drg 1	Schematic Showing Treatment Plant Process
Section D2	Discharge Points
E2	Details of Accreditation or Certification of Analysis
E2	Details of Sampling results from Response Engineering
Section E3	Monitoring & Sampling Points
E4	Monitoring Data
F1	SWRBD Status Report Courtmacsherry Estuary Site Synopsis
F2	Not Applicable
G1	Not Applicable
G2	Not Applicable
G3	Not Applicable
G4	Not Applicable
Online Data	Online Data submitted to the EPA including Annex

Attachments Section A

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NOTES

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No.	Date	Drawn/Checked	Revision Description

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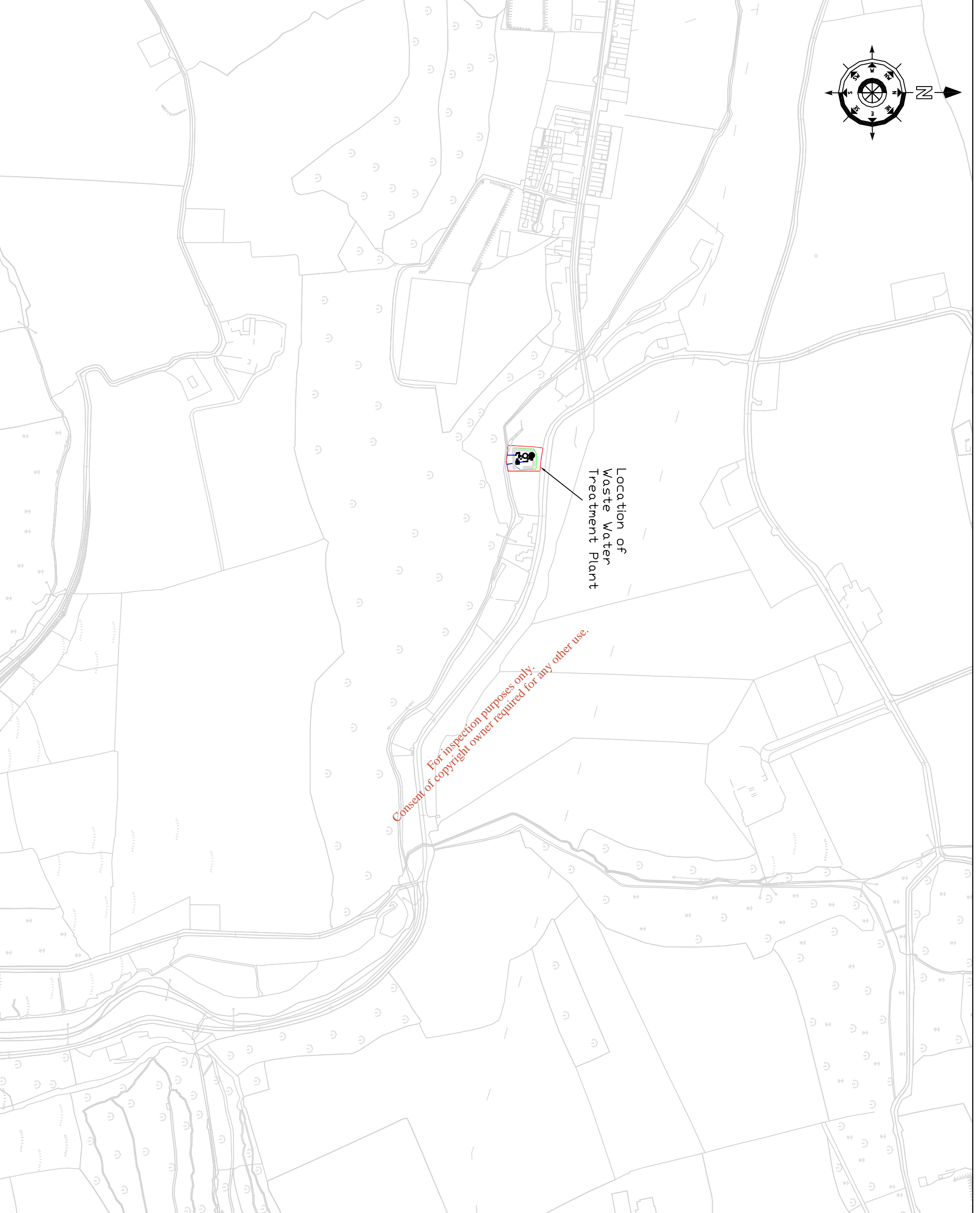
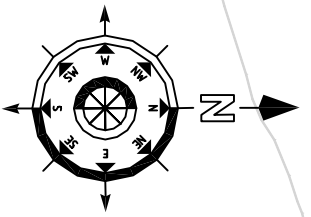


N. O'KEEFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Kilbrittain
Wastewater Discharge
Licence Application

Drawing Title:
Location Map
Attachment A1 - Map 1

Scale:	1:25000 @ A3	Surveyed by:	OC	Drawn by:	OC
Designed by:	TOH	Checked by:	MD	Date:	June 2009
Drawing number:	A1 - Map 1	Rev:	-		



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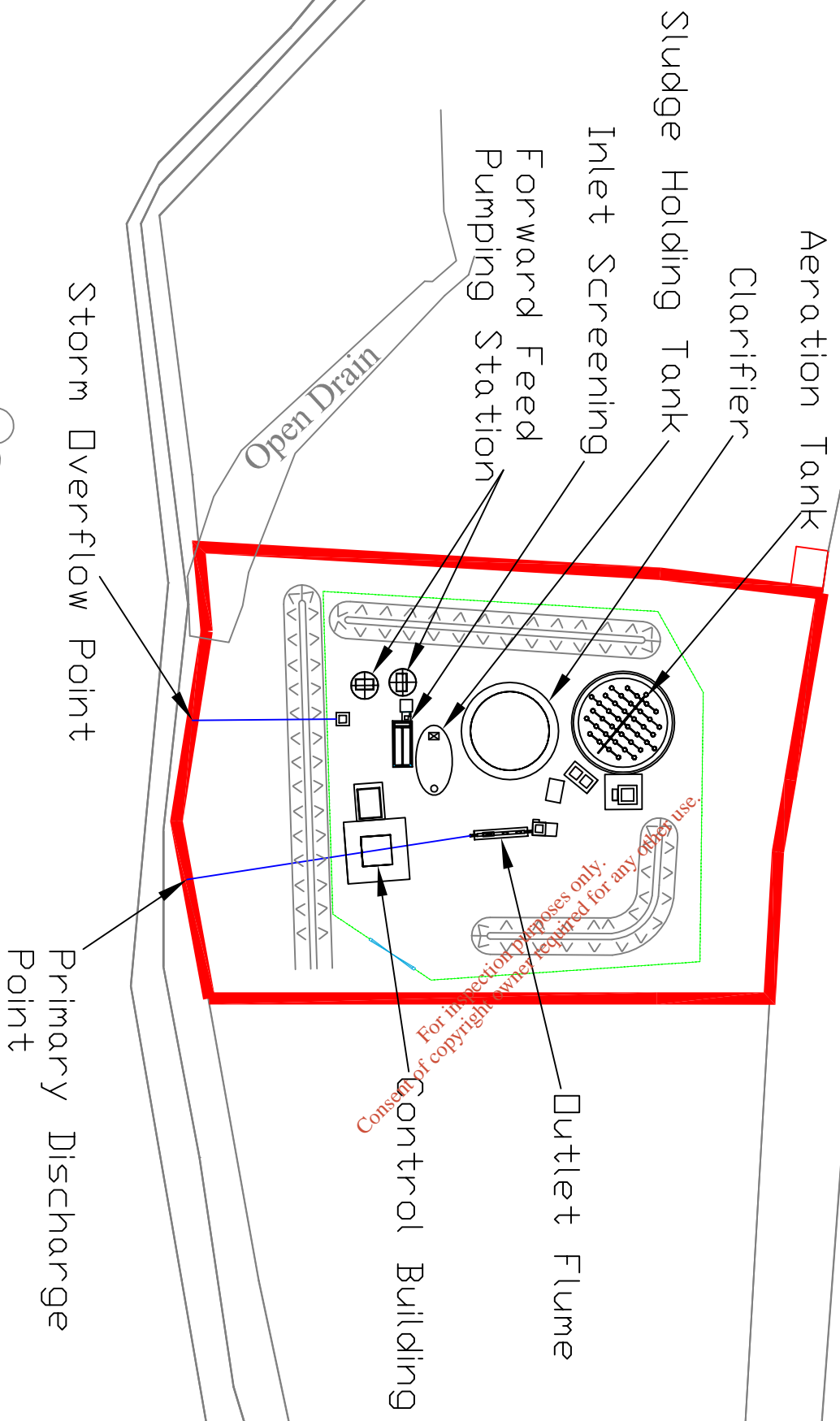
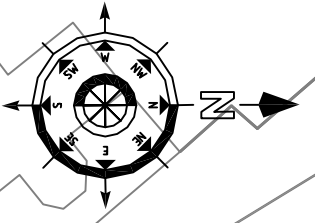


**N. O'KEEFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CDRJK.**

Job Title:
Kilbrittain
Wastewater Discharge
Licence Application

Drawing Title:
WWTP Location
Attachment A1 - Map 2

Scales: 1:5000 @ A3	Surveyed by: O.C.	Drawn by: O.C.
Designed by: T.O.H.	Checked by: MD	Date: June 2009
Drawing number: A1 - Map 2	Rev: -	



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COUNTY ENGINEER,
COUNTY HALL,
CDR.K.

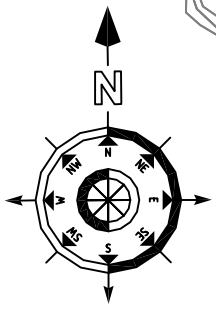
Job Title:
Kilbrittain
Wastewater Discharge
Licence Application

Drawing Title:
Site Layout
Attachment A1 - Map 3

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Designed by: T.O.H.	Checked by: M.D.	Date: June 2009
Drawing number: A1 - Map 3	Rev: -	

Attachments Section B

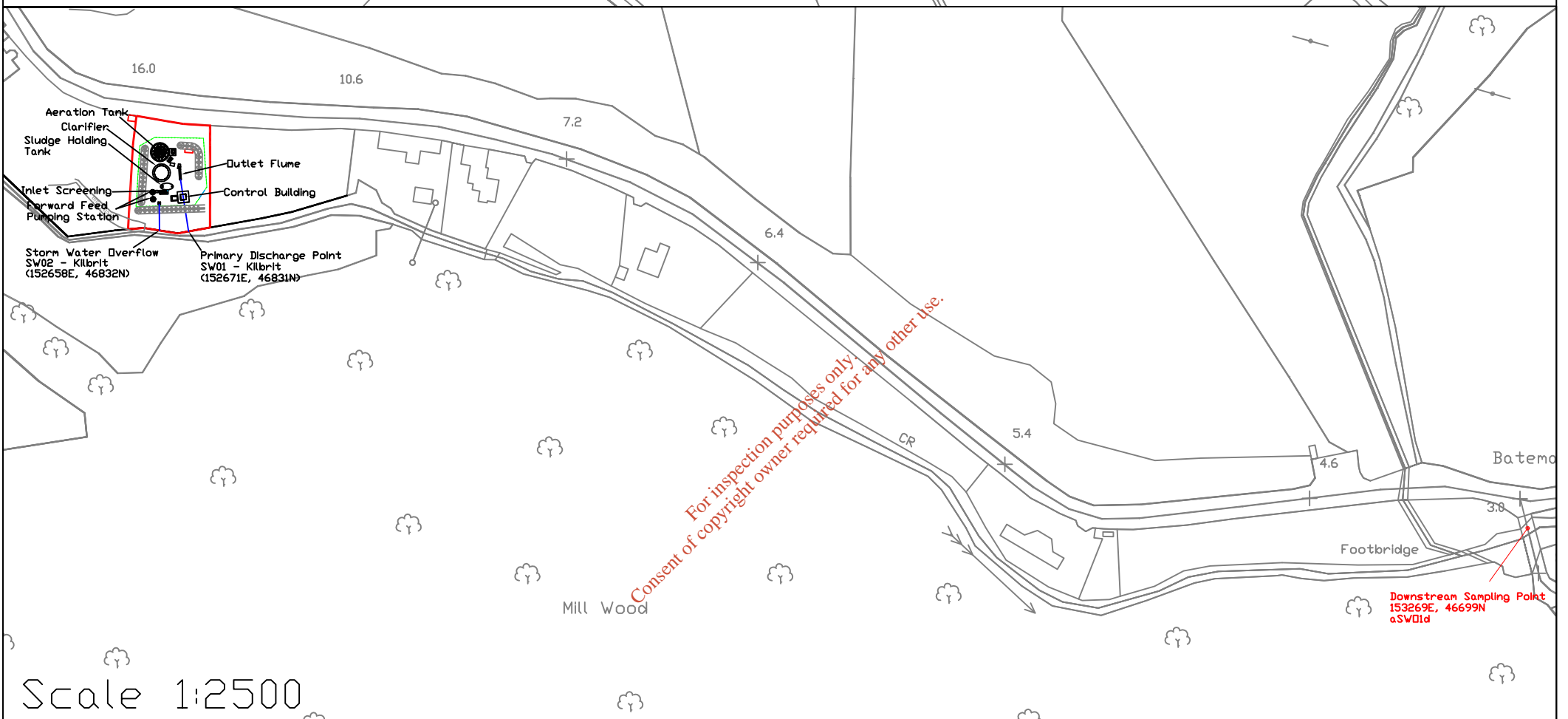
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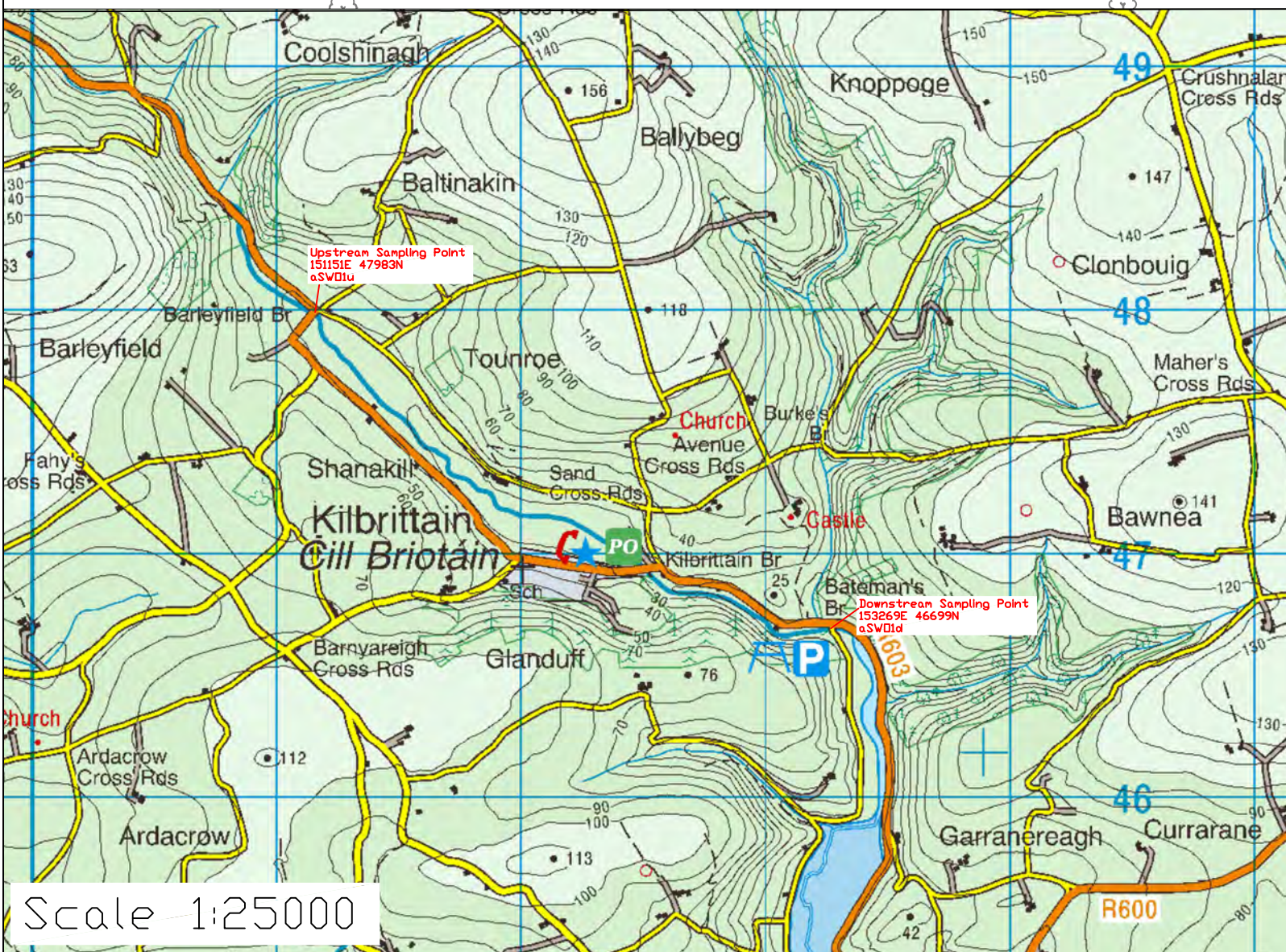
Barleyfield Bridge

Upstream Sampling Point
151151E, 47983N
aSW01u

Scale 1:2500



Scale 1:2500



Scale 1:25000

NOTES

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No.	Date	Drawn	Surv	Chkd	Revision	Description

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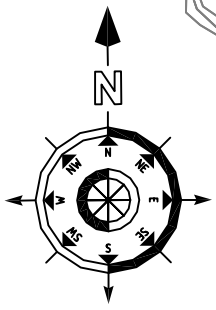


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COUNTY HALL,
CORK.

Job Title:
Kilbrittain
Wastewater Discharge
Licence Application

Drawing Title:
Location of W.W.T.P
(Attachment B2 - Map 5)

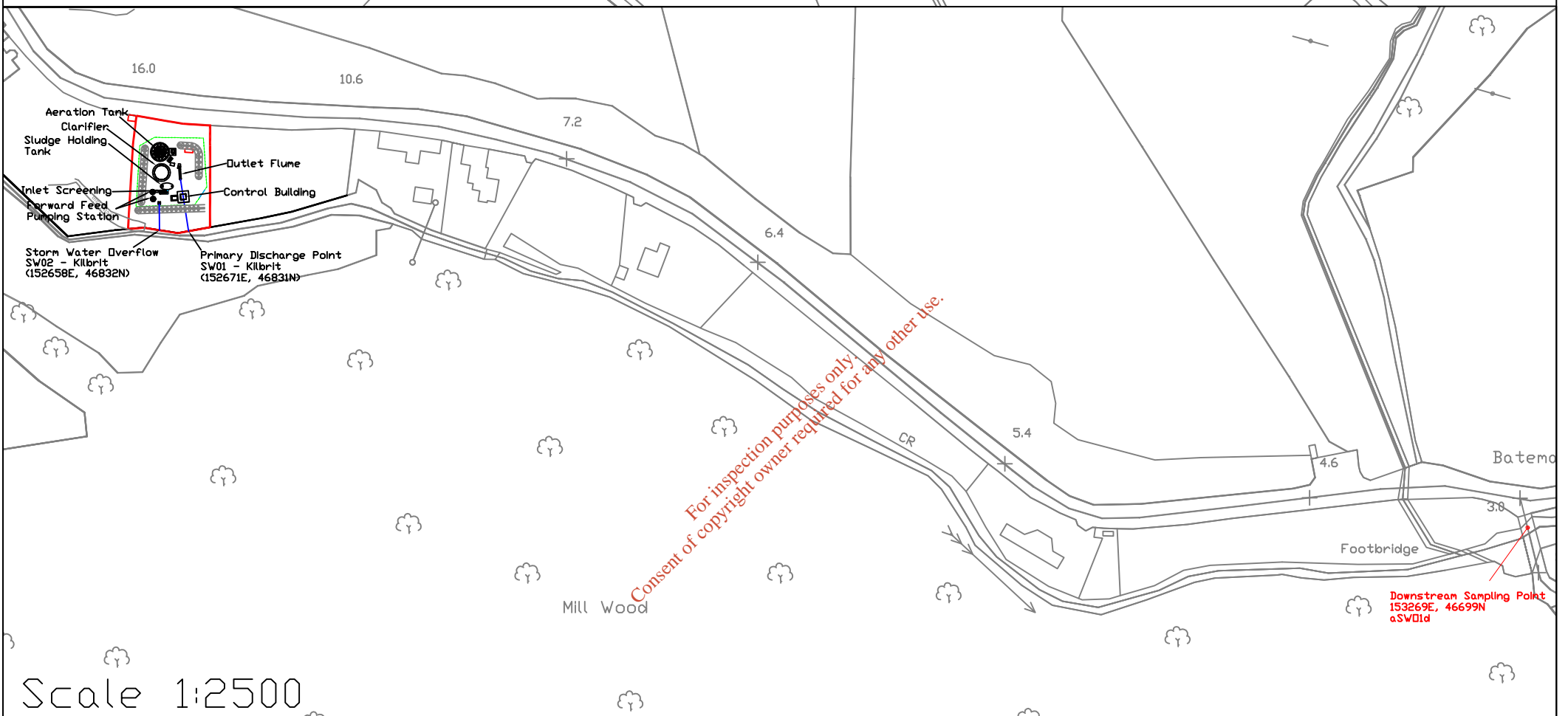
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Designed by: T.O.H	Checked by: MD	Date: June 2009
Drawing number: B2 - Map 5	Rev: -	



Barleyfield Bridge

Upstream Sampling Point
151151E, 47983N
aSW01u

Scale 1:2500



Scale 1:2500




Scale 1:25000

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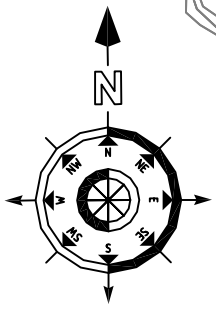
Cork County Council,
Sothern Devison.

 N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Kilbrittain
Wastewater Discharge
Licence Application

Drawing Title:
Location of Primary Discharge Point
Attachment B3 - Map 6

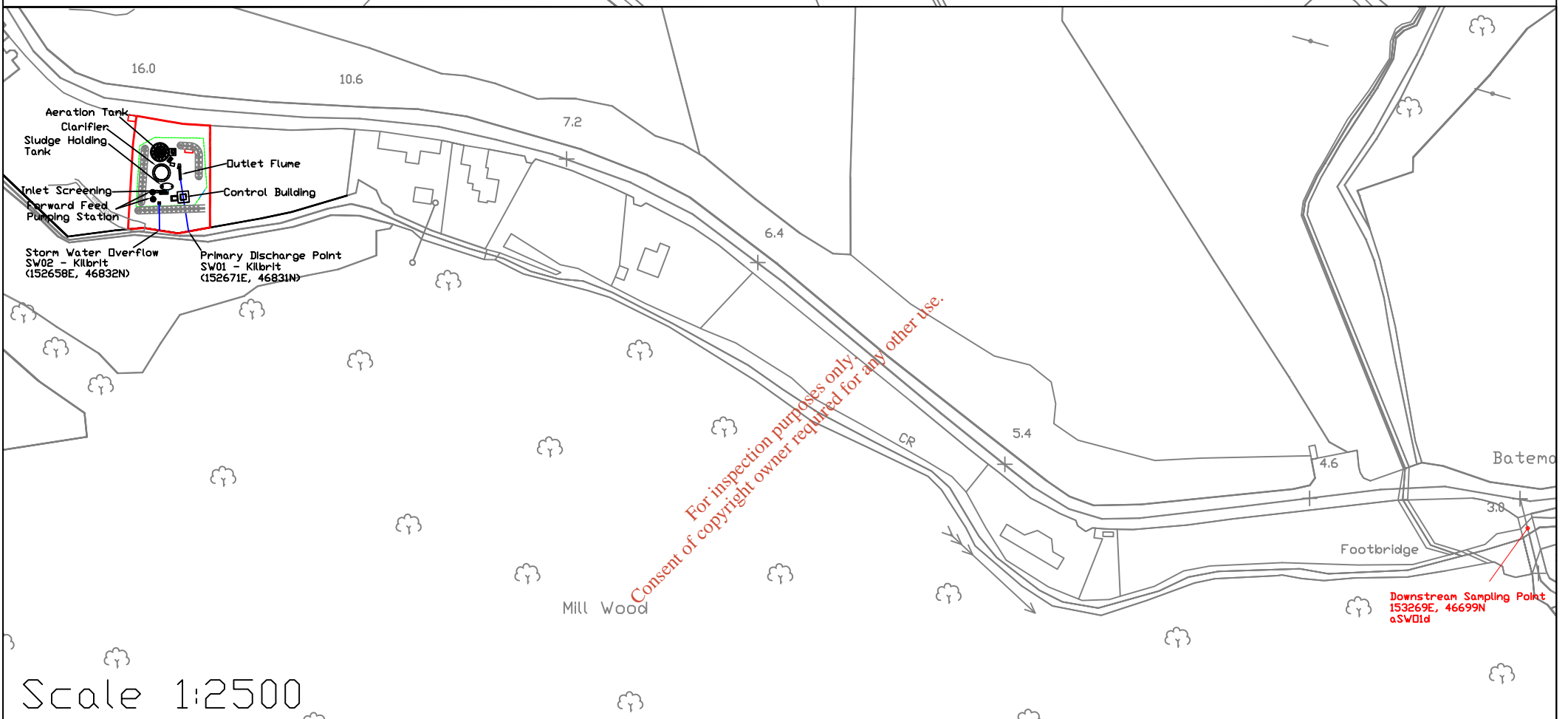
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Designed by: T.O.H	Checked by: MD	Date: June 2009
Drawing number: B3 - Map 6	Rev: -	



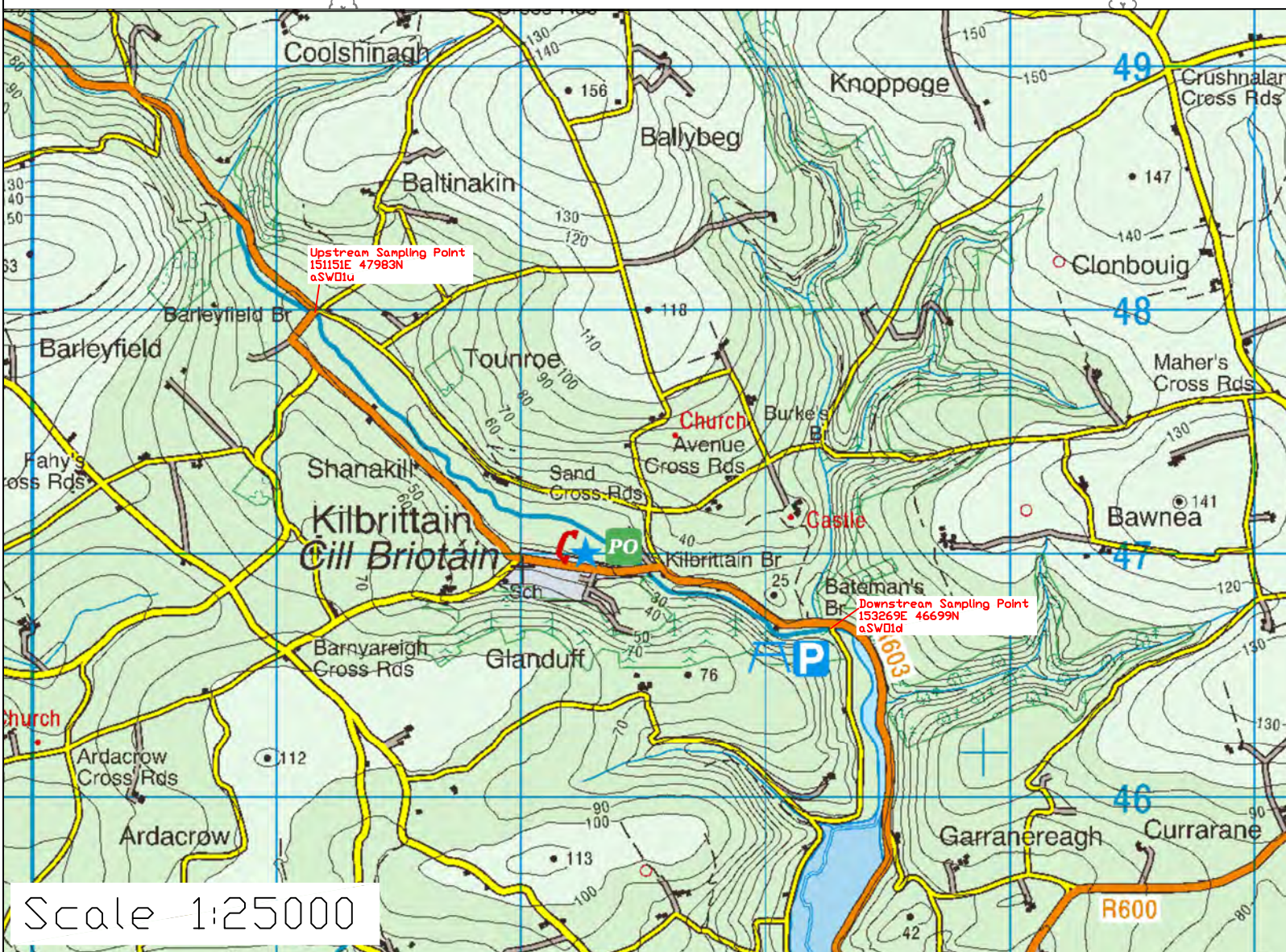
Barleyfield Bridge

Upstream Sampling Point
151151E, 47983N
aSW01u

Scale 1:2500



Scale 1:2500




Scale 1:25000

NOTES

1. Dimensions are not to be scaled from drawing. For any discrepancies found consult with the design office.
2. This drawing is to be read in conjunction with the Specification.
3. This drawing is to be read in conjunction with all other contract drawings.

No.	Date	Drawn	Surv	Chkd	Revision	Description

Cork County Council,
Sothern Devison.

 N. O'KEEFFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CORK.

Job Title:
Kilbrittain
Wastewater Discharge
Licence Application

Drawing Title:
Location of Storm Water Overflow Point
Attachment B5 - Map 7

Scales: As Shown	Surveyed by: O.C	Drawn by: O.C
Designed by: T.O.H	Checked by: MD	Date: June 2009
Drawing number: B5 - Map 7	Rev: -	

CORK COUNTY COUNCIL

(SOUTHERN COMMITTEE)

MINUTES OF PROCEEDINGS OF THE ORDINARY MEETING OF COMMITTEE HELD
IN COUNTY HALL, CORK,
ON MONDAY, 18th FEBRUARY, 2002, AT 11.00 A.M.

Attendance: Cllrs. P. Callanan; K. Murphy; A. Coleman; T. Ryan; G. Kelly; A. McNamara; S. Coveney, T.D.; B. O'Keeffe, T.D.; B. Cogan; D. Forde; D. Canty; P. Desmond; P. Kelly; M. Creed, T.D.; D. Moynihan, T.D.; F. Metcalfe; J. Mulvihill; M. Hegarty; N. Collins; M. Ahern; A. Supple & T. Murphy.

Mr. D. Barrett, Divisional Manager
Mr. Tom Stritch, Director of Services
Ms. Sharon Corcoran, Director of Services
Mr. M. Lavelle, Senior Executive Engineer
Mr. L. Cunningham, Administrative Officer
Ms. Mairead Lucey, Senior Staff Officer
Mr. D. Hayes, Senior Staff Officer
Ms. Claire Foley, Assistant Staff Officer

1. MINUTES

The draft minutes of the Ordinary Meeting of the Committee held on 21st January, 2002 were adopted on the proposal of Cllr. T. Murphy and seconded by Cllr. K. Murphy.

2. WATER & SEWERAGE CAPITAL PROGRAMME

A progress report on the Water and Sewerage Capital Programme prepared by Michael Lavelle, Senior Executive Engineer was laid before the meeting and noted.

The members raised various queries regarding the progress of individual schemes which were replied to by the Senior Executive Engineer.

3. DISPOSAL OF PROPERTY

The disposal of the following properties was recommended to the County Council on the proposal of Cllr. N. Collins which was seconded by Cllr. G. Kelly:-

- (a) Council's equity in Shared Ownership house at 47 Newton Court, Grange, Douglas, Cork.
- (b) Council's equity in Shared Ownership house at 1 West End, Carrigtwohill, Co. Cork.

4. LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) REGULATIONS, 1994.

Reports under the Local Government (Planning & Development) Regulations, 1994 were placed before the meeting in connection with;

<u>Location</u>	<u>Nature & Extent of Development</u>
Kilnamartyra	Construction of a Wastewater Secondary Treatment Unit

On the proposal of Deputy M. Creed and seconded by Deputy D. Moyuilhan it was agreed to recommend to the County Council that this development proceed in accordance with the report.

Kilbritten	Construction of Wastewater Secondary Treatment Plant plus a tertiary wetlands or equivalent
------------	---

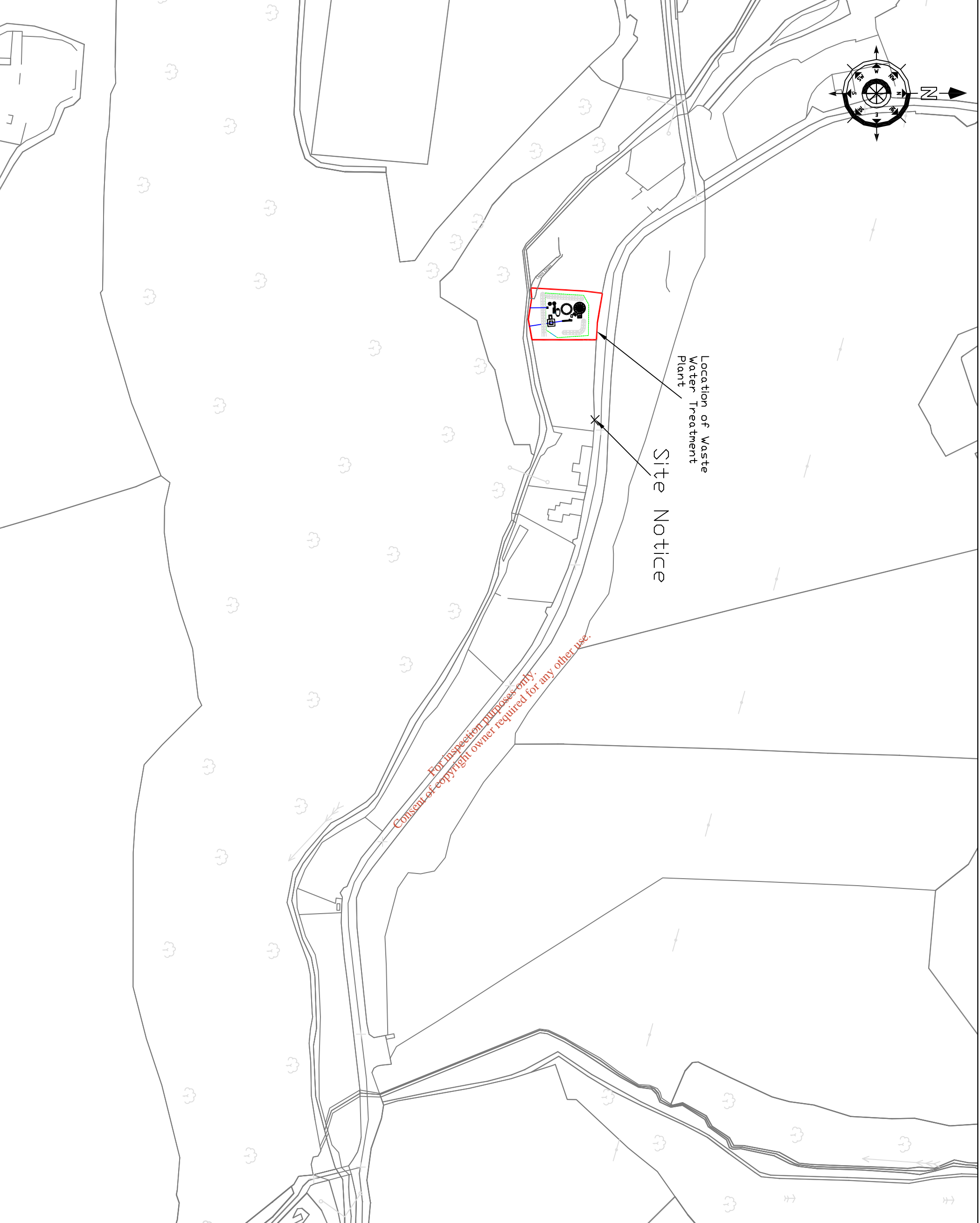
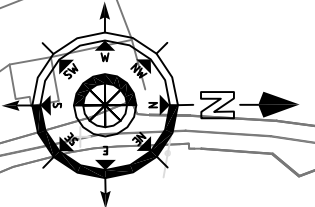
On the proposal of Councillor K. Murphy and seconded by Councillor A. Coleman it was agreed to recommend to the County Council that this development proceed in accordance with the report.

Ann Grove, Carrigtwohill	Construction of Water Pumphouse
--------------------------	---------------------------------

On the proposal of Councillor N. Collins and seconded by Councillor J. Mulvihill it was agreed to recommend to the County Council that this development proceed in accordance with the report.


5. DOMESTIC WATER GRANTS

A report setting out the position regarding the domestic water grants scheme as at the 13th February, 2002 was laid before the meeting and noted. The meeting was informed that two temporary Engineers had been recruited specifically to process the backlog of applications. It was noted that a substantial reduction in outstanding inspections had occurred between January and February, 2002.



NOTES

1. Dimensions are not to be scaled from drawing. For any discrepancies found consult with the design office.
2. This drawing is to be read in conjunction with the WWDL Application.
3. This drawing is to be read in conjunction with all other WWDL Application drawings.

 <p>Cork County Council, Southern Division.</p>		<p>N. O'KEEFE, B.E., COUNTY ENGINEER, COUNTY HALL, CDR.K.</p>																									
<p>Job Title: Kilbrittain Wastewater Discharge Licence Application</p>																											
<p>Drawing Title: Site Notice Location Attachment B8 - Map 8</p>																											
<p>Scales: 1:2500 @ A3</p>		<p>Drawn by: O.C.</p>																									
<p>Designed by: T.O.H</p>		<p>Checked by: M.D</p>																									
<p>Drawing number: B8 - Map 8</p>		<p>Date: June 2009</p>																									
		<p>Rev: -</p>																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Drawn/Checked</th> <th>Revision Description</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				No.	Date	Drawn/Checked	Revision Description																				
No.	Date	Drawn/Checked	Revision Description																								



CORK COUNTY COUNCIL

SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, Water Services Southern Division of Cork County Council, Carrigrohane Road, Cork is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the Agglomeration of Kilbrittain at the following locations:

Plant Name	Location	National Grid Ref.
Kilbrittain WWTP	Kilbrittain	E152671 N46849

Discharge	Function	Townland	Receptor	Grid Reference
Primary	Main	Kilbrittain	Kilbrittain River	E152671 N46831

A copy of the application for the Waste Water Discharge Licence and such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the Application shall as soon as is practicable after receipt by the Agency be available for inspection or purchase at the

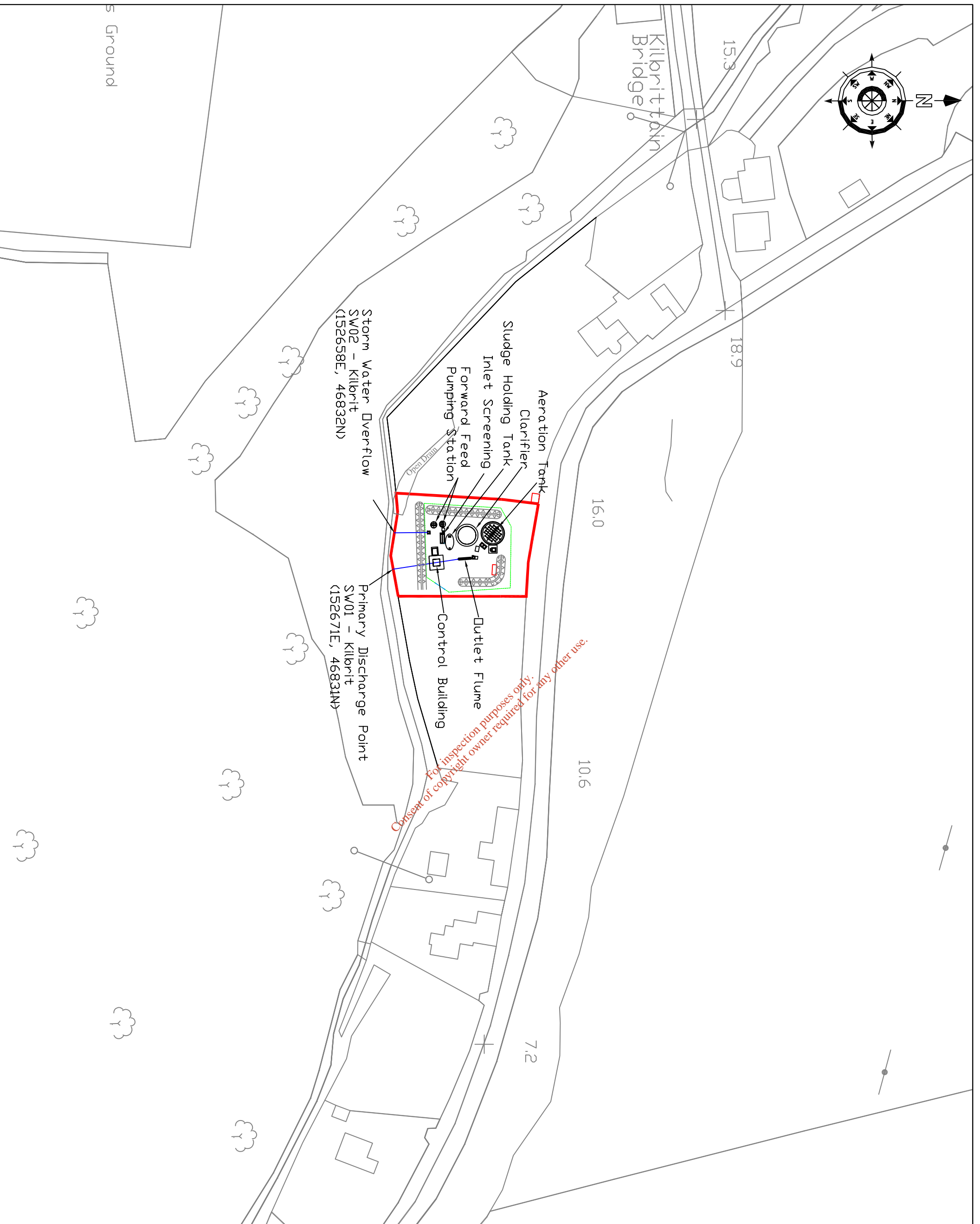
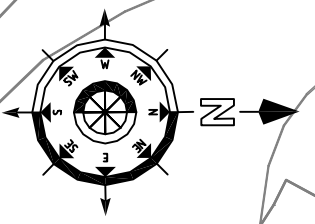
- **Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335599 Telephone: 053-9160600 Fax: 053-9160699 Email: info@epa.ie**
and at

- **Cork County Council Offices, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Telephone: 021 - 4276891 Fax: 021 - 4276321.**

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters described above


Attachments Section C

*For inspection purposes only.
Consent of copyright owner required for any other use.*

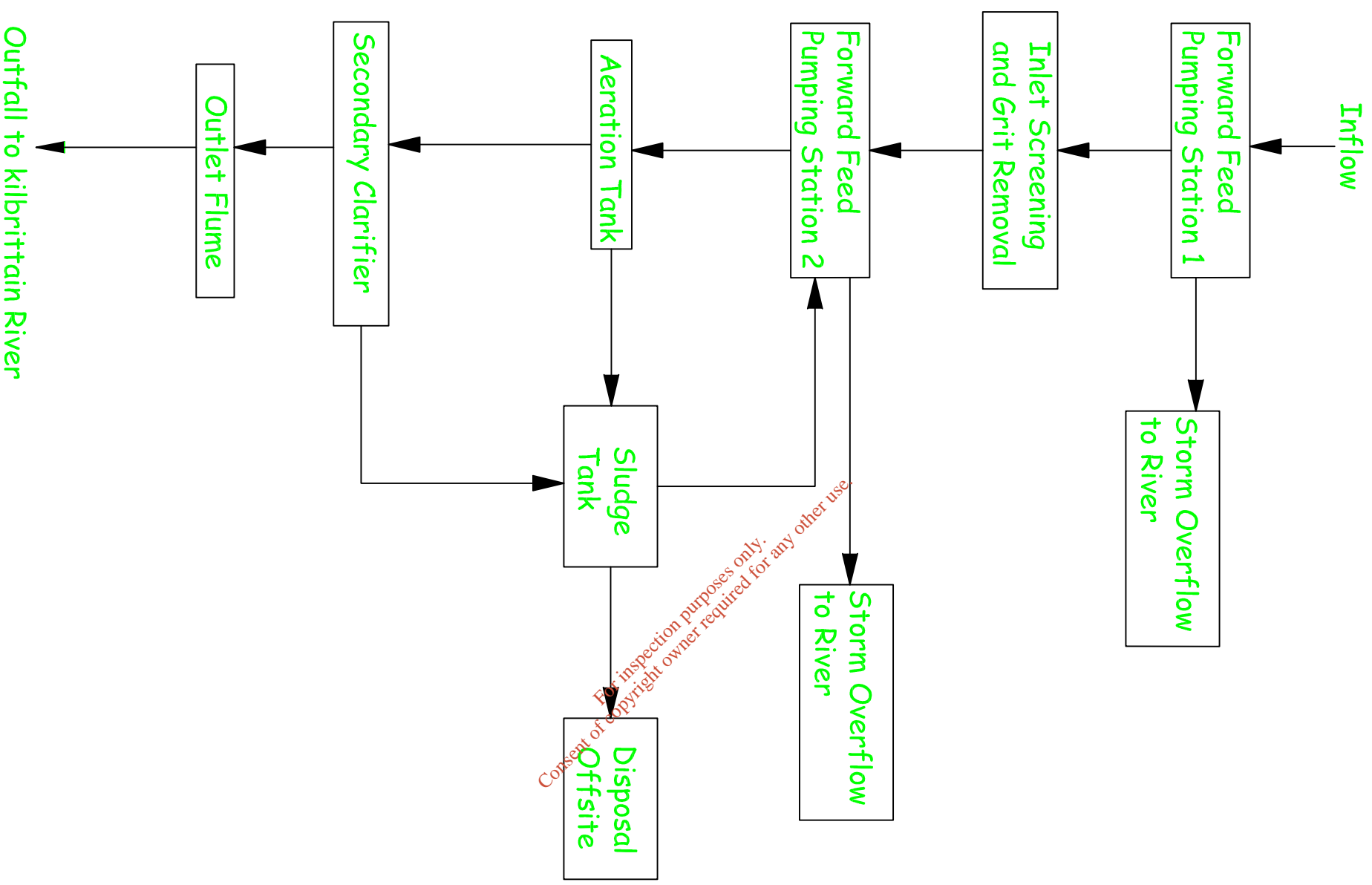


NOTES

1. Dimensions are not to be scaled from drawing. For any discrepancies found consult with the design office.
2. This drawing is to be read in conjunction with the WWDL Application.
3. This drawing is to be read in conjunction with all other WWDL Application drawings.

 <p>Cork County Council, Southern Division.</p>		<p>N. O'KEEFE, B.E., COUNTY ENGINEER, COUNTY HALL, CDR.K.</p>	
<p>Job Title: Kilbrittain Wastewater Discharge Licence Application</p>			
<p>Drawing Title: Location of WWTP Attachment C1 - Map 9</p>			
<p>Scales: 1:1250 @ A3</p>		<p>Drawn by: O.C.</p>	
<p>Designed by: T.O.H</p>		<p>Checked by: MD</p>	
<p>Drawing number: C1 - Map 9</p>		<p>Date: June 2009</p>	
		<p>Rev: -</p>	

- NOTES**
1. Dimensions are not to be scaled from drawing.
 2. This drawing is to be read in conjunction with the WWDL Application.
 3. This drawing is to be read in conjunction with all other application drawings.



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No.	Date	Drawn/Checked	Revision Description

Cork County Council,
Southern Division.



N. O'KEEFE, B.E.,
COUNTY ENGINEER,
COUNTY HALL,
CDRJK.

Job Title:
Kilbrittain
Wastewater Discharge
Licence Application

Drawing Title:
Schematic Showing
Treatment Plant Process
Attachment C1 - Drawing 1

Scales:		Drawn by:	
Not to Scale	O.C.	O.C.	O.C.
Designed by:	Checked by:	Date:	Rev.
T.O.H.	MD	June 2009	-
Drawing number:		Rev.	
C1 - Drawing 1		-	

Attachments Section D

*For inspection purposes only.
Consent of copyright owner required for any other use.*

Attachments Section E

*For inspection purposes only.
Consent of copyright owner required for any other use.*

Accreditation Certificate

Cork County Council

Wastewater Testing Laboratory, Inniscarra, Co. Cork

Testing Laboratory

Registration number: **016T**

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard ISO/IEC 17025:2005 2nd Edition "General Requirements for the Competence of Testing and Calibration Laboratories"
(This Certificate must be read in conjunction with the Annexed Schedule of Accreditation)

Date of award of accreditation: **01:10:2002**

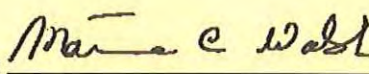
Date of last renewal of accreditation: **20:09:2007**

Expiry date of this certificate of accreditation: **20:09:2012**

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

Manager: 

Mr Tom Dempsey

Chairperson: 

Dr Máire Walsh

Issued on 20th September 2007

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

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

Schedule of Accreditation



(Annex to Accreditation Certificate)

Permanent Laboratory:
Category A

CORK COUNTY COUNCIL

Chemistry Testing Laboratory

Initial Registration Date : 25-April-1991
Postal Address: Waste Water Laboratory
(Address of other locations as they apply) Inniscarra
Co. Cork
Telephone: +353 (21) 4532700
Fax: +353 (21) 4532777
E-mail:
Contact Name: Ms M Cherry
Facilities: Normally not available for Public testing

Schedule of Accreditation



Permanent Laboratory:
Category A

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

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

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

Testing and Calibration Categories:

- Category A:** Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.
- Category B:** Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.
- Category C:** Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.
- Category D:** Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using
- (a) portable test equipment
 - (b) a site laboratory
 - (c) a mobile laboratory or
 - (d) equipment from a mobile or site laboratory

Standard Specification or Test Procedure Used:

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

Glossary of Terms

Facilities:

- Public calibration/testing service:** Commercial operations which actively seek work from others.
- Conditionally available for public calibration/testing:** Established for another primary purpose but, more commonly than not, is available for outside work.
- Normally not available for public calibration/testing:** Unavailable for public calibration/testing more often than not.

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

Scope of Accreditation



Cork County Council
Chemical Testing Laboratory

Permanent Laboratory:
 Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters	Chemical analysis:	Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)
.01 Waters for domestic purposes Surface and ground waters	Biochemical Oxygen Demand 2 - 145,000 mg/l	CP No. 1 Membrane electrode
	Chloride 5 - 1,000 mg/l	CP No. 7 Argentometric method
	ph 2 - 12	CP No. 5 Electrometry
	Suspended Solids 0.5 - 17,500 mg/l	CP No. 3 Gravimetric
	Chemical Oxygen Demand 21 - 135 mg/l 120 - 670,000 mg/l	CP No. 6 Reflux - colourmetric method
	Total phosphorus 0.2 - 5,300 mg/l	US-EPA Approved method/HACH Method CP No.20
	Ammonia 0.1 - 1,000 mg/l NH ₃ - N	Documented in-house method CP22 by Konelab based on Method for the Examination of Waters and Associated Material HMSO:1981

Scope of Accreditation



Cork County Council
Chemical Testing Laboratory

Permanent Laboratory:
 Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters .01 Waters for domestic purposes <i>Surface and ground waters</i>	Orthophosphate as P (Konelab) Range: 0.005-1.00 mg O-PO4 P/L High Range: 1000 mg O-PO4 P/L Method Detection Limit: 0.02 mg O-PO4 P/L Chloride (Konelab) Range: 25-250 mg/L Cl- High Range Conc.: 86,000 mg/L Cl- Method Detection Limit: 25 mg/L Cl- Sulphate (Konelab) Range: 30-250 mg/L SO4/L High Range Conc.: 35,000 mg/L SO4/L Method Detection Limit: 30 mg SO4/L	CP No. 23 Ascorbic Acid Method CP No. 24 Ferricyanide Method CP No. 25 Documented in-house method by Konelab based on method for the examination of waters and waste waters and associated material HMSO: 1981

Scope of Accreditation



Cork County Council Chemical Testing Laboratory

Permanent Laboratory:
Category A

INAB Classification number (P9)	Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters	Chemical analysis	Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)
.05	Trade Wastes <i>Industrial effluents</i> <i>Urban Wastewater</i> <i>Municipal Wastewater</i>	Biochemical Oxygen Demand 2 - 145,000 mg/l Chloride 5 - 1,000 mg/l pH 2 - 12 Suspended Solids 0.5 - 17,500 mg/l Chemical Oxygen Demand 21 - 135 mg/l 120 - 670,000 mg/l Total phosphorus 0.2 - 5,300 mg/l Ammonia 0.1 - 1,000 mg/l NH3-N	CP No. 1 Membrane electrode CP No. 7 Argentometric method CP No. 5 Electrometry CP No. 3 Gravimetric CP No. 6 Reflux - colourmetric method US-EPA Approved method/HACH Method CP No.20 Documented in-house method CP22 by Konelab based on Method for the Examination of Waters and Associated Material HMSO: 1981.

Notes

1. APHA American Public Health Association, USA, 21st Edition

Scope of Accreditation



Cork County Council

Permanent Laboratory:

Chemical Testing Laboratory

Category A

INAB Classification number (P9)	Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters	Chemical analysis	Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)
.05	Trade Wastes <i>Industrial effluents</i> <i>Urban Wastewater</i> <i>Municipal Wastewater</i>	<p>Orthophosphate as P (Konelab)</p> <p>Range: 0.005 - 1.00 mg O-PO4 P/L</p> <p>High Range: 1000 mg O-PO4 P/L</p> <p>Method Detection Limit: 0.02 mg O-PO4 P/L</p> <p>Chloride (Konelab)</p> <p>Range: 25-250 mg/L Cl-</p> <p>High Range Conc.: 86,600 mg /L Cl-</p> <p>Method Detection Limit: 25mg / L Cl-</p> <p>Sulphate (Konelab))</p> <p>Range: 30-250 mg/L SO4 /L</p> <p>High Range Conc.: 35,000 mg/L SO4 /L</p> <p>Method Detection Limit: 30 mg SO4 /L</p>	<p>CP No. 1 Membrane electrode</p> <p>CP No. 23 Ascorbic Acid Method</p> <p>CP No. 24 Ferricyanide Method</p> <p>CP No. 25 Documented in-house method by Konelab based on method for the examination of waters and waste waters and associated material HMSO: 1981</p>

Notes

1. APHA American Public Health Association, USA, 21st Edition

Issue Code	PMS CK08
Date	30/1/2009
Originator	A Johnston
Authorised by	E. Brennan

**Annual Status Report
2008**



**EXECUTIVE SUMMARY
Kilbriain WWTP
2008**

Flows		
Parameter	Average	Design
	M ³ /d	M ³ /d
Flow	75	144
PE (Flow)	318	800
PE (BOD)	130	800

Process Calculations		
Average MLSS	2550	Mg/l
Plant Volume	116	M3
Total Biomass	296	kg
Daily BOD load	9.70	kg
FM Ratio	0.02	

Results Summary			
Annual Average	Inlet	Effluent	
	Average	Average	STD
			Mg/l
COD	273	29	125
BOD	129	8	20
SS	113	13	30
TP	6	1.3	2

Appendix C

Issue Code	PMS CK08
Date	30/1/2009
Originator	A. Johnston
Authorised by	E. Brennan

**Annual Status Report
2008**



Kilbriain WWTP				COD (mg/l)		BOD ₅ (mg/l)		SS (mg/l)		TP (mg/l)		pH			AT		
Standard				125		20		30		2							
Date	PE (Flow)	PE (BOD)	F:M	Inlet	Eff	Inlet	Eff	Inlet	Eff	Inlet	Eff	Inlet	AT	Eff	MLSS (mg/l)	SV ₃₀ (ml/l)	SVI (ml/g)
January																	
Average	122	20	0.005	123	24	50	8	69	21	1.5	0.1	6.92	6.55	6.86	2534	825	384
February																	
Average	20	19	0.005	608	46	281	15	160	11	2.8	0.8	7.00	6.91	7.08	1898	713	463
March																	
Average	71	20	0.005	365	35	166	11	115	16	2.2	0.5	6.96	6.73	6.97	2216	769	423
April																	
Average	0	0	0.000	193	35	92	11	116	16	1.7	0.6	7.05	6.73	7.08	1865	838	454
May																	
Average	240	76	0.015	203	32	95	8	97	18	4.5	0.58	7.07	6.79	6.91	2771	788	289
June																	
Average	120	38	0.008	198	34	94	10	106	17	3.1	1	7.06	6.76	6.99	2318	813	371
July																	
Average	300	83	0.025	173	20	83	6	60	15	11	2	7.05	6.65	6.76	2026	450	222
August																	
Average	210	61	0.016	185	27	88	8	83	16	7	1	7.06	6.71	6.88	2172	631	296
September																	
Average	255	72	0.021	179	24	86	7	72	15	9.0	1.65	7.05	6.68	6.82	2099	541	259
October																	
Average	942	262	0.045	171	20	84	6	99	5	4.6	2	7.10	6.74	6.85	3060	300	99
November																	
Average	677	401	0.054	366	23	178	6	167	5	7.6	1.9	7.19	6.81	6.87	3812	350	92
December																	
Average	663	401	0.05	366	23	178	6	167	5	7.6	1.9	7.19	6.81	6.87	3812	350	92
Annual Average	318	130	0.02	273	29	129	8	113	13	6	1.3	7.07	6.76	6.92	2550	595	278
% Compliance					100		100		100		100						

Issue Code	PMS CK09	Monthly Status Report Mar-2009	
Date	16/4/2009		
Originator	A. Johnston		
Authorised by	E. Brennan		

**EXECUTIVE SUMMARY
Kilbriain WWTP
Mar-09**

Flows		
Parameter	Average	Design
	M³/d	M³/d
Flow	94	144
PE (Flow)	472	800
PE (BOD)	348	800

Process Calculations		
Average MLSS	298	Mg/l
Plant Volume	116	M3
Total Biomass	346	kg
Daily BOD load	21	kg
FM Ratio	0.07	

Results Summary							
	Inlet			Effluent			
	Max	Min	Ave	Max	Min	Ave	STD
	Mg/l	Mg/l	Mg/l	Mg/l	Mg/l	Mg/l	Mg/l
COD	629	355	466	64	22	42	125
BOD	304	166	222	19	6	12	25
SS	235	40	113	30	23	26	30
TP	10.0	7.0	9.0	4.7	3.8	4.3	2

Appendix B

Issue Code	PMS CK09	Monthly Status Report Mar-2009	
Date	16/4/2009		
Originator	A. Johnston		
Authorised by	E. Brennan		

Kilbriain WWTP				COD (mg/l)		BOD ₅ (mg/l)		SS (mg/l)		TP(mg/l)		pH			AT		
Date	PE (Flow)	PE (BOD)	F:M	Inlet	Eff	Inlet	Eff	Inlet	Eff	Inlet	Eff	Inlet	AT	Eff	MLSS (mg/l)	SV ₃₀ (ml/l)	SVI (ml/g)
Standards					125		25		30		2						
7/1/2008	936	826	0.181	569	58	265	19	146	11			7.12	7.36	6.98	2358	450	283
14/1/2008	936	100	0.010	73	39	32	11	55	27			6.61	6.32	6.06	5050	550	584
21/1/2008	936	234	0.023	182	28	75	9	38	7	3.3	1.9	7.18	6.96	7.07	5250	600	208
28/1/2008	936	159	0.016	113	37	51	12	28	9			7.01	6.64	6.82	5068	550	459
Average	936	330	0.058	234	41	106	13	67	14	3.3	1.9	6.98	6.82	6.73	4432	538	384
Max	936	826	0.181	569	58	265	19	146	27	3.3	1.9	7.18	7.36	7.07	5250	600	584
Min	936	100	0.010	73	28	32	9	28	7	3.3	1.9	6.61	6.32	6.06	2358	450	208
% Compliance					100		100		100		100						
2/2/2009	599	170	0.020	183	38	85	10	124	14	1	0.1	7.58	6.81	6.92	4382	600	283
9/2/2009	599	138	0.016	145	18	69	4	66	10.6			7.26	6.73	6.74	4456	800	584
16/2/2009	599	356	0.106	396	23	178	6	52	26			7.79	6.49	6.15	1738	600	208
23/2/2009	599	218	0.073	220	60	106	23	56	25			7.25	6.83	6.47	1540	700	459
Average	599	221	0.054	236	35	110	11	75	19	1	0.1	7.47	6.72	6.57	3029	675	384
Max	599	356	0.106	396	60	178	23	124	26	1	0.1	7.79	6.83	6.92	4456	800	584
Min	599	138	0.016	145	18	69	4	52	11	1	0.1	7.25	6.49	6.15	1540	600	208
% Compliance					100		100		100		100						
2/3/2009	472	468	0.057	622	55	299	16	235	23	10.2	4.7	7.26	6.11	6.48	4264	600	283
9/3/2009	472	260	0.095	361	26	166	8	143	25	7.3	3.8	7.5	6.73	6.34	1420	650	584
16/3/2009	472	260	0.037	355	42	166	12	78	28			7.46	6.71	6.4	3614	700	584
23/3/2009	472	276	0.045	363	22	176	6	69	30			7.34	6.86	6.69	3174	800	208
30/3/2009	472	476	0.100	629	64	304	19	40	24			7.36	6.89	7.09	2456	850	459
Average	472	348	0.07	466	42	222	12	113	26	9	4.3	7.38	6.66	6.60	2986	720	424
Max	472	476	0.10	629	64	304	19	235	30	10	4.7	7.50	6.89	7.09	4264	850	584
Min	472	260	0.04	355	22	166	6	40	23	7	3.8	7.26	6.11	6.34	1420	600	208
% Compliance					100		100		100		0						

Issue Code	PMS CK09	Monthly Status Report Apr-2009	
Date	15/5/2009		
Originator	A. Johnston		
Authorised by	E. Brennan		

**EXECUTIVE SUMMARY
Kilbriain WWTP
Apr-09**

Flows		
Parameter	Average	Design
	M ³ /d	M ³ /d
Flow	102	144
PE (Flow)	509	800
PE (BOD)	276	800

Process Calculations		
Average MLSS	3302	Mg/l
DO	2.1	
Plant Volume	116	M3
Total Biomass	383	kg
Daily BOD load	17	kg
FM Ratio	0.04	

Results Summary							
	Inlet			Effluent			
	Max	Min	Ave	Max	Min	Ave	STD
	Mg/l	Mg/l	Mg/l	Mg/l	Mg/l	Mg/l	Mg/l
COD	514	181	357	48	32	42	125
BOD	223	70	162	18	9	13	25
SS	184	23	76	29	2	17	30
TP	9.7	9.7	9.7	5.6	5.6	5.6	2

Appendix B

Issue Code	PMS CK09	Monthly Status Report Apr-2009	
Date	15/5/2009		
Originator	A. Johnston		
Authorised by	E. Brennan		

Kilbrittain WWTP				COD (mg/l)		BOD ₅ (mg/l)		SS (mg/l)		TP(mg/l)		pH			AT			
Date	PE (Flow)	PE (BOD)	F:M	Inlet	Eff	Inlet	Eff	Inlet	Eff	Inlet	Eff	Inlet	AT	Eff	DO	MLSS (mg/l)	SV ₃₀ (ml/l)	SVI (ml/g)
Standards					125		25		30		2							
2/2/2009	599	170	0.020	183	38	85	10	124	14	1	0.1	7.58	6.81	6.92		4382	600	283
9/2/2009	599	138	0.016	145	18	69	4	66	10.6			7.26	6.73	6.74		4456	800	584
16/2/2009	599	356	0.106	396	23	178	6	52	26			7.79	6.49	6.15		1738	600	208
23/2/2009	599	218	0.073	220	60	109	23	56	25			7.25	6.83	6.47		1540	700	459
Average	599	221	0.054	236	35	110	11	75	19	1	0.1	7.47	6.72	6.57		3029	675	384
Max	599	356	0.106	396	60	178	23	124	26	1	0.1	7.79	6.83	6.92		4456	800	584
Min	599	138	0.016	145	18	69	4	52	11	1	0.1	7.25	6.49	6.15		1540	600	208
% Compliance					100		100		100		100							
2/3/2009	472	468	0.057	622	55	299	16	235	23	10.2	4.7	7.26	6.11	6.48		4264	600	283
9/3/2009	472	260	0.095	361	26	166	8	143	25	7.3	3.8	7.5	6.73	6.34		1420	650	584
16/3/2009	472	260	0.037	355	42	166	12	78	28			7.46	6.71	6.4		3614	700	584
23/3/2009	472	276	0.045	363	22	176	6	69	30			7.34	6.86	6.69		3174	800	208
30/3/2009	472	476	0.100	629	64	304	19	40	24			7.36	6.89	7.09		2456	850	459
Average	472	348	0.07	466	42	222	12	113	26	9	4.3	7.38	6.66	6.60		2986	720	424
Max	472	476	0.10	629	64	304	19	235	30	10	4.7	7.50	6.89	7.09		4264	850	584
Min	472	260	0.04	355	22	166	6	40	23	7	3.8	7.26	6.11	6.34		1420	600	208
% Compliance					100		100		100		0							
6/4/2009	509	379	0.045	514	48	223	18	23	9			7.39	6.89	7.12	3.24	4376	650	283
14/4/2009	509	119	0.036	181	43	70	13	51	29			7.36	6.41	7.29	4.71	1704	400	584
20/4/2009	509	342	0.041	413	32	201	9	184	2	9.7	5.6	7.17	6.74	6.14	3.99	4290	650	208
27/4/2009	509	264	0.048	319	43	155	11	44	29			7.35	6.85	6.43	4.33	2838	600	459
Average	509	276	0.04	357	42	162	13	76	17	9.7	5.6	7.32	6.72	6.75	4.07	3302	575	384
Max	509	379	0.05	514	48	223	18	184	29	9.7	5.6	7.39	6.89	7.29	4.71	4376	650	584
Min	509	119	0.04	181	32	70	9	23	2	9.7	5.6	7.17	6.41	6.14	3.24	1704	400	208
% Compliance					100		100		100		0							

Attachment E4 Kilbrittain Inlet Table E4		
Sample Date	7/5/2009	
Sample	Influent	Average
Sample Code	GT623	
Flow M ³ /Day	*	*
pH	8.4	8.4
Temperature °C	*	*
Cond 20°C	832	832
SS mg/L	125	125
NH ₃ mg/L	58.7	58.7
BOD mg/L	151	151
COD mg/L	393	393
TN mg/L	76.1	76.1
Nitrite mg/L	0.54	0.54
Nitrate mg/L	0.29	0.29
TP mg/L	10.08	10.08
O-PO4-P mg/L	7.36	7.36
SO4 mg/L	39.9	39.9
Phenols µg/L	<0.10	<0.10
Atrazine µg/L	<0.01	<0.01
Dichloromethane µg/L	<1	<1
Simazine µg/L	<0.01	<0.01
Toluene µg/L	<0.28	<0.28
Tributyltin µg/L	not required	not required
Xylenes µg/L	<1	<1
Arsenic µg/L	<0.96	<0.96
Chromium ug/L	<20	<20
Copper ug/L	95	95
Cyanide µg/L	<5	<5
Fluoride µg/L	<100	<100
Lead ug/L	<20	<20
Nickel ug/L	<20	<20
Zinc ug/L	95	95
Boron ug/L	<20	<20
Cadmium ug/L	<20	<20
Mercury µg/L	<0.2	<0.2
Selenium µg/L	2.2	2.2
Barium ug/L	<20	<20

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Attachment E4 Kilbrittain Discharge Outlet Table E4

Sample Date	7/5/2009			
Sample	Effluent	Average	Kg/Day	Kg/year
Sample Code	GT622			
Flow M ³ /Day	*			
pH	5.7	5.7		
Temperature °C	*	*		
Cond 20°C	556	556		
SS mg/L	15	15		
NH ₃ mg/L	<0.1	<0.1		
BOD mg/L	4	4		
COD mg/L	35	35		
TN mg/L	41.2	41.2		
Nitrite mg/L	<0.10	<0.10		
Nitrate mg/L	39.15	39.15		
TP mg/L	5.49	5.49		
O-PO ₄ -P mg/L	4.99	4.99		
SO ₄ mg/L	33.8	33.8		
Phenols µg/L	<0.10	<0.10		
Atrazine µg/L	<0.01	<0.01		
Dichloromethane	<1	<1		
Simazine µg/L	<0.01	<0.01		
Toluene µg/L	<0.28	<0.28		
Tributyltin µg/L	not required	not required		
Xylenes µg/L	<1	<1		
Arsenic µg/L	<0.96	<0.96		
Chromium ug/L	<20	<20		
Copper ug/L	42	42		
Cyanide µg/L	<5	<5		
Fluoride µg/L	<100	<100		
Lead ug/L	<20	<20		
Nickel ug/L	<20	<20		
Zinc ug/L	118	118		
Boron ug/L	59	59		
Cadmium ug/L	<20	<20		
Mercury µg/L	<0.2	<0.2		
Selenium µg/L	1.6	1.6		
Barium ug/L	28	28		

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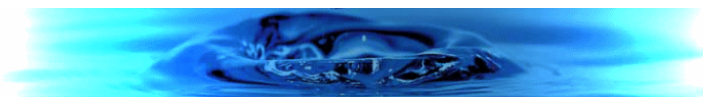
Attachment E4 Kilbrittain Upstream Table E4		
Sample Date	7/5/2009	
Sample	River	Average
Sample Code	GT625	
Flow M ³ /Day	*	
pH	*	
Temperature °C	*	
Cond 20°C	215	215
SS mg/L	<2.5	<2.5
NH ₃ mg/L	<0.1	<0.1
BOD mg/L	1	1
COD mg/L	<21	<21
TN mg/L	5.27	5.27
Nitrite mg/L	<0.10	<0.10
Nitrate mg/L	4.04	4.04
TP mg/L	<0.05	<0.05
O-PO ₄ -P mg/L	<0.05	<0.05
SO ₄ mg/L	<30	<30
Phenols µg/L	<0.10	<0.10
Atrazine µg/L	<0.01	<0.01
Dichloromethane	<1	<1
Simazine µg/L	<0.01	<0.01
Toluene µg/L	<0.28	<0.28
Tributyltin µg/L	not required	not required
Xylenes µg/L	<1	<1
Arsenic µg/L	<0.96	<0.96
Chromium ug/L	<20	<20
Copper ug/L	<20	<20
Cyanide µg/L	<5	<5
Fluoride µg/L	<100	<100
Lead ug/L	<20	<20
Nickel ug/L	<20	<20
Zinc ug/L	<20	<20
Boron ug/L	<20	<20
Cadmium ug/L	<20	<20
Mercury µg/L	<0.2	<0.2
Selenium µg/L	2.1	2.1
Barium ug/L	26.87	26.87

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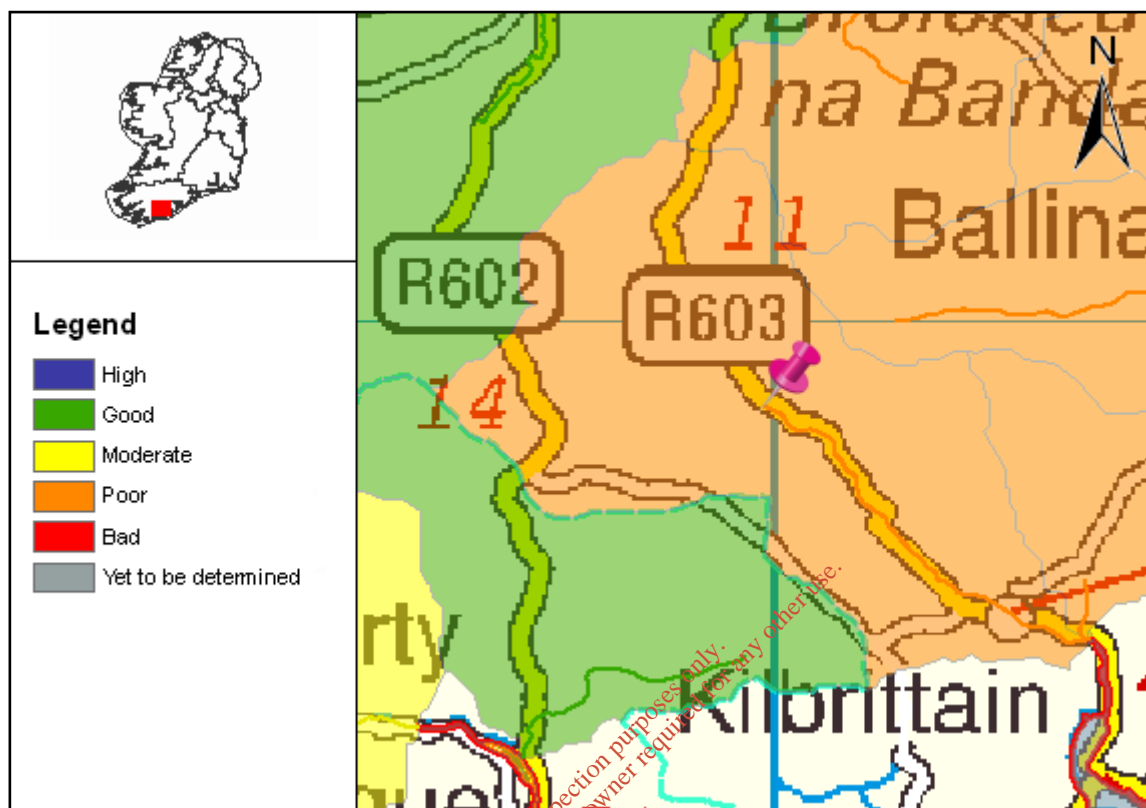
Attachment E4 Kilbrittain Downstream Table E4		
Sample Date	7/5/2009	
Sample	River	Average
Sample Code	GT624	
Flow M³/Day	*	
pH	8.1	8.1
Temperature °C	*	*
Cond 20°C	240	240
SS mg/L	<2.5	<2.5
NH₃ mg/L	<0.1	<0.1
BOD mg/L	<1.0	<1.0
COD mg/L	<21	<21
TN mg/L	5.4	5.4
Nitrite mg/L	<0.10	<0.10
Nitrate mg/L	5.57	5.57
TP mg/L	0.053	0.053
O-PO₄-P mg/L	<0.05	<0.05
SO₄ mg/L	<30	<30
Phenols µg/L	<0.10	<0.10
Atrazine µg/L	<0.01	<0.01
Dichloromethane	<1	<1
Simazine µg/L	<0.01	<0.01
Toluene µg/L	<0.28	<0.28
Tributyltin µg/L	not required	not required
Xylenes µg/L	<1	<1
Arsenic µg/L	<0.96	<0.96
Chromium ug/L	<20	<20
Copper ug/L	<20	<20
Cyanide µg/L	<5	<5
Fluoride µg/L	<100	<100
Lead ug/L	<20	<20
Nickel ug/L	<20	<20
Zinc ug/L	<20	<20
Boron ug/L	<20	<20
Cadmium ug/L	<20	<20
Mercury µg/L	<0.2	<0.2
Selenium µg/L	2.7	2.7
Barium ug/L	24.49	24.49

Attachments Section F

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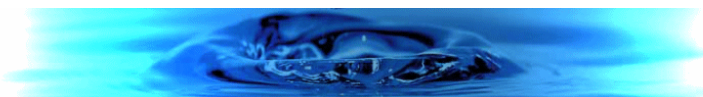


Full Report for Waterbody Kilbrittain River (Coastal)



Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Summary Information:

WaterBody Category: Subbasin Waterbody

WaterBody Name: Kilbrittain River (Coastal)

WaterBody Code: IE_SW_20_1947

Overall Status: **Poor**

Overall Objective: **Restore**

Overall Risk: **1a** At Risk

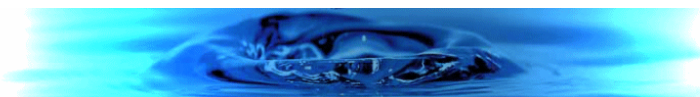
Applicable Supplementary Measures: Unsewered; Urban & Industrial; Morphology; Forestry;
Report data based upon Draft RBMP, 22/12/2008.



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Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Status Report

WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947
 Overall Status Result: **Poor**

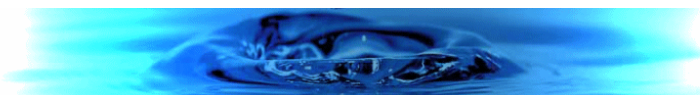


	Status Element Description	Result
EX	Monitored or Extrapolated Waterbody	Monitored
	Biological Elements	
Q	Macroinvertebrates (Q-Value)	Good
FI	Fish	Poor
DI	Phytobenthos (Diatoms)	n/a
FPM	Status value as determined by Margartifera	n/a
	Supporting Elements	
MOR	Hydromorphology	n/a
SP	Specific Pollutants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

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Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Risk Report

WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947
 Overall Risk Result: **1a** At Risk

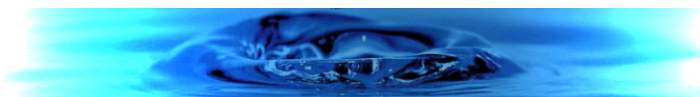


Risk Test Description	Risk
Point Risk Sources	
RP1 WWTPs	2b Not At Risk
RP2 CSOs	2b Not At Risk
RP3 IPPCs	2b Not At Risk
RP4 Section 4s	2b Not At Risk
RPO Overall Risk from Point Sources - Worst Case	2b Not At Risk
Diffuse Risk Sources	
RD1 EPA diffuse model	1b Probably At Risk
RD2a Road Wash - Soluble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

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Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009

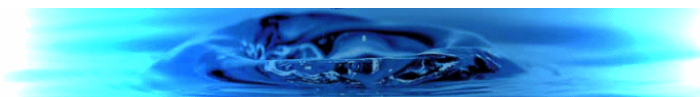


Morphological Risk Sources		
RM1	Channelisation	2b Not At Risk
RM2	Embankments	2b Not At Risk
RM3	Impoundments	2b Not At Risk
RM4	Water Regulation	2b Not At Risk
RM0	Morphology Overall - Worst Case	2b Not At Risk
Q/RDI or Point/Diffuse		
OPD	Q class/EPA Diffuse Model or worst case of Point and Diffuse	1a At Risk
Hydrology		
RHY1	Water balance - Abstraction	2b Not At Risk
Overall Risk		
RA	Rivers Overall - Worst Case	1a At Risk

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Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Objectives Report

WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947
 Overall Objective: **Restore**

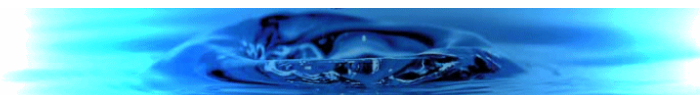


Objectives Description	Result
Objectives	
OB1 Objective 1 - Protected Areas	Not Applicable
OB2 Objective 2 - Protect High and Good Status	Not Applicable
OB3 Objective 3 - Restore Less Than Good Status	Restore
OB4 Objective 4 - Reduce Chemical Pollution	Not Applicable
OBO Overall Objective	Restore
Deadline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

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Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Basic Measures Report

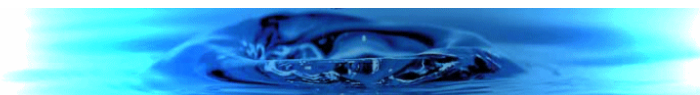
WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947



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

Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Urban and Industrial Discharges Supplementary Measures Report

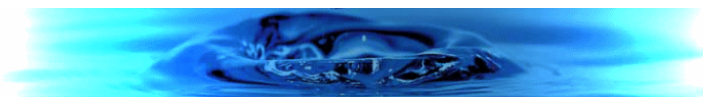
WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947



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

Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009

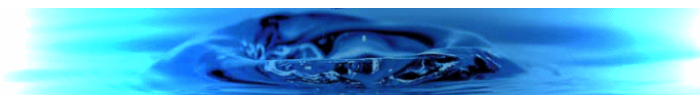


PS8	Supplementary Measure 8 - Upgrade the plant to remove specific substances known to impact on water quality status.	No
PS9	Supplementary Measure 9 - Install ultra-violet or similar type treatment.	No
PS10	Supplementary Measure 10 - Relocate the point of discharge.	No

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Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Physical Modifications Supplementary Measures Report

WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947

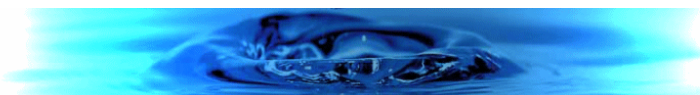


Physical Modifications Supplementary Measures		Applicable
European Code		IE_SW_20_1947
Reduce		
SM1	Codes of Practice	Yes
SM2	Support for voluntary initiatives	Yes
Remediate		
SM3	Channelisation impact remediation schemes	No
SM4	Channelisation investigation	No
SM5	Overgrazing remediation	No
SM6	Impassable barriers, impact confirmed, investigation into feasibility of remediation required	No
SM7	Impassable barriers investigation	Yes

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Date Reported to Europe: 22/12/2008

Date Report Created 30/04/2009



Unsewered Properties Supplementary Measures Report

WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947

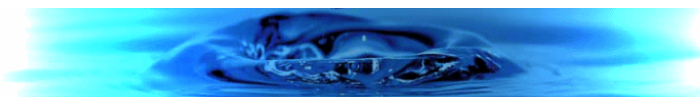


Supplementary Measures for Unsewered Areas		Applicable
SP1	Ammend building regulations	Yes
SP2	Establish certified expert panels for site investigation and certification of installed systems	Yes
SP3	Assess applications for new unsewered systems by applying risk mapping/decision support systems and codes of practice	Yes
SP4	Carry out an inspection programme in prioritised locations for existing systems and record results in an action tracking system	No
SP5	Enforce requirements for percolation	No
SP6	Enforce requirements for de-sludging	Yes
SP7	Consider connection to municipal systems	No

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Date Report Created 30/04/2009



Forestry Measures Report

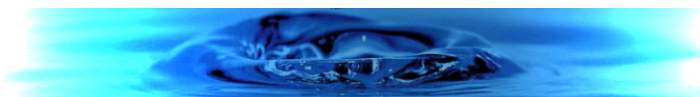
WaterBody Category: Subbasin Waterbody
 WaterBody Name: Kilbrittain River (Coastal)
 WaterBody Code: IE_SW_20_1947



	Forestry Measures for Forestry	Applicable
SF1	Management Instruments - Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures	No
SF2	Acidification - Avoid or limit afforestation on 1st and 2nd order stream catchments in acid sensitive areas	No
SF3	Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected and revise boundary conditions for afforestation in acid sensitive areas	No
SF4	Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites	No
SF5	Eutrophication and Sedimentation - Change the tree species mix on replanting	No
SF6	Eutrophication and Sedimentation - Limiting felling coup size	No
SF7	Eutrophication and Sedimentation - Establish new forest structures on older plantation sites	No
SF8	Hydromorphology - Audit existing drainage networks in forest catchments	No
SF9	Pesticide Use - Reduce pesticide usage	No
SF10	Pesticide Use - Pre-dip trees in nurseries prior to planting out	No
SF11	Pesticide Use - Maintain registers of pesticide use	No
SF12	Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves	No
SF13	Acidification - Mitigate acid impacts symptomatically using basic material	No
SF14	Acidification - Manage catchment drainage to increase residence times and soil wetting	No
SF15	Acidification - Implement measures to increase stream production.	No
SF16	Eutrophication - Establish riparian zone management prior to clearfelling	No
SF17	Eutrophication and Sedimentation - Enhance sediment control	No

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SF18	Eutrophication - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF19	Sedimentation - Establish riparian zone management prior to clearfelling	No
SF20	Sedimentation - Enhance sediment control	No
SF21	Sedimentation - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF22	Hydromorphology - Enhance drainage network management, minimise drainage in peat soils	No
SF23	Pesticide Use - Develop biological control methods	No

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SITE SYNOPSIS

SITE NAME: COURTMACSHERRY ESTUARY

SITE CODE: 001230

This site is located in West Cork, some 12 km south of Bandon and immediately east of the village of Timoleague. The estuary consists of the drowned valley of the Argideen River, which is now filled with sediments, resulting in an extensive mudflat. The site contains a complex of coastal habitats including ten habitats listed on Annex I of the EU Habitats Directive.

Most of the mudflat is unvegetated, although in places Cord-grass (*Spartina* sp.) occurs. Saltmarsh has developed in a number of areas, the abundant species mostly being Sea Club-rush (*Scirpus maritimus*), Common Scurvygrass (*Cochlearia officinalis*), Sea Arrowgrass (*Triglochin maritima*), Sea Plantain (*Plantago maritima*), Thrift (*Armeria maritima*) and Saltmarsh Rush (*Juncus gerardi*). On the outer edges such species as Greater Sea-spurrey (*Spergularia media*), Lesser Sea-spurrey (*S. marina*) and Lax-flowered Sea-lavender (*Limonium humile*) occur, while on their landward edge of the saltmarsh frequently support Creeping Bent (*Agrostis stolonifera*), Red Fescue (*Festuca rubra*), Silverweed (*Potentilla anserina*), Soft Rush (*Juncus effusus*), Common Sorrel (*Rumex acetosa*) and others. A particularly well-developed intact saltmarsh occurs at Garraneen Strand. The site also includes small areas of sand dune, sandy and shingle beaches, reedbeds of Common Reed (*Phragmites australis*), scrub, dry grassland, and areas of both wet and dry semi-natural broadleaved woodland, parts of which are dominated by species of Oak (*Quercus* sp.). Of note is the presence of the rare Red Data Book plant species, Sea-kale (*Crambe maritima*) on shingle, as well as the scarce grass, Tor-grass (*Brachypodium pinnatum*), on cliffs between Broadstrand and Wood Point. The occurrence of the EU priority habitat fixed dune is also of significance.

The site is of ornithological importance for the many waders and wildfowl that feed on the mud and sandflats. The winter flocks of Golden Plover (2,600) and Black-Tailed Godwit (110) constitute nationally important numbers and at least nine other species occur in significant levels for the region - Wigeon (58), Mallard (69), Red-breasted Merganser (18), Oystercatcher (162), Lapwing (629), Dunlin (215), Bar-tailed Godwit (178), Curlew (731) and Redshank (139). Although these figures are the average peaks of 4 counts between 1984/85 and 1986/87, at times the numbers present far exceed those given. For example, in January 1992, 5,800 Golden Plover, 671 Wigeon, 731 Dunlin and 456 Oystercatchers were present.

The spread of Cord-grass on parts of the mudflats poses a threat to the quantity of the area for feeding birds and pollution is an ever-present threat in such a wetland.

Courtmacsherry Estuary is an important site for the complex of coastal habitats found there, including ten listed on Annex I of the EU Habitats Directive, and for the large numbers of birds that use the area.

Agglomeration details

Leading Local Authority	Cork County Council
Co-Applicants	
Agglomeration	Kilbrittan
Population Equivalent	598
Level of Treatment	Secondary
Treatment plant address	Kilbrittitan, Co.Cork
Grid Ref (12 digits, 6E, 6N)	152678 / 046849 (Verified using GPS)
EPA Reference No:	

Contact details

Contact Name:	Patricia Power
Contact Address:	Water Services Section Cork County Council Southern Division Carrigrohane Road Cork
Contact Number:	021-4276891
Contact Fax:	021-4276321
Contact Email:	patricia.power@corkcoco.ie

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

Discharge Point Code: SW-1

Local Authority Ref No:	SW01 - Kilbrit	
Source of Emission:	Treated Effluent	
Location:	Kilbrittain	
Grid Ref (12 digits, 6E, 6N)	152671 / 046831 (Verified using GPS)	
Name of Receiving waters:	Kilbrittain River	
Water Body:	River Water Body	
River Basin District	South Western RBD	
Designation of Receiving Waters:	Poor	
Flow Rate in Receiving Waters:	0	m ³ .sec ⁻¹ Dry Weather Flow
	0.063	m ³ .sec ⁻¹ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	The 95%ile flow is taken from available South Western River Basin District data there are no figures available for DWF	

Emission Details:

(i) Volume emitted			
Normal/day	135 m ³	Maximum/day	405 m ³
Maximum rate/hour	16.87 m ³	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.00156 m ³ /sec		

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

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
pH	pH	24 hr composite	= 9	
Temperature	°C	24 hr composite	= 25	
Electrical Conductivity (@ 25°C)	µS/cm	Grab	= 1000	
Suspended Solids	mg/l	24 hr composite	= 30	4.05
Ammonia (as N)	mg/l	Grab	= 0	0
Biochemical Oxygen Demand	mg/l	24 hr composite	= 25	3.375
Chemical Oxygen Demand	mg/l	24 hr composite	= 125	16.88
Total Nitrogen (as N)	mg/l	24 hr composite	= 50	6.75
Nitrite (as N)	mg/l	Grab	= 0	0
Nitrate (as N)	mg/l	Grab	= 0	0
Total Phosphorous (as P)	mg/l	24 hr composite	= 2	0.27
OrthoPhosphate (as P)	mg/l	Grab	= 1.6	0.26
Sulphate (SO ₄)	mg/l	Grab	= 0	0
Phenols (Sum)	µg/l	Grab	= 0	0

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

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

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

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
Atrazine	µg/l	Grab	= 0	0
Dichloromethane	µg/l	Grab	= 0	0
Simazine	µg/l	Grab	= 0	0
Toluene	µg/l	Grab	= 0	0
Tributyltin	µg/l	Grab	= 0	0
Xylenes	µg/l	Grab	= 0	0
Arsenic	µg/l	Grab	= 0	0
Chromium	µg/l	Grab	= 0	0
Copper	µg/l	Grab	= 0	0
Cyanide	µg/l	Grab	= 0	0
Flouride	µg/l	Grab	= 0	0
Lead	µg/l	Grab	= 0	0
Nickel	µg/l	Grab	= 0	0
Zinc	µg/l	Grab	= 0	0
Boron	µg/l	Grab	= 0	0
Cadmium	µg/l	Grab	= 0	0
Mercury	µg/l	Grab	= 0	0
Selenium	µg/l	Grab	= 0	0
Barium	µg/l	Grab	= 0	0

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

For Phenols: USEPA Method 604, AWWA Standard Method 6246, or equivalent.

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Table D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS (Storm Overflow)

Discharge Point Code: SW-2

Local Authority Ref No:	SW02 - Kilbrit	
Source of Emission:	Untreated Effluent	
Location:	Kilbrittain	
Grid Ref (12 digits, 6E, 6N)	152658 / 046832 (Verified using GPS)	
Name of Receiving waters:	Kilbrittain River	
Water Body:	River Water Body	
River Basin District	South Western RBD	
Designation of Receiving Waters:	Pool	
Flow Rate in Receiving Waters:		m ³ .sec ⁻¹ Dry Weather Flow
	0.063	m ³ .sec ⁻¹ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	There are no flow monitors on the storm water overflow	

Emission Details:

(i) Volume emitted			
Normal/day	0 m ³	Maximum/day	0 m ³
Maximum rate/hour	0 m ³	Period of emission (avg)	0 min/hr 0 hr/day 0 day/yr
Dry Weather Flow	0 m ³ /sec		

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

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m ³ /annum)
SW-1	365	49275

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

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m ³ /annum)	Complies with Definition of Storm Water Overflow
SW-2	0	0	No

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

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	153269 / 046699 (Verified using GPS)

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	07/05/09					
pH		= 8.1			Grab	2	Electrochemical
Temperature	= 0				Grab	0.5	electrochemical
Electrical Conductivity (@ 25°C)		= 240			Grab	0.5	Electrochemical
Suspended Solids		< 2.5			Grab	0.5	Gravimetric
Ammonia (as N)		< 0.1			Grab	0.02	Colorimetric
Biochemical Oxygen Demand		< 1			Grab	0.06	Electrochemical
Chemical Oxygen Demand		< 21			Grab	8	Digestion & Colorimetric
Dissolved Oxygen	= 0				Grab	0	ISE
Hardness (as CaCO ₃)	= 0				Grab	0	titrimetric
Total Nitrogen (as N)		= 5.4			Grab	0.5	Digestion & Colorimetric
Nitrite (as N)		< 0.1			Grab	0.013	colorimetric
Nitrate (as N)		= 5.57			Grab	0.04	Colorimetric
Total Phosphorous (as P)		= 0.053			Grab	0.2	Digestion & Colorimetric
OrthoPhosphate (as P)		< 0.05			Grab	0.02	Colorimetric
Sulphate (SO ₄)		< 30			Grab	30	Turbidimetric
Phenols (Sum)		< 0.1			Grab	0.1	GC-MS2

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

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

Additional Comments:	default of 01/01/09 and 0 where results are not available
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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	153269 / 046699 (Verified using GPS)

Parameter	Results (µg/l)			Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	07/05/09				
Atrazine		< 0.01		Grab	0.96	HPLC
Dichloromethane		< 1		Grab	1	GC-MS1
Simazine		< 0.01		Grab	0.01	HPLC
Toluene		< 0.28		Grab	0.02	GC-MS1
Tributyltin	= 0			Grab	0.02	GC-MS1
Xylenes		< 1		Grab	1	GC-MS1
Arsenic		< 0.96		Grab	0.96	ICP-MS
Chromium		< 20		Grab	20	ICP-OES
Copper		< 20		Grab	20	ICP-OES
Cyanide		< 5		Grab	5	Colorimetric
Flouride		< 100		Grab	100	ISE
Lead		< 20		Grab	20	ICP-OES
Nickel		< 20		Grab	20	ICP-OES
Zinc		< 20		Grab	20	ICP-OES
Boron		< 20		Grab	20	ICP-OES
Cadmium		< 20		Grab	20	ICP-OES
Mercury		< 0.2		Grab	0.2	ICP-MS
Selenium		= 2.7		Grab	0.74	ICP-MS
Barium		= 24.49		Grab	20	ICP-OES

Additional Comments:	TBT value is 0.02ug/l as Sn TBT not required
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TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	151151 / 047983 (Verified using GPS)

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	07/05/09					
pH	= 0				Grab	2	Electrochemical
Temperature	= 0				Grab	0.5	electrochemical
Electrical Conductivity (@ 25°C)		= 215			Grab	0.5	Electrochemical
Suspended Solids		< 2.5			Grab	0.5	Gravimetric
Ammonia (as N)		< 0.1			Grab	0.02	Colorimetric
Biochemical Oxygen Demand		= 1			Grab	0.06	Electrochemical
Chemical Oxygen Demand		< 21			Grab	8	Digestion & Colorimetric
Dissolved Oxygen	= 0				Grab	0	ISE
Hardness (as CaCO ₃)	= 0				Grab	0	titrimetric
Total Nitrogen (as N)		= 5.27			Grab	0.5	Digestion & Colorimetric
Nitrite (as N)		< 0.1			Grab	0.013	colorimetric
Nitrate (as N)		= 4.04			Grab	0.04	Colorimetric
Total Phosphorous (as P)		< 0.05			Grab	0.2	Digestion & Colorimetric
OrthoPhosphate (as P)		< 0.05			Grab	0.02	Colorimetric
Sulphate (SO ₄)		< 30			Grab	30	Turbidimetric
Phenols (Sum)		< 0.1			Grab	0.1	GC-MS2

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

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

Additional Comments:	default setting of 01/01/09 and 0 used where results are not available
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TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	151151 / 047983 (Verified using GPS)

Parameter	Results (µg/l)			Sampling method	Limit of Quantitation	Analysis method / technique
	01/01/09	07/05/09				
Atrazine		< 0.01		Grab	0.96	HPLC
Dichloromethane		< 1		Grab	1	GC-MS1
Simazine		< 0.01		Grab	0.01	HPLC
Toluene		< 0.28		Grab	0.02	GC-MS1
Tributyltin	= 0			Grab	0.02	GC-MS1
Xylenes		< 1		Grab	1	GC-MS1
Arsenic		< 0.96		Grab	0.96	ICP-MS
Chromium		< 20		Grab	20	ICP-OES
Copper		< 20		Grab	20	ICP-OES
Cyanide		< 5		Grab	5	Colorimetric
Flouride		< 100		Grab	100	ISE
Lead		< 20		Grab	20	ICP-OES
Nickel		< 20		Grab	20	ICP-OES
Zinc		< 20		Grab	20	ICP-OES
Boron		< 20		Grab	20	ICP-OES
Cadmium		< 20		Grab	20	ICP-OES
Mercury		< 0.2		Grab	0.2	ICP-MS
Selenium		= 2.1		Grab	0.74	ICP-MS
Barium		= 26.87		Grab	20	ICP-OES

Additional Comments:	TBT value is 0.02ug/l as Sn TBT analysis not required
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Annex 2: Check List For Regulation 16 Compliance

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

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

Regulation 16(1) In the case of an application for a waste water discharge licence, the application shall -		Attachment Number	Checked by Applicant
(a)	give the name, address, telefax number (if any) and telephone number of the applicant (and, if different, of the operator of any treatment plant concerned) and the address to which correspondence relating to the application should be sent and, if the operator is a body corporate, the address of its registered office or principal office,	B1	Yes
(b)	give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant,	B7	Yes
(c)	give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the location of the waste water treatment plant and/or the waste water discharge point or points to which the application relates,	B2	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	B9	Yes
(e)	specify the content and extent of the waste water discharge, the level of treatment provided, if any, and the flow and type of discharge,	C, D	Yes
(f)	give details of the receiving water body, including its protected area status, if any, and details of any sensitive areas or protected areas or both in the vicinity of the discharge point or points likely to be affected by the discharge concerned, and for discharges to ground provide details of groundwater protection schemes in place for the receiving water body and all associated hydrogeological and geological assessments related to the receiving water environment in the vicinity of the discharge.	D2, F1	Yes
(g)	identify monitoring and sampling points and indicate proposed arrangements for the monitoring of discharges and, if Regulation 17 does not apply, provide details of the likely environmental consequences of any such discharges,	E3	Yes
(h)	in the case of an existing waste water treatment plant, specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application,	E2, E4	Yes
(i)	describe the existing or proposed measures, including emergency procedures, to prevent unintended waste water discharges and to minimise the impact on the environment of any such discharges,	G	Yes
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,	Not Applicable	Yes
(k)	give details, and an assessment of the effects, of any existing or proposed emissions on the environment, including any environmental medium other than those into which the emissions are, or are to be made, and of proposed measures to prevent or eliminate or, where that is not practicable, to limit any pollution caused in such discharges,	F1	Yes
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,	G	Yes
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.	G	Yes
(n)	Any other information as may be stipulated by the Agency.		No
Regulation 16(3) Without prejudice to Regulation 16 (1) and (2), an application for a licence shall be accompanied by -		Attachment Number	Checked by Applicant
(a)	a copy of the notice of intention to make an application given pursuant to Regulation 9,	B8	Yes
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,	Not Applicable	Yes
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -		Yes
(c) (i)	the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and	B3, B5	Yes
(c) (ii)	the point or points at which monitoring and sampling are undertaken or are to be undertaken,	E3	Yes
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	B9(iii)	Yes

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