



CORK COUNTY COUNCIL

WESTERN DIVISION

WATER SERVICES

Courthouse, Skibbereen, Co. Cork

APPLICATION FOR WASTE

WATER DISCHARGE LICENCE

BALLINEEN/ENNISKEANE,

CO. CORK.

Application Form
22nd June 2009



CORK COUNTY COUNCIL

WESTERN DIVISION

WATER SERVICES

Courthouse, Skibbereen, Co. Cork

**Re: Waste Water Discharge Licence Application for the Agglomeration of
Ballineen/Enniskeane**

Dear Sir/Madam,

Please find enclosed Cork County Council's Waste Water Discharge Licence Application for the agglomeration of Ballineen/Enniskeane.

The following documentation is enclosed:

- 1 Nr. Signed original in hardcopy
- 1 Nr. Copy in hardcopy
- 2 Nr. CD-ROM with all documentation in electronic searchable PDF (OCR'd format)
- 1 Nr. CD-ROM with GIS Data, Tabular Data

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

Declan Groarke
Senior Executive Engineer

This is a draft document and is subject to revision.



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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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.

The settlement of Ballineen/Enniskene is located approximately 12km west of Bandon. The villages of Ballineen and Enniskene have joined together to form a continuous and largely linear built up area.

In essence two separate collection networks exist for Ballineen and Enniskene.

The existing sewage system at Enniskene essentially comprises of combined foul and storm water gravity system which drains to a relatively newly constructed sewage pumping station located 200m south-southeast of the bridge over the River Ahan at Enniskene. This pumping station pumps the sewage generated in Enniskene to the Waste Water Treatment Plant in Ballineen.

The collection system for Ballineen is for the most part, a gravity system draining to the WWTP. However a small area on Bridge St., adjacent to the River Bandon drains to a pump station from where it is pumped to the sewer which drains to the WWTP.

Ballineen Wastewater Treatment Plant

There is an existing secondary sewage treatment plant in Ballineen treating effluent from both Ballineen and Enniskene. The main elements of the Wastewater Treatment Plant are as follows:

1. Inlet Screen

A brushed inlet screen consisting of a curved stainless steel perforated semicircular screen with a motorised brush removes all rags etc. from the influent.

2. Oxidation Ditch

The existing oxidation ditch has a volume of 100m³ approx. Because of the small size of the oxidation ditch, the plant can only operate properly as an activated sludge plant rather than as an extended aeration plant. Sludge age in an activated sludge plant is shorter than for extended aeration. This means frequent removal of sludge is needed.

3. Final Settling Tank

The settling tank has been designed for an upward flow of 6 DWF.

4. Over ground Sludge Storage Tank

On the basis of a design population of 350 the expected sludge production was 12.6kg of day solids/day.

A report was carried out on the up-grading of Ballineen Waste Water Treatment Plant in recent times. The main elements of the proposed up-grade are as follows:

- Divert the inlet flow from the existing oxidation ditch inlet to precast concrete pump sump.
- Pump 3 DWF from the pump sump to a selector tank via a grit trap and a mechanically raked fine screen with a dewatering unit.
- Repair and recommission the existing sludge holding tank and convert to picket fence thickener. Cover tank and install odour control unit.
- Construct sampling and measuring chamber on the final effluent outlet pipe.
- Provide 45m³ precast concrete storm tank to retain flows in excess of 3 DWF entering works. Return flows to adjacent pump sump and install high level overflow for exceedance of storm tank capacity.

The report gave further recommendations for consideration for future works:

- Duplicate oxidation ditch and connect pipework from selector tank.
- Duplicate settling tank and return sludge to selector tank. Excess sludge to sludge holding tank (picket fence thickener)
- Extend fencing and landscaping site.

The source of Emissions for the Wastewater Works

The sources of emissions from Ballineen/Enniskeane are considered mainly domestic. It does have a school and an industry within the town boundary. However the amount of industrial wastewater would be considered negligible due to the fact the industry (timber process) carries out a dry process.

In recent years a report has being carried out by RPS Consulting Engineers in relation to Ballineen Wastewater Treatment Plant, the recommendations of which can be seen above. It proposes to up-grade the WWTP in order to improve the quality of the treatment currently taken place in Ballineen.

The 2006 Census recorded a permanent residential population of 646. Allowing for 30% commercial/institutional component, the design population equivalent of Ballineen/Enniskeane would be 840. The CSO's projected population increase for the region is 1.1% per annum. Bearing that in mind and allowing again for 30%

commercial/institutional component the projected population for 2014 would be approximately 950.

The nature and quantities of foreseeable emissions from the wastewater works into the receiving aqueous environment as well as identification of significant effects of the emission to the environment

The sources of emissions from Ballineen/Enniskeane are considered mainly domestic. It does have a school and an industry within the town boundary. However the amount of industrial wastewater would be considered negligible due to the fact the industry carries out a dry process.

The existing outfall discharges effluent to a tributary of the River Bandon adjacent to Ballineen Waste Water Treatment Plant. The outfall is a 225mm dia concrete pipe. The effluent under-goes secondary treatment prior to being discharged to the River. That section of the River Bandon is not designated as a Natural Heritage Area, a Special Area of Conservation, a Proposed Natural Heritage Area or a Special Protected Area.

On the basis of a pe of 1000 the dry weather flow would be 230 m³/day. Recent sampling results give an average BOD on the effluent from the plant of 27.2 mg/l resulting in river BOD of 1.37 mg/l for 95%ile flow. This is below the 2.2 mg/l limit for High Status Waters in the Draft Water Quality Regulations.

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

A report was carried out on the up-grading of Ballineen Waste Water Treatment Plant in recent times. The main elements of the proposed up-grade are as follows:

- Divert the inlet flow from the existing oxidation ditch inlet to precast concrete pump sump.
- Pump 3 DWF from the pump sump to a selector tank via a grit trap and a mechanically raked fine screen with a dewatering unit.
- Repair and recommission the existing sludge holding tank and convert to picket fence thickener. Cover tank and install odour control unit.
- Construct sampling and measuring chamber on the final effluent outlet pipe.
- Provide 45m³ precast concrete storm tank to retain flows in excess of 3 DWF entering works. Return flows to adjacent pump sump and install high level overflow if capacity of storm tank is exceeded.

The report gave further recommendations for consideration for future works:

- Duplicate oxidation ditch and connect pipework from selector tank.
- Duplicate settling tank and return sludge to selector tank. Excess sludge to sludge holding tank (picket fence thickener)
- Extend fencing and landscaping site.

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

A report was carried out on the up-grading of Ballineen Waste Water Treatment Plant in recent times. If the recommendations of the report were to be put in place, this would allow for the improvement of the treatment capacity, the discharge quality and control systems, ensuring that no significant pollution is caused. It is proposed to carry out this upgrading within the next five years dependant on the economic conditions.

Measures planned to monitor emission into the environment

The emissions from the existing Waste Water Treatment Plant can be monitored through the sampling point SW01 BalEnn, results of which are attached to this application.

If the upgrade of the Waste Water Treatment were to go ahead, greater monitoring and sampling of the emissions would be introduced. The sampling will consist of a composite sample and all emissions will be measured and can be sampled before discharge.

Supporting information should form **Attachment N^o A.1**

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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: Ballineen/Enniskeane |
|--|

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: | Water Services (Western Division) |
| | Courthouse |
| | Skibbereen |
| | Co. Cork |
| Tel: | 028-21299 |
| Fax: | 028-21995 |
| e-mail: | declan.groarke@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*: | Declan Groarke |
| Address: | Cork County Council |
| | Courthouse |
| | Skibbereen |
| | Co. Cork |
| Tel: | 028-21299 |
| Fax: | 028-21995 |
| e-mail: | declan.groarke@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: | |
| | |
| | |
| Tel: | |
| Fax: | |
| e-mail: | |

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

Design, Build & Operate Contractor Details

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

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

Attachment B.1 should contain appropriately scaled drawings / maps ($\leq A3$) 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.

Existing Wastewater Treatment Plant

| | |
|---------------------------|-------------------------|
| Name*: | Kevin Morey |
| Address: | Council Area Office |
| | Chapel Street |
| | Dunmanway |
| | Co. Cork |
| Grid ref (6E, 6N) | E: 134640, N: 053975 |
| Level of Treatment | Secondary |
| Primary Telephone: | 023-45209 |
| Fax: | |
| e-mail: | kevin.morey@corkcoco.ie |

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

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

| | | |
|----------------------------|------------|-----------|
| Attachment included | Yes | No |
| | ✓ | |

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.

Existing Primary Discharge Point

| | |
|--------------------------|-------------------------------|
| Type of Discharge | Outfall Pipe 225mm PCC |
| Unique Point Code | SW01 BalEnn |
| Location | Tributary to the Bandon River |
| Grid ref (6E, 6N) | E:134624, N:053965 |

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.

Existing Secondary Discharge Point

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

There are no secondary discharges points to which this licence application pertains.

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.

Existing Storm Water Overflows

| | |
|--------------------------|-------------------------------|
| Type of Discharge | Outfall Pipe 200mm dia |
| Unique Point Code | SW02 BalEnn |
| Location | Tributary to the Bandon River |
| Grid ref (6E, 6N) | E: 134623, N: 053979 |

Existing Storm Water Overflows

| | |
|--------------------------|----------------------|
| Type of Discharge | Outfall Pipe |
| Unique Point Code | SW03 BalEnn |
| Location | Bandon River |
| Grid ref (6E, 6N) | E: 135710, N: 054061 |

Existing Storm Water Overflows

| | |
|--------------------------|----------------------|
| Type of Discharge | Outfall Pipe |
| Unique Point Code | SW04 BalEnn |
| Location | Ahan River |
| Grid ref (6E, 6N) | N: 135988, N: 054146 |

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

| Attachment included | Yes | No |
|----------------------------|------------|-----------|
| | ✓ | |

B.6 Planning Authority

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

| | |
|-----------------|---------------------|
| Name: | Cork County Council |
| Address: | Planning Department |
| | Norton House |
| | Skibbereen |
| | Co. Cork |
| Tel: | 028-40340 |

| | |
|----------------|-----------|
| Fax: | 028-21660 |
| e-mail: | |

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: | Part 8 Planning for Enniskeneane Pumping Station |
|---|--|

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

| Attachment included | Yes | No |
|---------------------|-----|----|
| | √ | |

B.7 Other Authorities

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

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

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

| Within the SFADCo Area | Yes | No |
|------------------------|-----|----|
| | | √ |

B.7 (ii) Health Services Executive Region

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

| | |
|-----------------|--------------------------|
| Name: | Health Service Executive |
| Address: | Area Headquarters |
| | Hospital Grounds |
| | Skibbereen |
| Tel: | 028-40400 |
| Fax: | 028-21006 |
| e-mail: | - |

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: | |
| | |
| Tel: | |
| Fax: | |
| e-mail: | |

| | | |
|------------------------------------|------------|-----------|
| Relevant Authority Notified | Yes | No |
| | | ✓ |

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

| | | |
|----------------------------|------------|-----------|
| Attachment included | Yes | No |
| | | ✓ |

B.8 Notices and Advertisements

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

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

| | | |
|----------------------------|------------|-----------|
| Attachment included | Yes | No |
| | ✓ | |

B.9 (i) Population Equivalent of Agglomeration

TABLE B.9.1 POPULATION EQUIVALENT OF AGGLOMERATION

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

Existing Population:

| | |
|------------------------------|---------------|
| Population Equivalent | 840 |
| Data Compiled (Year) | 2006 |
| Method | Census |

Allowing for 30% commercial/institutional component, the population of Ballineen/Enniskeane would be **840**. (Census population = 646)

Proposed Population:

| | |
|------------------------------|---------------|
| Population Equivalent | 950 |
| Data Compiled (Year) | 2014 |
| Method | Census |

The CSO’s projected population increase for the region is 1.1% per annum.

Allowing for 30% commercial/institutional component, the population equivalent of Ballineen/Enniskeane for the year 2014 would be **950**.

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.

There are a number of significant developments proposed for Ballineen/Enniskeane. In Enniskeane under 3 separate Residential Developments a total of 103nr of houses (06/12907, 06/12908 and 07/4886) are proposed to be constructed. In Ballineen a Residential Development comprising of 7nr of houses (07/4193) is proposed to be constructed.

It is considered that all additional PE from pending developments are from domestic activities.

At present the existing plant is capable of treating an effluent generated by a population of 660.

1. Calculated pe of planning permissions granted = 330
2. Percentage of projected pe contributed by non-domestic = 0
3. Ability of waste water works to accommodate extra loading : To accommodate the extra loading will require the plant to operate as an activated sludge rather than extended aeration plant until such time as the proposed upgrading is carried out. It is also envisaged that this development will not have taken place before upgrading of WWTP.

B.9 (iii) FEES

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

| Class of waste water discharge | Fee (in €) |
|---|------------|
| Discharges from agglomerations with a population equivalent of 500 to 1,000 | €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.

Ballineen/Enniskeane is not prioritised for the development of infrastructure in the WSIP Capital Investment Programme but it is planned to carry out upgrading works under the Rural Water Programme (Small Schemes) within the next five years.

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.

No section 63 notice has been issued in relation to the waste water works.

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

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

| | | |
|----------------------------|------------|----------------|
| Attachment included | Yes | No √ |
|----------------------------|------------|----------------|

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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.1.2 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.

Description of the existing plant process and design capacity:

In essence two separate collection networks exist for Ballineen and Enniskeane.

The existing sewage system at Enniskeane essentially comprises of combined foul and storm water gravity system which drains to a relatively new constructed sewage pumping station located 200m south-southeast of the bridge over the River Ahan at Enniskeane. This pumping station pumps the sewage generated in Enniskeane to the Waste Water Treatment Plant in Ballineen.

The collection system for Ballineen is for the most part, a gravity system draining to the WWTP. However a small area on Bridge St., adjacent to the River Bandon drains to a pump station from where it is pumped to the sewer which drains to the WWTP.

Ballineen Wastewater Treatment Plant

There is an existing secondary sewage treatment plant in Ballineen treating effluent from both Ballineen and Enniskeane. The main elements of the Wastewater Treatment Plant are as follows:

1. Inlet Screen

A brushed inlet screen consisting of a curved stainless steel perforated semicircular screen with a motorised brush removes all rags etc. from the influent.

2. Oxidation Ditch

The existing oxidation ditch has a volume of 100m³ approx. It is an old oxidation ditch with limited capacity. Because of the small size of the oxidation ditch, the plant can only operate properly as an activated sludge plant rather than as an extended aeration plant. Sludge age in an activated sludge plant is shorter than for extended aeration. This means frequent removal of sludge is needed.

3. Final Settling Tank

The settling tank has been designed for an upward flow of 6 X DWF.

4. Over ground Sludge Storage Tank

On the basis of a design population of 350 the expected sludge production was 12.6kg of day solids/day.

A report was carried out on the up-grading of Ballineen Waste Water Treatment Plant in recent times. The main elements of the proposed up-grade are as follows:

- Divert the inlet flow from the existing oxidation ditch inlet to precast concrete pump sump.
- Pump 3 DWF from the pump sump to a selector tank via a grit trap and a mechanically raked fine screen with a dewatering unit.
- Repair and recommission the existing sludge holding tank and convert to picket fence thickener. Cover tank and install odour control unit.
- Construct sampling and measuring chamber on the final effluent outlet pipe.
- Provide 45m³ precast concrete storm tank to retain flows in excess of 3 DWF entering works. Return flows to adjacent pump sump and install high level overflow if capacity of storm tank is exceeded.

The report gave further recommendations for consideration for future works:

- Duplicate oxidation ditch and connect pipework from selector tank.
- Duplicate settling tank and return sludge to selector tank. Excess sludge to sludge holding tank (picket fence thickener)
- Extend fencing and landscaping site.

Stormwater Overflows

The overall sewerage scheme has three stormwater overflow discharge points. Details of the stormwater overflows (SWO's) discharge points are given in Table C.1.1.

Table C.1.1 Description of Stormwater Discharge Points

| Type of Discharge | Unique Point Code | Receiving Water Body Type | Receiving Water Body Name | Grid Reference |
|-------------------|-------------------|---------------------------|---------------------------|------------------------|
| Outfall Pipe | SW02 BalEnn | River | Tributary to Bandon River | E: 134623 N: 053979 |
| Outfall Pipe | SW03 BalEnn | River | Bandon River | E: 135709 N: 054059 |
| Outfall Pipe | SW04 BalEnn | River | Ahan River | E: 135988 N: 054146 |

Are storm overflows designed in accordance with DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows'

Enniskeane Pumpstation (P1)

There is a combined pumping-station and storm water overflow tank located 200m south-southeast of the bridge over the River Ahan at Enniskeane. The pump-station has a design capacity of 1500PE. There are two submersible pumps in place. The pump-station has incorporated automatic control of pumps and automatic monitoring of plant status.

Pumping Station:

6 X DWF 2100 m3/day

Pump Capacity 24.3 l/sec

Pump sump design details:

Sump dimensions 1.5m x 1.5m

Area 2.25m²

Depth 4.5m approx

Volume 10.125m³

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Storm Overflow Tank

Retention to be 6 X DWF for 1 hour i.e 84.375m³

Less vol pump sump 74.25m³

Excess to overflow to river.

Frequency & Duration of activation of emergency overflow to receiving waters:

Only occurs in very extreme weather conditions, which according to the caretaker has very rarely happened. The caretaker has stated that the storm overflow tank has more than sufficient volume to cater the usual wet weather conditions. The only other possible occurrences could arise when there is failure of both pumps or a power cut, which has not happened to date.

Ballineen Pumpstation (P2)

This pumping station is located adjacent to the bank of the River Bandon to the southwest of Ballineen village. It has sufficient capacity to cater for the current flow. The pump-station is constructed underground with two submersible pumps in place. Bridge St is being drained to the pump-station, therefore only a small proportion of the overall Ballineen Collection network is dependent on this pump-station.

In the event of pump failure there is a 225mm dia. concrete pipe in place to act as an emergency overflow to the River Bandon.

The size of the pump chamber and pumps are designed to avoid overflows. The pumps operate on a duty/standby arrangement

Frequency & Duration of activation of emergency overflow to receiving waters:

Only occurs when there is failure of both pumps or a power cut.

Table C.1.2: Details of Pumping Stations

| Pumping Station | Approx. Location | Pumping Arrangement | Storage Capacity | Receiving Water | |
|-----------------|--|---------------------|------------------|-----------------|--------------------|
| | | | | Body Name | Grid Ref. |
| P1 | 200m South-Southeast of Bridge over Ahan River | Duty/Standby | 75m ³ | River Ahan | E 135934, N 054173 |
| P2 | End of Bridge St Ballineen | Duty/Standby | | River Bandon | E 134379, N 053955 |

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.

Table C.2.1: Details of Existing Discharging Outfalls

| Discharge | Reference | Location | Design Criteria | Construction Details |
|------------|----------------|------------------------|---|---|
| Primary | SW01 BalEnn | E: 134624 N: 053965 | 225mm dia Concrete | Concrete pipe |
| Stormwater | SW02 BalEnn | E: 134623 N: 053979 | 300mm uPVC Stormwater overflow | Open 300mm uPVC pipe discharging above high level water mark |
| Stormwater | SW03 BalEnn | E: 135709 N: 054059 | 225mm dia concrete stormwater overflow | Pipe encased in concrete discharging below low level water mark |
| Stormwater | SW04 BalEnn | E: 135988 N: 054146 | 400mm dia concrete stormwater overflow | Discharging above high level water mark |

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 |
|----------------------------------|---|---|---|--|---|--|--|
| Point Code Provide label ID's | Point Type (e.g., Primary/Secondary/Storm Water Overflow) | Local Authority Name (e.g., Donegal County Council) | Receiving Water Body Type (e.g., River, Lake, Groundwater, Transitional, Coastal) | Receiving Water Body Name (e.g., River Suir) | Protected Area Type (e.g., SAC, candidate SAC, NHA, SPA etc.) | 6E-digit GPS Irish National Grid Reference | 6N-digit GPS Irish National Grid Reference |
| SW01 BalEnn | Primary | Cork County Council | Stream | None | None | 134624 | 053965 |
| SW02 BalEnn | Storm Water Overflow | Cork County Council | Stream | None | None | 134623 | 053979 |
| SW03 BalEnn | Storm Water Overflow | Cork County Council | River | River Bandon | None | 135709 | 054059 |
| SW04 BalEnn | Storm Water Overflow | Cork County Council | River | River Ahan | None | 135988 | 054146 |

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.

E.2. Monitoring and Sampling Points

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

Reference should be made to, provision of sampling points and safe means of access, sampling methods, analytical and quality control procedures, including equipment calibration, equipment maintenance and data recording/reporting procedures to be carried out in order to ensure accurate and reliable monitoring.

In determining the sampling programme to be carried out, the variability of the emission and its effect on the receiving environment should be considered.

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

Attachment E.2 should contain any supporting information.

| | | |
|----------------------------|------------|-----------|
| Attachment included | Yes | No |
| | √ | |

E.3. Tabular data on Monitoring and Sampling Points

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

| PT_CD | PT_TYPE | MON_TYPE | EASTING | NORTHING | VERIFIED |
|-----------------|-------------------------|----------|---------|----------|----------|
| aSW-1u | Primary – Upstream | S | 134370 | 053893 | N |
| aSW-1d | Primary - Downstream | S | 138108 | 054110 | N |
| SW-01 BalEnn | Primary – Discharge | S | 134624 | 053965 | N |

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

E.4 Sampling Data

Regulation 16(1)(h) of the Waste Water Discharge (Authorisation) Regulations 2007 requires all applicants in the case of an existing waste water treatment plant to specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application.

Regulation 16(1)(l) of the regulations requires applicants to give details of compliance with any applicable monitoring requirements and treatment standards.

Attachment E.4 should contain any supporting information.

| Attachment included | Yes | No |
|---------------------|-----|----|
| | √ | |

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

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

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

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

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

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

Existing Primary Discharge Point

The existing outfall discharges effluent to a tributary of the River Bandon adjacent to Ballineen Waste Water Treatment Plant. The outfall is a 225mm dia concrete pipe. The waste water under-goes secondary treatment prior to being discharged. That section of the River Bandon is not designated as a Natural Heritage Area, a Special Area of Conservation, a Proposed Natural Heritage Area or a Special Protected Area.

- Details of all monitoring of the receiving water should be supplied via the following web based link: http://78.137.160.73/epa_wwd_licensing/. Tables F.1(i)(a) & (b) should be completed for the primary discharge point. Surface water monitoring locations upstream and downstream of the discharge point shall be screened for those substances listed in Tables F.1(i)(a) & (b). Monitoring of surface water shall be carried out at not less than two points, one upstream from the discharge location and one downstream.
- For discharges from secondary discharge points Tables F.1(ii)(a) & (b) should be completed. Furthermore, provide summary details and an assessment of the impacts of any existing or proposed emissions on the surface water or ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made.

There are no secondary discharges points to which this licence application pertains.

- o 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.

There are no groundwater emissions from the existing discharges to which this licence application pertains.

- 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.

The discharge from the Wastewater treatment plant in Ballineen is not within any designated sensitive area under the Urban Wastewater Treatment Regulations 2001. Neither is it located within a European designated site.

a) Mass Balance Equation for Orthophosphate

Median flow of River = 6.28834 m³/sec
 Median oPO₄-P in River (upstream) = 0.05mg/l

Average volume of Discharge = 0.008 m³/sec
 Median value of oPO₄-P in discharge = 1.6mg/l

$$C_{final} = \frac{(6.28834 \times 0.05) + (0.008 \times 1.6)}{6.28834 + 0.008}$$

$$C_{final} = 0.052 \text{ mg/l oPO}_4\text{-P}$$

The increase in Orthophosphate due to the discharge of Ballineen WWTP is 2µg/l

b) Mass Balance Equation for BOD

Flow of River (95%) = 0.56 m³/sec
 Average BOD in River (upstream) = 1mg/l

Average volume of Discharge = 0.008 m³/sec
 Average BOD in Discharge = 27.188 mg/l

$$C_{\text{final}} = \frac{(0.56 \times 1) + (0.008 \times 27.188)}{0.56 + 0.008}$$

$$C_{\text{final}} = 1.37 \text{ mg/l BOD}$$

The increase in BOD due to the discharge of Ballineen WWTP is 0.37mg/l.

c) Mass Balance Equation for Suspended Solids

Flow of River (95%) = 0.56 m³/sec
 Average SS in River (upstream) = 2.5mg/l

Average volume of Discharge = 0.008 m³/sec
 Average SS in Discharge = 39.2 mg/l

$$C_{\text{final}} = \frac{(0.56 \times 2.5) + (0.008 \times 39.2)}{0.56 + 0.008}$$

$$C_{\text{final}} = 3.02 \text{ mg/l BOD}$$

The increase in SS due to the discharge of Ballineen WWTP is 0.52mg/l.

d) Mass Balance Equation Total Phosphate

50% Median flow of River = 3.144 m³/sec
 Median TP in River (upstream) = 0.2mg/l

Average volume of Discharge = 0.008 m³/sec
 Median value of TP in discharge = 2.84 mg/l

$$C_{\text{final}} = \frac{(3.144 \times 0.2) + (0.008 \times 2.84)}{3.144 + 0.008}$$

$$C_{\text{final}} = 0.206 \text{ mg/l TP}$$

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

e) Mass Balance Equation for Total Nitrogen

Flow of River (95%) = 0.56 m³/sec
 Average Total Nitrogen in River (upstream) = 2.4mg/l

Average volume of Discharge = 0.008 m³/sec
 Average Total Nitrogen in Discharge = 24.1 mg/l

$$C_{\text{final}} = \frac{(0.56 \times 2.4) + (0.008 \times 24.1)}{0.56 + 0.008}$$

$$C_{\text{final}} = 2.7 \text{ mg/l Total Nitrogen}$$

The increase in Total Nitrogen due to the discharge of Ballineen WWTP is 0.3mg/l.

f) Mass Balance Equation for Sulphate

Flow of River (95%) = 0.56 m³/sec
 Average Sulphate in River (upstream) = 30mg/l

Average volume of Discharge = 0.008 m³/sec
 Average Sulphate in Discharge = 30mg/l

$$C_{\text{final}} = \frac{(0.56 \times 30) + (0.008 \times 30)}{0.56 + 0.008}$$

$$C_{\text{final}} = 30 \text{ mg/l Sulphate}$$

The increase in Sulphate due to the discharge of Ballineen WWTP is 0.0mg/l.

g) Mass Balance Equation for Ammonia-N

Flow of River (95%) = 0.56 m³/sec
 Average Ammonia-N in River (upstream) = 0.1mg/l

Average volume of Discharge = 0.008 m³/sec
 Average Ammonia-N in Discharge = 19.6mg/l

$$C_{\text{final}} = \frac{(0.56 \times 0.1) + (0.008 \times 19.6)}{0.56 + 0.008}$$

$$C_{\text{final}} = 0.374 \text{ mg/l Ammonia}$$

The increase in Ammonia due to the discharge of Ballineen WWTP is 0.274mg/l.

- 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.

The Dangerous Substances Regulations define the main polluting pesticides, solvents and metals which have significant effects on the environment. As the effluent being discharge is mainly domestic, it can be assumed that the presence of these substances is negligible. This has been confirmed by results of analysis of receiving water outlined in Table E4. The main parameters which impact the receiving environment are limited to BOD, suspended solids and bacteria (total and faecal Streptococci).

- 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.

The nearest surface water abstraction for public water supply is located at Baxters Bridge near Bandon. Given the distance to this abstraction, approximately 10km it is not considered necessary to undertake any measures to ensure that discharges from the WWTP will not have a significant effect on faecal coliform, salmonella and protozoan pathogen numbers in the receiving environment. Furthermore the emissions from the existing WWTP would be unlikely to impair the environment given the high level of dilution available in the river and the low levels of BOD outlined in Mass Balance Equations above and those outlined in E.4 tables.

- 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)

The discharge point from the WWTP is not located within European designated site; however, proposed Natural Heritage Areas (pNHAs) are located downstream and both proposed Natural Heritage Areas (pNHAs) and Special Areas of Conversation are located upstream. Bandon Valley West of Bandon pNHA (Site Code: 001034) is located approximately 10km downstream of the discharge point. The main qualifying interests of this pNHA are ruminants of broadleaved oak woodland and its unmodified river bed. Otters have also been reported in the Bandon Valley.

The SAC Bandon River (Site Code 002171) is located near Dunmanway approx 12km upstream and was designated for the Annex I priority habitat Alluvial forest and has good examples of another Annex I habitat – Float River Vegetation. The Annex II animal species Otter, Salmon (*Salmo salar*), Brook Lamprey (*Lampetra planeri*) and Freshwater Pearl Mussel (*Margaritifera*) occur. The kingfisher listed under Annex I of the E.U. Birds Directive, breed along the river. Bandon Valley South of Dunmanway pNHA (Site Code: 001035) is also located upstream of the WWTP discharge point.

The emissions from the existing WWTP would be unlikely to impair the environment given the high level of dilution available in the river.

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

There are no measures in place to minimise pollution over long distances. The waste water under-goes secondary treatment in Ballineen WWTP prior to discharge. The emissions from the existing WWTP would be unlikely to impair the environment given the high level of dilution available in the river.

- 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**

No modelling is available for the discharge from the WWTP.

| | | |
|----------------------------|------------|-----------|
| Attachment included | Yes | No |
| | | ✓ |

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

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

| ABS_CD | AGG_SERVED | ABS_VOL | PT_CD | DIS_DS | EASTING | NORTHING | VERIFIED |
|------------------|---------------------|--------------|-------|-------------|---------|----------|----------|
| Abstraction Code | Bandon and Environs | 4,187 m3/day | SW01 | Approx 10km | 144118 | 054630 | N |

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

Find details contained in attachment F.2 of results for the Abstracted Water, the Catchment Area and the Cryptosporidium Risk Assessment for Baxters Bridge.

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

Attachment F.2 should contain any supporting information.

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SECTION G: PROGRAMMES OF IMPROVEMENTS

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

G.1 Compliance with Council Directives

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

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

Compliance with Council Directives

At present there is no record of non compliance in relation to the emissions from the agglomeration with the council directives. The influent undergoes secondary treatment at Ballineen Waste Water Treatment Plant prior to being discharged to the River Bandon. A report was carried out on the up-grading of Ballineen Waste Water Treatment Plant in recent times. The main elements of the proposed up-grade are as follows:

- Divert the inlet flow from the existing oxidation ditch inlet to precast concrete pump sump.
- Pump 3 DWF from the pump sump to a selector tank via a grit trap and a mechanically raked fine screen with a Lysep unit.
- Repair and recommission the existing sludge holding tank and convert to picket fence thickener. Cover tank and install odour control unit.
- Construct sampling and measuring chamber on the final effluent outlet pipe.
- Provide 45m³ precast concrete storm tank to retain flows in excess of 3 DWF entering works. Return flows to adjacent pump sump and install high level overflow if capacity of storm tank is exceeded.

The report gave further recommendations for consideration for future works:

- Duplicate oxidation ditch and connect pipework from selector tank.
- Duplicate settling tank and return sludge to selector tank. Excess sludge to sludge holding tank (picket fence thickener)
- Extend fencing and landscaping site.

When such an up-grade goes ahead it would further facilitate compliance with the Council Directives. The following details the compliance with the applicable directives.

Dangerous Substances Directive 2006/11/EC

The effluent from Ballineen/Enniskeane is mainly domestic and the industrial contribution can be considered as negligible. For this reason, we can assume that any dangerous substances mentioned in the Dangerous Substances Regulations will not be present in the discharge.

Water Framework Directive 2000/60/EC

Water Framework Directive 2000/60/EC – The objectives of the Water Framework Directive (WFD) are to protect all high status waters, prevent further deterioration of all waters and to restore degraded surface and ground waters to good status by 2015. Cork County Council monitors inlet and outlet flows from the WWTP at Ballineen to ensure compliance with relevant standards. Upstream and downstream locations are also monitored. The River Bandon is also monitored by Cork County Council under the Salmonid Directive, the Phosphorus Regulations and the Water Framework Directive. The water quality section of Cork County Council currently monitor at a designated operational site downstream of the discharge location. The South Western Regional Basin District puts the Bandon River in this vicinity as “at risk” while the river status is classed as moderate with an objective to restore. The EPA has 9 number stations on the River Bandon. There are 5 stations downstream of the discharge point. The 3 stations immediately downstream of the WWTP have a 4 Q value is averaged at each of the stations.

Birds Directive 79/409/EEC & Habitats Directive 92/43/EEC

The directive aims to conserve and manage populations of wild birds throughout Europe by part through the designation of Special Protection Areas (SPA) for birds and their habitats. The WWTP site and discharge point are not located in an area designated as a Natural Heritage Area, a Special Area of Conservation, a Proposed Natural Heritage Area or a Special Protected Area. Due to this fact, it is not foreseen that any negative impacts will arise from the agglomeration in relation to these directives.

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

There are no emissions to groundwater.

Drinking Water Directives 80/778/EEC

An abstraction point is present downstream of the WWTP discharge, approximately 10km. Monitoring of the raw water intake and the treated water is undertaken by Cork County Council in order to comply with the Directive.

The River Bandon is monitored at the waterworks intake for the Cork County Council drinking water plant by Cork County Council on a quarterly programme as part of the Abstraction directive. The intake location is also monitored currently on a weekly basis by Cork County Council for both *Cryptosporidium* and *Giardia* and the results are acceptable.

Urban Waste Water Treatment Directive 91/271/EEC

Waste water at the Ballineen WWTP is subject to treatment prior to discharge in order to meet with the required discharge standards as set out under the Urban Waste Water Treatment Regulations 2001. Of the five samples of the effluent detailed in Attachment E.4 of this application, only one exceeds the limit for BOD as set out in these Regulations. Samples from the treatment plant discharge are analysed for BOD, COD, Ammonia, pH, suspended solids, Total Nitrogen, Total Phosphorus, sulphate, Ortho phosphate and metals.

Habitats Directive 92/43/EEC

The WWTP site and discharge point are not located in an area designated as a Natural Heritage Area, a Special Area of Conservation, a Proposed Natural Heritage Area or a Special Protected Area. Due to this fact, it is not foreseen that any negative impacts will arise from the agglomeration in relation to these directives.

Environmental Liabilities Directive 2004/35/EC

The Environmental Liabilities 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.

At present Ballineen-Enniskeane WWTP is maintained by a full time Cork County Council Caretaker and the sludge tank is desludged regularly to prevent environmental damage. It is also proposed to improve and upgrade the treatment plant thus further reducing the possibility of environmental damage.

Bathing Water Directive 76/160/EEC

In Ireland the legislation governing the quality of bathing waters is set out in the Quality of Bathing Waters Regulations, 1992 (S.I. 155 of 1992) and amendments which transpose the EU Directive 76/160/EC concerning the quality of bathing water.

The Directive, which came into force over thirty years ago, is intended to protect public health and the environment at locations where bathing is not prohibited and is traditionally practised by a large number of bathers, by enforcing the achievement of a number of standards, chemical, physical and microbiological.

There are no designated bathing waters in the vicinity of the discharge.

Shellfish Waters Directive 79/923/EEC

There are no waters designated for shellfish in the vicinity of the discharge.

It is proposed to upgrade the waste water treatment plant for Ballineen-Enniskeane as outlined in this application within the next five years or sooner if finance becomes available under the Rural Water Programme.

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 EPA has 9 number stations on the River Bandon. There are 5 stations downstream of the discharge point. The 3 stations immediately downstream of the WWPT have a 4 Q value is averaged at each of the stations.

Effluent Standards

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

As a natural consequence of secondary treatment, there will be an uptake of phosphorus for biomass synthesis at the wastewater treatment plant in Ballineen. As can be seen from the upstream and downstream results in Table E4 the Total P is <0.2mg/l and O-PO4-P is <0.05mg/l, which is within the regulations.

It is proposed to upgrade the waste water treatment plant for Ballineen-Enniskeane as outlined in this application within the next five years or sooner if finance becomes available under the Rural Water Programme.

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 influent undergoes secondary treatment at Ballineen Waste Water Treatment Plant prior to being discharged to the River Bandon. A report was carried out on the up-grading of Ballineen Waste Water Treatment Plant in recent times. The main elements of the proposed up-grade are as follows:

- Divert the inlet flow from the existing oxidation ditch inlet to precast concrete pump sump.
- Pump 3 DWF from the pump sump to a selector tank via a grit trap and a mechanically raked fine screen with a dewatering unit.
- Repair and recommission the existing sludge holding tank and convert to picket fence thickener. Cover tank and install odour control unit.
- Construct sampling and measuring chamber on the final effluent outlet pipe.
- Provide 45m³ precast concrete storm tank to retain flows in excess of 3 DWF entering works. Return flows to adjacent pump sump and install high level overflow if capacity of storm tank is exceeded.

The report gave further recommendations for consideration for future works:

- Duplicate oxidation ditch and connect pipework from selector tank.
- Duplicate settling tank and return sludge to selector tank. Excess sludge to sludge holding tank (picket fence thickener)
- Extend fencing and landscaping site.

It is proposed to upgrade the waste water treatment plant for Ballineen-Enniskeane as outlined in this application within the next five years or sooner if finance becomes available under the Rural Water Programme.

This would further facilitate compliance with the Council Directives.

Attachment G.3 should contain the most recent programme of improvements, including a copy of any approved funding for the project and a timeframe for the completion of the necessary works to take place.

| | | |
|----------------------------|------------|-----------|
| Attachment included | Yes | No |
| | | √ |

G.4 Storm Water Overflow

Provide details on a programme of improvements to ensure that discharges other than the primary and secondary discharges comply with the definition of 'storm water overflow' as per Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007.

There's 3 storm water overflows in the Ballineen/Enniskeane Sewerage Scheme.

Frequency & Duration of activation of emergency overflow to receiving waters:

SW03 BalEnn only overflows in very extreme weather conditions, which according to the caretaker has very rarely happened. The caretaker has stated that the storm overflow tank has more than sufficient volume to cater for the usual wet weather conditions. The only other possible occurrences of overflow could arise when there is failure of both pumps or a power cut, which has not happened to date.

SW02 BalEnn very rarely overflows due to the fact a relatively newly laid storm water sewer has been put in place along Main St, Enniskene practically eliminating any overflows from the existing gravity foul sewer system.

SW01 BalEnn is not causing any significant problems. In fact it appears that none of the stormwater overflows are having any negative impact on receiving waters.

It must be noted that discharge points are not located in an area designated as a Natural Heritage Area, a Special Area of Conservation, a Proposed Natural Heritage Area or a Special Protected Area. As part of the upgrade for the Waste Water Treatment Plant it is proposed to construct a storm retention tank with overflow from this to the river thus facilitating elimination of the existing overflow at the inlet works. The new overflow and storm tank would be designed in accordance with DoEHLG "Procedures and Criteria in relation to Storm Water Overflows 1995"

It is proposed to upgrade the waste water treatment plant for Ballineen-Enniskene as outlined in this application within the next five years or sooner if finance becomes available under the Rural Water Programme.

This would further facilitate compliance with the Council Directives.

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 : *Michael Mahony*
(on behalf of the organisation)

Date : 18/6/09

Print signature name: MIKAL MAHONY

Position in organisation: SENIOR ENGINEER

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SECTION I: JOINT DECLARATION

Joint Declaration ^{Note1}

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

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

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

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

Lead Authority

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

Print signature name: _____

Position in organisation: _____

Co-Applicants

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

Print signature name: _____

Position in organisation: _____

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

Print signature name: _____

Position in organisation: _____

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

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ANNEX 1 – TABLES / ATTACHMENTS

Section A - Non Technical Summary

Attachment A1 – BalEnn A1-01 – Site Location Map of Agglomeration

Section B - General

Attachment B1 – BalEnn B1-01 – Ballineen/Enniskeane Agglomeration Boundary Map

Attachment B2 – BalEnn B2-01 – Site Location of Existing Waste Water Treatment Plant

Attachment B2 – BalEnn B2-02 – Site Layout of Existing Waste Water Treatment Plant

Attachment B3 – BalEnn B3-01 – Existing Primary Discharge Point

Attachment B5 – BalEnn B5-01 – Existing Storm Water Overflow Points

Attachment B6 – Part 8 Planning Permission – County Managers Report on the Enniskeane Pumping-Station

Attachment B8 – BalEnn B8-01 – Location of Site Notices

- Site Notice
- Press Notice

Attachment B9 – Application Fee

Section C – Infrastructure & Operation

Attachment C1 - BalEnn C1-01 – Waste Water Treatment Plant Site Layout

Attachment C1 - BalEnn C1-02 – Waste Water Treatment Plant Process Flow Diagram

Attachment C1 - BalEnn C1-03 – Location of Pumping Stations

Attachment C1 - BalEnn C1-04 – Enniskeane Pumping Station Design Details

Attachment C1 - BalEnn C1-05 – Enniskeane Pumping Station Design Details

Section E – Monitoring

Attachment E2 - Monitoring Programme

Attachment E2 - BalEnn E2-01 – Locations of Sampling Points

Attachment E2 – BalEnn E2-02 – Downstream Sampling Point

Attachment E4 - Sampling Data

Section F – Existing Environment and Impact of Discharges

Attachment F2 - Baxters Bridge Catchment

Attachment F2 – Abstraction Details

Attachment F2 – Cryptosporidium Risk Assessment

Tables D – Discharges to the Aquatic Environment

Tables D.1 (i)(a), (b) & (c) Emission to Surface Water – Primary Discharge

Tables D.1 (iii)(a) Emission to Surface Water – Storm water Overflows

Tables E – Monitoring

Tables E.1 (i) Wastewater Frequency and Quality of Discharge – Primary Discharge

Tables E.1 (ii) Wastewater Frequency and Quality of Discharge – Storm water Overflows

Tables F – Existing Environment & Impact of the Discharges

Tables F.1 (i)(a) Surface/Ground Water Monitoring – Primary Discharge

Tables F.1 (i)(b) Surface/Ground Water Monitoring (dangerous substances) – Primary Discharge

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ANNEX 2 – Checklist

Checklist for Regulation 16/17 Compliance

SECTION A

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Attachment A.1

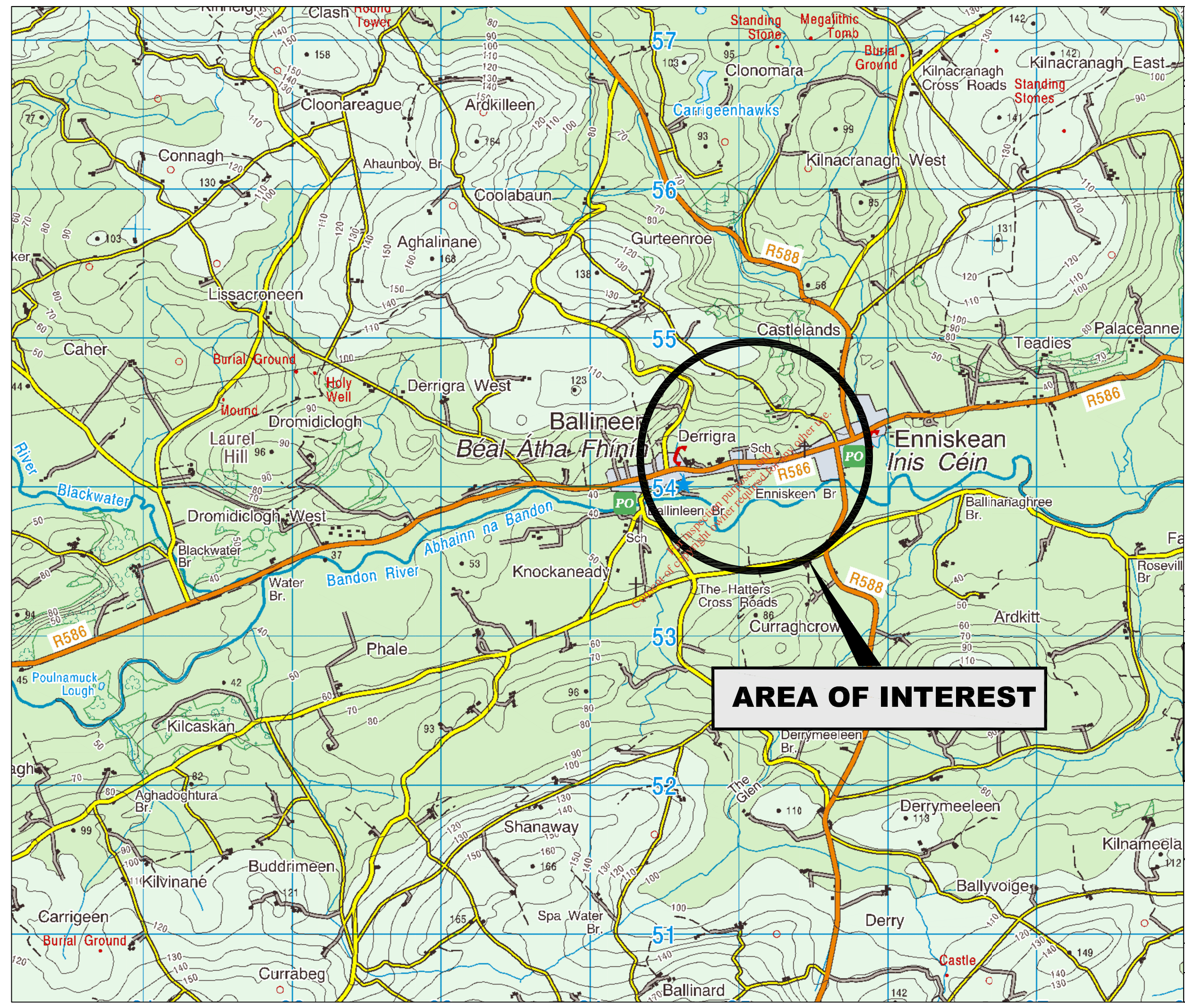
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Attachment A1

Map:

- **BalEnn A1-01** - Site Location Map

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AREA OF INTEREST

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|-----|------|-------|---------|----------|-------------|
| | | | | | |

**Cork County Council,
Western Division.**



N. O'MAHONY, B.E.,
SEN. ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER_DISCHARGE_LICENCE
LICENCE**

Drawing Title:
**ATTACHMENT_A.1
AGGLOMERATION_LOCATION_MAP**

| | | |
|---------------------------------|---------------------------|--------------------|
| Prepared By: D. O'DONOVAN | Checked By: D. GROARKE | Date: JUNE 2009 |
| Drawing number: BALENN_A1_01 | Scales: NTS | Rev: - |

SECTION B

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Attachment B.1

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Attachment B1

Map:

- **BalEnn B1-01** – Ballineen/Enniskeane Agglomeration Boundary Map

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LEGEND

——— AGGLOMERATION BOUNDARY

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|-----|------|-------|------|----------|-------------|
| | | | | | |

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N.O'MAHONY, B.E.,
SENIOR ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_B.1
AGGLOMERATION_BOUNDARY**

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O'DONOVAN | Checked By: D.GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_B1_01 | Scales: 1/5000 | Rev: - |

Attachment B.2

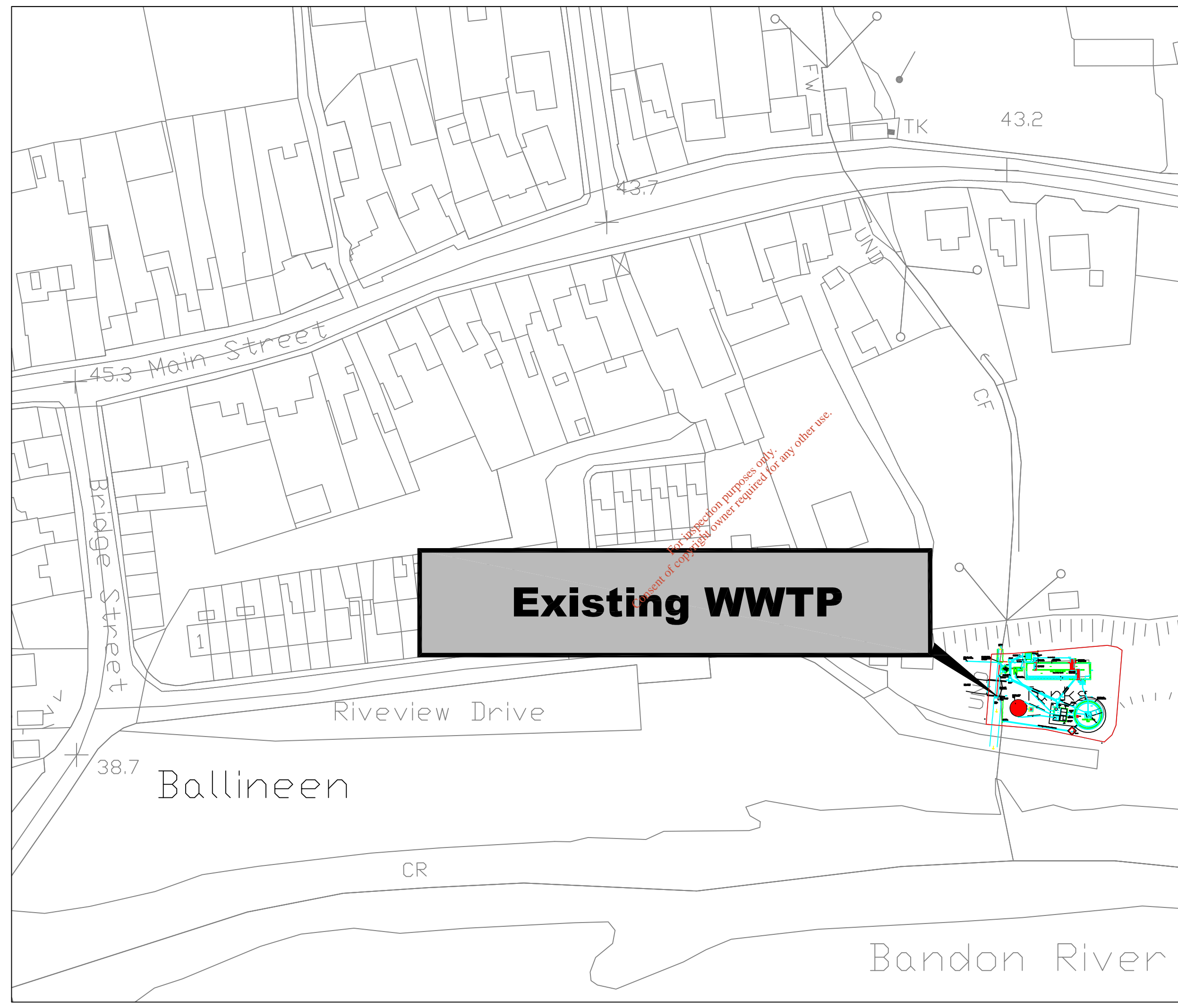
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Attachment B2

Map:

- **BalEnn B2-01** – Site Location of Existing Wastewater Treatment Plant
- **BalEnn B2-02** – Layout Plan of Existing Wastewater Treatment Plant

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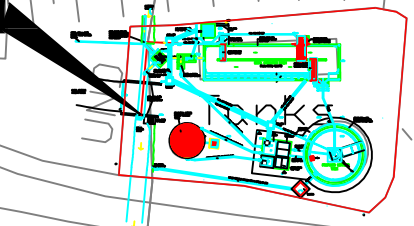


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Existing WWTP



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|-----|------|-------|---------|----------|-------------|
| | | | | | |

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COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

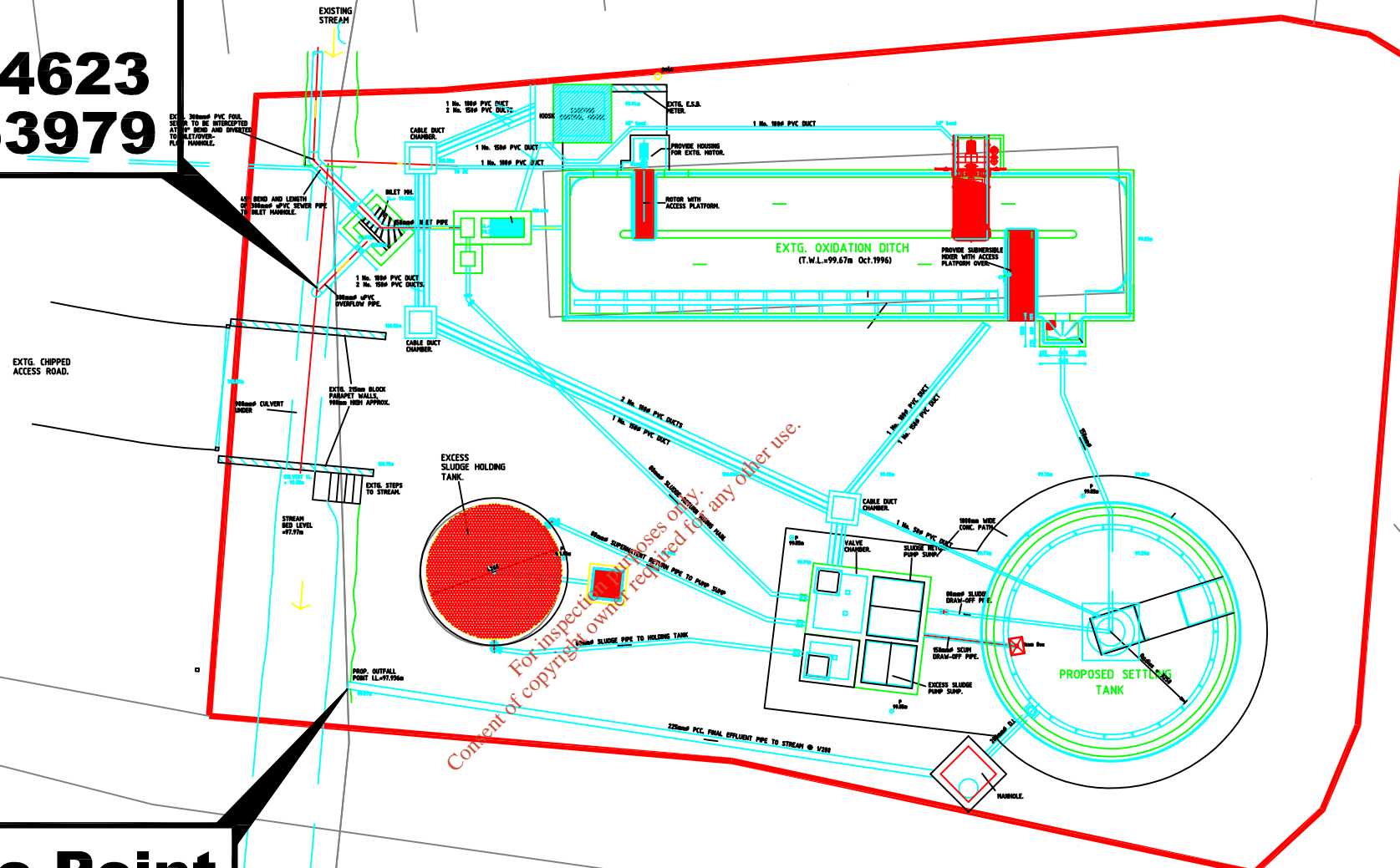
Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_B.2
EXISTING_WWTP
SITE_LOCATION_PLAN**

| | | |
|---------------------------------|---------------------------|--------------------|
| Prepared By: D. O'DONOVAN | Checked By: D. GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_B2_01 | Scales: 1/1000 | Rev: - |

Secondary Discharge Point

SW02 BalEnn E: 134623
N: 053979



Primary Discharge Point & Sampling Point

SW01 BalEnn E: 134624
N: 053965

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M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_B.2
LAYOUT_PLAN_OF_EXISTING
WASTE_WATER_TREATMENT_PLANT**

| | | |
|---------------------------------|---------------------------|--------------------|
| Prepared By: D. O'DONOVAN | Checked By: D. GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_B2_02 | Scales: 1/200 | Rev: - |

Attachment B.3

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Attachment B3

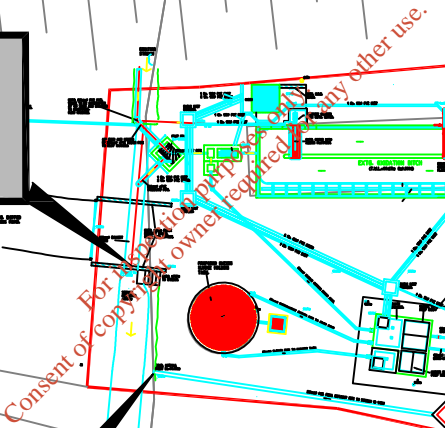
Map :

- **BalEnn B3-01** – Existing Primary Discharge Point

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Existing WWTP

**Primary Discharge Point
SW01 BalEnn
E: 134624
N: 053965**



NOTES

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**Cork County Council,
Western Division.**



N.O'MAHONY, B.E.,
SENIOR ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE_WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_B.3
EXISTING_PRIMARY
DISCHARGE_POINT**

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O'DONOVAN | Checked By: D_GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_B3_01 | Scales: 1/500 | Rev: - |

Attachment B.5

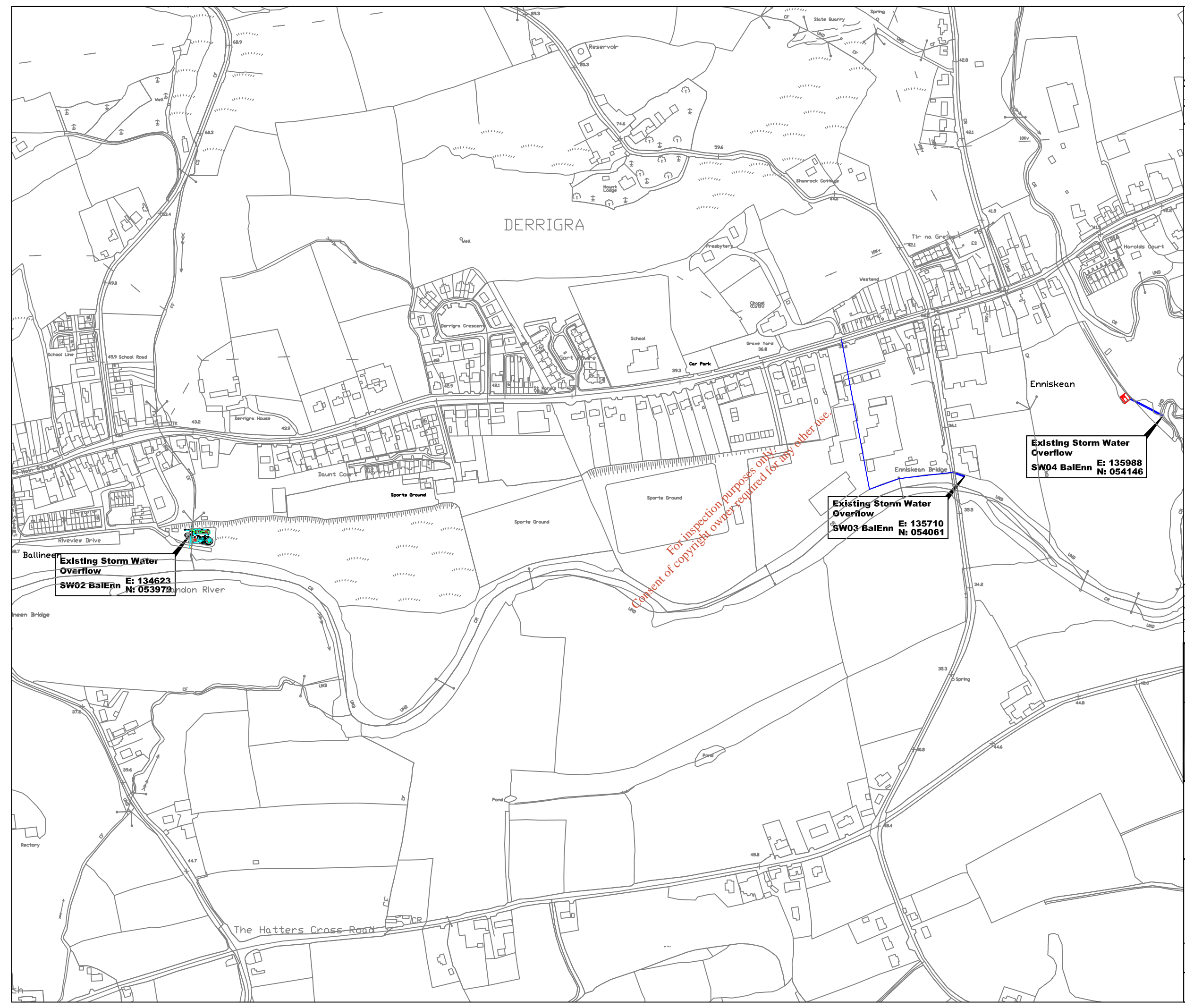
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Attachment B5

Map :

- **BalEnn B5-01** – Existing Storm Water Overflow Points

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NOTES

1. Do not scale, use figured dimensions only. If in doubt ask
2. All dimensions to be checked on site
3. Drawings to be read in conjunction with Licence application
4. Includes Ordnance Survey Ireland data reproduced under OSi Licence number Cork County Council CCMA2004/07 Unauthorised reproduction infringes Ordnance Survey Ireland and Government of Ireland



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Existing Storm Water Overflow
SW02 BalEnn E: 134623
N: 053973

Existing Storm Water Overflow
SW03 BalEnn E: 135710
N: 054061

Existing Storm Water Overflow
SW04 BalEnn E: 135988
N: 054146

| No. | Date | Drawn | Chkd | Revision | Description |
|-----|------|-------|------|----------|-------------|
| | | | | | |

**Cork County Council,
Western Division.**



N.O'MAHONY, B.E.,
SENIOR ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_B.5
EXISTING_STORM_WATER
OVERFLOW_POINTS**

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O'DONOVAN | Checked By: D_GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_B5_01 | Scales: 1/5000 | Rev: - |

Attachment B.6

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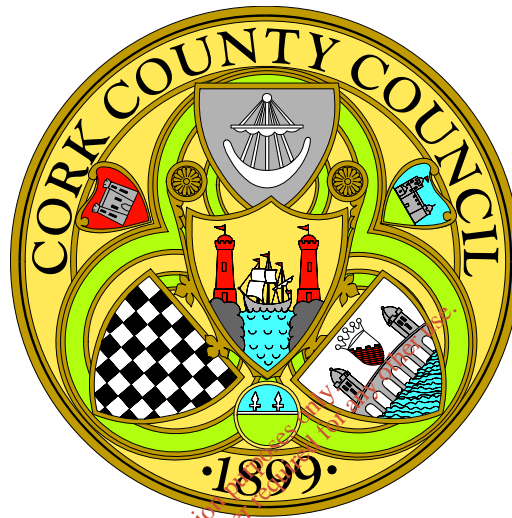
Attachment B6

Supporting Information:

- **Part 8 Planning Permission** – County Managers Report on the Enniskeane's Pumping Station

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PROPOSED SEWAGE PUMPING STATION AT ENNISKEANE, CORK



For inspection
Consent of copyright owner

Application for Planning Permission under Part Eight of the
Planning and Development Regulations, 2001
(S.I No. 600 of 2001)

E. Flynn, B.E., C.Eng., F.I.E.I.
County Engineer
Cork County Council

L. Cunningham
Director of Services
South Cork - Rural

1. Introduction

Cork County Council proposes to construct a Sewage Pumping Station at Enniskeane, County Cork. Planning Permission under 'Part Eight' of the 2001 Planning and Development Regulations is required.

Section 2 is a synopsis of the 'Part Eight' procedure provided for information only, it is not a legal interpretation. Details of the proposal for a Sewage Pumping Station at Enniskeane, County Cork is provided in Section 3 and the Appendices.

2. Requirements of the Planning and Development Regulations

Section 179 of PART XI of the Planning and Development Act, 2000 and Part 8 of the Planning and Development Regulations, 2001 set out the requirements in respect of certain classes of development by or on behalf of local authorities. Part 8 of the Regulations comprises 7 Articles – 79 to 85.

Article 80(1) lists the type of Development to which Part Eight applies and includes at (d) the construction or erection of pumping stations, treatment works, holding tanks or outfall facilities for waste water or storm water.

(k) any development other than those specified in paragraphs (a) to (j) the estimated cost of which exceeds € 126,000, not being development consisting of the laying underground of sewers, mains, pipes or other apparatus.

Article 81 sets out various requirements relating to general Notice of proposed development. Notice is to given in an approved newspaper and by the erection of a site notice. Details to be included in the general Notice of the proposed development are set out in sub-article (2). This notice is included in APPENDIX A.

Article 82 sets out various requirements of notice of the proposed development to certain bodies. Details of the required Notice are set out in sub-article (2). This Notice is included in APPENDIX B. Sub-article (3) sets out the statutory bodies that the local authority should consider informing. Those to be notified in this application are set out in APPENDIX C.

Article 83 deals with availability for inspection of documents, particulars and plans and requires that the following shall be available for inspection:

- (a) A document describing the nature and extent of the proposed development and the principal features thereof. (Refer to Section 3 of this application.)
- (b) A location map, drawn to a scale of not less than 1:2,500 and marked or coloured so as to identify clearly the land on which it is proposed to carry out the proposed development. (Refer to APPENDIX D, Drawing Nos. 001).
- (c)(i) A site layout plan, drawn to a scale of not less than 1:500, showing the boundary of the site on which it is proposed to carry out the proposed development and buildings or other structures, and roads or other features, in the vicinity of the site. (Refer to APPENDIX D, Drawing No. 002).
- (c)(ii) Such other plans and drawings, drawn to a scale of not less than 1:100, as are necessary to describe the proposed development.

The period for inspection of the above documents shall be not less than 4 weeks from the date of notice. An additional period of not less than 2 weeks shall be specified for the making of submissions or observation. Submissions or observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the development would be situated shall be in writing.

Submissions or observations received by the Cork County Council in respect of the proposed development shall also be available for inspection and purchase.

Following the public consultation period the manager shall submit a written report to the members of the local authority for consideration. Section 179 of the principal Act sets out the details of the report. The report shall recommend that the proposed development should proceed as proposed, proceed as modified (as recommended by the report), or not be proceeded with as the case may be. The

proposed development may be carried out as recommended in the manager's report unless the local authority, by resolution, within six weeks of issue of the report, decides to modify the development or decides not to proceed with the development.

Article 84 details the Notification procedures to the various bodies initially notified pursuant to Article 82 and to any other persons or bodies who made submissions or observations following the period of consideration.

3. Scheme Proposal

General Description

The existing sewage system at Enniskeane essentially comprises of a combined foul and storm water gravity system. Sewage treatment is by an existing septic tank which was installed in the nineteen sixties. This tank has a design capacity of approximately 170 PE and this is now totally inadequate for the current population of Enniskeane. The discharge from this tank is to the River Ahan, which has a catchment area of approximately 27 km² upstream of Enniskeane.

The desirability of a sewage treatment works is adverted to in clause 10.4.5 of the 1996 County Development Plan. Cork County Council proposes to construct a new sewage pumping station at Enniskeane with a design capacity of 1500 PE. The pumping station will incorporate automatic control of pumps and automatic monitoring of plant status. Emergency backup of monitoring and control equipment will be provided. An emergency storm water overflow tank will be incorporated into the pumping station in the event of plant or power failure. A new rising main and gravity sewer extension will connect the pumping station to the recently constructed wastewater treatment works in Ballineen. Approximately 1300m of this rising main and gravity sewer extension will be constructed along the existing R586 Bandon to Dunmanway Road. On completion of the new pumping station, the existing septic tank will be decommissioned.

Location

The location of the proposed sewage pumping station is on the existing collecting sewer close to the existing septic tank approximately 200m south-southeast of the bridge over the River Ahan at Enniskeane on the R586 Bandon to Dunmanway Road. Enniskeane is located approximately 14km west of Bandon, County Cork. The exact site of the pumping station is shown on **Drawing Nos 001 & 002**.

The location is not identified on the maps in the Council's Planning & Environmental sections as being a "Proposed Natural Heritage Area", a "Proposed Candidate Special Areas for Conservation" of August 1999 or the "Urban Archaeological Survey of County Cork".

The project has been submitted to the Council's Roads, Planning and Environmental sections and they have not indicated any objections. Any comments that are received prior to the latest date in the public advert will be included with the Report to Members.

Scope of Work

Pumping Station

The combined pumping station and storm water overflow tank will be of reinforced concrete construction occupying a site of approximately 100m² (0.03 acres). The structure will be predominantly below existing ground level with access points above the anticipated river flood level. An electrical power supply to the pumping station will be provided. Electrical control and monitoring equipment will be contained in a control kiosk installed on a plinth above the anticipated river flood level.

The site layout is shown on **Drawing No 003**.

The general arrangement of the proposed pumping station and storm water tank is shown on **Drawing No 004**.

Security

The proposal includes the erection of a 2.4m high palisade fence around the site. There will be a single controlled entrance to the site for access. Entrance to the site will be limited to the area water curator and operation/ maintenance personnel. Any other Cork County Council personnel wishing to enter the site will need prior approval from the Area Engineer, Bandon.

Aesthetics

The palisade fence enclosing the site will be coloured green.

The site will be landscaped after construction. All construction areas will be returned as close as practicably possible to their original condition.

Environmental Issues

There will be no need to uproot existing trees or protected species of vegetation on the site.

The nearest dwelling to the proposed pumping station is approximately 175m distant and the nearest road approximately 200m distant. No noise or odour problems are therefore anticipated with the pumping station installation.

Traffic Movement

Following construction, vehicular access to the site will only be required for routine maintenance and electricity meter reading. This will only require approximately one to two visits per month for a light vehicle. The area curator will generally use pedestrian access for routine visits.

APPENDIX A

(Newspaper and site notice required by Article 81)

CORK COUNTY COUNCIL Planning & Development Regulations, 2001

Pursuant to the requirements of Part 8 of the Planning & Development Regulations, 2001, Notice is hereby given that Cork County Council proposes to undertake the following development:

Construction of a Sewage Pumping Station at Enniskeane, Co. Cork.

The site (of area 0.03 acres) is located approximately 200 metres south-southeast of the bridge over the River Ahan at Enniskeane on the R586 Bandon to Dunmanway Road. Enniskeane is located approximately 14km west of Bandon, County Cork.

Plans and particulars of the proposed development will be available for inspection at the offices of Cork County Council at Room 902, County Hall, Cork and the Area Engineer's Office, Glasslyn Road, Bandon, Co. Cork between 09.30 and 16.30 on weekdays until Monday, 24 March 2003.

Submissions or observations with respect to the proposed development, dealing with the proper planning and development of the area in which the development would be situated, may be made in writing to The Senior Executive Officer, Water Services Capital – South Cork Rural, Cork County Council, Room 902, County Hall, Cork on or before Monday, 7 April 2003.

APPENDIX B

(Notice to statutory bodies as required by Article 82)

(a) The notice should indicate the location, nature and extent of the proposed development,

The site (of area 0.03 acres) is located approximately 200 metres south southeast of the bridge over the River Ahan at Enniskeane on the R586 Bandon to Dunmanway Road. Enniskeane is located approximately 14km west of Bandon, County Cork.

(b) The notice should be accompanied by a copy of the plans and particulars of the proposed development made available for inspection by members of the public in accordance with article 133.

A copy of the text of the submission and the related drawings are attached.

Submissions or observations with respect to the proposed development, dealing with the proper planning and development of the area in which the development would be situated, may be made in writing to The Senior Executive Officer, Water Services Capital – South Cork Rural, Cork County Council, Floor 4, County Hall, Cork on or before Monday, 7 April 2003.

APPENDIX C

Bodies to whom a notice and copies of the proposal will be sent as scheduled in Article 82(3):

| Sub clause of 82(3) | Bodies suggested in 82(3) | Selected in this case |
|----------------------------|---|--|
| (a) | An Chomhairle Ealaion, Bord Failte Eireann, An Taisce | An Taisce |
| (b) | Bord Failte Eireann | None |
| (c) | Minister for Arts, Heritage, Gaeltacht and the Islands, The Heritage Council, An Taisce, An Chomhairle Ealaion, Bord Failte Eireann | None |
| (d) | Other affected local authority | Western Division, Cork County Council |
| (e) | Regional authority where he proposed development would materially contravene any planning guideline of the regional authority | None |
| (f) | Regional Fisheries Board and Waterways Ireland | South West Regional Fisheries Board |
| (g) | Irish Aviation Authority | None |
| (h) | Affected airport operator | None |
| (i) | National Roads Authority | NRA |
| (j) | Dublin Transportation Office | None |
| (k) | Environmental Protection Agency | Only when licence is required |
| (l) | Minister for Arts, Heritage, Gaeltacht and the Islands, The Heritage Council, An Taisce, The National Trust for Ireland | None |
| (m) | Minister for Arts, Heritage, Gaeltacht and the Islands, Udaras na Gaeltachta | None |
| (n) | The Minister for Justice, Equality and Law Reform | None |
| (o) | Appropriate Health Board | Health Service Executive |
| (p) | Minister for the Marine and Natural Resources | None |
| Other | None | Duchas |

APPENDIX D:

Drawings

Drawing Number 001

Location map - scale of 1 to 50,000. Showing the location of the site

Drawing Number 002

Location map - scale of 1 to 2,500. Showing the land on which it is proposed to carry out the new development.

Drawing Number 003

Site layout plan - scale of 1 to 500. Showing the boundary of the site in which it is proposed to carry out the development together with buildings, other structures, roads or other features in the vicinity of the site.

Drawing Number 004

General arrangement drawing - scale 1 to 50. Showing general arrangement of pumping station and emergency storm water overflow tank.

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Attachment B.8

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Attachment B8

- Copy of Site Notice
- Copy of Press Notice

MAP:

- **BaIEnn B8 – 01** - Location of Site Notice

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CORK COUNTY COUNCIL

SITE NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE

In accordance with the Waste Water Discharge (Authorisation) Regulations 2007, S.I. No. 684 of 2007, Water Services (Western Division), Cork County Council, Courthouse, Skibbereen, Co. Cork is applying to the Environmental Protection Agency for a Waste Water Discharge Licence for the Ballineen/Enniskeane Agglomeration at the following locations:

| Plant Name | Location | National Grid Ref. |
|----------------|----------|--------------------|
| Ballineen WWTP | Derrigra | E134640 N053975 |

| Discharge Type | Function | Townland | Receptor | Grid Reference |
|----------------|----------|----------|--------------|------------------|
| Primary | Major | Derrigra | River Bandon | 134624E, 053965N |

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 Water Services, Courthouse, Skibbereen, Co. Cork. Telephone: (028)21299 Fax: (028)21995.

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

CORK COUNTY COUNCIL

CIARLA CHONTAE CHORCAÍ

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

| Location | National Grid Ref. |
|-----------------------|--------------------|
| Ballyadam, Churchtown | E150273 N113258 |

| Townland | Receptor | Grid Ref. |
|-----------|------------------|--------------------|
| Ballyadam | Percolation Area | E150281 N113298 |

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the agglomeration of Clondulane at the following locations:

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the agglomeration of Clondulane at the following locations:

| Plant Name | Location | National Grid Ref. |
|-----------------|------------------|--------------------|
| Clondulane WWTP | Clondulane North | E185341 N98981 |

| Discharge | Function | Townland | Receptor | Grid Ref. |
|-----------|----------|------------------|---------------------------------------|-------------------|
| Primary | Main | Clondulane North | Careysville stream / River Blackwater | E188362 N98993 |

A copy of the application for the Wastewater 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 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie and at
- Cork County Council Offices, Annabella, Mallow, Co. Cork. Tel: 022-21123; Fax: 022-21893.

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

WESTERN DIVISION

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Western Division, Cork County Council, Courthouse, Skibbereen is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for Drimoleague agglomeration at the following locations:

| Plant Name | Location | National Grid Ref. |
|------------------|-------------|--------------------|
| Drimoleague WWTP | Drimoleague | E112677 N045277 |

| Discharge | Function | Townland | Receptor | Grid Ref. |
|-----------|----------|----------------|---------------|--------------------|
| Primary | Major | Garranes South | River Ruagagh | E112681 N045309 |

A copy of the application for the Wastewater 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 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie and at
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

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

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Western Division, Cork County Council, Courthouse, Skibbereen is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for Timoleague agglomeration at the following locations:

| Discharge | Function | Townland | Receptor | Grid Ref. |
|-----------|----------|------------|------------------------|--------------------|
| Primary | Main | Timoleague | Courtmacsherry Estuary | E147200 N043523 |
| Secondary | Minor | Timoleague | Courtmacsherry Estuary | E147132 N043496 |
| Secondary | Minor | Timoleague | Courtmacsherry Estuary | E147141 N043507 |

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

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, S.I. No. 684 of 2007, Water Services (Western Division), Cork County Council, Courthouse, Skibbereen, Co. Cork is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the Ballineen/Enniskeane Agglomeration at the following locations:

| Plant Name | Location | National Grid Ref. |
|----------------|----------|--------------------|
| Ballineen WWTP | Derrigra | E134640 N053975 |

| Discharge | Function | Townland | Receptor | Grid Ref. |
|-----------|----------|----------|--------------|--------------------|
| Primary | Major | Derrigra | River Bandon | E134624 N053965 |

A copy of the application for the Wastewater 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 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie and at
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

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

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Western Division, Cork County Council, Courthouse, Skibbereen is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for Ballydehob agglomeration at the following locations:

| Plant Name | Location | National Grid Ref. |
|-----------------|------------|--------------------|
| Ballydehob WWTP | Ballydehob | E098960 N035286 |

| Discharge | Function | Townland | Receptor | Grid Ref. |
|-----------|----------|------------|----------------|--------------------|
| Primary | Main | Ballydehob | Ballydehob Bay | E099090 N035099 |

Cork County Council proposes to construct a new wastewater treatment plant at Ballydehob, Co. Cork, Grid Reference (E098949, N035278). It is proposed to discharge treated wastewater from this plant to Ballydehob Bay. The proposed location is detailed in the table below:

| Discharge | Function | Townland | Receptor | Grid Ref. |
|-----------|----------|------------|----------------|--------------------|
| Primary | Main | Ballydehob | Ballydehob Bay | E099090 N035099 |

A copy of the application for the Wastewater 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 335 599; Tel: 053-9160600; Fax: 053-9160699; Email: info@epa.ie and at
- Cork County Council Water Services (Western Division), Courthouse, Skibbereen, Co. Cork. Tel: 028-21299; Fax: 028-21995.

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

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, S.I. No. 684 of 2007, Water Services (Western Division), Cork County Council, Courthouse, Skibbereen, Co. Cork is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the Castletownshend agglomeration at the following locations:

Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160699; Email: info@epa.ie

Offices, Annabella, Mallow, Co. Cork. Tel: 022-21893.

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

ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the agglomeration of Clondulane at the following locations:

| Location | National Grid Ref. |
|--------------------------|--------------------|
| Ballymacmoy, Killavullen | E164897 N099517 |

| Townland | Receptor | Grid Ref. |
|-------------|------------|--------------------|
| Ballymacmoy | Ross River | E164919 N099521 |

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the agglomeration of Clondulane at the following locations:

Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160699; Email: info@epa.ie

Offices, Annabella, Mallow, Co. Cork. Tel: 022-21893.

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

ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE

In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the agglomeration of Clondulane at the following locations:

| Location | National Grid Ref. |
|-------------|--------------------|
| Ballyclough | E149318 N101474 |

| Townland | Receptor | Grid Ref. |
|-------------|---------------|--------------------|
| Ballyclough | Finnow Stream | E149349 N101796 |

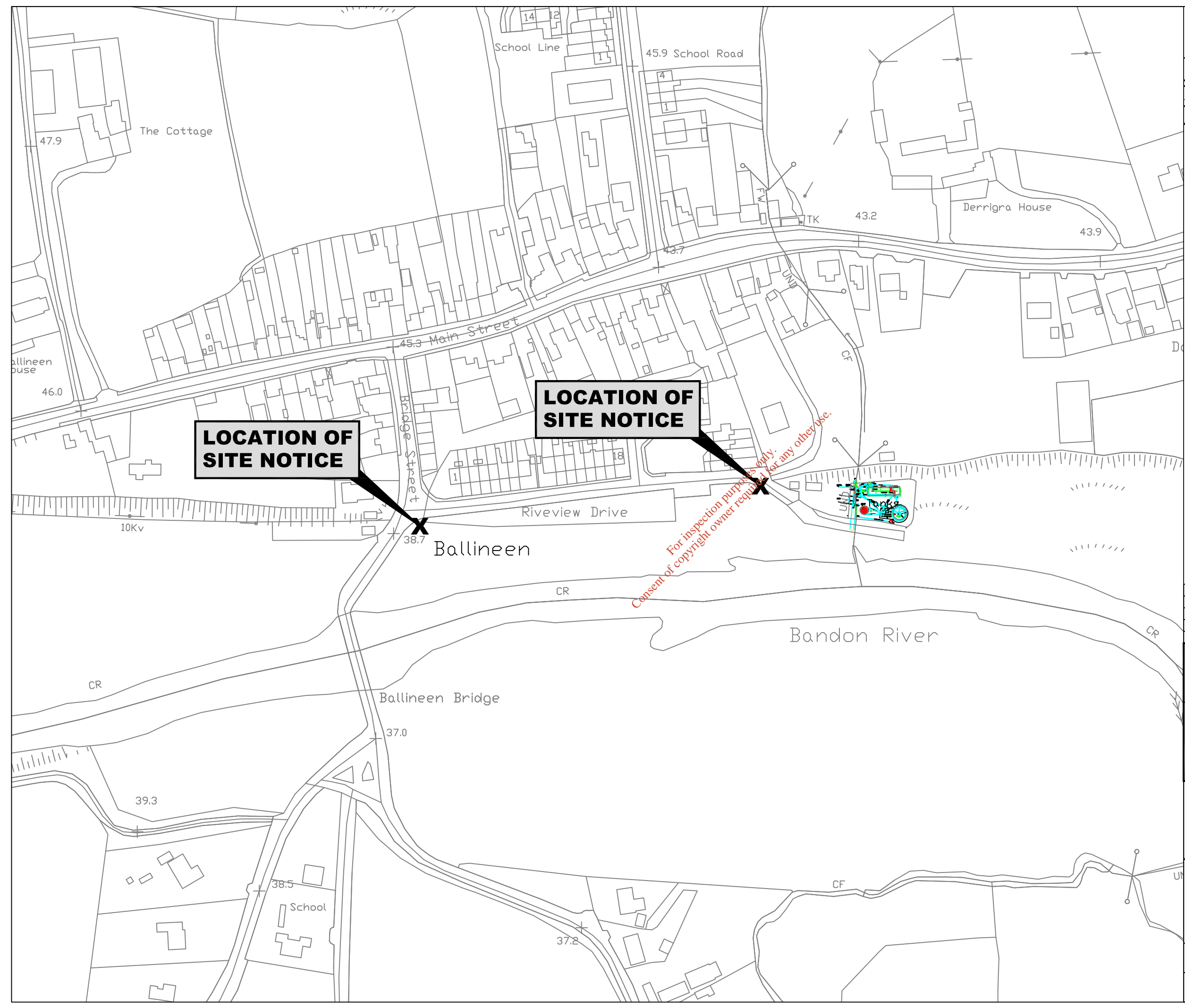
In accordance with the Wastewater Discharge (Authorisation) Regulations 2007, Water Services Northern Division, Cork County Council, Annabella, Mallow is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the agglomeration of Clondulane at the following locations:

Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford, Lo Call 1890 335 599; Tel: 053-9160699; Email: info@epa.ie

Offices, Annabella, Mallow, Co. Cork. Tel: 022-21893.

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

ENVIRONMENTAL PROTECTION AGENCY FOR A WASTEWATER DISCHARGE LICENCE



NOTES

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| No. | Date | Drawn | Chkd | Revision | Description |
|-----|------|-------|------|----------|-------------|
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**Cork County Council,
Western Division.**



N.O'MAHONY, B.E.,
SENR. ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE_WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_B.8
LOCATION_OF_SITE_NOTICES**

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O'DONOVAN | Checked By: D.GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_BS_01 | Scales: 1/2000 | Rev: - |

Attachment B.9

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Attachment B9

- **Fees** – Copy of Payment

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Comhairle Contae Chorcaí Cork County Council

Courthouse,
Skibbereen, Co. Cork.
Tel (028) 21299 • Fax (028) 21995
Web: www.corkcoco.ie
Teach na Cúirte,
An Sciobairín, Co. Chorcaí.
Fón: (028) 21299 • Faics: (028) 21995
Suíomh Gréasáin: www.corkcoco.ie



Mr. Declan Groarke,
Senior Executive Engineer,
Cork County Council,
Courthouse,
Skibbereen.

27th May 2009

Re:- Waste Water Discharge Regulations 2007.

Dear Declan,

With regard to the application to the EPA for Discharge Licences for the agglomerations with P.E.s of 500 to 1,000 listed below, I confirm the following in relation to the application fee of €70,000 (being €10,000 for each agglomeration).

Transferred to EPA Bank Account:- **Account No. 23507098**

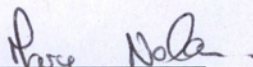
Date Transferred to EPA Bank Account:- **21st May, 2009.**

Electronic Fund Transfer Reference No.:- **1080937.**

**Agglomerations: Ballydehob
Castletownshend
Drimoleague
Glengarriff
Timoleague
Union Hall
Ballineen/Enniskeane**

This information should be included with the application to the EPA.

Yours faithfully,


Mary Nolan,
Staff Officer.



SECTION C

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Attachment C.1

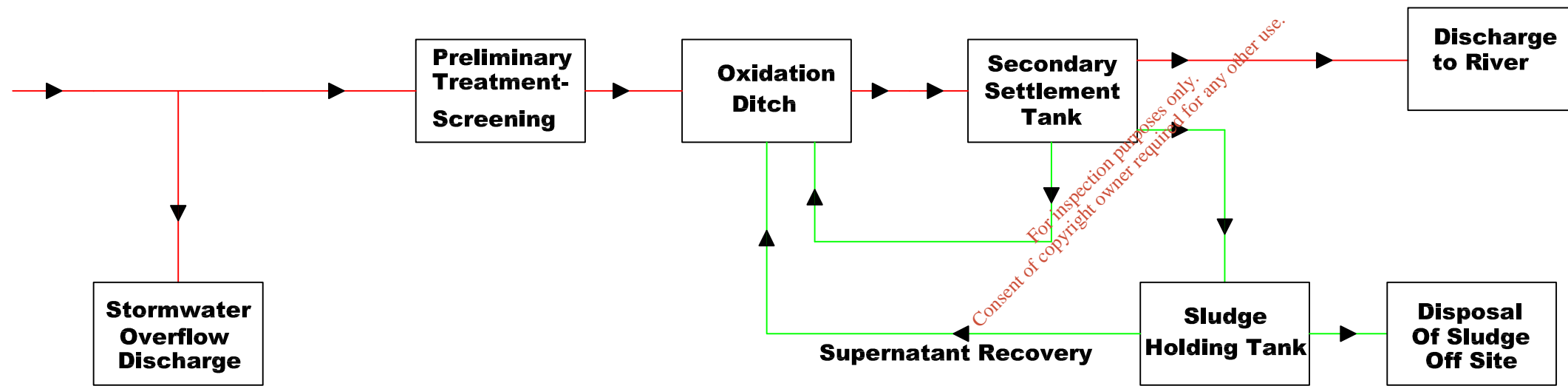
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Attachment C1

Map:

- **BalEnn C1-01** – Waste Water Treatment Plant Site Layout
- **BalEnn C1-02** – Waste Water Treatment Plant Process Flow Diagram
- **BalEnn C1-03** – Location of Pumping Stations
- **BalEnn C1-04** – Enniskeane Pumping Station Design Details
- **BalEnn C1-05** – Enniskeane Pumping Station Design Details

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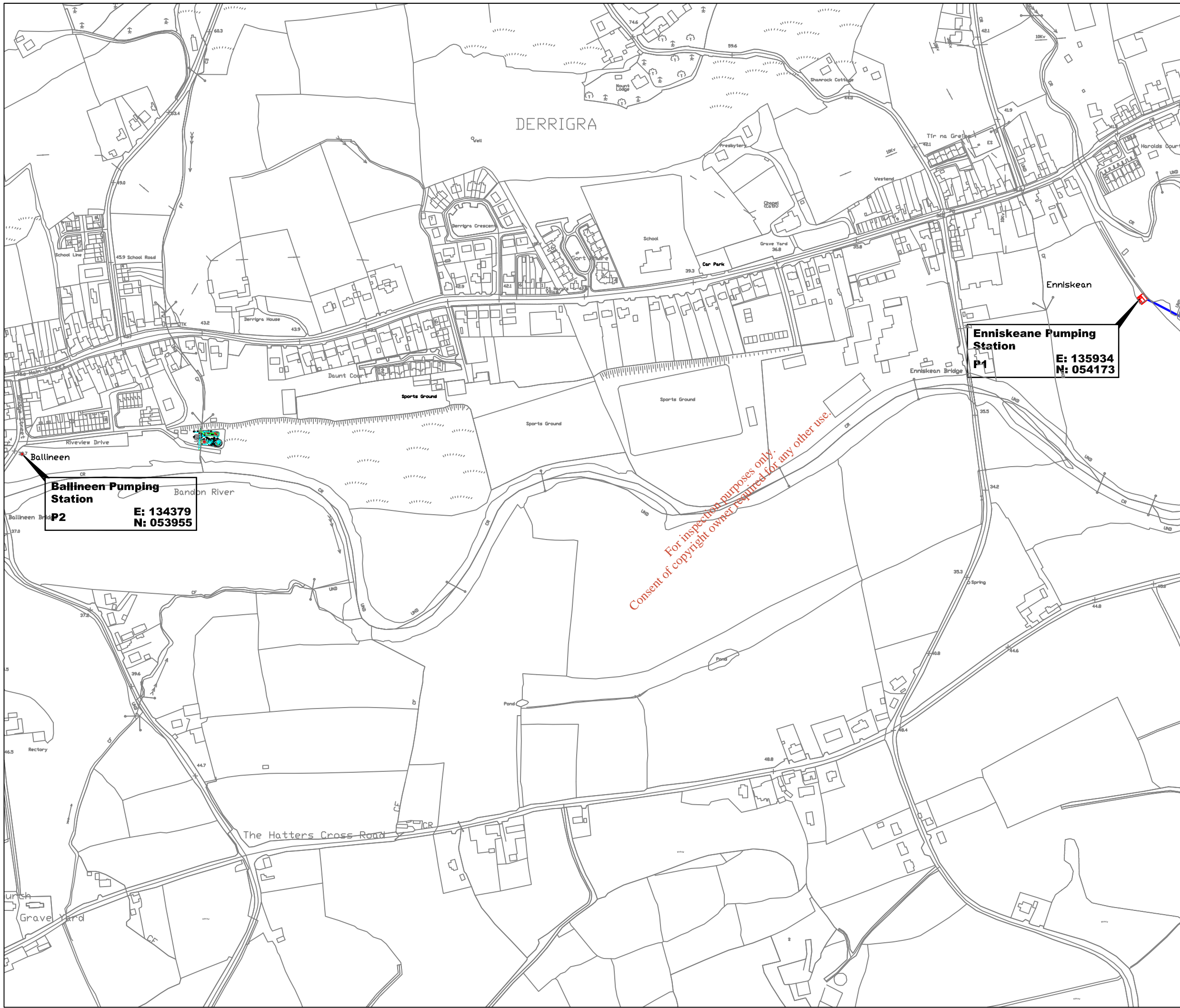
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COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
BALLINEEN/ENNISKEANE_WASTE
WATER_DISCHARGE_LICENCE
APPLICATION

Drawing Title:
ATTACHMENT_C1
PROCESS_FLOW
DIAGRAM

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O_DONOVAN | Checked By: D_GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_C1_02 | Scales: NTS | Rev: - |



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Enniskeane Pumping Station
P1
E: 135934
N: 054173

Ballineen Pumping Station
P2
E: 134379
N: 053955

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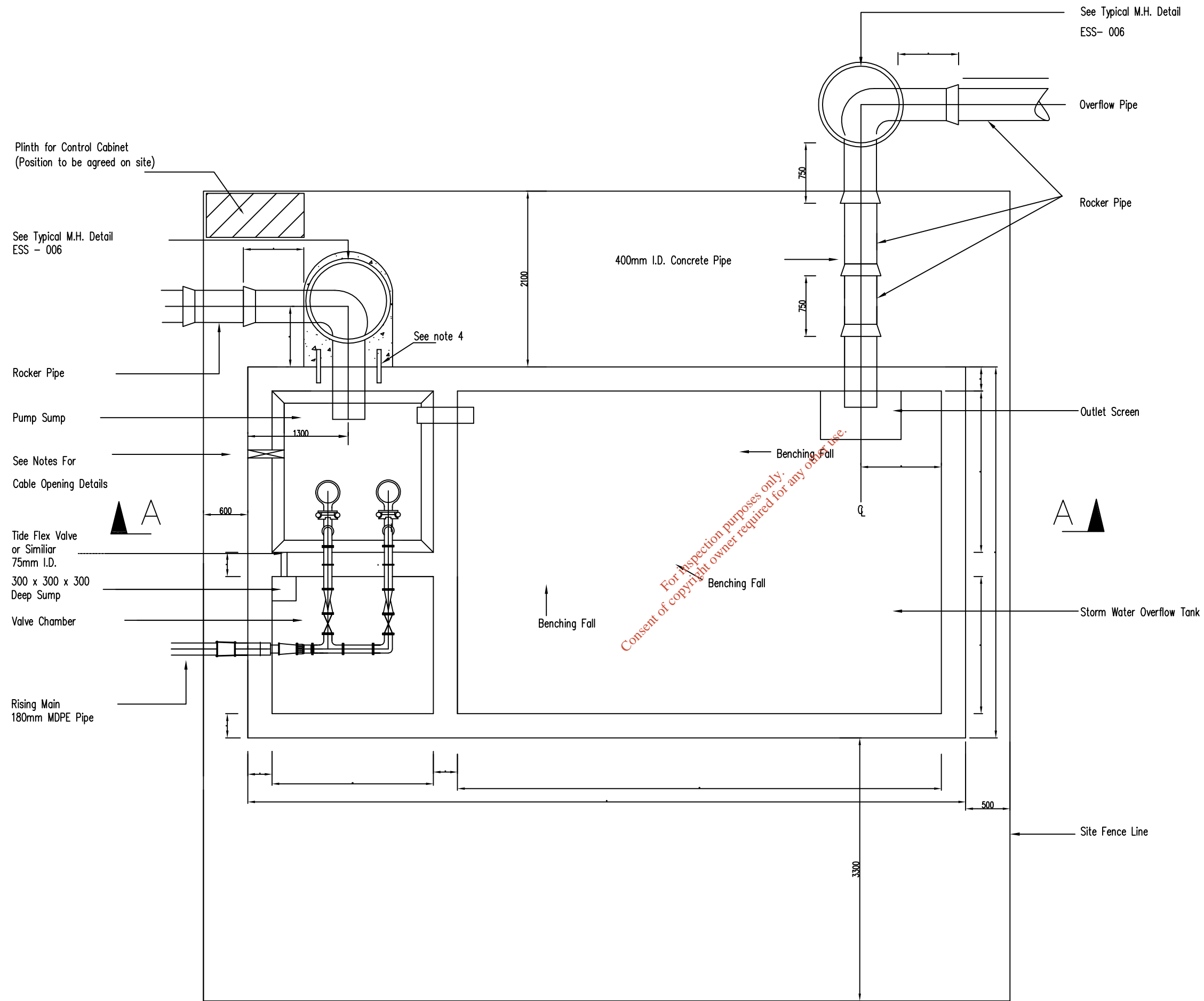
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WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_C.1
LOCATION OF
PUMPING_STATIONS**

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O'DONOVAN | Checked By: D_GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_C1_03 | Scales: 1/5000 | Rev: - |



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Plinth for Control Cabinet
(Position to be agreed on site)

See Typical M.H. Detail
ESS - 006

Rocker Pipe

Pump Sump

See Notes For
Cable Opening Details

Tide Flex Valve
or Similar
75mm I.D.
300 x 300 x 300
Deep Sump

Valve Chamber

Rising Main
180mm MDPE Pipe

See Typical M.H. Detail
ESS- 006

Overflow Pipe

Rocker Pipe

Outlet Screen

Storm Water Overflow Tank

Site Fence Line

PUMPING STATION PLAN – PLAN at 37.000m O.D.

Scale 1:50

| No. | Date | Drawn | Chkd | Revision | Description |
|-----|------|-------|------|----------|-------------|
| | | | | | |
| | | | | | |
| | | | | | |

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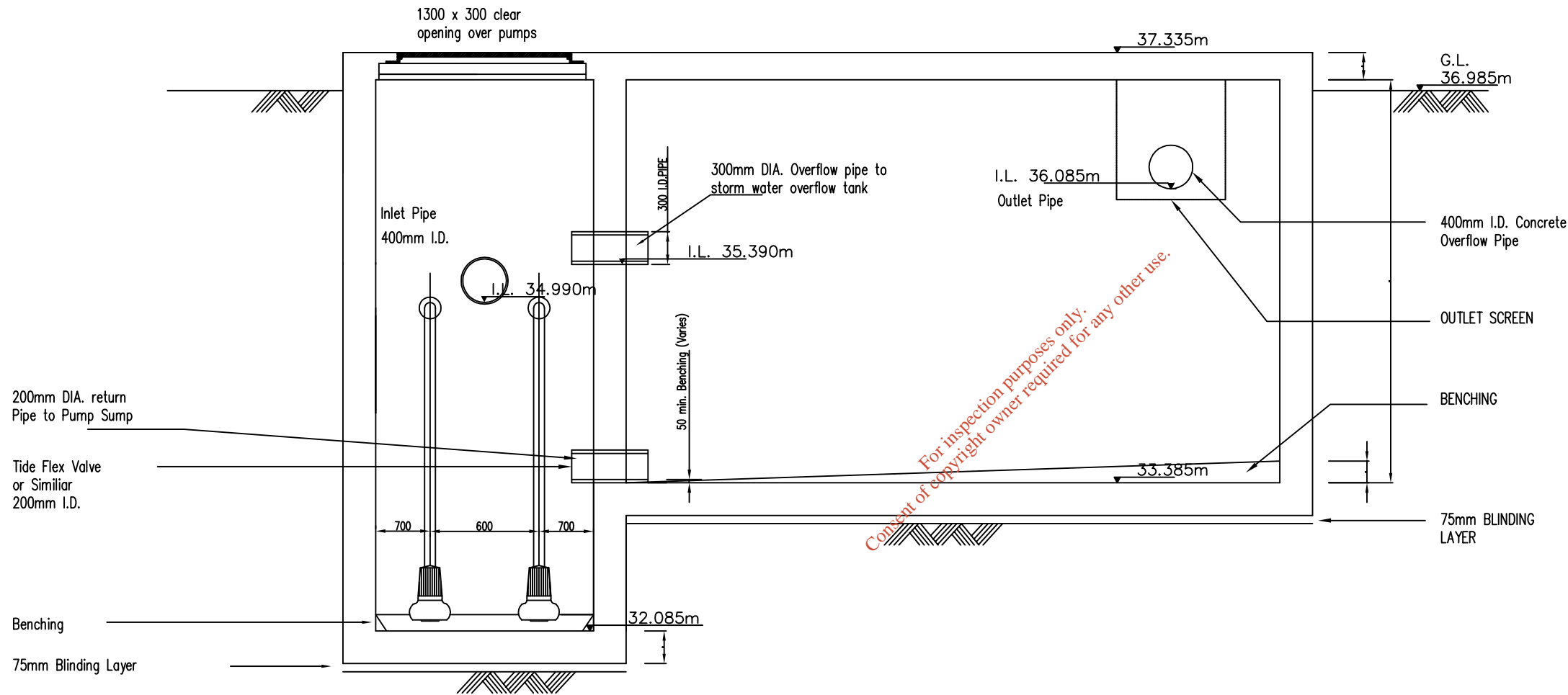
Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER_DISCHARGE_LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT_C.1
ENNISKEANE PUMPING_
STATION_DETAILS**

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O'DONOVAN | Checked By: D_GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_C1_04 | Scales: SEE_DRAWING | Rev: - |

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SECTION A-A
Scale 1:50

| No. | Date | Drawn | Checked | Revision | Description |
|-----|------|-------|---------|----------|-------------|
| | | | | | |
| | | | | | |
| | | | | | |

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Job Title:
**BALLINEEN/ENNISKEANE WASTE
WATER DISCHARGE LICENCE
APPLICATION**

Drawing Title:
**ATTACHMENT C.1
ENNISKEANE PUMPING
STATION DETAILS**

| | | |
|---------------------------------|---------------------------|--------------------|
| Prepared By: D. O'DONOVAN | Checked By: D. GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_C1_05 | Scales: SEE_DRAWING | Rev: - |

SECTION E

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Attachment E.2

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Attachment E2

Supporting Information:

- **Monitoring Programme**

Map :

- **BalEnn E2-01** – Locations of Sampling Points

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Attachment E.2 – Ballineen/Enniskeane Waste Water Discharge Licence
Application – Monitoring and Sampling Points

Grab samples have been collected recently of the effluent from the primary discharge as well as receiving waters and the results are included in Attachments E.4 and F.1 of this application.

Upstream and downstream samples were also carried out on the River Bandon.

There is one drinking water abstraction point downstream of the plant at Baxters Bridge for the Bandon Regional Water Supply Scheme.

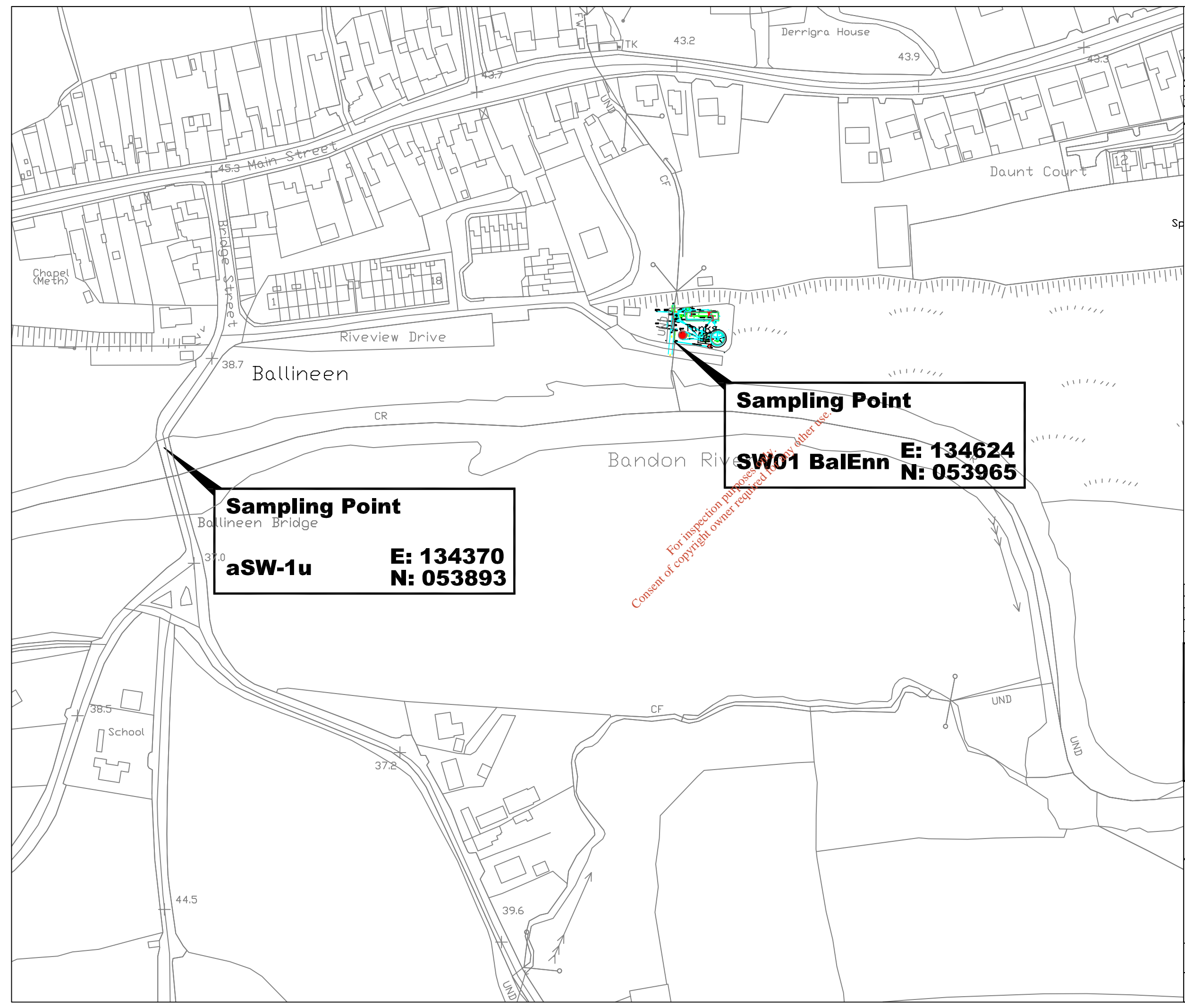
The recent sample analysis has been carried out by the Laboratory of Cork County Council which is accredited for a number of analytical tests under the Irish National Accreditation Board (INAB) under the ISO 17025 international standard. It is currently accredited for the following parameters under that standard system:

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

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It is proposed to sample the influent and effluent from Waste Water Treatment Plant where accessible and receiving waters once a year in the future for the following parameters at the Cork County Council Laboratory in Skibbereen:

- pH
- Biochemical Oxygen Demand
- Chemical Oxygen Demand
- Suspended Solids
- Ammonia
- Ortho Phosphate
- Total Nitrogen



Sampling Point
 Ballineen Bridge
aSW-1u **E: 134370**
 N: 053893

Sampling Point
SW01 BalEnn **E: 134624**
 N: 053965

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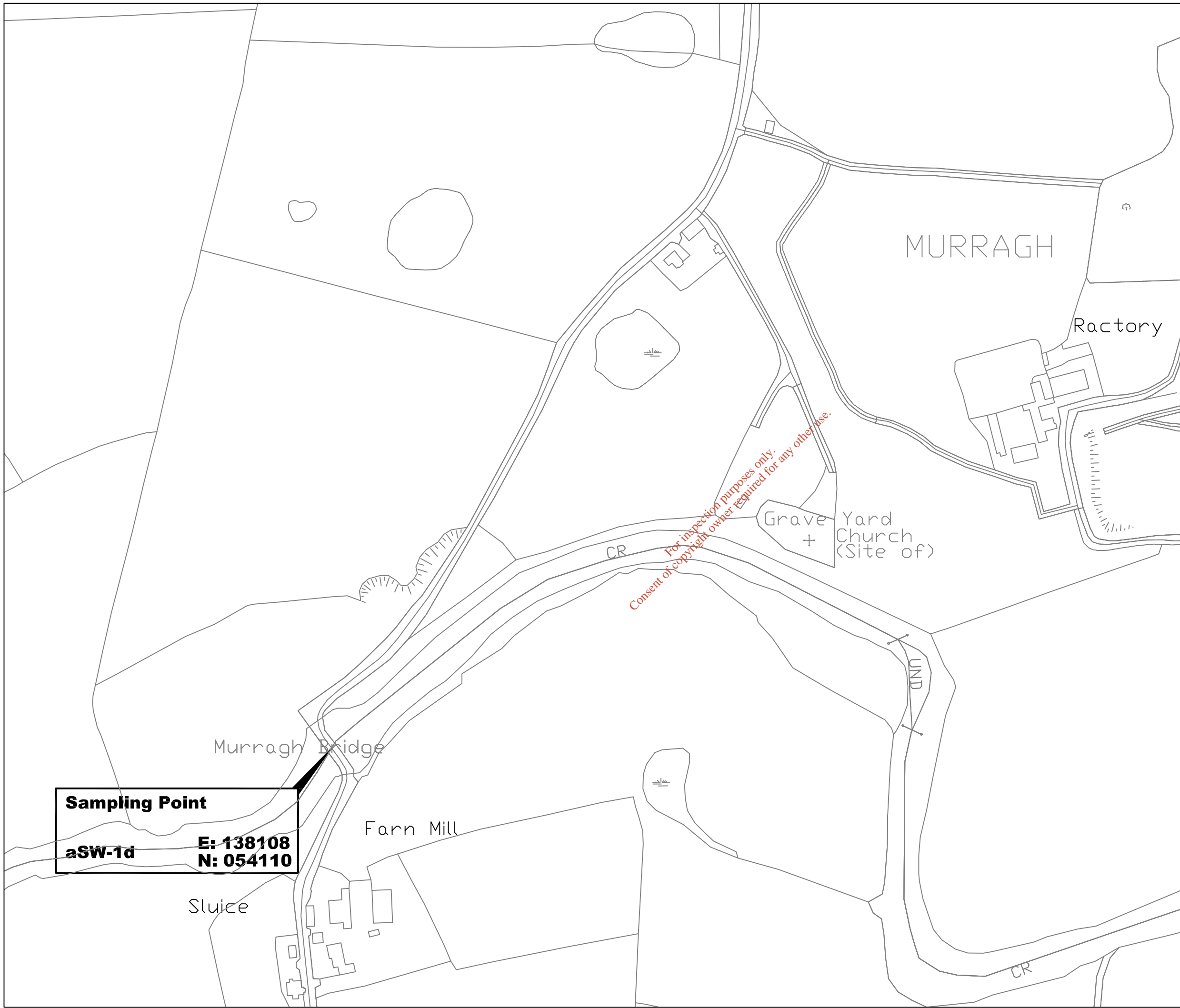


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 M. MURRELL,
 DIRECTOR OF SERVICES
 WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE_WASTE
 WATER_DISCHARGE
 APPLICATION**

Drawing Title:
**ATTACHMENT_E.2
 SAMPLING_POINTS**

| | | |
|---------------------------------|---------------------------|--------------------|
| Prepared By: D. O'DONOVAN | Checked By: D. GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_E2_01 | Scales: 1/2000 | Rev: - |



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DIRECTOR OF SERVICES
WEST CORK

Job Title:
**BALLINEEN/ENNISKEANE_WASTE
WATER_DISCHARGE
APPLICATION**

Drawing Title:
**ATTACHMENT_E.2
DOWNSTREAM_SAMPLING_POINT**

| | | |
|---------------------------------|--------------------------|--------------------|
| Prepared By: D.O'DONOVAN | Checked By: D_GROARKE | Date: JUNE.2009 |
| Drawing number: BALENN_E2_02 | Scales: 1/2500 | Rev: - |

Sampling Point
aSW-1d
E: 138108
N: 054110

Attachment E.4

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Attachment E4

Supporting Information:

- Sampling Data

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| Attachment E4 Ballineen/Enniskeane Inlet Table E4 | | | |
|--|--------------|-----------|----------------|
| Sample Date | 1/28/2009 | 2/12/2009 | |
| Sample | Influent | Influent | Average |
| Sample Code | GT134 | GT181 | |
| Flow M³/Day | * | * | |
| pH | 7.2 | * | 7.2 |
| Temperature °C | * | * | |
| Cond 20°C | 429 | * | 429 |
| SS mg/L | 52 | * | 52 |
| NH₃ mg/L | 13.4 | * | 13.4 |
| BOD mg/L | 137 | * | 137 |
| COD mg/L | 380 | * | 380 |
| TN mg/L | 16 | * | 16 |
| Nitrite mg/L | 0.0129 | * | 0.0129 |
| Nitrate mg/L | <0.405 | * | |
| TP mg/L | 4.7 | * | 4.7 |
| O-PO4-P mg/L | 1.58 | * | 1.58 |
| SO4 mg/L | 36.9 | * | 36.9 |
| 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 | <1 | * | <1 |
| Tributyltin µg/L | not required | * | not required |
| Xylenes µg/L | <1 | * | <1 |
| Arsenic µg/L | <0.96 | * | <0.96 |
| Chromium ug/L | <20 | <20 | <20 |
| Copper ug/L | 36 | 39 | 37.5 |
| Cyanide µg/L | <5 | * | <5 |
| Fluoride µg/L | 158 | * | 158 |
| Lead ug/L | <20 | <20 | <20 |
| Nickel ug/L | <20 | <20 | <20 |
| Zinc ug/L | 10 | 485 | 247.5 |
| Boron ug/L | <20 | <20 | <20 |
| Cadmium ug/L | <20 | <20 | <20 |
| Mercury µg/L | <0.2 | * | <0.2 |
| Selenium µg/L | 2.7 | * | 2.7 |
| Barium ug/L | <20 | <20 | <20 |

HALF LOD FOR STATS PURPOSE

Attachment E4 Ballineen/Enniskeane Discharge Outlet Table E4

| Sample Date | 10/30/2008 | 12/18/2008 | 1/28/2009 | 2/12/2009 | 4/2/2009 | Average | Kg/Day | Kg/year |
|--------------------------|------------|------------|--------------|-----------|----------|---------|--------|---------|
| Sample | Effluent | Effluent | Effluent | Effluent | Effluent | | | |
| Sample Code | GS1177 | GS1398 | GT135 | GT180 | GT432 | | | |
| Flow M ³ /Day | * | * | * | * | | | | |
| pH | * | * | 7.3 | * | 7.5 | | | |
| Temperature °C | * | * | * | * | * | | | |
| Cond 20°C | * | * | 449 | * | * | | | |
| SS mg/L | 28 | 15 | 114 | 11 | 28 | | | |
| NH ₃ mg/L | * | * | 19.6 | * | * | | | |
| BOD mg/L | 23.63 | 7.31 | 79 | 12 | 14 | 27.188 | | |
| COD mg/L | 47 | 37 | 218 | 42 | 78 | 84.4 | | |
| TN mg/L | * | * | 20.5 | 11.1 | 40.7 | 24.1 | | |
| Nitrite mg/L | * | * | <0.004 | * | * | | | |
| Nitrate mg/L | * | * | <0.405 | * | * | | | |
| TP mg/L | * | * | 4.9 | 1.4 | 7.08 | | | |
| O-PO4-P mg/L | * | * | 1.6 | * | * | | | |
| SO4 mg/L | * | * | <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 | * | * | <1 | * | * | <1 | | |
| Tributyltin µg/L | * | * | not required | * | * | * | | |
| Xylenes µg/L | * | * | <1 | * | * | <1 | | |
| Arsenic µg/L | * | * | <0.96 | * | * | <0.96 | | |
| Chromium ug/L | * | <20 | <20 | <20 | * | <20 | | |
| Copper ug/L | * | 10 | 26 | 10 | * | 15.333 | | |
| Cyanide µg/L | * | * | <5 | * | * | <5 | | |
| Fluoride µg/L | * | * | 133 | * | * | 133 | | |
| Lead ug/L | * | <20 | <20 | <20 | * | <20 | | |
| Nickel ug/L | * | <20 | <20 | <20 | * | <20 | | |
| Zinc ug/L | * | <20 | <20 | <20 | * | <20 | | |
| Boron ug/L | * | <20 | <20 | <20 | * | <20 | | |
| Cadmium ug/L | * | <20 | <20 | <20 | * | <20 | | |
| Mercury µg/L | * | * | <0.2 | * | * | <0.2 | | |
| Selenium µg/L | * | * | 1.7 | * | * | 1.7 | | |
| Barium ug/L | * | 10 | 37 | 10 | * | 19 | | |

HALF LOD FOR STATS PURPOSE

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Attachment E4 Ballineen/Enniskeane Upstream Table E4

| Sample Date | 10/30/2008 | 1/28/2009 | 2/12/2009 | 4/2/2009 | |
|--------------------------|------------|--------------|-----------|----------|--------------|
| Sample | River | River | River | River | Average |
| Sample Code | GS1178 | GT136 | GT182 | GT431 | |
| Flow M ³ /Day | * | * | * | * | |
| pH | * | 7.1 | * | * | 7.1 |
| Temperature °C | * | * | * | * | |
| Cond 20°C | * | 149 | * | * | 149 |
| 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 | * | 2.4 | * | * | 2.4 |
| Nitrite mg/L | * | 0.00673 | * | * | 0.00673 |
| Nitrate mg/L | * | 2.14 | * | * | 2.14 |
| TP mg/L | * | <0.20 | * | * | <0.20 |
| O-PO4-P mg/L | <0.05 | <0.05 | <0.05 | <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 | * | <1 | * | * | <1 |
| Tributyltin µg/L | * | not required | | * | not required |
| Xylenes µg/L | * | <1 | * | * | <1 |
| Arsenic µg/L | * | <0.96 | * | * | <0.96 |
| Chromium ug/L | * | <20 | <20 | <20 | <20 |
| Copper ug/L | * | <20 | <20 | <20 | <20 |
| Cyanide µg/L | * | <5 | * | * | <5 |
| Fluoride µg/L | * | 54 | * | * | 54 |
| Lead ug/L | * | <20 | <20 | <20 | <20 |
| Nickel ug/L | * | <20 | <20 | <20 | <20 |
| Zinc ug/L | * | <20 | <20 | <20 | <20 |
| Boron ug/L | * | <20 | <20 | <20 | <20 |
| Cadmium ug/L | * | <20 | <20 | <20 | <20 |
| Mercury µg/L | * | <0.2 | * | * | <0.2 |
| Selenium µg/L | * | <1.4 | * | * | <1.4 |
| Barium ug/L | * | 61 | 10 | 10 | 27 |

 value at half of LOD for statistical purposes

Attachment E4 Ballineen/Enniskeane Downstream Table E4

| Sample Date | 28/01/2009 | 12/02/2009 | 02/04/2009 | |
|---------------------------|--------------|------------|------------|--------------|
| Sample | River | River | River | Average |
| Sample Code | GT137 | GT183 | GT430 | |
| Flow M ³ /Day | * | * | * | |
| pH | 7.1 | * | * | 7.1 |
| Temperature °C | * | * | * | |
| Cond 20°C | 149 | * | * | 149 |
| 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 | 2.4 | * | * | 2.4 |
| Nitrite mg/L | 0.0074 | * | * | 0.0074 |
| Nitrate mg/L | 2.33 | * | * | 2.33 |
| TP mg/L | <0.20 | * | * | <0.20 |
| O-PO ₄ -P mg/L | <0.05 | <0.05 | <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 | <1 | * | * | <1 |
| Tributyltin µg/L | not required | * | * | not required |
| Xylenes µg/L | <1 | * | * | <1 |
| Arsenic µg/L | <0.96 | * | * | <0.96 |
| Chromium ug/L | <20 | <20 | <20 | <20 |
| Copper ug/L | <20 | <20 | <20 | <20 |
| Cyanide µg/L | <5 | * | * | <5 |
| Fluoride µg/L | 43 | * | * | 43 |
| Lead ug/L | <20 | <20 | <20 | <20 |
| Nickel ug/L | <20 | <20 | <20 | <20 |
| Zinc ug/L | <20 | <20 | <20 | <20 |
| Boron ug/L | <20 | <20 | <20 | <20 |
| Cadmium ug/L | <20 | <20 | <20 | <20 |
| Mercury µg/L | <0.2 | * | * | <20 |
| Selenium µg/L | 1.2 | * | * | 1.2 |
| Barium ug/L | 63 | 10 | 10 | 27.67 |

 value at half of LOD for statistical purposes

SECTION F

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Attachment F.2

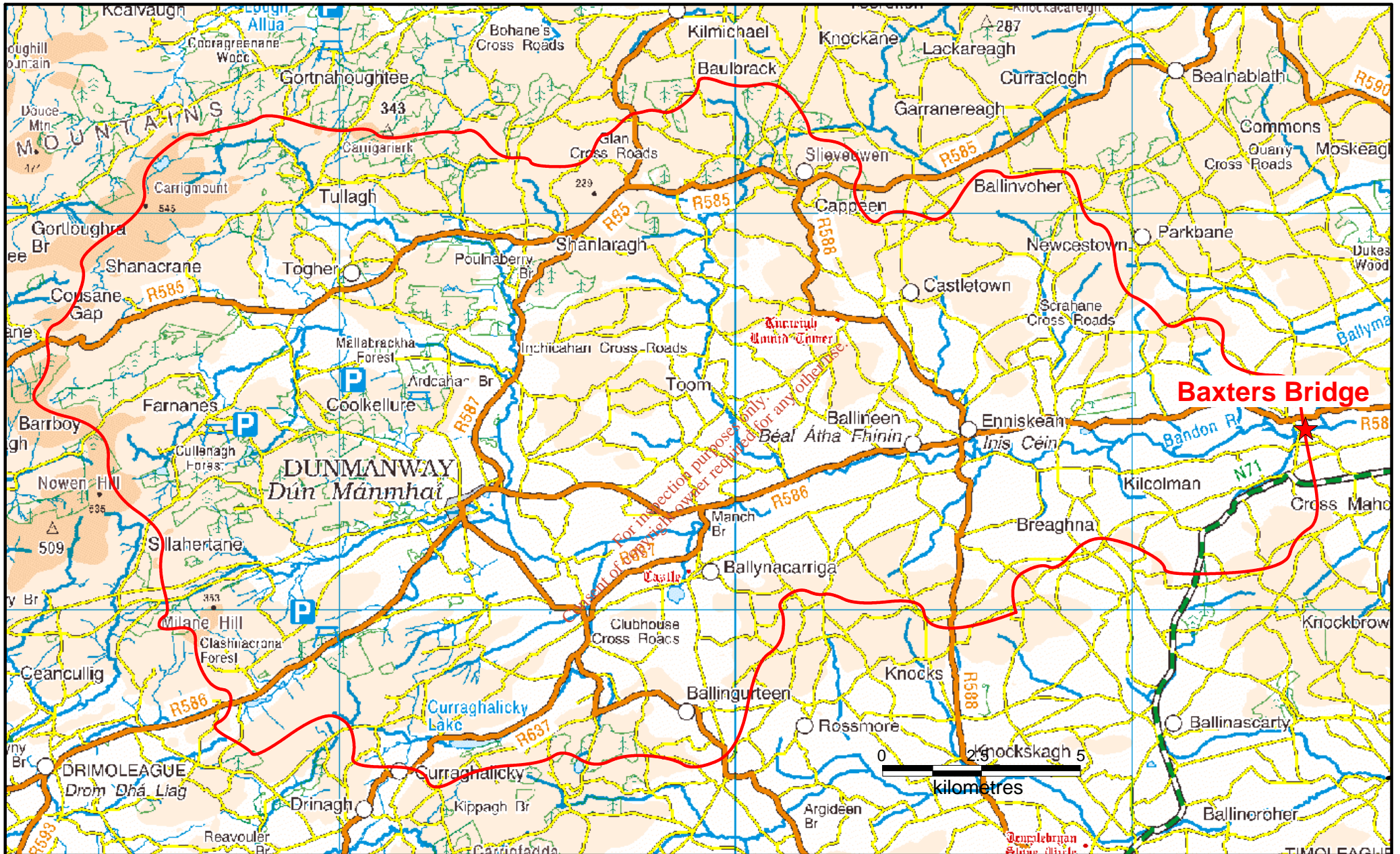
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Attachment F2

Supporting Information:

- **Baxters Bridge Catchment**
- **Abstraction Details**
- **Cryptosporidium Risk Assessment**

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Bandon Water Supply, Baxters Bridge Abstraction

- ★ Abstraction Point
- Catchment Outline



1899 ~ 1999
A Century of Service

Cork County Council
Environmental Directorate
Innischarra
Co. Cork
Phone: 021-4532700
Fax No. 021-4532777

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| Parameter | Total Coliforms | E. coli | Faecal Stre | pH | Conductivity | BOD | Dissolved (| Phospho | Nitrite | Ammonium Nitrate | Suspended | Colour | Manganese | Sulphate | Chloride | Dissolved I | Dissolved (| Appearance | Temperature | Total Colif | Oudour | Copper | Zinc | Turbidity | |
|-----------|-----------------|------------------|-------------|-------------|--------------|------------|-------------|------------|----------|------------------|-----------|--------|-----------|----------|----------|-------------|-------------|-------------|-------------|-------------|-------------|--------|------|-----------|---------|
| Max. | 25000 | Varies | 2000 | 9 | Varies | Varies | 15 | Varies | Varies | Varies | -- | -- | 300 | 200 | 250 | 2000 | 150 | -- | -- | -- | -- | 2 | -- | -- | |
| Target | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Min. | -- | -- | -- | Varies | -- | -- | 5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | -- | -- | -- | -- | -- | -- | -- | |
| Project | Project Ref | Location | Location R | Sample Date | Comments | MPN/100mls | MPN/100mls | cfu/100mls | pH units | µS/cm | mg/l | mg/l | mg/l | mg/l | mg/l | mg/l | % O2 | Descriptive | Degrees C | cfu/100mls | Descriptive | mg/l | µg/l | NTU | |
| Bandon | | Raw Water Intake | | 2-May-07 | | 663 | 98 | | 7.9 | 256 | 1.3 | 9.9 | 0.176 | 0.168 | 0.09 | 14.31 | 2.1 | 26 | < 20 | | | | | | 16.8 |
| Bandon | | Raw Water Intake | | 27-Nov-07 | | 6131 | 624 | 310 | 7.7 | 210 | < 1 | 8.4 | 0.065 | 0.058 | 0.045 | 11.2 | < 1 | 21 | | | | | | | 9.3 |
| Bandon | | Raw Water Intake | | 30-Apr-08 | | 141400 | 5900 | 55 | 7.5 | 202 | 1.9 | 10.2 | 0.034 | 0.058 | < 0.026 | 9.86 | 3.4 | | 43.81 | | | | | | 10 |
| Bandon | | Raw Water Intake | | 25-Jun-08 | | 23820 | 3450 | | 7.6 | 132 | < 1 | 7.3 | 0.071 | 0.036 | 0.1 | 4.49 | 5.2 | | 35 | 13.9 | 17 | 120 | 73 | 14.7 | < 0.005 |
| Bandon | | Raw Water Intake | | 30-Jul-08 | | 92080 | 9880 | > 1200 | 7.2 | 118 | 2 | 8.8 | 0.072 | 0.04 | 0.053 | 4.62 | 12 | | 58 | | 14.4 | 141 | 89 | 15.4 | 0 |
| Bandon | | Raw Water Intake | | 21-Jan-09 | | 17329 | 4721 | 115 | 7.1 | 157 | 1.1 | 11 | 0.062 | 0.028 | 0.128 | 11.64 | 8.5 | 52 | 29 | 5.1 | 17.7 | 44 | 90 | 6.8 | 0.001 |
| Bandon | | Raw Water Intake | | 1-Apr-09 | | | | | 7.9 | 248 | < 1 | 11.3 | < 0.006 | 0.046 | < 0.026 | | < 1 | 15 | | | | | | | 102 |
| Bandon | | Raw Water Intake | | 6-May-09 | | | 413 | | 7.9 | 212 | | | | | | | | 28 | | | | | | | good |
| | | | | | | | | | | | | | | | | | | | | 7701 | | | 1.59 | | |

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BANDON REGIONAL WATER SUPPLY SCHEME - Introduction

Scores should be inserted (where appropriate) into the blue boxes in Sections 1 to 10. The scores for each section will be automatically totalled (in the yellow box) and a summary of the scores for each section will appear on this sheet. The section scores will be totalled automatically on this summary sheet. The population of supply should be entered into the blue box below on this page and the overall Cryptosporidium Risk Assessment Score will be automatically calculated for the supply.

| | Section Score | Total Score |
|--|----------------------|--------------------|
| Surface Water Catchment Risk Scores | | |
| Section 1 - Animals within the Catchment | | 22 |
| Section 2 - Agricultural Practices within the Catchment | | 26 |
| Section 3 - Discharges to the Catchment/Water Source | | 15 |
| Section 4 - Water Source Type | | 6 |
| Section 5 - Catchment Inspections | | 3 |
| Section 6 - Raw Water Intake Management for Abstractions | | -1 |
| Total Surface Water Catchment Risk Score | | 71 |

Surface Water - Treatment and Supply Risk Score

| | | |
|---|--|----------|
| Section 7 - Water Treatment Processes | | -10 |
| Section 8a - Treatment Works Monitoring of Coagulation and Filtration | | 5 |
| Section 8b - Treatment Works Monitoring of Coagulation and Filtration | | 0 |
| Section 8c - Treatment Works Monitoring of Coagulation and Filtration | | 12 |
| Section 8d - Treatment Works Monitoring of Coagulation and Filtration | | 0 |
| Section 8e - Treatment Works Monitoring of Coagulation and Filtration | | 0 |
| Section 8f - Treatment Works Monitoring of Coagulation and Filtration | | 0 |
| Section 9 - Rapid Gravity and Pressure Filter Works Performance | | -4 |
| Section 10 - Treatment Works Operation | | -3 |
| Total Surface Water - Treatment and Supply Risk Score | | 0 |

| | |
|---|-----------------------|
| Surface Water Risk Assessment Score | 71 |
| Population | 7000 |
| Population Weighting Factor (0.4 x log10(population)) | 1.5380392 |
| Final Weighted Risk Assessment Score | 109.20078 |
| Water Supply Risk Classification | Very High Risk |

Section 1 - Animals Within the Catchment

| Section No. | Pressure Risk Factor | RA Score | Actual Score |
|----------------------------|--|----------|--------------|
| 1.1 | Cattle/calves at less than or equal to one livestock unit per hectare of forage area * | 5 | 10 |
| | Cattle/calves at more than one one livestock unit per hectare of forage area* | 10 | |
| | No cattle/calves in the catchment | 0 | |
| 1.2 | Sheep/lambs at less than or equal to one one livestock unit per hectare of forage area * | 5 | 5 |
| | Sheep/lambs at more than one one livestock unit per hectare of forage area * | 10 | |
| | No sheep/lambs in the catchment | 0 | |
| 1.3 | Wild or farmed deer in the catchment | 2 | 2 |
| | No wild or farmed deer in the catchment | 0 | |
| 1.4 | Pig farms in the catchment | 2 | 0 |
| | No pig farms in the catchment | 0 | |
| 1.5 | Animals have direct access to water sources including feeder streams | 4 | 4 |
| | Fencing prevents access to water sources including feeder streams | -4 | |
| 1.6 | High numbers of birds | 2 | 1 |
| 1.7 | Any other farmed animals or birds | 1 | 0 |
| Total for Section 1 | | | 22 |

Section 2 - Agricultural Practices Within the Catchment

| Section No. | Risk Factor | RA Score | Actual Score |
|----------------------------|--|----------|--------------|
| 2.1 | Slurry spraying within the catchment | 6 | 6 |
| | | | |
| 2.2 | Dung spreading within the catchment | 3 | 3 |
| | | | |
| 2.3 | Slurry or dung stores | 3 | 3 |
| | | | |
| 2.4 | Sheep pens or cattle sheds | 6 | 6 |
| | | | |
| 2.5 | Lambing or calving on the catchment | 8 | 8 |
| | | | |
| 2.6 | Full compliance with the Good Agricultural Practice Regulations verified by catchment inspection | -6 | 0 |
| Total for Section 2 | | | 26 |

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Section 3 - Discharges to the Catchment/Water Source

| Section No. | Risk Factor | RA Score | Actual Score |
|----------------------------|--|----------|--------------|
| 3.1 | Population equivalent served by individual on-site wastewater treatment systems < 100 PE | 4 | 6 |
| | Population equivalent served by individual on-site wastewater treatment systems > 100 PE | 6 | |
| 3.2 | Population equivalent served by all wastewater works <500 | 4 | 5 |
| | Population equivalent served by all wastewater works 500 to 5,000 | 5 | |
| | Population equivalent served by all wastewater works 5,001 to 20,000 | 6 | |
| | Population equivalent served by all wastewater works 20,001 to 50,000 | 7 | |
| | Population equivalent served by all wastewater works > 50,000 | 8 | |
| 3.3 | Storm water overflows | 2 | 2 |
| 3.4 | Section 4 or Integrated Pollution Prevention Control (IPPC) Licence discharge from intensive agricultural activity or agriculturally related discharge | 2 | 2 |
| 3.5 | All wastewater treatment plants complying with the UWWT Regulations quality standards | -1 | 0 |
| 3.6 | All wastewater treatment plants complying with the UWWT Regulations quality standards | -1 | 0 |
| | UV inactivation at outlet of wastewater treatment plants | -2 | |
| Total for Section 3 | | | 15 |

Section 4 - Water Source Type

| Section No. | Risk Factor | RA Score | Actual Score |
|----------------------------|--|----------|--------------|
| 4.1 | Upland reservoir/lake | 2 | 6 |
| | Lowland long term storage reservoir/lake | 4 | |
| | Upland river or stream - bankside storage | 5 | |
| | Upland river or stream – direct abstraction | 6 | |
| | Lowland river or stream – direct abstraction or bankside storage | 8 | |
| Total for Section 4 | | | 6 |

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Section 5 - Catchment Inspections

| Section No. | Risk Factor | RA Score | Actual Score |
|----------------------------|--|----------|--------------|
| 5.1 | Catchment inspections carried out at least monthly | -3 | 6 |
| | Catchment inspections carried out less frequently | 6 | |
| | | | |
| 5.2 | Procedures in place to deal with irregularities on the catchment | -3 | -3 |
| Total for Section 5 | | | 3 |

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Section 6 - Raw Water Intake Management for Abstractions

| Section No. | Risk Factor | RA Score | Actual Score |
|----------------------------|--|----------|--------------|
| 6.1 | No appropriate water quality monitor on intake | 3 | -1 |
| | Appropriate water quality monitor on intake that is alarmed and connected to telemetry | -2 | |
| | Automatic intake shut down when poor water quality | -4 | |
| | Manual intake shut down when poor water quality | -1 | |
| | No intake shut down when poor water quality | 3 | |
| Total for Section 6 | | | -1 |

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Section 7 - Water Treatment Processes

| Section No. | Risk Factor | RA Score | Actual Score |
|----------------------------|---|----------|--------------|
| 7.1 | Simple sand filtration (not slow sand filtration) | 8 | -10 |
| | Simple sand filtration (not slow sand filtration) with UV treatment | 6 | |
| | Coagulation followed by DAF/sedimentation and filtration | -10 | |
| | Coagulation followed by DAF/sedimentation and filtration followed by UV treatment | -16 | |
| | Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation) | -7 | |
| | Coagulation followed by rapid gravity or pressure filtration (no flotation or sedimentation) followed by UV treatment | -13 | |
| | Slow sand filtration | -9 | |
| | Slow sand filtration followed by UV treatment | -15 | |
| | Membrane Filtration (DWI approved) | -16 | |
| | Membrane filtration (Not DWI approved) | -2 | |
| Total for Section 7 | | | -10 |

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Section 8 - Treatment Works Monitoring of Coagulation and Filtration

| Coagulation | | | |
|-----------------------------|---|----------|--------------|
| Section No. 8a | Risk Management Factor | RA Score | Actual Score |
| 8.1 | Manual coagulant dose control – not flow proportional | 5 | 5 |
| | Manual coagulant pH control | 5 | |
| | Coagulant pH monitored and alarmed | -5 | |
| Total for Section 8a | | | 5 |

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Section 8 - Treatment Works Monitoring of Coagulation and Filtration

| Clarification | | | |
|-----------------------------|---|----------|--------------|
| Section No. 8b | Risk Management Factor | RA Score | Actual Score |
| 8.2 | Clarified water turbidity monitor/particle counters | -1 | 0 |
| | Clarified water turbidity alarm/particle counters | -1 | |
| Total for Section 8b | | | 0 |

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Section 8 - Treatment Works Monitoring of Coagulation and Filtration

| Rapid gravity and pressure filters | | | |
|------------------------------------|---|----------|--------------|
| Section No. 8c | Risk Management Factor | RA Score | Actual Score |
| 8.3 | Turbidity meter/particle counter on each filter with alarm on telemetry | -5 | 0 |
| | Turbidity meter/particle counter on each filter but no alarm on telemetry | 0 | |
| | One turbidity meter/particle counter shared by more than one filter with alarm on telemetry | -2 | |
| | One turbidity meter/particle counter shared by more than one filter but no alarm on telemetry | 2 | |
| | No turbidity meters/particle counters monitoring filter performance | 10 | |
| 8.4 | Final water turbidity meter/particle counter with alarm on telemetry | -2 | 5 |
| | Final water turbidity meter/particle counter but no alarm on telemetry | 2 | |
| | No final water turbidity meter/particle counter | 5 | |
| 8.5 | Continuous residual coagulant monitor on combined filtrate or works outlet with alarm | -5 | 5 |
| | Continuous residual coagulant monitor on combined filtrate or works outlet but no alarm | -1 | |
| | No continuous residual coagulant monitor on combined filtrate or works outlet | 5 | |
| 8.6 | Routine discrete monitoring of treated water for turbidity/residual coagulant | -2 | 2 |
| | No routine discrete monitoring of treated water for turbidity/residual coagulant | 2 | |
| 8.7 | Turbidity of backwash supernatant monitored when recycled | -2 | 0 |
| | Turbidity of backwash supernatant not monitored when recycled | 2 | |
| Total for Section 8c | | | 12 |

Section 8 - Treatment Works Monitoring of Coagulation and Filtration

| Slow Sand Filters | | | |
|-----------------------------|---|----------|--------------|
| Section No. 8d | Risk Management Factor | RA Score | Actual Score |
| 8.8 | Turbidity meter/particle counter on each filter with alarm on telemetry | -5 | |
| | Turbidity meter/particle counter on each filter but no alarm on telemetry | 0 | |
| | One turbidity meter/particle counter shared by more than one filter with alarm on telemetry | -2 | |
| | One turbidity meter/particle counter shared by more than one filter but no alarm on telemetry | 2 | |
| | No turbidity meters/particle counters monitoring filter performance | 10 | |
| 8.9 | Final water turbidity meter/particle counter with alarm on telemetry | -2 | |
| | Final water turbidity meter/particle counter but no alarm on telemetry | 2 | |
| | No final water turbidity meter/particle counter | 5 | |
| 8.1 | Filters matured and filtrate analysed for turbidity, coliforms and <i>Cryptosporidium</i> during maturation | -4 | |
| | Filters matured but no analysis carried out on filtrate | 5 | |
| | Filters not matured | 15 | |
| Total for Section 8d | | | 0 |

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Section 8 - Treatment Works Monitoring of Coagulation and Filtration

| Membrane Filtration | | | |
|-----------------------------|--|----------|--------------|
| Section No. 8e | Risk Management Factor | RA Score | Actual Score |
| 8.11 | Plant monitored and alarmed for integrity | -10 | |
| | Plant monitored for integrity but not alarmed | 0 | |
| | Plant not monitored for integrity | 10 | |
| Total for Section 8e | | | |
| 8.12 | Particle counter used continuously to monitor filter performance | -5 | |
| Total for Section 8e | | | 0 |

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Section 8 - Treatment Works Monitoring of Coagulation and Filtration

| UV Inactivation | | | |
|-----------------------------|---|----------|--------------|
| Section No. 8f | Risk Management Factor | RA Score | Actual Score |
| 8.13 | Plant monitored for integrity and correct UV dosage | 0 | |
| | Plant monitored and alarmed for integrity and correct UV dosage | -10 | |
| | Plant neither monitored nor alarmed | 10 | |
| 8.14 | Influent turbidity consistently < 0.2 NTU | -6 | |
| | Influent turbidity consistently < 1.0 NTU | -3 | |
| | Influent turbidity consistently > 1.0 NTU | -1 | |
| Total for Section 8f | | | 0 |

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Section 9 - Rapid Gravity and Pressure Filter Works Performance

| Item No. | Risk Factor | RA Score | Actual Score |
|----------------------------|--|----------|--------------|
| 9.1 | Final water turbidity increases by more than 50%, excluding normal backwash period or turbidity in the final water >1.0 NTU | 4 | 0 |
| | Treated water turbidity increases by less than 50%, excluding normal backwash period and turbidity in the final water <1.0 NTU | 0 | |
| | | | |
| 9.2 | Media loss from any filter has brought media depth below design level | 6 | -2 |
| | Media depth above minimum design level with audit trail maintained | -2 | |
| | | | |
| 9.3 | Signs of media cracking on any filter | 4 | 0 |
| | | | |
| 9.4 | All filters have been drained, inspected and any necessary remedial action taken within last year | -2 | 0 |
| | | | |
| 9.5 | Air scour and backwash maintained and operating efficiently as per maintenance manual | -2 | -2 |
| Total for Section 9 | | | -4 |

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Section 10 - Treatment Works Operation

| Item No. | Risk Factor | RA Score | Actual Score |
|-----------------------------|--|----------|--------------|
| 10.1 | Plant with documented management systems that includes procedures and process control manuals | -2 | -1 |
| | Process control manuals specific to works available | -1 | |
| | Process control manuals specific to works not available | 1 | |
| 10.2 | Auditable action plans available for dealing with deviations in quality and evidence of implementation of the plan | -1 | 1 |
| | Auditable action plans not available for dealing with deviations in quality | 1 | |
| 10.3 | Slow start facility on filters operational | -4 | -4 |
| | No slow start facility on filters, or slow start facility not operational | 4 | |
| 10.4 | Filters run to waste for appropriate period after backwash | -6 | 4 |
| | Filters run to head of works for a period following backwash | -4 | |
| | Filters not run to waste or head of works for a period following backwash | 4 | |
| 10.5 | Backwash water and/or sludge supernatant has to be recycled | 2 | -2 |
| | Other disposal route available for backwash water and sludge supernatant | -2 | |
| 10.6 | Water flow through works when operating has not increased by >10% in <30 minutes in last 12 months | -2 | -2 |
| | Water flow through works when operating has increased by >10% in <30 minutes in last 12 months | 2 | |
| 10.7 | Flow through works above design flow for >10% of time in last 12 months | 4 | 0 |
| | Flow through works above design flow for ≤10% of time in last 12 months | 0 | |
| | Flow through works >130% above design flow for >50% of time in last 12 months | 6 | |
| 10.8 | Filters bypassed during the year | 6 | 0 |
| Total for Section 10 | | | -3 |

Agglomeration details

| | |
|------------------------------|--------------------------|
| Leading Local Authority | Cork County Council |
| Co-Applicants | |
| Agglomeration | Ballineen and Enniskeane |
| Population Equivalent | 950 |
| Level of Treatment | secondary treatment |
| Treatment plant address | Ballineen Co. Cork |
| Grid Ref (12 digits, 6E, 6N) | 134640 / 053975 |
| EPA Reference No: | |

Contact details

| | |
|------------------|---|
| Contact Name: | Declan Groarke |
| Contact Address: | Cork County Council Courthouse Skibbereen Co. Cork |
| Contact Number: | 028-21299 |
| Contact Fax: | 028-21995 |
| Contact Email: | declan.groarke@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 B/E | |
| Source of Emission: | Primary Discharge | |
| Location: | River Bandon | |
| Grid Ref (12 digits, 6E, 6N) | 134624 / 053965 | |
| Name of Receiving waters: | River Bandon | |
| Water Body: | River Water Body | |
| River Basin District | South Western RBD | |
| Designation of Receiving Waters: | No designation at discharge point | |
| Flow Rate in Receiving Waters: | 0.28 | m ³ .sec ⁻¹ Dry Weather Flow |
| | 0.56 | m ³ .sec ⁻¹ 95% Weather Flow |
| Additional Comments (e.g. commentary on zero flow or other information deemed of value) | | |

Emission Details:

| | | | |
|--------------------|--------------------------|--------------------------|--------------------------------|
| (i) Volume emitted | | | |
| Normal/day | 237.5 m ³ | Maximum/day | 712.5 m ³ |
| Maximum rate/hour | 29.69 m ³ | Period of emission (avg) | 60 min/hr 24 hr/day 365 day/yr |
| Dry Weather Flow | 0.01 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 | Grab | = 9 | |
| Temperature | °C | Grab | = 0 | |
| Electrical Conductivity (@ 25°C) | µS/cm | Grab | = 449 | |
| Suspended Solids | mg/l | Grab | = 114 | 27.08 |
| Ammonia (as N) | mg/l | Grab | = 0 | 0 |
| Biochemical Oxygen Demand | mg/l | Grab | = 79 | 18.77 |
| Chemical Oxygen Demand | mg/l | Grab | = 218 | 51.78 |
| Total Nitrogen (as N) | mg/l | Grab | = 41 | 9.74 |
| Nitrite (as N) | mg/l | Grab | = 0 | 0 |
| Nitrate (as N) | mg/l | Grab | = 0 | 0 |
| Total Phosphorous (as P) | mg/l | Grab | = 8 | 1.9 |
| OrthoPhosphate (as P) | mg/l | Grab | = 1.6 | 0.38 |
| 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 B/E |
| Source of Emission: | Storm Water Overflow |
| Location: | River Bandon |
| Grid Ref (12 digits, 6E, 6N) | 134623 / 053979 |
| Name of Receiving waters: | River Bandon |
| Water Body: | River Water Body |
| River Basin District | South Western RBD |
| Designation of Receiving Waters: | No designation at discharge point |
| Flow Rate in Receiving Waters: | 0 m ³ .sec ⁻¹ Dry Weather Flow 0 m ³ .sec ⁻¹ 95% Weather Flow |
| Additional Comments (e.g. commentary on zero flow or other information deemed of value) | No information available on stormwater overflows |

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

Discharge Point Code: SW-3

| | |
|---|--|
| Local Authority Ref No: | SW03 B/E |
| Source of Emission: | Storm Water Overflow |
| Location: | River Bandon |
| Grid Ref (12 digits, 6E, 6N) | 135709 / 054059 |
| Name of Receiving waters: | River Bandon |
| Water Body: | River Water Body |
| River Basin District | South Western RBD |
| Designation of Receiving Waters: | No designation at discharge point |
| Flow Rate in Receiving Waters: | 0 m ³ .sec ⁻¹ Dry Weather Flow 0 m ³ .sec ⁻¹ 95% Weather Flow |
| Additional Comments (e.g. commentary on zero flow or other information deemed of value) | No information available on the stormwater overflows |

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

Discharge Point Code: SW-4

| | |
|---|--|
| Local Authority Ref No: | SW04 B/E |
| Source of Emission: | Storm Water Overflow |
| Location: | River Bandon |
| Grid Ref (12 digits, 6E, 6N) | 135988 / 054146 |
| Name of Receiving waters: | River Bandon |
| Water Body: | River Water Body |
| River Basin District | South Western RBD |
| Designation of Receiving Waters: | No designation at discharge point |
| Flow Rate in Receiving Waters: | 0 m ³ .sec ⁻¹ Dry Weather Flow 0 m ³ .sec ⁻¹ 95% Weather Flow |
| Additional Comments (e.g. commentary on zero flow or other information deemed of value) | No information available on stormwater overflows |

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 | 86687.5 |

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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 |
| SW-3 | 0 | 0 | No |
| SW-4 | 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) | 138108 / 054110 |

| Parameter | Results (mg/l) | | | | Sampling method | Limit of Quantitation | Analysis method / technique |
|----------------------------------|----------------|----------|----------|----------|-----------------|-----------------------|-----------------------------|
| | 01/01/09 | 28/01/09 | 12/02/09 | 02/04/09 | | | |
| pH | | = 7.1 | | | Grab | 2 | Electrochemical |
| Temperature | = 0 | | | | Grab | 0 | Electrochemical |
| Electrical Conductivity (@ 25°C) | | = 149 | | | 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) | | = 2.4 | | | Grab | 0.5 | Digestion & Colorimetric |
| Nitrite (as N) | | = 0.0074 | | | Grab | 0.013 | Colorimetric |
| Nitrate (as N) | | = 2.33 | | | Grab | 0.04 | Colorimetric |
| Total Phosphorous (as P) | | < 0.2 | | | Grab | 0.2 | Digestion & Colorimetric |
| OrthoPhosphate (as P) | | < 0.05 | 0.05 | < 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 0 AND 01/01/09 where results are not available |
|----------------------|---|

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) | 138108 / 054110 |

| Parameter | Results (µg/l) | | | | Sampling method | Limit of Quantitation | Analysis method / technique |
|-----------------|----------------|----------|----------|----------|-----------------|-----------------------|-----------------------------|
| | 01/01/09 | 28/01/09 | 12/02/09 | 02/04/09 | | | |
| Atrazine | | < 0.01 | | | Grab | 0.96 | HPLC |
| Dichloromethane | | < 1 | | | Grab | 1 | GC-MS1 |
| Simazine | | < 0.01 | | | Grab | 0.01 | HPLC |
| Toluene | | < 1 | | | 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 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Copper | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Cyanide | | < 5 | | | Grab | 5 | Colorimetric |
| Flouride | | = 43 | | | Grab | 100 | ISE |
| Lead | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Nickel | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Zinc | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Boron | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Cadmium | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Mercury | | < 0.2 | | | Grab | 0.2 | ICP-MS |
| Selenium | | = 1.2 | | | Grab | 0.74 | ICP-MS |
| Barium | | = 63 | < 20 | < 20 | Grab | 20 | ICP-OES |

| | |
|----------------------|---|
| Additional Comments: | TBT value is 0.02ug/l as Sn TBT testing not required |
|----------------------|---|

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) | 134370 / 053893 |

| Parameter | Results (mg/l) | | | | Sampling method | Limit of Quantitation | Analysis method / technique |
|----------------------------------|----------------|----------|-----------|----------|-----------------|-----------------------|-----------------------------|
| | 30/10/08 | 01/01/09 | 28/01/09 | 12/02/09 | | | |
| pH | | | = 7.1 | | Grab | 2 | Electrochemical |
| Temperature | | = 0 | | | Grab | 0 | Electrochemical |
| Electrical Conductivity (@ 25°C) | | | = 149 | | 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) | | | = 2.4 | | Grab | 0.5 | Digestion & Colorimetric |
| Nitrite (as N) | | | = 0.00673 | | Grab | 0.013 | Colorimetric |
| Nitrate (as N) | | | = 2.14 | | Grab | 0.04 | Colorimetric |
| Total Phosphorous (as P) | | | = 0.2 | | Grab | 0.2 | Digestion & Colorimetric |
| OrthoPhosphate (as P) | < 0.05 | | < 0.05 | < 0.05 | Grab | 0.02 | Colorimetric |
| Sulphate (SO ₄) | | | < 30 | | Grab | 30 | Turbidimetric |
| Phenols (Sum) | | | < 0.1 | | Grab | 0.1 | GC-MS 2 |

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 no results are available |
|----------------------|--|

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| Parameter | Results (mg/l) | | | | Sampling method | Limit of Quantitation | Analysis method / technique |
|----------------------------------|----------------|--|--|--|-----------------|-----------------------|-----------------------------|
| | 02/04/09 | | | | | | |
| pH | | | | | Grab | 2 | Electrochemical |
| Temperature | | | | | Grab | 0 | Electrochemical |
| Electrical Conductivity (@ 25°C) | | | | | Grab | 0.5 | Electrochemical |
| Suspended Solids | | | | | Grab | 0.5 | Gravimetric |
| Ammonia (as N) | | | | | Grab | 0.02 | Colorimetric |
| Biochemical Oxygen Demand | | | | | Grab | 0.06 | Electrochemical |
| Chemical Oxygen Demand | | | | | Grab | 8 | Digestion & Colorimetric |
| Dissolved Oxygen | | | | | Grab | 0 | ISE |
| Hardness (as CaCO ₃) | | | | | Grab | 0 | titrimetric |
| Total Nitrogen (as N) | | | | | Grab | 0.5 | Digestion & Colorimetric |
| Nitrite (as N) | | | | | Grab | 0.013 | Colorimetric |
| Nitrate (as N) | | | | | Grab | 0.04 | Colorimetric |
| Total Phosphorous (as P) | | | | | Grab | 0.2 | Digestion & Colorimetric |
| OrthoPhosphate (as P) | < 0.05 | | | | Grab | 0.02 | Colorimetric |
| Sulphate (SO ₄) | | | | | Grab | 30 | Turbidimetric |
| Phenols (Sum) | | | | | Grab | 0.1 | GC-MS 2 |

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 no results are 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) | 134370 / 053893 |

| Parameter | Results (µg/l) | | | | Sampling method | Limit of Quantitation | Analysis method / technique |
|-----------------|----------------|----------|----------|----------|-----------------|-----------------------|-----------------------------|
| | 01/01/09 | 28/01/09 | 12/02/09 | 02/04/09 | | | |
| Atrazine | | < 0.01 | | | Grab | 0.96 | HPLC |
| Dichloromethane | | < 1 | | | Grab | 1 | GC-MS1 |
| Simazine | | < 0.01 | | | Grab | 0.01 | HPLC |
| Toluene | | < 1 | | | 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 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Copper | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Cyanide | | < 5 | | | Grab | 5 | Colorimetric |
| Flouride | | = 54 | | | Grab | 100 | ISE |
| Lead | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Nickel | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Zinc | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Boron | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Cadmium | | < 20 | < 20 | < 20 | Grab | 20 | ICP-OES |
| Mercury | | < 0.2 | | | Grab | 0.2 | ICP-MS |
| Selenium | | < 1.4 | | | Grab | 0.74 | ICP-MS |
| Barium | | = 61 | < 20 | < 20 | Grab | 20 | ICP-OES |

| | |
|----------------------|---|
| Additional Comments: | TBT value is 0.02ug/l as Sn tbt testing not required |
|----------------------|---|

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, | B.1 | Yes |
| (b) | give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant, | Not applicable | Yes |
| (c) | give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the location of the waste water treatment plant and/or the waste water discharge point or points to which the application relates, | B.2 | Yes |
| (d) | state the population equivalent of the agglomeration to which the application relates, | B.9(I) | 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. | F.1 | 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, | E.2, E.3 | 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, | E.4 | Yes |
| (i) | describe the existing or proposed measures, including emergency procedures, to prevent unintended waste water discharges and to minimise the impact on the environment of any such discharges, | G.3 | Yes |
| (j) | give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points, | F.2 | 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, | F.1 | Yes |
| (l) | give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations, | E.1, E.4 | Yes |
| (m) | give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work. | G.1 | Yes |
| (n) | Any other information as may be stipulated by the Agency. | Not applicable | Yes |
| Regulation 16(3) Without prejudice to Regulation 16 (1) and (2), an application for a licence shall be accompanied by - | | Attachment Number | Checked by Applicant |
| (a) | a copy of the notice of intention to make an application given pursuant to Regulation 9, | B.8 | 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 - | B | 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 | B.3, B.5 | Yes |
| (c) (ii) | the point or points at which monitoring and sampling are undertaken or are to be undertaken, | E.3 | Yes |
| (d) | such fee as is appropriate having regard to the provisions of Regulations 38 and 39. | B.9(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 | | |
| (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, | | |
| (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, | | |
| (d) | state the population equivalent of the agglomeration to which the application relates, | | |
| (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, | | |
| (f) | specify the content and extent of the waste water discharge, the level of treatment provided and the flow and type of discharge, | | |
| (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, | | |
| (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, | | |
| (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, | | |
| (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, | | |
| (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, | | |
| (l) | give details of any designation under any Council Directive or Regulations that apply in relation to the receiving waters, | | |
| (m) | give details of compliance with any applicable monitoring requirements and treatment standards, | | |
| (n) | give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work, | | |
| (o) | give any other information as may be stipulated by the Agency, and | | |
| (p) | be accompanied by such fee as is appropriate having regard to the provisions of Regulations 38 and 39. | | |