



CORK COUNTY COUNCIL

WESTERN DIVISION

WATER SERVICES

Courthouse, Skibbereen, Co. Cork

**APPLICATION FOR WASTE
WATER DISCHARGE LICENCE
SCHULL**

**Application Form
28th February 2009**



Waste Water Discharge Authorisation Application Form



CORK COUNTY COUNCIL

WESTERN DIVISION

WATER SERVICES

Courthouse, Skibbereen, Co. Cork

Re: Waste Water Discharge Licence Application for the Agglomeration of Schull

Dear Sir / Madam,

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

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)

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 waste water treatment	To accurately determine the agglomeration to be licensed. To accurately reflect the Water Services Act, 2007. To obtain accurate population equivalent figures for the agglomeration. To obtain accurate information on design and spill frequency from these structures. To acquire information on the population loading onto the plant and to provide information on performance rates within the plant.

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

CONTENTS

	Page
TRACKING AMENDMENTS TO DRAFT APPLICATION FORM	4
ABOUT THIS APPLICATION FORM	9
PROCEDURES	10
SECTION A: NON-TECHNICAL SUMMARY	12
SECTION B: GENERAL	19
<u>B.1 AGGLOMERATION DETAILS</u>	19
APPLICANT'S DETAILS	19
CO-APPLICANT'S DETAILS	19
DESIGN, BUILD & OPERATE CONTRACTOR DETAILS	20
<u>B.2. LOCATION OF EXISTING WASTE WATER TREATMENT PLANT(S)</u>	20
<u>B.3 LOCATION OF PRIMARY DISCHARGE POINT</u>	21
<u>B.4 LOCATION OF SECONDARY DISCHARGE POINT(S)</u>	21
<u>B.5 LOCATION OF STORM WATER OVERFLOW POINT(S)</u>	22
<u>B.6 PLANNING AUTHORITY</u>	23
<u>B.7 OTHER AUTHORITIES</u>	23
<u>B.8 NOTICES AND ADVERTISEMENTS</u>	24
<u>B.9 (I) POPULATION EQUIVALENT OF AGGLOMERATION</u>	25
<u>B.10 CAPITAL INVESTMENT PROGRAMME</u>	26
<u>B.11 SIGNIFICANT CORRESPONDENCE</u>	28
<u>B.12 FORESHORE ACT LICENCES.</u>	28

SECTION C:	INFRASTRUCTURE & OPERATION	29
C.1	<u>OPERATIONAL INFORMATION REQUIREMENTS</u>	29
C.2	<u>OUTFALL DESIGN AND CONSTRUCTION</u>	34
(a)	Establish the basic dispersive characteristics of the bay waters.	35
(b)	To assess the likely fate of treated municipal effluent discharges within the confines of the bay.	35
SECTION D:	DISCHARGES TO THE AQUATIC ENVIRONMENT	38
D.1	<u>DISCHARGES TO SURFACE WATERS</u>	38
D.2	<u>TABULAR DATA ON DISCHARGE POINTS</u>	39
SECTION E:	MONITORING	40
E.1	<u>WASTE WATER DISCHARGE FREQUENCY AND QUANTITIES – EXISTING & PROPOSED</u>	40
	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/ .	40
E.2.	<u>MONITORING AND SAMPLING POINTS</u>	40
E.3.	<u>TABULAR DATA ON MONITORING AND SAMPLING POINTS</u>	41
E.4	<u>SAMPLING DATA</u>	41
SECTION F:	EXISTING ENVIRONMENT & IMPACT OF THE DISCHARGE(S)	42
F.1.	<u>ASSESSMENT OF IMPACT ON RECEIVING SURFACE OR GROUND WATER</u>	42
F.2	<u>TABULAR DATA ON DRINKING WATER ABSTRACTION POINT(S)</u>	45
SECTION G:	PROGRAMMES OF IMPROVEMENTS	46
G.1	<u>COMPLIANCE WITH COUNCIL DIRECTIVES</u>	46
G.2	<u>COMPLIANCE WITH WATER QUALITY STANDARDS FOR PHOSPHORUS REGULATIONS (S.I. NO. 258 OF 1998).</u>	50
G.3	<u>IMPACT MITIGATION</u>	51
G.4	<u>STORM WATER OVERFLOW</u>	53
SECTION H:	DECLARATION	55
SECTION I:	JOINT DECLARATION	56

ANNEX 1: TABLES/ATTACHMENTS

ANNEX 2: CHECKLIST

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

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 (within the two weeks prior to date of application) 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.

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

SECTION A: NON-TECHNICAL SUMMARY

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

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

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

A description of:

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

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

The Wastewater Works and Activities Carried Out Therein

Introduction

Schull is a coastal town approximately 24km west of Skibbereen, on the Mizen Peninsula with a permanent population of approximately 600 persons but increasing to at least three fold during the summer. It is an important tourism and commercial centre for a large area of the Mizen Peninsula and beyond.

Schull Harbour is a sheltered harbour of about 2 km² in area and is used for both commercial and leisure activities. A lobster holding area is located at the eastern side of the Bay and a fish plant operates on the Pier. A sailing school also operates off the Pier and the entire area is used for bathing during the summer months. The main areas for swimming are off the strands at the east of the town and at the Pier.

The Existing Collection System

The town has an existing gravity sewerage scheme, consisting of approximately 4,500 lin.m. of pipework. The collection system currently in place in Schull is a combined system, and caters for large quantities of stormwater. Consequently, the non-domestic dry weather flow represents a small component of this flow.

The system was originally started approximately 50 years ago and has been expanding over the years to cover the entire town. The network, with the exception of the pipework in Pier Road, collects and transports the wastewater to a septic tank located between the Ballydehob Road and the shoreline, to the north east of the town.

The septic tank provides primary treatment which discharges into Schull Harbour about 350m north of the Pier.

Although the majority of the network operates by gravity, some developments and institutions connect into it via pumps.

The pumped systems in the town include the following:

- The Moorings Holiday Homes, Colla Road
- The Hospital, Colla Road,
- Secondary School ,Colla Road
- Holiday home development at Colla Road
- Houses in Ballydehob Road
- Development to south of Ballydehob Road

Cork County Council is not responsible for the maintenance of any of these pumping stations.

Table A.1.1 : Location of existing Pumping Stations

Pumping Station	Pump Station Coordinates (Irish National Grid) (E,N)
P.S. 1 – Development South of Ballydehob Road	093045E, 031660N
P.S. 2 – Holiday Homes North of Ballydehob Road	093213E, 031865N
P.S. 3 – ‘The Moorings’, Colla Road	092858E, 031230N
P.S. 4 – Schull Community College	092710E, 031085N
P.S. 5 – Hospital at Colla Road	092763E, 030969N
P.S. 6 – Holiday Home Development at Colla road	092678E, 030622N

The Existing Wastewater Treatment Plant

The existing treatment works in Schull was built in the mid 1960’s and is a primary settling tank, (or septic tank), located at Meenvane to the north east of the town close to the shoreline. When the works were constructed the population of Schull was less than 500 people. The design of the works allowed for some increase in the town population and an allowance of port related industry.

The treated effluent discharges via a 225 mm outfall to below the LWM located in the inner harbour approximately 350m north of the pier. The capacity of the tank is 230m³ with an overflow weir present at SW01 Schull. The septic tank was designed for a small winter population in the town and cannot cater with the present influx of summer holiday makers, therefore the discharge

standard for BOD and SS cannot be achieved on occasions. The septic tank is de-sludged annually.

The parameters of the existing septic tank are:

- Capacity = 230m³
- Current Load = 1,680 PE
- Dry Weather Flow = 55,000 gals /day (Winter) to 120,000 gals/day (Summer)

It is proposed to install a modern treatment plant to cater for the existing and future increased loads in accordance with Cork County Development Plan 2003.

The Proposed Wastewater Treatment Scheme

A preliminary report has been carried out by M.C. O'Sullivan Consulting Engineers in 2000, for the upgrading of Schull Sewerage Scheme and has been approved by the DOEHLG.

In this report the new treatment plant is to be located adjacent to the existing septic tank site and the surrounding area, which is in the ownership of Cork County Council.

The existing collection network is being upgraded throughout the town. Construction work on this phase began in October 2008 and is due for completion in 2009.

The proposed WWTP is to be constructed under a Design, Build and Operate (DBO) Contract, and has just received Departmental approval to go through the tender process. The ultimate population equivalent is 3,000 based on a 20-year design horizon. This is consistent with other agglomerations of this size and development subject to an influx of seasonal tourists.

The new WWTP will consist of preliminary and secondary treatment or their equivalent, to achieve a final effluent of 25 mg/l BOD; 35 mg/l SS; 125 mg/l COD in accordance with the Urban Waste Water Treatment Regulations, 2001 (S.I. No.254 of 2001).

Mitigation measures will be installed to maintain noise and odour emissions within recognised and acceptable limits. Standby power generation will be available in case of power failure. Thickened sludges will be transported by tanker or skip off site for further treatment or disposal in accordance with the Sludge Management Plan for County Cork. Screenings arising from the Preliminary Treatment Stage will be disposed of at the nearest licensed landfill site.

The treated effluent is to be pumped through a rising main via Colla Road to a header manhole near Schull Point. From the header manhole, a 225 mm diameter outfall pipeline is to be laid gravitating towards Colla where it will leave the public road and discharge via the proposed outfall to a point 50 metres beyond the high water mark in Long Island Channel.

The existing septic tank would be retained and used as a storm water storage tank to reduce the frequency of overflows events to Schull Harbour. The existing outfall from the septic tank (225mm diameter), to be used as an overflow, may have to be replaced with a 525mm pipe of similar length. The

overflowed effluent shall receive screening to 6mm, and shall be heavily diluted with large amounts of surface runoff prior to discharge.

The program of proposed work is detailed in Section B.10.

The Sources of Emissions from the Wastewater Works.

The main sources of wastewater are from domestic, institutional and commercial properties in the catchment area. There is a fish factory based near the pier but otherwise there are no major water using industries in Schull.

The most significant loading in terms of quantity is the domestic population generated load which varies significantly due to local tourism.

There are currently two outfalls from the combined sewer system in the town. The Primary, SW01, is the outfall from the septic tank and discharges into the harbour below the low tide level.

The secondary, SW02, located South of the Pier, takes the wastewater from the sewer along the Pier Road and is mainly discharging the untreated wastewater from the fish factory.

Both of these outfalls are discharging below the low tide level into the bathing area. While Schull Harbour is not a designated bathing area, it is prudent to comply with regulations since the area is used for bathing and leisure activities during the summer.

Schull Harbour is part of Roaring Water Bay that is named in the "Quality of Shellfish Regulations". Therefore, Schull Harbour has to reach the standards set out in this directive.

For the purposes of this application the relevant pe chosen for the licence period is 2,000 being the pe estimated at end of that period

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 emissions on the environment.

The harbour is used for numerous aquatic activities including fishing and bathing. The existing treatment plant at Schull releasing effluent on falling tide is insufficient to cater for present summer loadings and with regard to compliance with Urban Waste Water Directive effluent standards. It is envisaged that the proposed new waste water treatment plant will ensure a major improvement in quality of effluent thus lessening the effects of the emissions on the environment.

Sewage is currently treated via a septic tank and thus it can be assumed that primary treatment occurs prior to discharge. The Environmental Protection Agency Document '*Treatment Systems for Small Communities, Business, leisure centres and Hotels*' (EPA 1999) details wastewater inflow characteristics for domestic and commercial sources.

As Schull is considered mainly residential and the amount of industrial / commercial premises in the town are minimal, the only wastewater flow would be considered as small flows of domestic sewage from toilet facilities, therefore,

the following are the inflow characteristics assumed; Suspended Solids 163mg/l, BOD 168mg/l.

A Preliminary Report carried out in 2000 stated a winter PE of 597 and a summer PE of 1,680 for Schull.

In reality the discharge from Schull will contain a mixture of wastewater from domestic and commercial sources. The BOD loading rate is an important parameter in the design of all biological wastewater treatment systems. It will be assumed that the all the wastewater is derived from domestic sources. Based on a current population equivalent of 1,680 and a discharge volume of 180l/person/day the total BOD reaching the treatment plant is estimated at 50.80 kg/day.

Based on a predicted summer population of 2,600 p.e, the total BOD reaching the treatment plant could be as high as 78.62kg/day.

Based on the same population equivalents the amount of suspended solids reaching the treatment plant is estimated at 49.29 kg/day at present and could be as high as 76.28kg/day in summer assuming the population increases as predicted.

The main function of the existing septic tank is to act as a primary settlement tank removing some of the BOD and the majority of the suspended solids. The EPA publication "Primary, Secondary and Tertiary Treatment (1997)" estimates that typically 50-70% of suspended solids are removed in primary settlement tanks; BOD is reduced by 20-50% and the bacterial count by 25-75%. According to the National Urban Waste Water Study (NUWWS) the reduction to the BOD load would be approximately 30% and approximately 50% to the Suspended Solids load.

Assuming that the septic tank in Schull is currently working at average efficiency, the approximate reductions are estimated as 60% for solids and 35% for BOD. The reduction in bacterial count is estimated at 50%.

This would result in a BOD discharge to the bay of 33.02 kg/day based on current summer population figures and could reach 51.10 kg/day in summer (2,600 predicted p.e.). The volume of suspended solids reaching the bay is estimated at 19.72 kg/day at present and could reach a maximum value 30.51 kg/day in summer based on predicted increases in population. These figures assume that all waste is domestic in origin.

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

The Dept of Environment, Heritage and Local Government has directed that the WwTP at Schull be procured through a Design, Build and Operate form of contract in conjunction with a number a similar schemes in West Cork. The final layout of the site will be governed by the contractor's proposals for the site.

It is envisaged that this offers the following advantages;

- more buildable designs,
- innovative solutions to design issues,
- improved guarantee of enhanced operational performance.

Consequently, newer technologies will be more likely to be used to optimize treatment thus ensuring compliance with the necessary effluent standards.

Upgrading of the Collection System

Work is already underway way for the upgrading of the Collection System and when complete all the foul sewage will be collected and conveyed to the proposed new Waste Water Treatment Plant located near the shoreline at Meenvane. The proposed improvements include the following:-

- Remedial works to network
- New sewer to upgrade existing foul/combined sewers
- New foul sewers to serve areas at present not catered for
- New storm sewers
- Improvements to open drains
- Elimination of overflows

Proposed New Wastewater Treatment Works

A Sequence Batch Reactor system is recommended for Schull. Such a plant (including ancillaries) would consist of the following : -

- Mechanically raked inlet screen and compactor
- Grit removal system
- Low lift pump and overflows
- Existing septic tank to be used as storm tank
- Sequence batch reactor
- Picket fence thickener
- Control house
- Site access road

The new WWTP will comply with the Urban Wastewater Treatment Regulations, 2001 and will consist of preliminary treatment, and secondary Treatment to achieve a final effluent of 25 mg/1 BOD; 35 mg/1 SS; 125mg/1 COD.

A proposed programme of works on the wastewater treatment plant is detailed in Section B.10.

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

The complete process will be upgraded in the near future with the construction of a new WWTP. The treatment capacity, the discharge quality and control systems will be improved to ensure that no significant pollution is caused.

It is likely that under the DBO contract for Schull Wastewater Treatment Plant, a Performance Management System will be required. Such a system would provide a uniform approach to dealing with performance management issues, including procedures for dealing with plant operation, and in particular for dealing with emergencies or failure to meet treated effluent standards.

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

Measures planned to monitor emissions into the environment

The emissions from the WWTP can be monitored through the sampling point SW01 Schull (see Map Schull B2-03 for location).

In the upgraded WWTP, monitoring and sampling of the emissions will be provided in inlet and outlet works (see Map Schull B10-01). The sampling will consist of a composite sample and all emissions will be measured and can be sampled before discharged.

It is also likely that under the Employers Requirements for Operation & Maintenance of the Works for Schull Wastewater Treatment Plant, the Contractor will be obliged to implement in full, the requirements of a 'Performance Management System'. In providing this service, the Contractor would monitor the wastewater treatment plant assets and operations, which would include undertaking sampling, monitoring and analysis of the wastewater and sludge. Long term monitoring of the estuary and the final effluent from the treatment plant will also be undertaken to determine compliance or otherwise with the quality objectives set for the scheme.

A complete description of the program of works is given in section B.10.

Programme for the Completion of the Works

It is anticipated that the necessary works to upgrade the Collection System will be substantially complete in 2009, while the new Wastewater Treatment Plant is expected to be fully operational in 2011.

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

SECTION B: GENERAL

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

B.1 Agglomeration Details

Name of Agglomeration: Schull, Co. Cork.

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*:	Mr Declan Groarke, S.E.E.
Address:	Water Services, Western Division,
	Cork County Council,
	The 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.

**The DBO contract for the construction of Schull Wastewater Treatment Plant has not yet reached the tender stage, therefore these details are as yet unknown.

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 Existing 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 exist.

Name*:	Billy Horgan, A/S.E.E.
Address:	Cork County Council, Ardmanagh, Schull Co Cork
Grid ref (6E, 6N)	093074E, 031607N
Level of Treatment	Primary (Septic Tank)
Primary Telephone:	+353 28 28128
Fax:	+353 28 28541
e-mail:	billy.horgan@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 Discharge

Type of Discharge	Open Pipe
Unique Point Code	SW01 Schull
Location	Schull Harbour
Grid ref (6E, 6N)	093171E, 031557N

Proposed Discharge

Type of Discharge	Outfall Pipe
Unique Point Code	SW01P Schull
Location	Schull Harbour
Grid ref (6E, 6N)	092558E, 029466N

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

Attachment included	Yes	No
	✓	

B.4 Location of Secondary Discharge Point(s)

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

Type of Discharge	Open Pipe
Unique Point Code	SW02 Schull
Location	Schull Harbour
Grid ref (6E, 6N)	092892E, 031221N

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

Attachment included	Yes	No
	✓	

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

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

Type of Discharge	Overflow Pipe
Unique Point Code	SW03 Schull
Location	Schull Harbour
Grid ref (6E, 6N)	093171E, 031557N

Type of Discharge	Overflow Pipe
Unique Point Code	SW04 Schull
Location	Schull Harbour
Grid ref (6E, 6N)	092813E, 031436N

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

Attachment included	Yes	No
	✓	

B.6 Planning Authority

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

Name:	Cork County Council – Planning Department
Address:	Norton House North Street Skibbereen Co.Cork
Tel:	+353 28 40340
Fax:	+353 28 21660
e-mail:	planninginfo@corkcoco.ie

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

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

Local Authority Planning File Reference N^o:	Not Applicable
---	----------------

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

Attachment included	Yes	No
	✓	

B.7 Other Authorities

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

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

- Not Applicable

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

Within the SFADCo Area	Yes	No
		✓

B.7 (ii) Health Services Executive Region

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

Name:	Health Service Executive South
Address:	Area Headquarters Hospital Grounds Skibbereen.
Tel:	+353 28 40400
Fax:	+353 28 21006
e-mail:	info@hse.ie

B.7 (iii) Other Relevant Water Services Authorities

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

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

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

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 (within two weeks prior to date of application) and by way of a site notice. See *Guidance Note*.

Attachment B.8 should contain a copy of the site notice and an appropriately scaled drawing ($\leq A3$) showing its location. **The original application must include the original page of the newspaper in which the advertisement was placed.** The relevant page of the newspaper containing the advertisement should be included with the original and one (1) copy 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 Equivalent	1,680
Data Compiled (Year)	2005
Method	Water Consumption

Proposed

Population Equivalent	3,000
Data Compiled (Year)	2001
Method	Water Consumption

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.

It is anticipated that proposed new Wastewater Treatment Plant and Outfall will cater for a design PE of 3000, 20 year, design year horizon, made up as in the Table below:

Sector	Population Equivalent	Flow m3/day
Domestic	2,220	210.60
Future Residential Domestic	354	81.42
Non Domestic	426	97.98

Total P.E.	3,000	690
-------------------	--------------	------------

A review of recent planning applications indicated that there are no major pending developments in the Schull area. The planning applications reviewed were primarily for single dwelling houses, which lie within the agglomeration boundary. The population equivalent to be contributed to the wastewater treatment plant as a result of these planning permissions has already been included in the allowance of 20% for overall scheme expansion.

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 1,001 to 2,000	€15,000

Appropriate Fee Included	Yes	No
	✓	

B.10 Capital Investment Programme

State whether a programme of works has been prioritised for the development of infrastructure to appropriately collect, convey, treat and discharge waste water from the relevant agglomeration. If a programme of works has been prioritised provide details on funding, (local or national), allocated to the capital project. Provide details on the extent and type of work to be undertaken and the likely timeframes for this work to be completed.

The most recent national Water Services Investment Programme lists the Schull Sewerage Scheme for inclusion in the 2007 – 2009 WSIP. The Cork County page of the WSIP shows the estimated cost of the project as €3,253,000.

The sewerage scheme will be completed in two phases. Phase One will consist of upgrading and extending the collection system and Phase two will consist of a DBO contract for the Wastewater Treatment Works.

Phase 1 2008-2009

In August 2008, construction of Schull Sewerage Scheme, Collection System commenced. The new collection system will be a combination of new pipes, upgrading of existing pipes and replacement pipes.

The collection system contract consists of the following:-

- The construction of the following approximate lengths of new sewers/replacement sewers and associated manholes:-
 - 225mm diameter pcc pipe 4,423m
 - 300mm diameter pcc pipe 343m

-	375mm diameter pcc pipe	785m
-	450mm diameter pcc pipe	291m
-	525mm diameter pcc pipe	240m
-	600mm diameter pcc pipe	141m
-	750mm diameter pcc pipe	268m
-	150mm diameter DI pipe	2,082m
-	Manholes	81 no.

- The construction of 3 no. submersible foul pumping stations
- The installation of service connections from properties to connect to the new sewage system.

Phase 2 – 2009-2010

- Inlet works:

All incoming sewage at the WWTP will be screened to 6 mm in the inlet works. The screenings will be washed, dewatered and compacted on site so that they could be collected in a covered skip and disposed in accordance with the waste strategy for the region

- Secondary treatment:

In order to retain the option of Design/Build or Design/Build/Operate procurement, the design of the treatment process is not to be too prescriptive at this stage of the project. The appropriate approach that will be taken is to specify the treatment standard and to accept any proven technology that will achieve such a treatment standard. In the case of Schull, where the treatment standard is 25:35 for BOD:SS, it is likely that the most suitable treatment process would be an Activated Sludge Plant or a Sequential Batch Reactor (SBR) system.

Due to the fluctuating loads a likely treatment would consist of having two SBRs working during the months of October through to April and a third SBR being brought on-line during the busy summer months. During the winter, the filling and aeration would take place in the first SBR which would be followed by settling and decanting in that same tank. During this settling and decanting period, filling and aeration would take place in the second tank. Another variation of this can be utilised to optimise operations by using the first SBR as a storage tank hence the filling will take place in the first tank and the aeration, settling and decanting in the other. This operation would be utilised in the off peak winter months when the population equivalent could be as low as 600 p.e. In the case of the summer months, the third SBR will provide the additional capacity.

- Storm water tank:

The existing septic tank will be retained and used as a stormwater tank with a capacity of 230m³.

- Sludge storage and thickening:

The sludge generated from the secondary treatment process will be thickened on site to achieve dry-solids content in the region of 2 – 3%. This thickened sludge will then be tankered off site, for de-watering and further treatment.

Attachment B10 contains the Cork County page of the WSIP, which shows the estimated cost of the project as €3,423,000.

Programme for the Completion of the Works

It is anticipated that the necessary works to upgrade the Collection System will be substantially complete in 2009, while the new Wastewater Treatment Plant is expected to be fully operational in 2010.

Attachment B.10 contains an excerpt from the Water Services Investment Programme 2007 – 2009.

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

Attachment included	Yes	No
	✓	

B.11 Significant Correspondence

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

- Not Applicable

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.

Existing Septic Tank and Collection System:

Foreshore Licences File Reference MS51/8/312 Dated 16/02/1965
Laying 2 outfall pipes on Foreshore at Schull.

Proposed Wastewater Treatment Plant:

Attachment B.12 contains specific conditions relating to the Foreshore Licence, granted in respect of the proposed discharges from Schull Sewerage Scheme. The full licence hasn't been issued as of yet (11/02/09).

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

Attachment included	Yes	No
	✓	

SECTION C: INFRASTRUCTURE & OPERATION

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

C.1 Operational Information Requirements

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

C.1.1 Storm Water Overflows

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

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

C.1.2 Pumping Stations

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

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

Existing Waste Water Treatment Plant

The existing Schull Wastewater Treatment Plant is located to the northeast of the town close to the shoreline in the townland of Meenvane. Wastewater flows under gravity to a primary settling tank (septic tank) prior to its discharge to the harbour. The capacity of the tank is 230m³ with an overflow weir. This overflow is connected to the outfall pipe directly to cater for storm flow. This septic tank was designed for a small winter population in Schull and cannot cater with the present influx of summer holidaymakers, and does not satisfy modern wastewater regulations.

At present the septic tank is desludged at least once yearly with sludge disposed in accordance with the relevant Sludge Regulations.

There are two outfalls for the combined sewer system in the town of Schull. They are as follows:

- Outfall from the Septic Tank

This outfall is located approximately 150m north of the pier. This is a 225mm diameter pcc pipe which runs from the septic tank and discharges into the harbour below the low tide level.

- Outfall at Pier

This outfall takes the wastewater from the sewer along Pier Road and is mainly discharging the wastewater from the fish factory.

Both of these outfalls are discharging below the low tide level into a bathing area. The septic tanks provide primary settlement only, which according to the National Urban Waste Water Study (NUWWS) reduces the BOD load by approximately 30% and the Suspended Solids load by approximately 50%.

Proposed Waste Water Treatment Plant

The proposed new Schull Wastewater Treatment Plant and Outfall is currently under procurement as a Design Build Operate package. The Contractor has not yet been appointed therefore detailed design of the proposed treatment plant has not yet been carried out. A typical plant would consist in this case of screening, aeration, settlement with return of sludge and sludge treatment and removal and will also include storm water storage. The preferred option for the outfall is to be located at Schull Point.

The sludge disposal proposals for the Schull Sewerage Scheme will be in accordance with the County Cork Sludge Management Plan.

The treated effluent quality standard for the Schull Waste Water Treatment Plant is to comply with the E.U. Urban Waste Water Treatment Directive Standards. Which are as follows:

- BOD 25mg/l
- COD 125mg/l
- Total Suspended Solids 35mg/l

The existing septic tank site was chosen as the location for the new WWTP with the advantages being :

- Existing septic tank to be used as overflow tank
- Septic tank location is focus of existing collection network
- Gravity supply possible from nearly all locations
- There is an ease of access to the site from the main road, therefore reducing the impact of construction and maintenance.

The treatment plant type proposed, (in the preliminary report by MC O'Sullivan, June 2000) is a Sequence Batch Reactor system. This is an activated sludge process and the basic design parameters are:

$$\text{Provided Volume} = 693 \times 2 = 1,386 \text{ m}^3$$

$$\text{Inlet Design BOD} = 3,000 \times 60 \text{ gms} = 180 \text{ kg/day}$$

$$\text{Inlet DWF} = 3,000 \times 230 \text{ l/h/d} = 690 \text{ m}^3 / \text{d.}$$

Such a plant (including ancillaries) would consist of the following : -

- Mechanically raked inlet screen and compactor

It is proposed to install a mechanically raked screen with screenings compacted and dewatered before discharging to a disposable heavy-duty bag, which would be transferred to landfill. A bypass with a hand raked screen would also be installed at the works.

- Grit removal system

It is proposed to install a mechanical grit removal system.

- Low lift pump and overflows

The proposed 750mm inlet sewer to the works cannot gravitate to the sequence batch reactor (SBR). The relevant levels are as follows;

Existing 225mm Invert Level	=	3.10 mOD
Proposed 750mm Invert Level	=	2.19 mOD
Proposed TWL of SBR	=	7.60 mOD
Existing Septic Tank Outlet Level	=	0.49 mOD

It is proposed to have the inlet works in line with the pipework and the pump sump. This sump would accept the entire storm flow from the main drain, but the pumps would only pump at a rate of three times the future dry weather flow ($3 \times 8 = 24$ l/s) to the sequence batch reactor. The remainder would flow to the existing septic tank, which will be used as a storm tank. Should the overflow volume exceed the capacity of the septic tank, it can overflow into the harbour through the upsized outfall pipe. This should not occur under normal conditions.

- Sequence batch reactor

From the pump sump the sewerage is pumped into one of the two reactor tanks. The SBR is a specific fill and draw version of the activated sludge process. In contrast to the continuous flow alternative, metabolic reactions and solid liquid separation are carried out in the one tank and in a well-defined and continuously repeated time sequence. The SBR functions as follows:

1. The reactor tank is filled.
2. The content of the reactor is mixed using jets.
3. The content of the reactor is aerated for a predetermined period.
4. The sludge flocs are allowed to settle.
5. The supernatant liquid is decanted.
6. The sludge is removed to the picket fence thickener.

Approximately 25% of the contents of the tank are retained at the end of each cycle. This process will operate independently for both reactor tanks and using a dump fill, the sewerage input will be accommodated for the majority of situations. The excess load will be stored in the existing septic tank.

- Disposal of Water

Following the separation of the sludge and the effluent, they are taken out of the SBR. The effluent is drawn off first using a floating head draw-off and is pumped through the proposed rising main to a header

manhole from where it is able to flow under gravity to the proposed outfall at Schull Point.

The sludge will be pumped to a picket fence thickener (PFT), which will increase the solids contents in the sludge. This water is fed back into the SBR via the pump sump and the sludge is removed from the PFT through a sludge draw off point and transported off site using a tanker at frequent intervals.

C.1.1 Storm Water Overflows

Schull town currently has a winter population of approximately 600 persons, which more than triples in the summer months with the influx of tourists and owners of second homes from outside the area. This results in a large seasonal imbalance in the dry weather flow. The existing sewerage network is a combined system collecting both stormwater and domestic effluent, so that when heavy rainfall occurs the flows in the system are well above the dry weather flow. There are also two streams in the catchment area surrounding the town, which provide the majority of surface water drainage for this area. These two streams flow through the town in two culverts, which are open in places and join before discharging into the harbour near the pier.

The majority of this network operates as a combined system, but in recent years efforts have been made to dispose of stormwater separately. This has been the case in a number of developments, such as Celtic Holiday Homes, Colla Road, which has a separate stormwater drain laid to the harbour following the line of the proposed relief road between Colla Road and Pier Road. All of the developments that pump into the system contribute only foul water, with stormwater being disposed of using separate outfalls into the harbour.

There are two stormwater overflows in the network. They are as follows:

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	SW03 Schull	Coastal	Schull Harbour	E:093171 N:031557
Overflow Pipe in MH	SW04 Schull	Coastal	Schull Harbour	E:092813 N:031436

- Overflow at Septic Tank – SW04 Schull

SW04 Schull serves as both the primary discharge and storm overflow from the septic tank. In this manhole, the invert of the 225mm diameter overflow pipe is 1.77m above the invert of the outgoing 150mm diameter pipe. This overflow pipe runs to desludging manhole on the septic tank that is connected to the outfall pipe.

- Overflow at Pier Road – SW05 Schull

In this manhole, when the level of wastewater rises more than 225mm above the invert of the outgoing pipe, the wastewater flows over a weir in the manhole and out into the western stream.

To minimise the quantity of untreated waste reaching the harbour water, it is proposed that this overflow at Pier Road be diverted into the proposed new sewer and the existing overflow to be de-commissioned. This will ensure that all of the wastewater reaches the treatment works. If the flow is larger than the proposed pumping station can cope with, then it will overflow into the existing septic tank which will be used as a storm holding tank.

Proposed Pumping Stations

There is one pump station proposed as part of the Schull Sewerage Scheme – Phase 1.

- Pump station at Ballydehob Road with an overflow to the adjacent stream flowing into the harbour.

Pumping Rate : 1 l/s

Lift : 7m

Power Usage : 0.1kW

There are also two proposed pumping stations located within the new proposed WWTP site as part of the Schull Sewerage Scheme – Phase 2;

1. Inlet Pumping Station;

Average Flow = 1.5DWF= 12l/s
Pipe Size = 150mm
Length = 38m + 10% for bends = 42
Static Head = 6.00m
Friction Loss = 0.21m
Total Lift = 6.21m

2. Final Effluent Pump;

Average Flow = 1.5 DWF = 12l/s
Rising Main Length = 1,429m
Pipe Size = 150mm
Floor Level at Sump = 0.00m
Discharge Level = 27.40m
Static pump level = 27.40m
Friction Losses = 7.14m
Total Lift = 34.54m

The Inlet Pumping Station will have dual pumping, emergency storage facilities and a screened emergency overflow pipe, catering for a 3DWF, discharging to the harbour below LWM to cater for power failure or extreme storm events.

When the proposed WWTP is overloaded due to a storm, water will overflow from the sump at the inlet works into the existing septic tank.

The tank will then fill to capacity and overflow into Schull Harbour via a new proposed 525mm diameter pipe until the WWTP returns to normal operations. There will be a pipe connected between at the base of the septic tank to the sump to allow the overflow back into the pumpsump via a non-return valve. This will then be pumped to the WWTP for treatment prior to discharge. This operation will minimise the amount of untreated wastewater and stormwater discharging into the harbour.

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.

Schull Harbour is relatively free of pollution at present, though low levels of pollution are evident around the pier area to the west, and the beach area to the east. Due to slack tides in the harbour it is proposed that the outfall for the Schull Sewerage Scheme be moved from its present location, north of the pier in Schull town to a new location, approximately 1.5km south of the town, near Schull Point. This outfall would discharge the treated effluent from the town of Schull and its immediate environs.

The treated wastewater will be pumped through the proposed 150mm diameter ductile iron rising main to a header manhole from where it will flow under gravity in a 225mm diameter pcc pipe to the proposed outfall at Schull Point.

The rising main will follow the same line as the proposed 750mm inlet pipe until it reaches Colla Road. From here the rising main will be laid along the road until it reaches the header manhole. The effluent will then flow under gravity to the outfall located near Schull Point.

The pipe will be laid across the foreshore and into Long Island Channel below the low water mark. The treated effluent is to be discharged via the proposed outfall. The outfall will consist of a 250mm diameter pipeline and duck-bill valve, laid to 50m beyond the high water mark. Repairs to the shoreline, pipe-bedding and concrete surround to protect the pipe will be undertaken as associated siteworks. The recommended 2m minimum depth of water at low tide will be available at all stages of the tide.

The Treated Effluent Outfall shall comply in all respects with the Foreshore Licence issued by the Department of the Marine Communications and Natural Resources.

The following extract from the Preliminary Report for the upgrading of Schull Sewerage Schemes carried out by MC O’Sullivan, Consulting Engineers, deals with the proposed outfall details and location:

“In May 2000, Irish Hydrodata Ltd. of Rathmacullig West, Ballygarvan, Co.Cork carried out a marine survey at Schull Point, Co.Cork. The main objectives of the study as defined by MCOS were to:

- (a) Establish the basic dispersive characteristics of the bay waters.
- (b) To assess the likely fate of treated municipal effluent discharges within the confines of the bay.

The scope of the survey was discussed and agreed to include the following work:-

- a) Three continuous dye release and tracking surveys at the proposed outfall location at Schull Point
- b) The modelling of the coastal areas and underlying hydrodynamics of the site in order to set up numerical modelling of the waters surrounding Schull Point to simulate actual water. A verification of this model using observed dye dispersion characteristics and current movements was necessary.
- c) Deploy recording current meter at the proposed outfall location near Schull Point.
- d) Bathymetric survey between Schull Point and Long Island.

Using the information gathered from the dye survey in association with the data from the recording current meter, as well as the up to date bathymetric survey of the waters surrounding Schull Point, predictive numerical models were set up to simulate the actual water movements and currents in the bay. The main requirements of the models were that they should be site specific and capable of incorporating real bathymetry, topography, tidal and climatic variations. The purpose of the predictive modelling analyses was to establish the likely effects of the proposed municipal waste discharges on the water quality at Schull Point and surrounding waters.

Table 6.1: Effluent Characteristics used in Predictive Modelling

Parameter	Value
Faecal Coliform	$1.0 \times 10^6/100 \text{ ml}$
Bacterial Decay	T90 = 12 hours
Flow Rate	18 to 48 l/s

The predictive modeling was based on the expected quality and quantity of effluent discharged from the fully developed disposal works as indicated in Table 6.1.

The predictive models indicate levels of bacterial contamination in terms of Escherichia coli (E.Coli). This bacteria, is a sub group of the faecal coliform group and is used as an indicator organism for the assumed presence of faecal conforms.

For the purposes of the predictive modeling a faecal coliform count of 1×10^6 fc/100 ml and 1×10^5 fc/100 ml, were chosen as a worst case scenarios. These were used to predict bacterial levels in the water due to the discharge of treated effluent at the proposed outfall option locations.

Predictive modeling of the BOD and suspended solid concentrations were considered not worth pursuing as the concentrations of these two parameters in the final effluent are so low. The predictive models therefore concentrated on the effects of faecal coliform levels on the water following discharge.

The model simulates the fate of the effluent in three distinct regions:

1. The near field, adjacent to the discharge point, where the effluent plume exits the pipe and rises to the surface.
2. The mid field where the effluent plume spreads and mixing takes place in the vertical, typically within a specific distance (i.e., 100 x local water depth) from the discharge point.
3. The far field where vertical mixing is complete and further mixing takes place in the offshore / onshore direction.

MIXING AND DILUTION

Results in Table 6.2 show predicted initial dilutions of the plume at the instant it reaches the sea surface. With a single port outfall (i.e. an open ended pipe, diameter 300mm) the predicted dilutions will lie in the range 25-115 depending on the tide level and ambient current speed at the discharge point. Fitting a four port diffuser onto the pipe will increase initial mixing and the model simulations suggest improved dilutions of 80 to 450.

Table 6.1: Effluent Characteristics used in Predictive Modelling

No.Ports	Flood Tide	Ebb Tide	Slack Water
1	45-85	65-115	25-40
4	170-330	230-450	80-100

CONCLUSION ON PROPOSED OUTFALL LOCATION

The proposed outfall shall be located near Schull Point. The purpose of this section of the report is comment on the suitability of this location. The tidal conditions and movements were established by carrying out field measurements at the proposed location, including drogue tracking, dye dispersion and current metering at the proposed outfall location. These measurements defined the flow pattern at this location and allowed the effect of effluent discharge to be modeled. The ebb tide was found to be stronger, longer in duration and carried the dye and drogues in southwesterly direction through the Long Island Sound. The flood tide was found to be weaker, of shorter duration and carried the drogues and dye into Schull Harbour.

This data on the tidal flow suggest that it would be advantageous to restrict the discharge to the ebb tide. This would ensure that the discharge is carried out to sea through the Long Island Sound rather than into the harbour. Discharging on the ebb tide also ensures a rapid dispersal of the plume.

Model simulations were run using a maximum discharge of 48 l/s and a faecal coliform bacterial level of up to 1×10^6 fc/100 ml. This simulation found that the bacterial concentration would rapidly decrease away from the outfall with the bacterial concentrations within statutory requirements by the time that it reached

the coastline. A simulation was also run for a bacterial concentration of 1×10^5 fc/100 ml and the impact of the plume was found to be particularly small.

The data collected on site and the simulations run using this data indicate that this is the best location for the proposed outfall. The outfall should not be located in the harbour due to the slack flows being unfavourable to dispersion. A possible site on Coosheen Point is also unfavourable due to the current flow in the area tending to carry any discharge from this location into the harbour.

Therefore, the proposed location is an ideal site offering favourable dispersion and diffusion of the treated effluent. It is also proposed that the discharges should take place on the ebb tide preferably, due to its favourable characteristics of flow direction, velocity and duration.”

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
	✓	

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

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_C D	PT_TYPE	LA_ NAM E	RWB TYPE	RWB_NAM E	DESIGNATIO N	EASTING	NORTHING

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.

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

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
Point Code Provide label ID's assigned in section E of application	Point Type (e.g., Primary, Secondary, Storm Water Overflow)	Monitoring Type M = Monitoring S = Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

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.

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
SW01	Primary	Sampling	93979	31186	y
SW02	Secondary @ Inglenook	Sampling	92861	31278	n
aSW1d	Receiving Waters at Coosheen	Sampling & Monitoring	93979	31186	n

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.

Specific details of the emission impacts on the receiving environment are provided in Section 10 of the "Assessment of the ecological impacts of providing an Upgraded Wastewater Treatment System at Schull, Co.Cork", by Dixon Brosnan which can be found in Attachment F.1.

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

Tables F.1 (i) (a) & (b) are included in the application form.

- 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.

The secondary discharge is from the fish factory located on the pier in Schull. This discharges untreated wastewater directly into the harbour. It is proposed to decommission this outfall. A new pumping station located at Pier Road will pump the wastewater to the new collection system for conveyance to the new WWTP.

Tables F.1 (ii) (a) & (b) are included in the application form.

-
- 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 or proposed discharges to which this licence application pertains.

- 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.

Schull Harbour into which the discharge's takes place is a Special Area of Conservation. The harbour is part of Roaring Water Bay that is named in the "Quality of Shellfish Water Regulation". Therefore, Schull Harbour has to reach the standard set out in this directive.

The harbour area is used for both commercial and leisure activities. A lobster holding area is isolated at the east side of the bay and a fish plant operates on the pier.

- 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 load to the WWTP is mainly domestic and tourism with little industrial contribution it can be assumed that the presence of these substances is negligible. The main parameters which impact the receiving environment are limited to BOD, suspended solids and bacteria (total and faecal Streptococci).

- 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.

No water abstraction points exists downstream of any of the discharge locations (primary or secondary).

- 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)

- Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.
- Not Applicable
- 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.**

A marine survey was undertaken by Hydrodata, under the instructions of M.C. O’Sullivan & Co. Consulting Engineers, in May 2000. The survey data was analysed and then incorporated into computer models to determine the impact on receiving water quality of discharging effluent (following secondary treatment) from the proposed wastewater treatment plant at Meenvane via the new marine outfall at the Schull Point (approximately two miles from Schull town).

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_VOLUME	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	Agglomeration served	Abstraction Volume in m ³ /day	Point Code Provide label ID's	Distance Downstream in meters from Emission Point to Abstraction Point	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used

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

There are no drinking water abstraction points downstream of the discharges from the Schull agglomeration.

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

Attachment F.2 should contain any supporting information.

SECTION G: PROGRAMMES OF IMPROVEMENTS

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

G.1 Compliance with Council Directives

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

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

Compliance with Council Directives

At present there is no record of non compliance in relation to the emissions from the agglomeration and the treatment plant with the council directives. A programme of improvements consisting of the construction of a new upgraded Collection System (Phase 1) and new WWTP (Phase 2), as detailed in section B.10, is currently at the Phase One construction stage. Once this new WWTP has been constructed and commissioned, the level of treatment, control and monitoring will be improved and hence further facilitate compliance with the Council Directives.

The following details the compliance with the applicable directives.

Dangerous Substances Directives 2006/11/EC.

The effluent for the Schull agglomeration is mainly tourist and domestic; 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.

The new WWTP proposed in the programme of improvement shall advance the level of control by increasing the number of sampling and monitoring points. The detection of any dangerous substances will be then facilitated.

Water Framework Directive 2000/60/EC.

The EU Water Framework Directive (WFD) entered into force in December 2000 and serves as a major impetus for improved water management. 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. The Directive requires the co-ordination

of measures for water management in relation to all waters - inland surface waters, estuarine and coastal waters and groundwater.

Schull Harbour is a sheltered, shallow harbour of about 2km² in size. The harbour lies within Roaringwater Bay, which is a Special Area of Conservation (SAC).

Schull Harbour and Roaring Water Bay have a number of beneficial uses including:

- **Amenity:** The harbour and bay offers attractive scenic views of the coastline and islands.
- **Fishing/Angling:** Schull has established itself as one of Ireland's premier Sea Angling resorts. The clean Atlantic waters warmed by the Gulf Stream add to the prolific marine life and species of fish, which live off the shore.
- **Swimming:** The harbour is used for swimming at the east of the town and at the Pier.
- **Receiving Water:** The harbour is the receiving water for discharges from Schull septic tank.

The quality of estuarine and coastal waters is usually monitored by a number of government and regulatory agencies, including EPA, Coastal Local Authorities, the Marine Institute's Fisheries Research Centre (FRC), various arms of the Department of the Marine and Natural Resources and the Radiological Protection Institute of Ireland.

The South Western River Basin District has designated status of Schull Harbour and the surrounding Roaringwater Bay as "Unassigned" with an objective of "Restore". Similarly it has designated them to be "not at significant risk"

Drinking Water Directives 80/778/EEC.

This Directive concerns standards for water intended for human consumption. As there is no drinking water abstraction point in the vicinity of any of the discharge points, this directive is not applicable.

Urban Waste Water Treatment Directive 91/271/EEC.

The UWWTD provides a framework for action to deal with the pollution threat from urban and industrial wastewater. The principal requirement of the UWWTD is that:

"The design, construction and maintenance of collection systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:

- *Volume and characterisation of urban waste water*
 - *Prevention of leaks*
 - *The limitation of pollution of receiving waters due to storm water overflows"*

In a footnote to the above requirements, the directive recognises that it is not possible in practice to construct collection systems and treatment plants in a way such that all wastewater can be treated during situations such as unusually heavy rainfall. As a result, it requires Member States to decide on measures to limit pollution from storm water overflows and suggests that such measures:

(i) could be based on:

- Dilution rates
- Capacity in relation to dry weather flow

(ii) could specify a certain acceptable number of overflows per year.

As stated in the S.I. No. 254 of 2001, Urban Waste Water Treatment Regulation, 2001:

" A sanitary authority shall ensure by 31 December 2005 that urban waste water entering a collecting system shall before discharge be subject to appropriate treatment in the following cases:

- (a) in respect of discharges to freshwater and estuaries from agglomerations with a population equivalent of less than 2,000;
- (b) in respect of discharges to coastal waters from agglomerations with a population equivalent of less than 10,000.

Since the septic tank is deemed to provide appropriate treatment it is currently complying with the Urban Waste Water Treatment Directive 91/271/EEC.

Notwithstanding this compliance with the directive a programme of works as detailed in Attachment B.10 is proposed to improve effluent quality and to cater for the future load i.e. 20 year design horizon.

Habitats Directive 92/43/EEC and Birds Directive 79/409/EEC.

Roaringwater bay into which the treatment plant will discharge is a Special Area of Conservation (SAC). As detailed in the site synopsis included in Dixon Brosnan Ecology Report, three marine habitats listed under the EU Habitats Directive, i.e. large shallow inlets and bays, marine caves and reefs are found within the bay.

The existing primary and secondary emissions from the agglomeration have negligible impact on the surrounding habitats and birds as all emissions are to the aquatic environment where compliance with the Bathing Waters Directive has been achieved.

Bathing Water Directive 76/160/EEC.

There are a number of bathing beaches in Schull. (However, there is no designated Bathing Water in the area). 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 quality of the effluent and the discharge conditions will be improved with the construction new WWTP and relocation of outfall outside of the Harbour and hence further compliance with the Bathing Water Directive will be assured.

Environmental Liabilities Directive 2004/35/EC.

The Environmental Liability Directive is about preventing and remedying environmental damage. It aims to hold operators whose activities have caused environmental damage financially liable for remedying this damage. As the operators (Cork Country Council) are implementing a programme of improvements, this ensures that no environmental damage will be caused by the future effluent discharges and hence comply with the Environmental Liabilities Directive.

It is likely that under the DBO contract for Schull Wastewater Treatment Plant, a Performance Management System will be required. Such a system would provide a uniform approach to dealing with performance management issues, including procedures for dealing with plant operation, and in particular for dealing with emergencies or failure to meet treated effluent standards.

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

Shellfish Waters Directive (79/923/EEC).

Schull Harbour is part of Roaring Water Bay that is named in the "Quality of Shellfish Water Regulation". Therefore, Schull Harbour has to reach the standard set out in this directive.

The harbour area is used for both commercial and leisure activities. A lobster holding area isolated at the east side of the bay and a fish plant operates on the pier.

The "Quality of Shellfish Waters Regulations, 1994" states that

"where shellfish are normally taken for immediate consumption without purification, processing or other treatment, faecal coliforms must not reach a level which results in the shellfish flesh or intervalvular liquid containing 300 or more per 100ml".

As the intervalvular liquid is, in effect, sea water being passed continuously through the mollusc, it seems reasonable that compliance with this requirement is by reference to the faecal coliform numbers in the surrounding sea water, although, of course compliance would be assessed on the numbers in the intervalvular liquid. The Shellfish Directive has no standard requirement for the presence of enteroviruses in the water.

The Dept. of the Marine has adopted the Shellscan Classification System that relates directly to the faecal coliform concentration in the shellfish waters. This system classifies shellfish waters into three categories as follows;

Approved - no further purification necessary.

Conditional - purification necessary by relaying the shellfish in uncontaminated seawater.

Restricted - pressure cooking essential.

The purification system is summarised in Table 1 below.

Table 1

Geometric Mean of Faecal Coliforms/100ml of Water	Compliance f.c./100ml	Classification
<14	90% < 46	Approved
>14 <140	90% < 460	Conditional
>140	>460	Restricted

Finding a present geometric mean of faecal coliform levels within Schull Harbour would require detailed sampling. Results from the marine outfall study, carried out by Irish Hydrodata (for M.C. O’Sullivan & Co. Ltd.), indicate that bacterial levels over a greater part of the inner bay will exceed 100 fcu/100ml. If this number of coliforms were an average value then Schull Harbour would be classed as “conditional” under the Shellscan Classification System.

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.

- Not applicable for discharges into sea

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 proposed new Schull Wastewater Treatment Plant and Outfall is currently under procurement as a Design Build Operate package. The Contractor has not yet been appointed therefore detailed design of the proposed treatment plant has not yet been carried out. A typical plant would consist in this case of screening, aeration, settlement with return of sludge and sludge treatment and removal and will also include storm water storage. The preferred option for the outfall is to be located at Schull Point.

The sludge disposal proposals for the Schull Sewerage Scheme will be in accordance with the County Cork Sludge Management Plan.

The treated effluent quality standard for the Schull Waste Water Treatment Plant is to comply with the E.U. Urban Waste Water Treatment Directive Standards. Which are as follows:

- BOD 25mg/l
- COD 125mg/l
- Total Suspended Solids 35mg/l

The existing septic tank site was chosen as the location for the new WWTP with the advantages being :

- Existing septic tank to be used as overflow tank
- Septic tank location is focus of existing collection network
- Gravity supply possible from nearly all locations
- There is an ease of access to the site from the main road, therefore reducing the impact of construction and maintenance.

The treatment plant type proposed, (in the preliminary report by MC O'Sullivan, June 2000) is a Sequence Batch Reactor system. This is an activated sludge process and the basic design parameters are:

Provided Volume = 693 x 2 = 1,386 m³

Inlet Design BOD = 3,000 x 60 gms = 180 kg/day

Inlet DWF = 3,000 x 230 l/h/d = 690 m³ / d.

Such a plant (including ancillaries) would consist of the following : -

- Mechanically raked inlet screen and compactor
- Grit removal system
- Low lift pump and overflows

It is proposed to have the inlet works in line with the pipework and the pump sump. This sump would accept the entire storm flow from the main drain, but the pumps would only pump at a rate of three times the future dry weather flow (3 x 8 = 24 l/s) to the sequence batch reactor. The remainder would flow to the

existing septic tank, which will be used as a storm tank. Should the overflow volume exceed the capacity of the septic tank, then it can overflow into the harbour through the upsized outfall pipe. This should not occur under normal conditions.

From the pump sump the sewerage is pumped into one of the two reactor tanks. The SBR is a specific fill and draw version of the activated sludge process. In contrast to the continuous flow alternative, metabolic reactions and solid liquid separation are carried out in the one tank and in a well defined and continuously repeated time sequence. The SBR functions as follows:-

7. The reactor tank is filled.
8. The content of the reactor is mixed using jets.
9. The content of the reactor is aerated for a predetermined period.
10. The sludge flocs are allowed to settle.
11. The supernatant liquid is decanted.
12. The sludge is removed to the picket fence thickener.

Approximately 25% of the contents of the tank are retained at the end of each cycle. This process will operate independently for both reactor tanks and using a dump fill, the sewerage input will be accommodated for the majority of situations. The excess load will be stored in the existing septic tank.

- Disposal of Water

Following the separation of the sludge and the effluent, they are taken out of the SBR. The effluent is drawn off first using a floating head draw-off and is pumped through the proposed rising main to a header manhole from where it is able to flow under gravity to the proposed outfall at Schull Point. The sludge will be pumped to a picket fence thickener (PFT), which will increase the solids contents in the sludge. This water is fed back into the SBR via the pump sump and the sludge is removed from the PFT through a sludge draw off point and transported off site using a tanker at frequent intervals.

Mitigation measures will be installed at the proposed WWTP so that odour concentrations should not exceed 2 o.u./m³ at the site boundary at a 98 percentile probability of occurrence or it should not exceed this limit for more than 2 % of the year whichever is the lesser and odour concentration should not exceed 5 o.u./m³ at the site boundary at a 99 percentile probability of occurrence or that it should not exceed this level for more than 1 % of the year, whichever is the lesser.

The plant shall be designed to ensure that the maximum noise level of 45 dB(A) as the maximum allowable 15 minute Leq at the site boundary due to operations within the site during daytime (8 am to 8 pm) and 40 dB(A), 15 minute Leq at night (8 pm to 8 am) and at weekends, when all equipment installed is being operated, is complied with and there shall be no discrete tones or impulses. In addition, the noise level at a distance of 1 m of each sound producing mechanical item of equipment shall not exceed 85 dB(A) except in the case of internal combustion engines in which case the noise level of 85 dB(A) shall apply to a distance of 1 m from the building in which they are housed.

The Pumping Station will have dual pumping, emergency storage facilities and screened emergency overflow pipe discharging to the estuary below LWM to cater for power failure or extreme storm events. The provision of the new WwTP and sewers and the rehabilitation of the existing collection system will have a positive effect on Schull Harbour and Roaringwater Bay.

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

Attachment included	Yes	No
	✓	

G.4 Storm Water Overflow

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

As there is a high volume of surface water infiltration into the collection system it is proposed to carry out rehabilitating works i.e. relining and relaying, in some of the critical sections identified in the CCTV Survey as having a high proportion of large defective joints and areas of broken and collapsed pipes in the sewer line.

The proposed works include the following:

- Remedial works to network
- New sewer to upgrade existing four combined sewers
- New foul sewers to serve areas at present not catered for
- New storm sewers
- Improvements to open drains
- Elimination of overflows

There is a large area of land surrounding the town of Schull. Which has been zoned for development. The existing sewerage system for the town will be capable of servicing this development following the completion of the work proposed earlier in this report. It is proposed that the sewerage network take only the foul water and not storm water from future developments. Therefore a separate system will be required for the storm water. It is proposed that pipelines be provided up to a point where a minimum of two developments will be able to connect. It is proposed that the County Council provide outfalls and collection pipelines at three locations.

- Provide a pipeline for approx. 100m along Colla Road. This line would then turn east and follow the line of the proposed relief road between Colla Road and Pier Road, finally discharging into the harbour through an outfall located near the slipway.
- Provide a 225mm diameter pipe along Meenvane Road connected to an outfall located on the shoreline.
- Provide a pipeline along Ardmanagh Road, connected to a discharge point on the western stream at the beginning of the culvert under Main St.

There is an existing storm water overflow located at a manhole on Pier Road discharging into the adjacent stream. To minimise the quantity of untreated waste reaching the harbour water, it is proposed that the overflow be diverted into the proposed sewer. This will ensure that all of the wastewater reaches the treatment

works. If the flow is larger than the proposed treatment works can cope with, then the existing septic tank will be used as a storm holding tank.

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
	✓	

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

SECTION H: DECLARATION

Declaration

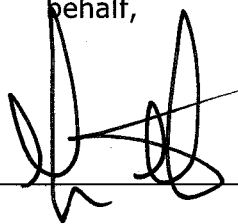
I hereby make application for a waste water discharge licence/revised licence, pursuant to the provisions of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

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 :



(on behalf of the organisation)

Date :

25/2/29

Print signature name:

Moira Murrell

Position in organisation:

DIRECTOR OF SERVICE

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

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.

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

Table of Contents of Annex 1

Section A – Non-Technical Summary

- Attachment A1 – **Schull A1.01** – Site Location Map of Agglomeration

Section B – General

- Attachment B1 – **Schull B1.01** – Schull Agglomeration Boundary Map
- Attachment B2 – **Schull B2.01** – Layout Plan of Wastewater Treatment Plant (Proposed Site Boundary, Site Plan, Discharge and Monitoring Points)
 - **Schull B2.02** – Layout Plan of Wastewater Treatment Plant (Proposed Site Boundary, Site Plan, Discharge and Monitoring Points)
 - **Schull B2.03** – Layout Plan of Wastewater Treatment Plant (Proposed Site Boundary, Site Plan, Discharge and Monitoring Points)
- Attachment B3 – **Schull B3.01** – Location of Primary Discharge Point (Existing And Proposed Points)
- Attachment B4 – **Schull B4-01** – Location of Secondary Discharge Point (Existing Points)
- Attachment B5 – **Schull B5-01** – Location of Stormwater Overflow Discharge Points (Existing Points)
 - **Schull B5-02** – Location of Stormwater Overflow Discharge Point (Proposed Points)
- Attachment B6 – Part 8 Planning Permission - County Managers Report on the Schull Sewerage Scheme
 - Extract from Minutes of Proceedings at Meeting of Cork County Council held on 14th Feb 2005 - Approval of Schull Sewerage Scheme Part 8 Planning Permission
- Attachment B8 – Copy of Site Notice
 - Original Newspaper Advertisement
 - **Schull B8.01** – Location of Site Notice
- Attachment B9 – Fees – Copy of Payment/ Receipt
- Attachment B10 – Costs and Likely Timeframe completion
 - Details of approved funding.

- Attachment B12 - Foreshore Licence Application including conditions

Section C – Infrastructure and Operation

- Attachment C1 - **Schull C1.01** – Layout of Proposed WWTP
- **Schull C1.02** – Process Flow Diagram
- Attachment C2 - Report on Marine Outfall at Schull Harbour, 2000
- Report on Marine Outfall at Schull Harbour, 2001

Section E – Monitoring

- Attachment E2 - Monitoring Programme
- Attachment E4 - Sampling Data

Section F – Existing Environment and Impact of the Discharges

- Attachment F1 - Assessment of the ecological impacts of providing an upgraded wastewater treatment system at Schull, Co. Cork.
- Additional information on the ecological impacts of providing an upgraded wastewater treatment system at Schull, Co. Cork.

Section G – Programme of Improvements

- Attachment G1- Recent Programme of Works
- Attachment G3- Recent Programme of Works

Tables E

Table E.1 (i) Wastewater Frequency and Quality of Discharge - Primary Discharge

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

Tables F

Table F.1(i)(a) Surface/Ground Water Monitoring – Primary discharge

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

Attachment A.1

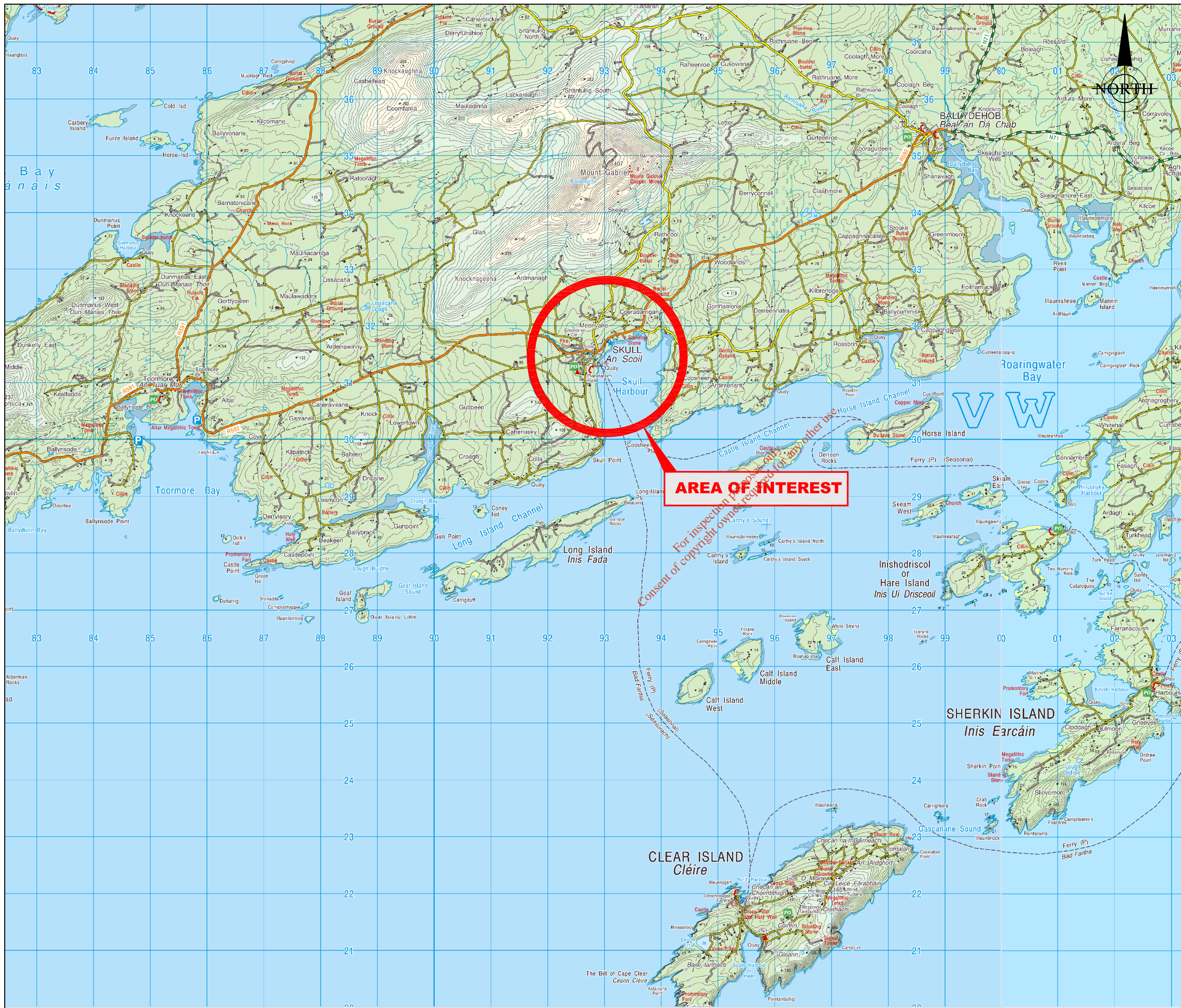
*For inspection purposes only.
Consent of copyright owner required for any other use.*

Attachment A1

Map:

- SCHULL A1.01 - Site Location Map

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

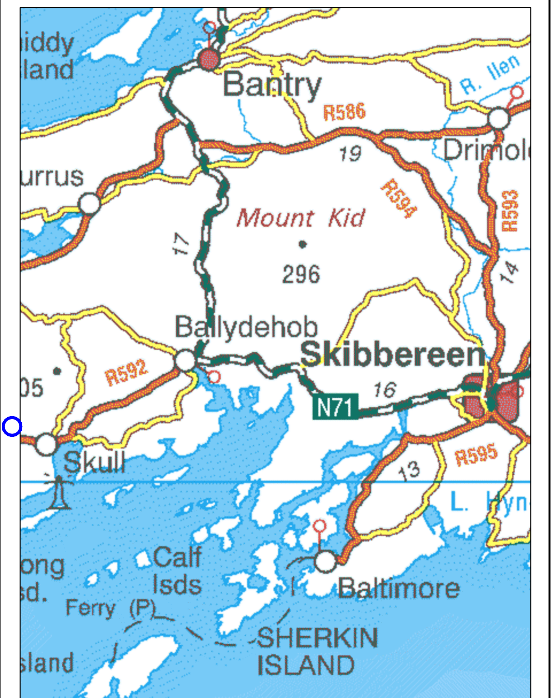


AREA OF INTEREST

Consent of copyright owner required for any other use

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



KEY MAP Not To Scale

No.	Date	Drawn	Checked	Revision Description

**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:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title:
**ATTACHMENT A.1
AGGLOMERATION BOUNDARY
SERVED BY WWTP**

Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_A1-01	Scales: NTS	Rev. -

Attachment B.1

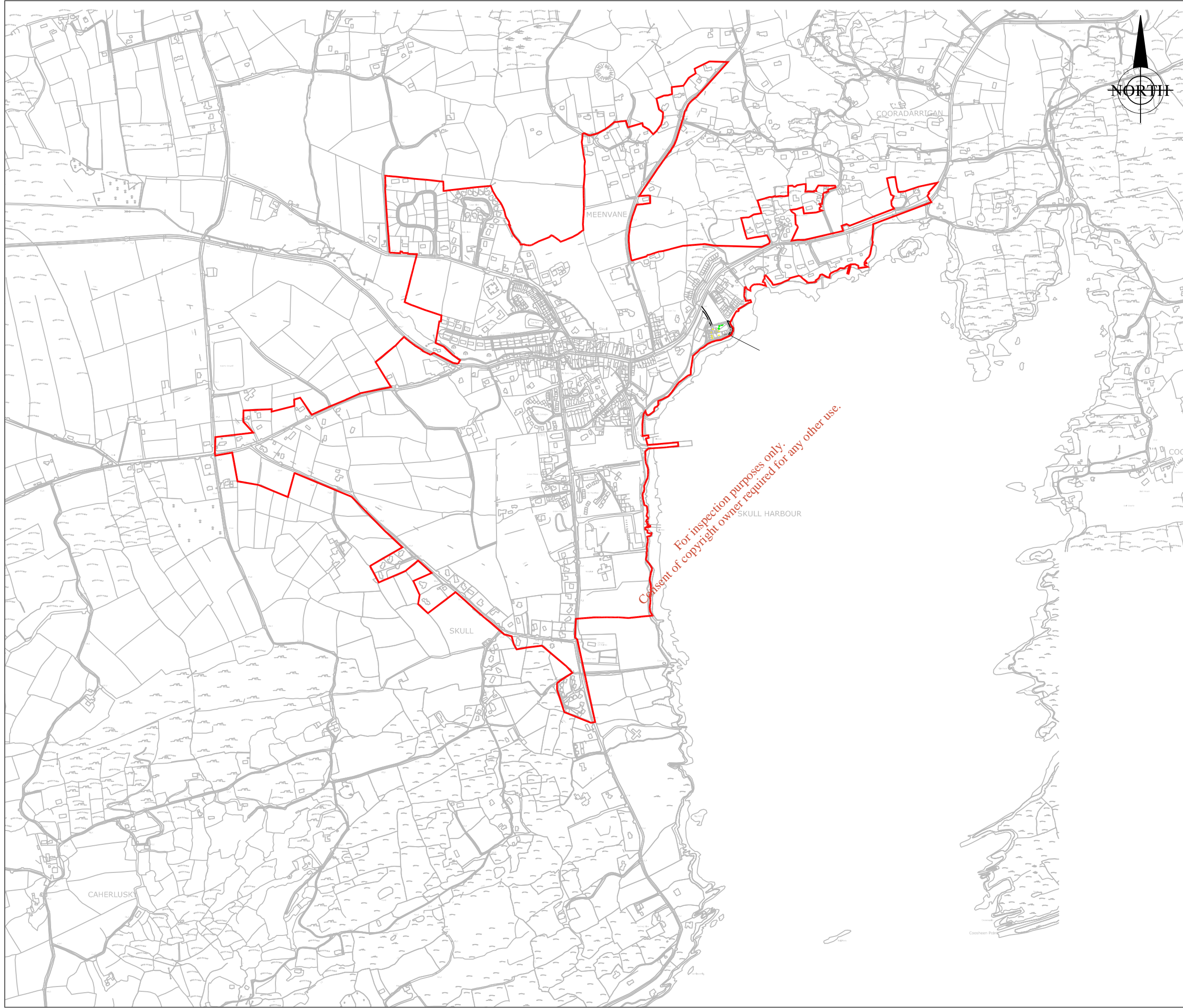
*For inspection purposes only.
Consent of copyright owner required for any other use.*

Attachment B1

Map:

- SCHULL B1.01 – Schull Agglomeration Boundary Map

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



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

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



LEGEND

——— AGGLOMERATION BOUNDARY

No.	Date	Drawn	Checked	Revision Description

**Cork County Council,
Western Division.**



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

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title:
**ATTACHMENT B.1
AGGLOMERATION BOUNDARY
SERVED BY WWTP**

Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_B1_01	Scales: 1:5000	Rev: -

Attachment B.2

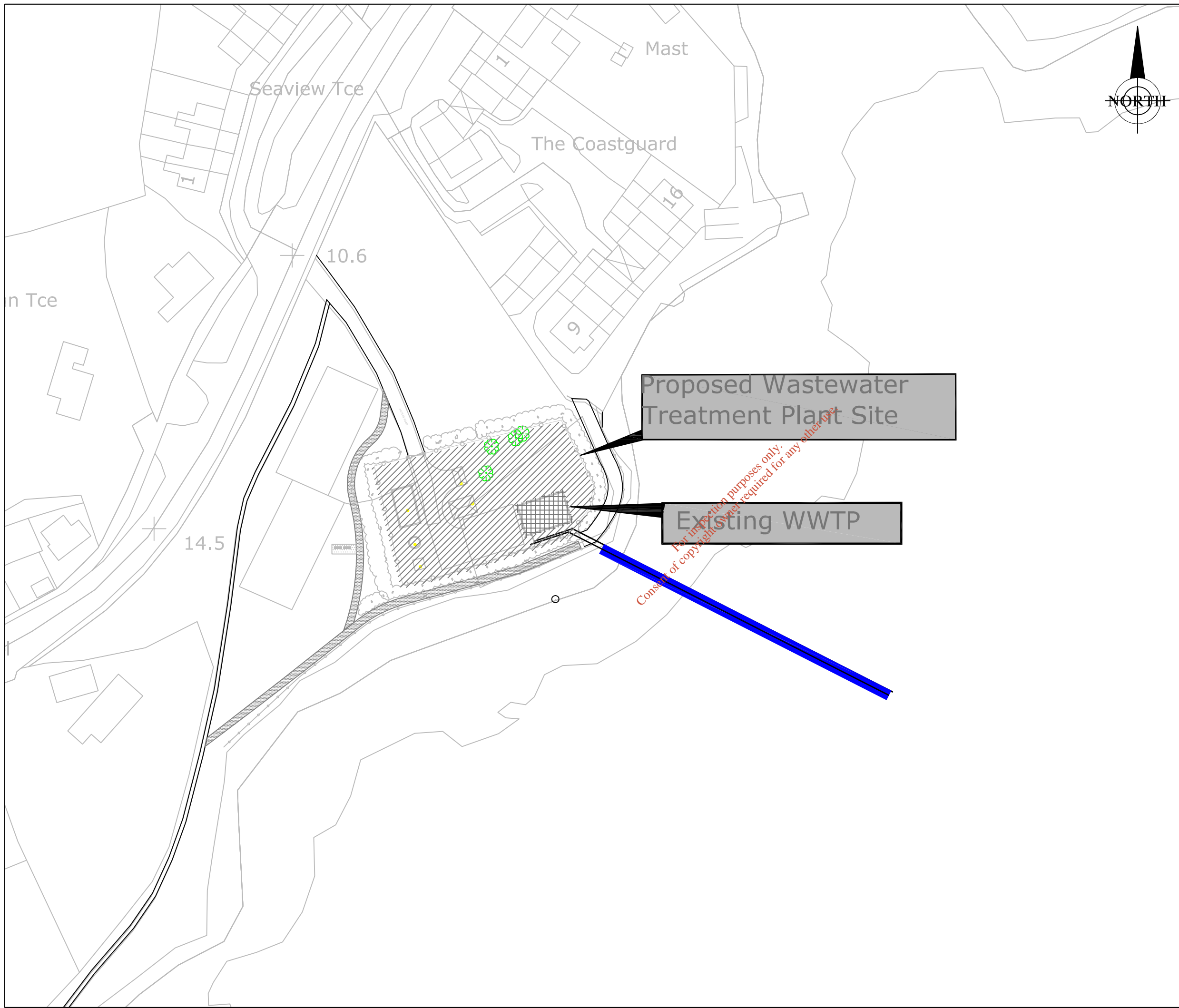
*For inspection purposes only.
Consent of copyright owner required for any other use.*

Attachment B2

Maps:

- SCHULL B2.01 – Site Location Map of Existing & Proposed Wastewater Treatment Plants
- SCHULL B2.02 – Layout Plan of Existing Wastewater Treatment Plant
- SCHULL B2.03 – Layout Proposed WWTP and Sampling and Monitoring Points
- SCHULL B2.04 – Monitoring Point Location

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



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

No.	Date	Drawn	Checkd	Revision Description

**Cork County Council,
Western Division.**



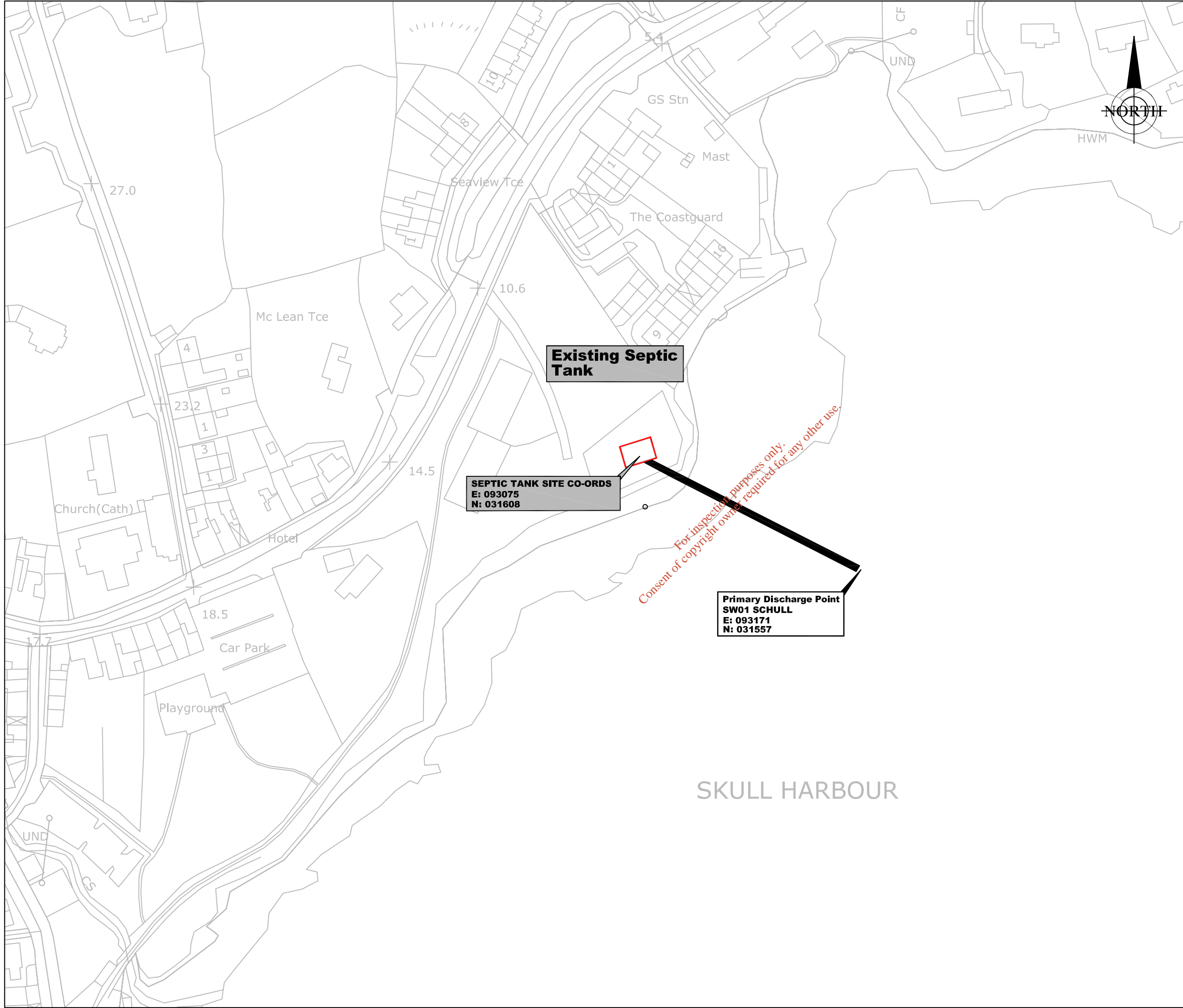
N.O'MAHONY, B.E.,
SENR. ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMORATION**

Drawing Title:
**ATTACHMENT B.2
SITE LOCATION PLAN
EXISTING & PROPOSED WWTP**

Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_B2-01	Scales: 1:1000	Rev: -



NOTES

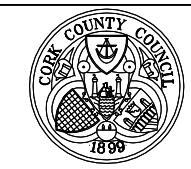
1. Do not scale, use figured dimensions only. If in doubt ask
2. All dimensions to be checked on site
3. Drawings to be read in conjunction with Licence application
4. Includes Ordnance Survey Ireland data reproduced under OSi Licence number Cork County Council CCMA2004/07
Unauthorised reproduction infringes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

LEGEND

— SITE BOUNDARY

No.	Date	Drawn	Checked	Revision Description

**Cork County Council,
Western Division.**



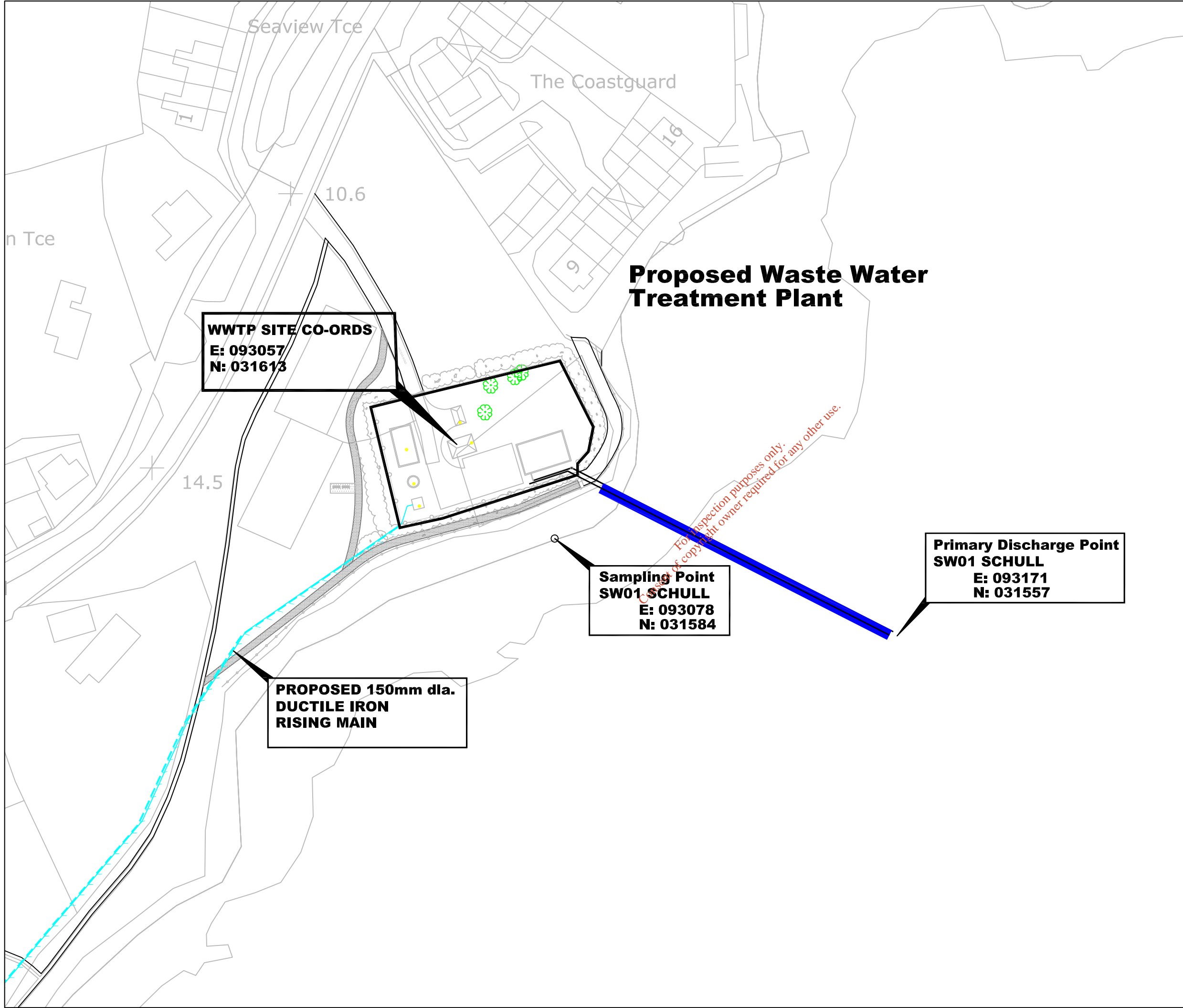
N. O'MAHONY, B.E.,
SENR. ENGR. (WATER SERVICES),
COURTHOUSE, SKIBBEREEN.

M. MURRELL,
DIRECTOR OF SERVICES
WEST CORK

Job Title:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title:
**ATTACHMENT B.2
SITE LAYOUT BOUNDARY
EXISTING SEPTIC TANK**

Prepared By: C. HICKEY	Checked By: A. O'BRIEN	Date: FEB. 2009
Drawing number: SCHULL_B2-02	Scales: 1:1000	Rev: -



WWTP SITE CO-ORDS
E: 093057
N: 031613

Proposed Waste Water Treatment Plant

Sampling Point SW01 SCHULL
E: 093078
N: 031584

Primary Discharge Point SW01 SCHULL
E: 093171
N: 031557

PROPOSED 150mm dia. DUCTILE IRON RISING MAIN

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



LEGEND

- SITE BOUNDARY
- RISING MAIN

No.	Date	Drawn	Checked	Revision Description

**Cork County Council,
 Western Division.**



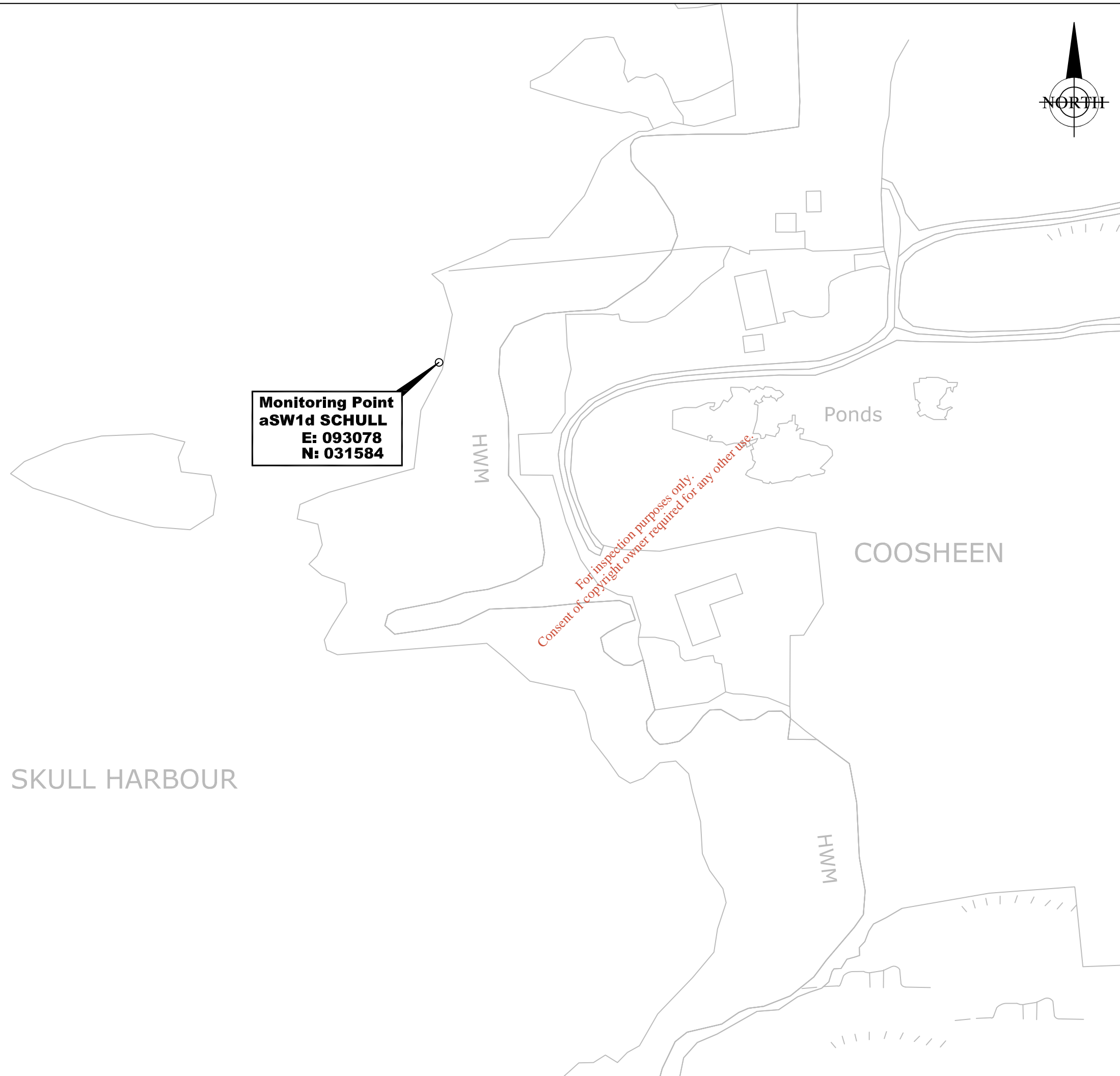
**N. O'MAHONY, B.E.,
 SENR. ENGR. (WATER SERVICES),
 COURTHOUSE, SKIBBEREEN.**

**M. MURRELL,
 DIRECTOR OF SERVICES
 WEST CORK**

Job Title:
**WASTE WATER DISCHARGE
 LICENCE APPLICATION
 SCHULL AGGLOMERATION**

Drawing Title: **ATTACHMENT B.2
 SITE LAYOUT BOUNDARY
 PROPOSED WASTEWATER
 TREATMENT PLANT
 (DRAWING 1 OF 2)**

Prepared By: C. HICKEY	Checked By: A. O'BRIEN	Date: FEB. 2009
Drawing number: SCHULL_B2-03	Scales: 1:1000	Rev: -



**Monitoring Point
aSW1d SCHULL
E: 093078
N: 031584**

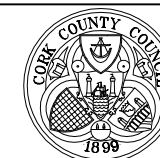


NOTES

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

No.	Date	Drawn	Checkd	Revision Description

**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:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title: **ATTACHMENT B.2
MONITORING AND SAMPLING
LOCATION
(DRAWING 2 OF 2)**

Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_B2-04	Scales: 1:1000	Rev: -

Attachment B.3

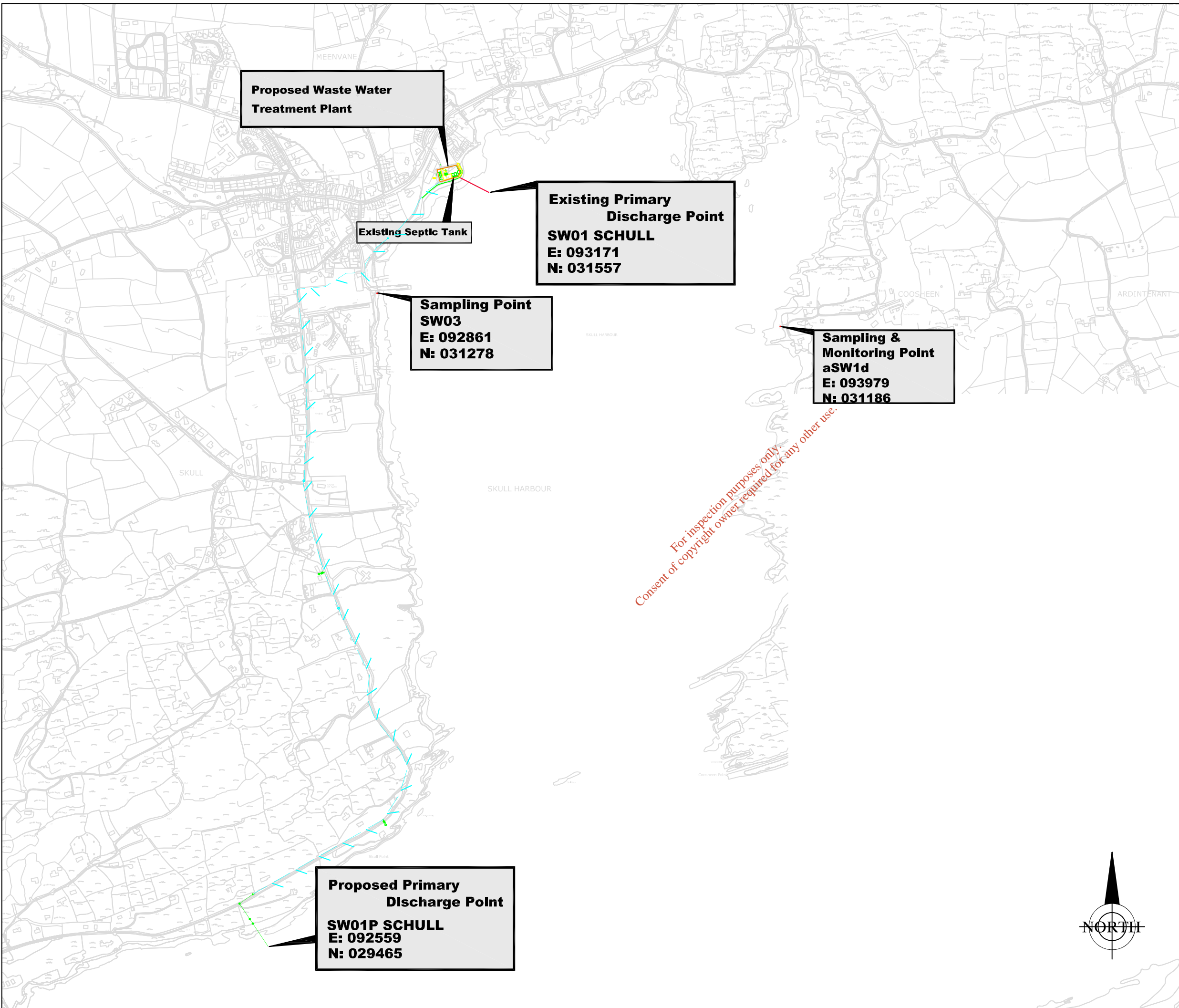
*For inspection purposes only.
Consent of copyright owner required for any other use.*

Attachment B3

Map :

SCHULL B3-01 – Existing & Proposed Primary Discharge Point

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



Proposed Waste Water Treatment Plant

Existing Septic Tank

**Existing Primary Discharge Point
SW01 SCHULL
E: 093171
N: 031557**

**Sampling Point
SW03
E: 092861
N: 031278**


**Sampling & Monitoring Point
aSW1d
E: 093979
N: 031186**

**Proposed Primary Discharge Point
SW01P SCHULL
E: 092559
N: 029465**

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

LEGEND

-  Rising Main
-  Gravity Outfall

No.	Date	Drawn	Checked	Revision Description

**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:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title:
**ATTACHMENT B.3
EXISTING & PROPOSED
PRIMARY DISCHARGE POINTS**

Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_B3_01	Scales: 1:10000	Rev: -



Attachment B.4

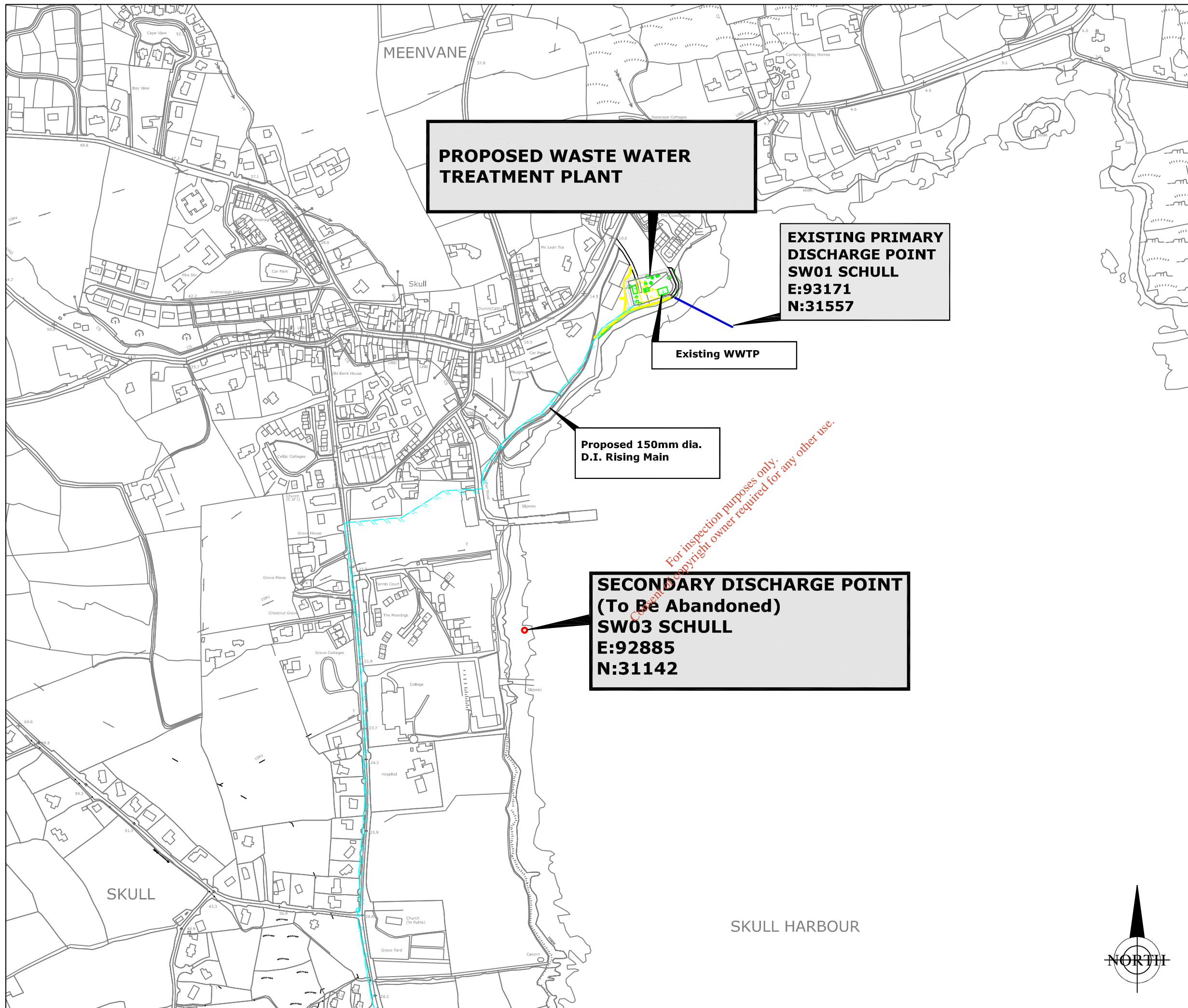
*For inspection purposes only.
Consent of copyright owner required for any other use.*

Attachment B4

Map :

- **SCHULL B4.01** – Existing Secondary Discharge Point

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



For inspection purposes only. Copyright owner required for any other use.

NOTES

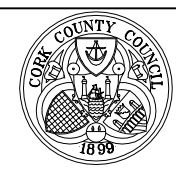
1. Do not scale, use figured dimensions only. If in doubt ask
2. All dimensions to be checked on site
3. Drawings to be read in conjunction with Licence application
4. Includes Ordnance Survey Ireland data reproduced under OSi Licence number Cork County Council CCMA2004/07. Unauthorised reproduction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

LEGEND

RISING MAIN

No.	Date	Drwn	Chkd	Revision Description

**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:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title:
**ATTACHMENT B.4
SECONDARY DISCHARGE POINT**



Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_B4_01	Scales: 1:5000	Rev: -

Attachment B.5

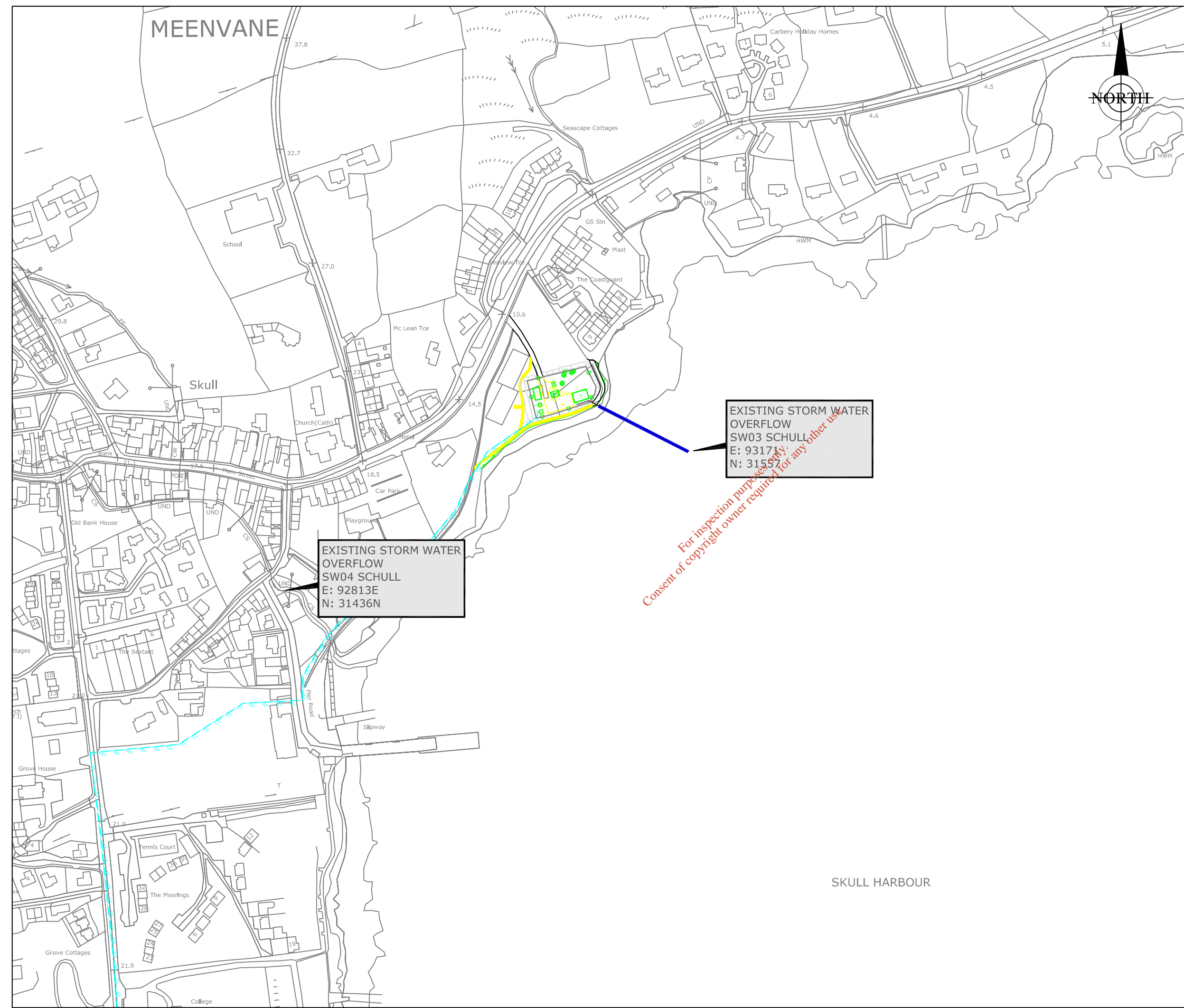
For inspection purposes only.
Consent of copyright owner required for any other use.

Attachment B5

Map :

- **SCHULL B5.01** – Stormwater Overflow Locations

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



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

- ### 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

No.	Date	Drawn	Checked	Revision Description

**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:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title:
**ATTACHMENT B.5
STORMWATER OVERFLOW
LOCATIONS**

Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_B5_01	Scales: 1:2000	Rev: -

Attachment B.6

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

Attachment B6

- Part 8 Planning Permission - County Managers Report on the Schull Sewerage Scheme
- Extract from Minutes of Proceedings at Meeting of Cork County Council held on 27th June 2005 - Approval of Schull Sewerage Scheme Part 8 Planning Permission

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

Comhairle Chontae Chorcaí

CORK COUNTY COUNCIL
(WESTERN DIVISION)

Schull Sewerage Scheme

PLANNING AND DEVELOPMENT ACT 2000

**County Manager's Report on the Schull
Sewerage Scheme in accordance with the
provisions of Part 8 of the Planning and
Development Regulations 2001.**

**PROJECTS SECTION
WESTERN DIVISION**

April 2005

1 DESCRIPTION OF THE NATURE AND EXTENT OF THE SCHEME

Wastewater from Schull and its environs is collected via the existing collection system. The collection system discharges wastewater into a septic tank at the shoreline to the north of the pier. The septic tank provides primary treatment for the sewage. The treated effluent discharges via a 225 mm outfall to below the LWM near to the septic tank. During periods of high flow the septic tank is bypassed by the excess flows.

Due to the increasing load on the septic tank and the need to provide a satisfactory effluent quality, it is proposed to upgrade the existing works with a modern treatment plant to cater for the existing and future increased loads. This proposal is in accordance with the County Cork Development Plan 2003. This plant will be designed to serve a population equivalent of 3,000 persons. It is proposed to construct the wastewater treatment plant beside the existing septic tank, which is located north of the pier, off the Ballydehob Road. A pumping station is to be constructed alongside the existing septic tank. The treated effluent is to be pumped from the treatment plant to past Schull Point and towards Colla for discharge outside of the harbour. A rising main pipeline is to be laid from the proposed Schull Wastewater Treatment Plant along the Colla Road to Schull Point. An outfall pipeline will be laid from Schull Point towards Colla where the pipe will be laid through the foreshore and out into Long Island Channel. The treated effluent is to be discharged via the proposed outfall. The outfall will consist of a 250 mm diameter pipeline, laid to 50 m beyond the high water mark. Reinstatement to the shoreline, pipe bedding and concrete surround to protect the pipe will be undertaken as associated site works. The treatment plant may be sunken into the ground and/or screened to reduce its visual intrusion. An indicative section through the plant is shown on Drg. 1339-4(SC)-P02. The existing outfall from the septic tank is to be replaced with a larger pipe (675 mm diameter), which will act as an emergency overflow. The septic tank will be used to store storm flows and to limit the frequency of overflows to Schull Harbour.

The Dept of Environment, Heritage and Local Government has directed that the wastewater treatment works at Schull be procured through a Design, Build and Operate form of contract in conjunction with a number a similar schemes in West Cork. An **indicative** layout of the works is shown on Dwg. No.1339-4 (SC)-P01. The final layout of the site will be governed by the contractor's proposals for the site.

The new wastewater treatment plant will consist of preliminary and secondary treatment or their equivalent, to achieve a final effluent of 25 mg/l BOD; 35 mg/l SS; 125 mg/l COD. Mitigation measures will be installed to maintain noise and odour emissions within recognised and acceptable limits:

Odour concentrations should not exceed 2 o.u. /m³ at the site boundary at a 98-percentile probability of occurrence or it should not exceed this limit for more than 2 % of the year whichever is the lesser and odour concentration should not exceed 5 o.u. /m³ at the site boundary at a 99 percentile probability of occurrence or that it should not exceed this level for more than 1 % of the year, whichever is the lesser.

The plant shall be designed to ensure that the maximum noise level of 45 dB (A) as the maximum allowable 15 minute Leq at the site boundary due to operations within the site during daytime (8 am to 8 pm) and 40 dB (A), 15 minute Leq at night (8 pm to 8 am) and at weekends, when all equipment installed is being operated, is complied with and there shall be no discrete tones or impulses. In addition, the noise level at a distance of 1 m of each sound producing mechanical item of equipment shall not exceed 85 dB (A) except in the case of internal combustion engines in which case the noise level of 85 dB (A) shall apply to a distance of 1 m from the building in which they are housed.

Standby power generation will be available on site in case of power failure. Thickened sludges will be transported by tanker or skip off site for further treatment or disposal in accordance with the Sludge Management Plan for County Cork. Screenings arising from the Preliminary Treatment Stage will be disposed of at the nearest licensed landfill site.

The control house and any other building which may be located at the treatment works site will be constructed in blockwork with render finish, incorporating masonry panels using locally quarried stone, and slated pitched roofs. The appearance of the buildings will reflect the local traditional building styles. The paved areas will consist of concrete pavement and macadam. A 2.4 m high palisade fence will enclose the treatment works with stockproof fencing providing protection to the screen planting which will be provided to the external boundaries. The access road to the treatment works will be surfaced in macadam. Fencing to the access road will be in concrete post and wire fencing.

The layout for the wastewater treatment works shown on Dwg. No.1339-4 (SC)-P01 is **indicative** of the layout type, which will be proposed by the successful tenderer for the construction of the works. The Design Build Operate form of Contract provides for the Contractor to prepare the detailed design of the Works in order to achieve savings in construction costs and in order to obtain the most technologically advanced treatment processes. The final design and layout proposed by the successful tenderer may not resemble the indicative layout in every detail. However, the tenderers for the scheme will be obliged to ensure that the visual and other impacts of the final scheme layout and

processes will not be any greater than those of the plant layout shown in the drawings.

A connection from the Schull water supply scheme will be taken from the adjacent public main to the treatment works. Power supply will be brought to the site from the nearest available location in accordance with the requirements of the Electricity Supply Board.

Drawings Accompanying This Application:

Dwg. No. 1339-4(SC) P01 – Site Location map and Indicative Layout Plan for Schull Wastewater Treatment Works.

Dwg. No. 1339-4(SC) P02 – Cross-sections of the Indicative Layout Plan for Schull Wastewater Treatment Works.

Dwg. No. 1339-4(SC) P03 – Foreshore licence application drawing

2 PLANNING EVALUATION

(a) **Development Control:** -

See attached report by Senior Planner in appendix 1. The proposed development is consistent with the proper planning and sustainable development of the area.

(b) **Development Plan:** -

The proposed development is consistent with the overall strategy and main policy as outlined in chapter 5 (Transport & Infrastructure) of Volume 1 of the Cork County Development Plan 2003, which states that:

- *Investment in the county's infrastructure should be made in a sustainable and efficient manner in order to promote the social and economic well being of the county and its population.*

The proposed development is consistent with the objective for Sewerage Infrastructure as outlined in section 5.2 (Water Supplies, Sewerage and Drainage), which states that (INF 2-5):

- *It is an objective generally to provide support for the funding of sewerage infrastructural requirements as identified by the County Council in order to accommodate the planned levels of growth expected for the county.*

- *It is an objective generally to improve and extend the sewerage infrastructure to serve the planned levels of growth, during the lifetime of this plan, in order to facilitate development.*

The proposed development is adjacent to cSAC-0101 and pNHA – 0101 Roaringwater Bay & Island and is consistent with the Specific Objectives (Heritage and Amenity) as outlined in chapter 3 Volume 2, which states that (ENV 2-5 & ENV 2-6):

- *It is an objective to maintain the conservation value of all Natural Heritage Areas proposed for designation by Duchas the Heritage Service, either before or during the lifetime of this plan.*
- *It is an objective to maintain the conservation value of those sites identified by Duchas the Heritage Service as candidate Special Areas of Conservation as well as any other sites that may be so identified during the lifetime of this plan.*

The proposed development site is visible from Scenic Route A114 Road between Ballydehob and Schull but is consistent with key objectives as outlined in chapter 4 (Scenic Routes) which state that (ENV 3-4 & ENV 3-5):

- *It is a general objective to preserve the character of all important views and prospects, particularly sea views, river or lake views, views of unspoilt mountain, upland or coastal landscapes, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty.*
- *It is a particular objective to preserve the character of those views and prospects obtainable from scenic routes identified in this plan. These routes are shown on the scenic amenity maps in volume 4 and listed in volume 2 of this plan.*

The proposed development is consistent with the specific zoning objectives as outlined in Settlement 27 Schull of Volume 3 of the Cork County Development Plan 2003, and in particular:

- Key Planning Consideration 27.1.7 *“The existing sewerage scheme is a combined scheme involving septic tank treatment prior to discharging to the inner harbour. Proposals to upgrade treatment are in planning stage.”*
- The existing Wastewater Treatment Plant and proposed upgraded plant are within and consistent with Objective No. O-06 Specific Zoning Objective for *“passive open space providing informal recreation and sport facility, and incorporating coastal pathway and some existing private residences. Protect general openness, views of sea from road, and retain and provide trees, scrubs and general parkland quality.”*
- The existing Wastewater Treatment Plant and proposed upgraded plant are close to but consistent with Objective No. U-05 Specific Zoning Objective to *“develop and maintain pedestrian walkway through open space and along shoreline.”*

3 SUBMISSIONS RECEIVED

Submissions were received from the following:

	Name	Address	Date
1	John Abbott, Acting Secretary, Long Island Householders and residents Association	East House, long Island Schull.	20 th January 2005
2	The Manager, Developments Applications Unit, DoEH&LG	Dun Sceine, Harcourt Lane, Dublin 2	10 th January 2005
3	Sean Moloney, Coastguard Residents Association	Coastguard, Schull	6 th January 2005
4	John Crowe	Altan, Colla Road, Schull.	5 th January 2005
5	Alex Skene,	3a Tyndale Terrace, London N1 2AT, UK & Carriglea, Colla Road, Schull.	27 th December 2004
6	Dr. Michael Whelton	Fionn Uisce, Colla Road, Schull.	12 th January 2005.
7	David Clarke, Patricia Rickard-Clarke, James Lyons O'Keefe & Matilda O'Keefe	C/o McCann Fitzgerald, Solicitors, 2 Harbourmasters Place, International Financial Services Centre, Dublin 1	21 st January 2005
8	David Clarke, Margaret Newcombe, Margaret Mercer, Louise Mercer, John J. O'Sullivan, Denis J. Griffin, Denis Griffin, Trevor Dale, F. White, Clare McCarthy, Alex Skene, Kate Weler.	No address given	18 th January 2005

4 SUMMARY OF ISSUES IN SUBMISSIONS

Our Consulting Engineer, T.J. O'Connor & Associates and ourselves have considered the issues and our detailed responses to the engineering issues raised in the submissions are contained in appendix 2. A summary of the issues and responses is outlined below:

- 1. That this scheme is moving Schull's problem to the Long Island / Colla Pier area** – The dispersion characteristics of the waters in Schull Harbour and Long Island Channel were studied and the characteristics in Long Island Channel were found to be considerably better in the Channel due to strong currents on both incoming and outgoing tides, which contrasted strongly with the dilutions available within Schull Harbour. The combination of initial dilution of the rising effluent plume and dispersion of the effluent in the tidal current will result in high dilution factors over the full tidal cycle in the Channel.
- 2. That no account has been taken of the likely effects of the effluent on swimming and boating in the Long Island Channel / Colla Pier area and that the Bathing Water Directive is not being applied** – The degree of use of the Long Island Channel for bathing and water sports is small compared to the similar uses in Schull Harbour. The Bathing Water Directive does not apply to this area. The combination of deep water, in excess of 8m below Chart Datum, and strong tidal currents at the outfall will result in initial mixing and dilution accounting for reductions in faecal coliforms counts of in excess of 80 and up to 450-fold, if a four-port diffuser is provided on the outfall. The Irish Hydrodata report appended to the Addendum Report (2001) was based on a discharge rate of 48l/s (6 times dry weather) with faecal coliforms concentrations in the range 10^3 to 10^6 /100ml. The scheme as proposed for Part VIII planning has been revised insofar as the maximum discharge is proposed to be 24l/s (3 times dry weather flow) with faecal coliforms concentrations in the same range as the original proposal. The reduced discharge rate will result in a reduced extent of plume before background concentrations are reached. The Bathing Water standard of faecal coliforms concentrations of less than 10^3 /100ml will be met in all tidal conditions within a short distance of the outfall. The strong current in the Long Island Channel results in a plume along an east west axis only with little spread towards the shoreline. Bathing near the shoreline should not be compromised as a result of the construction of the outfall. Bathing water standards are based on an analysis of risk of ingestion of water during bathing or other water contact activities. Bathing water standards can be met along the shoreline of the Long Island Channel, but they will not be achievable for a small area,

approximately 150m. East and west and 25m. North and south of the outfall. However, the outfall is located in deep water, over 50m from the shoreline and is unlikely to be frequented by many bathers. Therefore the risk of ingestion of water in this area is low.

3. **That no account has been taken of the likely effects of the effluent on shellfish, fishing and aquaculture in the Long Island Channel / Colla Pier area** – The effluent shall be treated to a secondary treatment standard of 25 mg/l BOD; 35 mg/l SS; 125 mg/l COD and will comply with the Urban Wastewater Treatment Regulations. Further dilution and dispersion in the immediate vicinity of the outfall will ensure that water quality will not be affected outside of a small area approximately 150m. East and west and 25m. North and south of the outfall. Discussions took place with the Department of Communications Marine and Natural Resources regarding the impact on commercial fishing in the area. There are no shellfish operations in Long Island Channel that are considered to be commercially significant.
4. **That the revised outfall area has not been adequately assessed for dispersal rates of sewage discharge** – The Irish Hydrodata field measurements included dye tracking throughout the Long Island Channel, so that the tidal conditions are known at the new outfall location. The predicted initial dilutions, stated in Table 1, of the Irish Hydrodata report are stated to be a function of “the local water depth and the ambient current”. We note that the depth of water at the new outfall point will be 1.6 m deeper than at the previous location at Schull Point. Thus the initial dilutions are expected to be even higher than the figures stated in Table 1 of the Irish Hydrodata report.
5. **That there is no explicit proposal to carry out ongoing testing** – the Urban Wastewater Treatment Regulations sampling requirements will be met at the outlet from the treatment plant, prior to pumping to the Colla Road. There are no proposals to undertake additional monitoring at the outfall site unless such monitoring is a requirement of any foreshore licence granted by Department of Communications Marine and Natural Resources.
6. **That the effluent should be disinfected to satisfy the Shellsan Classification System** – The Shellfish Sanitation (Shellsan) Classification System has been devised as a more direct measure of water quality at shellfish areas, related directly to faecal coliforms concentrations. Shellfish Waters in Roaring Water Bay are classified as Class A with mean faecal coliforms levels of less than 14/100ml. This does not mean that all waters within Roaring Water Bay meet this water quality standard, as existing diffuse sources, local discharges and current patterns may result in higher levels at locations within the bay away from the designated Shellfish Waters. This may be the case in respect of Long Island Channel. The

DCMNR are the body with responsibility for the imposition of standards and conditions on the discharge. As part of the Foreshore Licence application process they will establish whether the outfall location proposed warrants the imposition of a higher effluent standard than that proposed at present. Should the Minister for CMNR decide that to be the case he will attach conditions to the foreshore licence, which will stipulate their required standards and related monitoring regime. The Shellsan Classification System was not recommended by An Bord Pleanála, but mentioned in their report as it was mentioned in the 2003 Addendum to Preliminary Report. No case for applying this standard was made in either report.

7. **That the effluent should be pumped inland for treatment by reed beds** – The quantities of wastewater arising during the summer months with the full design load will be of the order of 744 m³/day. The area of reed beds required to dispose of this volume of treated wastewater would be approximately 1.5 Hectares for full secondary treatment or 0.5 Hectares for polishing. An outfall would still be required. This form of disposal is suited to areas underlain by gravel beds, which are not used for water supply purposes. The site investigation has found that the rock is close to the surface in the Schull region. The percolation rates are expected to be low in the area. This technique can be beneficial in dry regions where the groundwater levels are low and recharge of groundwater has a positive effect. Rainfall in Schull is high and the area does not suffer from low groundwater levels, so this technique would incur an additional cost, and would have questionable benefits.
8. **That all work should be monitored by an archaeologist** – we have already carried out extensive archaeological reporting and propose to comply with the requirements of the Heritage Section of the Department of Environment Heritage & Local Government in relation to ground works but do not intend to carry out any further underwater archaeological monitoring.
9. **That the upgrading of the Wastewater Treatment Plant is contrary to the 2003 Development Plan and therefore not in accordance with proper planning and sustainable development** – we are satisfied that the development is consistent with the 2003 Development Plan, for further details see Planning Evaluation in section 2.
10. **That the height of the proposed development would seriously affect the visual and residential amenities of the area** – Drawing no. 1339 -4(SC) - 2 clearly shows a cross-section through the indicative layout of the works. The floor level of the proposed buildings will be up to 3.5 m below the existing ground levels, so that only the tops of the roofs are expected to be visible from the Coastguard residences. The 3.0 m high planting along the

boundaries will further assist in shielding the roofs from view. The Contractor's layout will only be acceptable to the planners if the visual impact is less than the indicative layout shown on the drawings. The sea views from the Coastguard residences will not be affected. This is the principal view from the residences. The existing shrubs and trees are to be retained in as far as possible, in order to minimise the change in the views of the site.

11. **That noise, odours and effluent levels have not been specified in the description of the WwTP** – the following information was contained in the description of the development provided with the part 8 documentation: “The new wastewater treatment plant will consist of preliminary and secondary treatment or their equivalent, to achieve a final effluent of 25 mg/l BOD; 35 mg/l SS; 125 mg/l COD. Mitigation measures will be installed to maintain noise and odour emissions within recognised and acceptable limits: Odour concentrations should not exceed 2 o.u. /m³ at the site boundary at a 98-percentile probability of occurrence or it should not exceed this limit for more than 2 % of the year whichever is the lesser and odour concentration should not exceed 5 o.u. /m³ at the site boundary at a 99 percentile probability of occurrence or that it should not exceed this level for more than 1 % of the year, whichever is the lesser. The plant shall be designed to ensure that the maximum noise level of 45 dB (A) as the maximum allowable 15 minute Leq at the site boundary due to operations within the site during daytime (8 am to 8 pm) and 40 dB (A), 15 minute Leq at night (8 pm to 8 am) and at weekends, when all equipment installed is being operated, is complied with and there shall be no discrete tones or impulses. In addition, the noise level at a distance of 1 m of each sound producing mechanical item of equipment shall not exceed 85 dB (A) except in the case of internal combustion engines in which case the noise level of 85 dB (A) shall apply to a distance of 1 m from the building in which they are housed”.
12. **That an EIS is necessary to consider the impact on flora & fauna, marine ecology, water, odour, noise, landscape, sludge removal and to produce proposals to mitigate any effects and to ensure compliance with the relevant statutory instruments** – An Bord Pleanála has examined the need for an EIS and have ruled that there is no need for an EIS for this sub-threshold development (Ref. No. 04-ED2039). An Assessment of the Ecological Effects of the Development on both land and marine was carried out and did not identify any significant effect. Strict noise and odour limits to recognisable international standards, see above, will be imposed on the operator. It is proposed to remove the thickened sludge off-site using fully enclosed containers. All relevant statutory regulations and directives will be adhered to.

13. **That the proposed access road to the marina development is too close to the Coastguard Development and will create a traffic, noise and anti-social behavioural nuisance** – the proposed access road to the Marina Development is not indicated on the site layout plans and does not form part of this application.
14. **The effect of the development on the current width, hedgerows and ecology of the Colla Road** – there are no plans at present to widen the Colla Road. The only location where the roadside hedge will be damaged is at the crossing when the outfall pipe turns south and heads for the foreshore. There should not be any lasting effect on the ecology of the area.
15. **The visibility of the outfall pipe** – the outfall pipe will be buried into the rocky headland, so that the only visible item will be the concrete surround finished flush with the rock which will weather in due course.
16. **That otters and Loons are present in the area of the outfall and that these require special protection under the EU Habitats Directive** – the Dixon Brosnan report stated that previous studies found that otters are relatively common in Roaringwater Bay. The report also found that there was no evidence of feeding or breeding by otters in the vicinity of the proposed outfall. It stated that: “No evidence of breeding or feeding otters. If otters do feed in this area the disruption will be relatively short in duration....Seals and otters are highly mobile and can move quickly away from external disturbance and provided that no blasting takes place significant impacts at the outfall location are considered unlikely.” It is not envisaged that blasting will be necessary for the construction of the outfall. The outfall should not have any impact on Loons.
17. **That the work should be carried out outside of the tourist season** – the best weather conditions for undertaking the specialist marine works of laying an outfall tend to occur during the summer months. If the outfall works were restricted from proceeding during the tourist season (Easter – September), it is likely that considerable difficulties would be met during the outfall construction due to adverse weather conditions. The construction of the outfall will be a localised operation and will not result in extensive disruption outside of the immediate area on the foreshore. There are three pipelines proposed under three separate contracts for some sections of the Colla Road. To minimise disruption to the local road users, consideration is being given to laying all three pipes under one contract. It is probable that the Contractor will be requested to undertake the pipe laying works on Colla Road outside of the tourist season.
18. **That foul water has destroyed almost all seaweed in Schull Harbour** – This assertion cannot be substantiated but in any case

there will be considerably more water movement and dilution available in the Long Island Channel than in Schull Harbour. The impact of discharges from Wastewater Treatment Plants on flora and fauna is generally proportional to the degree of treatment provided and the dilution available. Given the degree of treatment to be provided by the new treatment plant and strong water movement in the channel, significant impacts on marine flora and fauna are unlikely to occur.

19. That all the relevant documentation was not available at Schull during the period public consultation period – we are satisfied that our procedures complied the provisions of Part 8 of the Planning and Development Regulations 2001.

5 MODIFICATIONS

The replacement of the single port diffuser by a 4-port diffuser at the outfall at Schull Point is recommended. Some conditions in the proposed Design Build & Operate Contract will be modified or strengthened to take on board some of the issues outlined above.

6 RECOMMENDATION

I recommend that the proposed Upgrading of the existing Wastewater Treatment Works, and construction of associated pumping station, overflow and access road on lands located in the Townland of Meenvane, Schull and construction of associated pumped foul sewage outfall from the Wastewater Treatment Works along the Colla Road past Schull Point to the townland of Colla to discharge to Long Island Channel be proceeded with as recommended in this report.

Signed: -

Assistant County Manager

Appendix 1

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

Appendix 2

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

Attachment B.8

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

Attachment B8

- Copy of Site Notice
- Copy of Press Notice

MAP:

- Schull B8.01 - Location of Site Notices

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



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 Schull Agglomeration at the following locations:

Discharge Type	Function	Townland	Receptor	Grid Reference
Primary	Major	Meenvane	Schull Harbour	093171E, 031557N
Secondary	Minor	Skull	Schull Harbour	092885E, 031142N

Cork County Council proposes to provide a wastewater treatment plant at Meenvane, Schull, Co. Cork, Grid Reference (093057E, 031613N). It is proposed to discharge treated wastewater from this plant to Long Island Channel. The proposed location is detailed in the table below:

Discharge Type	Function	Townland	Receptor	Grid Reference
Primary	Major	Colla	Long Island Channel	092558E, 029466N

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.

Licence for the Agglomeration of Ladysbridge at the following locations:

Plant Name	Location	National Grid Ref.
Ladysbridge WWTP	Carewstown, Ladysbridge	E197033 N071948

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Ladysbridge	Womanagh	E197057 N071972

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, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Tel: 021-4276891; Fax: 021-4276321.

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 Southern Division of Cork County Council, Carrigrohane Road, Cork is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the Agglomeration of Ballymakeera & Ballyvourney at the following locations:

Plant Name	Location	National Grid Ref.
Ballymakeera WWTP	Fair Green, Ballymakeera	E121370 N076407

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Ballymakeera	Sullane	E121490 N076158

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, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Tel: 021-4276891; Fax: 021-4276321.

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 Southern Division of Cork County Council, Carrigrohane Road, Cork is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for the Agglomeration of Cloughduv at the following locations:

Plant Name	Location	National Grid Ref.
Cloughduv WWTP	Coolmucky, Cloughduv	E145395 N066630

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Coolmucky	River Brouen	E145099 N066702
Primary (Proposed)	Main	Ryecourt	River Bride	E145318 N067565

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, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Tel: 021-4276891; Fax: 021-4276321.

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

Plant Name	Location	National Grid Ref.
Killeens WWTP	Rathpeacon, Killeens	E164092 N075447

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Main	Monard	Blarney River	E163793 N075646

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, Water Services South, County Hall, Carrigrohane Road, Co. Cork, Tel: 021-4276891; Fax: 021-4276321.

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, Co. Cork is applying to the Environmental Protection Agency for a Wastewater Discharge Licence for Castletownbere agglomeration at the following locations:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Foildarrig	Castletownbere Harbour	E68028 N46138
Secondary	Minor	Derrymihlin West	Castletownbere Harbour	E68344 N46342
Secondary	Minor	Derrymihlin West	Castletownbere Harbour	E68614 N46024
Secondary	Minor	Cametringane	Castletownbere Harbour	E67654 N45745
Secondary	Minor	Drom North	Groundwater	E67462 N45370
Secondary	Minor	Foildarrig	Groundwater	E67997 N46481

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, 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 WASTE WATER 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 Schull Agglomeration at the following locations:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Meenvane	Schull Harbour	E093171 N031557
Secondary	Minor	Skull	Schull Harbour	E092885 N031142

Cork County Council proposes to provide a wastewater treatment plant at Meenvane, Schull, Co. Cork, Grid Reference (093057E, 031613N). It is proposed to discharge treated wastewater from this plant to Long Island Channel. The proposed location is detailed in the table below:

Discharge	Function	Townland	Receptor	Grid Ref.
Primary	Major	Colla	Long Island Channel	E092558 N029466

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, 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.

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, 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.

FORM OF NOTICE OF A COMPULSORY PURCHASE ORDER UNDER SECTION 76 OF AND THE THIRD SCHEDULE TO THE HOUSING ACT, 1966, AS EXTENDED BY SECTION 10 OF THE LOCAL GOVERNMENT (NO. 2) ACT, 1960, TO BE PUBLISHED IN ACCORDANCE WITH ARTICLE 4 (a) OF THE THIRD SCHEDULE TO THE HOUSING ACT, 1966, AS AMENDED BY THE PLANNING AND DEVELOPMENT ACT, 2000

COMPULSORY ACQUISITION OF LAND

Cork County Council Aherla Water Supply Scheme Compulsory Purchase Order 2009

The Cork County Council (hereinafter referred to as "the local authority"), in exercise of the powers conferred upon them by section 76 of the Housing Act, 1966, and the Third Schedule thereto, as extended by section 10 of the Local Government (No. 2) Act, 1960 as substituted by section 86 of the Housing Act, 1966 amended by section 6 and the Second Schedule to the Roads Act 1993 and as amended by the Planning and Development Act, 2000 have made an order entitled as above which is about to be submitted to An Bord Pleanála for confirmation. If confirmed, the order will authorise the local authority to acquire compulsorily land described in the Schedule hereto for the purposes of the Aherla Water Supply Scheme.

Owners, lessees and occupiers of the land described in the Schedule hereto will receive individual written notice.

The Board cannot confirm a compulsory purchase order in respect of the land if an objection is made in respect of the acquisition by an owner, lessee or occupier of the land, and not withdrawn, until it has caused to be held an oral hearing into the matter and until it has considered the objection and the report the person who held the oral hearing.

A copy of the order and of the map referred to in it may be seen all reasonable hours at (1) Property & Housing Capital Department, Floor 11, County Hall, Cork or (2) Water Services Investment Project Office, Cork County Council, Model Business Park, Model Farm Road, Cork.

SCHEDULE

Land other than land consisting of a house or houses unfit for human habitation and not capable of being rendered fit for human habitation at reasonable expense.

Number on map deposited at the offices of the local authority	Quantity, description and situation of the land	Owners or reputed owners	Lessees or reputed lessees	Occupiers (except tenants: a month or a less period than a month)
CP 1	Area Ha: 0.2102 Type: Land Townland: Aherla DED: Templemartin County: Cork	Sean & Bridget Desmond, Kilcrea, Ovens, Co. Cork.	None	Owner

Dated this 20th day of February, 2009
Maurice Manning, Senior Executive Officer

CLOSING DATE FOR HIGHER EDUCATION GRANT APPLICATIONS

The closing date for receipt of Higher Education Grant applications for the 2008/09 academic year is February 27th, 2009. Cork County Council's Higher Education Grants Office will not accept applications after this date.



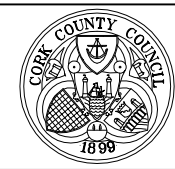
For inspection purposes only.
Consent of copyright owner required for any other use.

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

No.	Date	Drawn	Checked	Revision Description

**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:
**WASTE WATER DISCHARGE
LICENCE APPLICATION
SCHULL AGGLOMERATION**

Drawing Title:
**ATTACHMENT B.8
SITE NOTICE LOCATIONS**

Prepared By: C.HICKEY	Checked By: A.O'BRIEN	Date: FEB.2009
Drawing number: SCHULL_B8_01	Scales: 1:10000	Rev: -

Attachment B.9

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

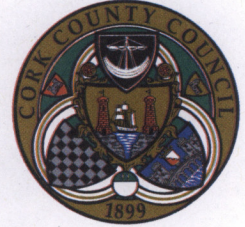
Attachment B9

- Fees – Copy of Payment

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

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.

Re:- Waste Water Discharge Regulations 2007. Application to EPA for Licences – 3rd Round Fees:

Dear Declan,

With regard to the application to the EPA for a Discharge Licences for the agglomerations with P.E.s of 1001 to 2000 listed below, I confirm the following in relation to the application fee of €60,000 (being €15,000 for each agglomeration). :-

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

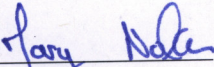
Date Transferred to EPA Bank Account: **13th February 2009**

Electronic Fund Transfer Reference No.:- **1070025.**

Agglomerations : **Baltimore**
Castletownbere
Courtmacsherry
Schull

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

Yours faithfully,


Mary Nolan,
Staff Officer.



Attachment B.10

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

Attachment B10

Supporting Information:

- Costs and Likely Timeframe completion
- Details of approved funding.

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

1. Summary of Costs – (Source : Addendum to Preliminary Report Nov.2003, by RPS MCOS Consulting Engineers)

Cork County

Water Services Investment Programme 2007 - 2009

Schemes at Construction	W/S	Est. Cost	W/S	Est. Cost
Cork North				
Mitchelstown Sewerage Scheme (Nutrient Removal)	S	221,000		
Cork South				
Ballyvourney/ Ballymakeery Sewerage Scheme	S	3,049,000		
Cobh/ Middleton/ Carrigtwohill Water Supply Scheme	W	10,135,000		
Cork Lower Harbour Sewerage Scheme (Crosshaven SS) (G)	S	4,850,000		
Cork Water Strategy Study (G)	W	941,000		
Kinsale Sewerage Scheme	S	20,000,000		
Middleton Sewerage Scheme (Infiltration Reduction) (G)	S	2,078,000		
		41,274,000		
Schemes to start 2007				
Cork North				
North Cork Grouped DBO Wastewater Treatment Plant (Buttevant, Doneraile & Kilbrin)	S	5,150,000		
Cork West				
Skibbereen Sewerage Scheme	S	20,000,000		
		25,150,000		
Schemes to start 2008				
Cork North				
Mallow/ Ballyvinter Regional Water Supply Scheme (H) W		8,632,000		
Mallow Sewerage Scheme (H)	S	5,408,000		
Cork South				
Ballincollig Sewerage Scheme (Nutrient Removal) (G)	S	948,000		
Ballingeary Sewerage Scheme	S	1,296,000		
Bandon Sewerage Scheme Stage 2	S	14,729,000		
City Environs (CASP) Strategic Study (G)	S	153,000		
Cloghroe Sewerage Scheme (Upgrade)	S	683,000		
Coachford Water Supply Scheme	W	1,318,000		
Garretstown Sewerage Scheme	S	2,153,000		
Inniscarra Water Treatment Plant Extension Phase 1	W	2,678,000		
Little Island Sewerage Scheme (G)	S	2,200,000		
Cork West				
Bantry Sewerage Scheme	S	7,148,000		
Dunmanway Sewerage Scheme	S	2,153,000		
Leap/ Ballimore Water Supply Scheme	W	6,365,000		
Schull Water Supply Scheme	W	5,253,000		
		61,137,000		
Schemes to start 2009				
Cork North				
Banteer/Dromahane Regional Water Supply Scheme	W	1,576,000		
Conna Regional Water Supply Scheme Extension	W	2,627,000		
Cork NE Water Supply Scheme	W	4,326,000		
Cork NW Regional Water Supply Scheme	W	6,046,000		
Millstreet Wastewater Treatment Plant (Upgrade)	S	1,628,000		
Cork South				
Ballincollig Sewerage Scheme (Upgrade) (G)	S	22,248,000		
Cork Lower Harbour Sewerage Scheme (excl. Crosshaven SS)	S	73,542,000		
Shannagary/ Garryvoe/ Ballycotton Sewerage Scheme	S	3,780,000		
Youghal Sewerage Scheme	S	14,420,000		
Cork West				
Ballydehob Sewerage Scheme	S	683,000		
Bantry Water Supply Scheme	W	14,935,000		
Clonakilty Sewerage Scheme (Plant Capacity Increase)	S	3,677,000		
Courtmacsherry/ Timoleague Sewerage Scheme	S	2,472,000		
Dunmanway Regional Water Supply Scheme Stage 1	W	12,669,000		
				164,629,000
Serviced Land Initiative				
Cork North				
Ballycough Water Supply Scheme	W	139,000		
Ballyhooley Improvement Scheme	W/S	139,000		
Brookhill-Rathgoggin Sewerage Scheme	S	406,000		
Bweeng Water Supply Scheme	W	115,000		
Churchtown Sewerage Scheme (incl. Water)	W/S	543,000		
Clondulane Sewage Treatment Plant	S	417,000		
Freemount Sewerage Scheme	S	150,000		
Pike Road Sewerage Scheme (incl. Water)	W/S	2,080,000		
Rathcormac Sewerage Scheme (incl. Water)	W/S	555,000		
Spa Glen Sewerage Scheme	S	736,000		
Uplands Fermoy Sewerage Scheme (incl. Water)	W/S	1,174,000		
Watergrasshill Water Supply Scheme (incl. Sewerage) (G)	W/S	4,151,000		
Cork South				
Ballincollig Sewerage Scheme (Barry's Rd Foul and Storm Drainage) (G)	S	1,164,000		
Belgooley, Water Supply Scheme (incl. Sewerage)	W/S	2,913,000		
Blamey Water Supply Scheme (Ext. to Station Rd) (G)	W	416,000		
Carriegtwohill Sewerage Scheme (Treatment and Storm Drain) (G)	S	7,632,000		
Castlematyr Wastewater Treatment Plant Extension	S	1,200,000		
Crookstown Sewerage Scheme (incl. Water)	W/S	1,200,000		
Dripsey Water Supply Scheme (incl. Sewerage)	W/S	1,112,000		
Glounthane Sewerage Scheme (G)	S	1,576,000		
Innishannon Sewerage Scheme	S	277,000		
Innishannon Wastewater Treatment Plant	S	694,000		
Kerynpike Sewerage Scheme	S	832,000		
Kerynpike Water Supply Scheme	W	416,000		
Killeagh Wastewater Treatment Plant Extension	S	1,200,000		
Killeagh Water Supply Scheme (includes Sewerage)	W/S	485,000		
Killeens Sewerage Scheme	S	420,000		
Kilnagleary Sewerage Scheme	S	694,000		
Middleton Wastewater Treatment Plant Extension	S	4,050,000		

Cork County contd.

Water Services Investment Programme 2007 - 2009

	W/S	Est. Cost		W/S	Est. Cost
Mogeely, Castlemartyr & Ladysbridge Water Supply Scheme	W	2,566,000	Cork South		
North Cobh Sewerage Scheme (G)	S	3,193,000	Carrigtwohill Sewerage Scheme (G)	S	20,000,000
Riverstick Water Supply Scheme (incl. Sewerage)	W/S	525,000	Cork Sludge Management (G)	S	14,420,000
Rochestown Water Supply Scheme	W	2,700,000	Cork Water Supply Scheme (Storage - Mount Emla, Ballincollig & Chetwind) (G)	W	8,500,000
Saleen Sewerage Scheme	S	1,051,000	Inniscarra Water Treatment Plant (Sludge Treatment)(G)W		5,356,000
Youghal Water Supply Scheme	W	2,300,000	Macroon Sewerage Scheme	S	5,150,000
			Minane Bridge Water Supply Scheme	W	1,421,000
Cork West					
Castletownshend Sewerage Scheme	S	1,576,000	Cork West		
		50,797,000	Bantry Regional Water Supply Scheme (Distribution)	W	9,455,000
Rural Towns & Villages Initiative			Cape Clear Water Supply Scheme	W	1,679,000
Cork North			Castletownbere Regional Water Supply Scheme	W	8,405,000
Buttevant Sewerage Scheme (Collection System)	S	2,446,000	Glengarriff Sewerage Scheme	S	2,500,000
Doneraile Sewerage Scheme (Collection System)	S	1,738,000	Roscarberry/Owenahincha Sewerage Scheme	S	1,576,000
			Skibbereen Regional Water Supply Scheme Stage 4	W	7,880,000
Cork South					95,646,000
Innishannon (Ballinadee/ Ballinspittle/ Garrettstown) Water Supply Scheme	W	6,726,000	Water Conservation Allocation		12,206,000
			Asset Management Study		300,000
Cork West			South Western River Basin District (WFD) Project¹		9,400,000
Ballylicky Sewerage Scheme	S	2,153,000			
Baltimore Sewerage Scheme	S	3,762,000			
Castletownbere Sewerage Scheme	S	5,302,000			
Schull Sewerage Scheme	S	3,523,000			
		24,950,000	Programme Total		485,489,000
Schemes to Advance through Planning					
Cork North					
Mitchelstown North Galtees Water Supply Scheme	W	3,152,000			
Mitchelstown Sewerage Scheme	S	3,000,000			
Newmarket Sewerage Scheme	S	3,152,000			

¹ This project is being led by Cork County Council on behalf of other authorities in the River Basin District

(H) Refers to a Hub as designated in the National Spatial Strategy

(G) Refers to a Gateway as designated in the National Spatial Strategy