Comhairle Contae Chorcaí
Cork County Council

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Administration,
Environmental Licensing Programme,
Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
Headquarters,
PO Box 3000,
Johnstown Castle Estate,
County Wexford

17th June 2010

Re: D0467-01 – Ballydehob Waste Water Discharge Licence Application – Reply to Notice in accordance with Regulation 18(3)(b) of the Waste Water Discharge (Authorisation) Regulations 2007

Dear Mr. Clabby,

I refer to your letter of the 20th April 2010 concerning the above. The following is our reply to your request for further information in accordance with Regulation 18(3)(b) dealing in sequence with the points raised:

1. Section B.6 – Planning requirements for Proposed Works
Planning permission for the proposed work is not yet applied for. Ballydehob is not included in the current WSIP. The scheme will be included in Cork County Council's Assessment of Needs for 2013-2015.

2. Section B.10 – Capital Investment Programme
Ballydehob is not included in the current WSIP. The scheme will be included in Cork County Council's Assessment of Needs for 2013-2015.

3. Monitoring of Primary Discharge
As the agglomeration is <2000 PE the urban wastewater regulations do not apply. Table E4 is attached and has been revised to include the most up to date results.

4. Monitoring of Receiving Waters
There is no monitoring regime for sampling coastal waters under the Surface Water Regulations. Table E4 is attached has been revised to include the most up to date results.

5. Environmental Quality Objectives Regulations (S.I. No. 272 of 2009)
This application was lodged with the EPA in June 2009 and this regulation did not come into effect until July 2009.

According to the SWRBD Ballydehob Bay into which the treatment plant discharges has a "moderate status" and the risk assessment overall value of 2b "not at significant risk". The table in attachment F identifies the Criteria for calculating surface water ecological status and ecological potential and compares the results of the upstream and downstream water samples taken in the receiving waters.

6. Assessment of Effects of the Waste Water Discharges

Attached is the Habitats Directive Assessment (Screening Report) in respect of the discharge licence for Ballydehob Wastewater Treatment Plant. A HDA of the significant effects of the discharge is required.

Due to resource difficulties it is not possible to provide this HDA within the timeframe allowed in the Notice in accordance with Regulation 18(3)(b) letter of 20th April 2010. We request an initial extension of time of 9 months to allow Cork County Council to seek funding and procure the necessary HDA.

List of Attachments

Table E4
Attachment F
Habitats Directive Assessment

Yours sincerely,

Niall O'Mahony,
Senior Engineer,
Cork County Council

Enclosures

Tables

- Revised Table E4

Attachment E4 Ballydehob Inlet Table E4			
Sample Date	28/01/2009	12/02/2009	
Sample	Influent	Influent	**Average**
Sample Code	GT132	GT173	
Flow M^3/Day	*	*	
pH	7.3	*	7.3
Temperature ℃	*	*	
Cond 20℃	330	*	330
SS mg/L	30	*	30
NH_3 mg/L	2.8	*	2.8
BOD mg/L	61	*	61
COD mg/L	133	*	133
TN mg/L	3.5	*	3.5
Nitrite mg/L	0.124	*	0.124
Nitrate mg/L	2.85	*	2.85
TP mg/L	2.6	*	2.6
O-PO4-P mg/L	0.1	*	0.1
SO4 mg/L	<30	*	<30
Phenols µg/L	<0.10	*	<0.10
Atrazine µg/L	<0.01	*	<0.01
Dichloromethane µg/L	<1	*	<1
Simazine µg/L	<0.01	*	<0.01
Toluene µg/L	<1	*	<1
Tributyltin µg/L	<0.02	*	<0.02
Xylenes µg/L	<1	*	<1
Arsenic µg/L	<0.96	*	<0.96
Chromium ug/L	<20	<20	<20
Copper ug/L	<20	<20	<20
Cyanide µg/L	5	*	5
Fluoride µg/L	165	*	165
Lead ug/L	<20	<20	<20
Nickel ug/L	<20	<20	<20
Zinc ug/L	<20	<20	<20
Boron ug/L	37.19	49	43.095
Cadmium ug/L	<20	<20	<20
Mercury µg/L	<0.2	*	<0.2
Selenium µg/L	2.6	*	2.6
Barium ug/L	<20	<20	<20

HALF OF LOD FOR STATISTICAL PURPOSE

D0467-01 Attachment E4 Ballydehob Discharge Outlet Revised

Sample Date	22/05/2008	19/06/2008	03/09/2008	24/09/2008	18/12/2008	28/01/2009	12/02/2009	12/03/2009	13/08/2009	10/09/2009			
Sample	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	**Average**	**Kg/Day**	**Kg/year**
Sample Code	GS455	GS584	GS840	GS970	GS1396	GT131	GT170	GT336	GT1006	GT1132			
Flow M^3/Day			*	*	*	*	*	*	*	*			
pH	7.6	7.3	7.0	*	*	7.3	*	7.2	*	*	7.28		
Temperature ℃			*	*	*	*	*	*	*	*			
Cond 20℃	1980	2750	4150	*	*	539	*	*	*	*	2354.75		
SS mg/L	76	83	57	41	29	13	19	12	32	43	40.5		
NH4-N mg/L	15.1	21.0	13.1	*	*	4.9	*	*	*	*	13.525		
BOD mg/L	74	108	104	105	27.8	18	31	56	98	46	66.78		
COD mg/L	258	237	241	207	59	44	70	63	174	116	146.9		
TN mg/L	13.5		18.0	*	*	7.6	8.9	10	*	*	11.6		
Nitrite mg/L	*		*	*	*	0.081	*	*	*	*	0.081		
Nitrate mg/L	*		*	*	*	2.63	*	*	*	*	2.63		
TP mg/L	2.3	3.5	2.38	*	*	2.7	0.7	0.7	*	*	2.046667		
O-PO4-P mg/L	*	2.17	1.42	*	*	no result	*	*	*	*	1.795		
SO4 mg/L	*		*	*	*	<30	*	*	*	*			
Phenols µg/L	*		*	*	*	<0.10	*	*	*	*			
Atrazine µg/L	*		*	*	*	<0.01	*	*	*	*			
Dichloromethane	*		*	*	*	<1	*	*	*	*			
Simazine µg/L	*		*	*	*	<0.01	*	*	*				
Toluene µg/L	*		*	*	*	<1	*	*	*	*			
Tributyltin µg/L	*		*	*	*	<0.02	*	*	*	*			
Xylenes µg/L	*		*	*	*	<1	*	*		*			
Arsenic µg/L	*		*	*	*	<0.96	*	*		*			
Chromium ug/L	10	34	10	*	10	10	10	10	*	*	13.42857		
Copper ug/L	<20	<20	<20	*	<20	<20	<20	<20	*	*			
Cyanide µg/L	*	*	*	*	*	6	*	*	*	*	6		
Fluoride µg/L	*	*	*	*	*	150	*	*	*	*	150		
Lead ug/L	56	93	10	*	10	10	10	10	*	*	28.42857		
Nickel ug/L	<20	<20	<20	*	<20	<20	<20	<20	*	*			
Zinc ug/L	480	51	10	*	10	10	10	10	*	*	83		
Boron ug/L	97	181	229	*	10	10	175	118.4	*	*	117.2		
Cadmium ug/L	<20	<20	<20	*	<20	<20	<20	<20	*	*			
Mercury µg/L	*	*	*	*	*	<0.2	*	*	*	*			
Selenium µg/L	*	*	*	*	*	4.7	*	*	*	*	4.7		
Barium ug/L	28	38	31	*	31	10	10	10	*	*	22.57143		

HALF OF LOD FOR STATISTICAL PURPOSE

Attachment E4 Ballydehob Upstream Table E4

Sample Date	28/01/2009	12/02/2009	12/03/2009	
Sample	River	River	River	Average
Sample Code	GT130	GT171	GT335	
Flow M^3/Day	*	*	*	
pH	7.1	*	*	7.1
Temperature ℃	*	*	*	
Cond 20℃	161	*	*	161
SS mg/L	<2.5	*	*	<2.5
NH_3 mg/L	<0.1	*	*	<0.1
BOD mg/L	<1	*	*	<1
COD mg/L	<21	*	*	<21
TN mg/L	1.2	*	*	1.2
Nitrite mg/L	<0.004	*	*	<0.004
Nitrate mg/L	1.08	*	*	1.08
TP mg/L	<0.20	*	*	<0.20
O-PO4-P mg/L	<0.05	<0.05	<0.05	<0.05
SO4 mg/L	<30	*	*	<30
Phenols µg/L	<0.10	*	*	<0.10
Atrazine µg/L	<0.01	*	*	<0.01
Dichloromethane	<1	*	*	<1
Simazine µg/L	<0.01	*	*	<0.01
Toluene µg/L	<1	*	*	<1
Tributyltin µg/L	not required	*	*	not required
Xylenes µg/L	<1	*	*	<1
Arsenic µg/L	<0.96	*	*	<0.96
Chromium ug/L	<20	<20	50.11	50.11
Copper ug/L	<20	<20	<20	<20
Cyanide µg/L	<5	*	*	<5
Fluoride µg/L	45	*	*	45
Lead ug/L	<20	<20	<20	<20
Nickel ug/L	<20	<20	<20	<20
Zinc ug/L	<20	<20	<20	<20
Boron ug/L	10	208	583.6	267.2
Cadmium ug/L	<20	<20	<20	<20
Mercury µg/L	<0.2	*	*	<0.2
Selenium µg/L	1.3	*	*	1.3
Barium ug/L	60	10	10	26.66666667

HALF OF LOD FOR STATISTICAL PURPOSE

Metal analysis results as recorded in actual ICP-OES sheets -
note results are below LOD of the analytical method but are tabulated below to enable compliance against S.I. 272 of 2009

Attatchment E4-Ballydehob Upstream (Transitional waters) Revised D0467-01--actual results for metals 2009

Sample Date	28/01/2009	12/02/2009	13/03/2008	Average
Sample	River	River	River	2009
Chromium ug/L	1	10	50.11	20.37
Lead ug/L	1.0	<1	12.48	6.74
Copper ug/L	<1	<1	<1	<1
Nickel ug/L	1.0	1.0	1.192	1.064
Zinc ug/L	10.3	<1	<1	10.3
Boron ug/L	2	208	584	264.6667
Cadmium ug/L	<1	<1	<1	<1
Barium ug/L	60	12.5	12.8	28.4333

Attatchment E4-Ballydehob Downstream (Transitional waters) Revised D0467-01--actual results for metals 2009

Sample Date	28/01/2009	12/02/2009	13/03/2008	Average
Sample	river	river	river	2009
Chromium ug/L	7.5	25.0	3.414	11.97133
Copper ug/L	<1	<1	<1	<1
Lead ug/L	5.0	2.0	1.4	2.81
Nickel ug/L	1.3	1.7	1.055	1.35167
Zinc ug/L	<1	<1	<1	<1
Boron ug/L	129	638	46.83	271.2767
Cadmium ug/L	<1	<1	<1	<1
Barium ug/L	32	12	11.78	18.5933

NOTE ALL UNITS ARE ug/l

result of 0 mg/l recorded on instrument result printout
suspected saline interference at trace levels with method

Attachment E4 Ballydehob Downstream Table E4				
Sample Date	28/01/2009	12/02/2009	12/03/2009	
Sample	River	River	River	**Average**
Sample Code	GT133	GT172	GT337	
Flow M^3/Day	*	*	*	
pH	7.2	*	*	7.2
Temperature ℃	*	*	*	
Cond 20℃	2040	*	*	2040
SS mg/L	<2.5	*	*	<2.5
NH_3 mg/L	<0.1	*	*	<0.1
BOD mg/L	<1	*	*	<1
COD mg/L	<21	*	*	<21
TN mg/L	1.2	*	*	1.2
Nitrite mg/L	*	*	*	saline interference
Nitrate mg/L	*	*	*	saline interference
TP mg/L	<0.20	*	*	<0.20
O-PO4-P mg/L	<0.05	<0.05	<0.05	<0.05
SO4 mg/L	92.5	*	*	92.5
Phenols µg/L	<0.10	*	*	<0.10
Atrazine µg/L	<0.01	*	*	<0.01
Dichloromethane	<1	*	*	<1
Simazine µg/L	<0.01	*	*	<0.01
Toluene µg/L	<1	*	*	<1
Tributyltin µg/L	<0.02	*	*	<0.02
Xylenes µg/L	<1	*	*	<1
Arsenic µg/L	<0.96	*	*	<0.96
Chromium ug/L	<20	<20	<20	<20
Copper ug/L	<20	<20	<20	<20
Cyanide µg/L	<5	*	*	<5
Fluoride µg/L	58	*	*	58
Lead ug/L	<20	<20	<20	<20
Nickel ug/L	<20	<20	<20	<20
Zinc ug/L	<20	<20	<20	<20
Boron ug/L	129	638	46.83	271.277
Cadmium ug/L	<20	<20	<20	<20
Mercury µg/L	<0.2	*	*	<0.2
Selenium µg/L	24.2	*	*	24.2
Barium ug/L	32	10	10	17.333

HALF OF LOD FOR STATISTICAL PURPOSE

Attachment F

- Ambient Upstream & Downstream Water Quality v's EQR/S

Application D0467-01 Ballydehob

Upstream Coastal Water Quality

Physico-chemical conditions	***Ecological quality ratio/standard*** ***Good boundary*** ***Coastal (All Types)***	***2009 Upstream sampling results***
Oxygenation conditions Table 9	***Coastal water body***	***Upstream sampling results***
Biochemical Oxygen Demand (BOD) (mgO_2/l)	No Limit	-
Acidification Status Table 9	***Coastal Water Body***	***Upstream sampling results***
pH (individual values)	No Limit	-
Nutrient conditions Table 9	***Coastal Water body***	***Upstream sampling results***
Total Ammonia (mg N/l)	No Limit	-
Molybdate Reactive Phosphorus (MRP) (mg P/l)	No Limit	-
Specific pollutants Table 10	***Other surface waters AA-EQS***	***Upstream sampling results***
Phenol	46	<0.1µg/L
Toulene	No Limit	-
Xylene	No Limit	-
Arsenic	No Limit	-
Total Chromium	32	20.37µg/L
Copper (depending on water hardness)	No Limit	-
Cyanide	No Limit	-
Flouride	No Limit	-
Zinc (depending on water hardness)	No Limit	-
Priority Substances Table 11	***Other surface waters AA-EQS***	***Upstream sampling results***
Atrazine	0.6	<0.01µg/L
Dichloromethane	20	<1.0µg/L
Simazine	1	<0.01µg/L
Lead and its compounds	7.2	6.74µg/L
Nickel and its compounds	20	1.064µg/L
Priority Hazardous Substances Table 12	***Other surface waters AA-EQS***	***Upstream sampling results***
Cadmium and its compounds (depending on water hardness)	0.2	<1.0µg/L
Mercury and its compounds	0.05	<0.2µg/L

Note the following:
The black results are within the EQR/S.
The blue results may break the EQR/S.
The red results break the EQR/S.
The results highlighted grey are at the limit of detection.

Application D0467-01 Ballydehob

Downstream Coastal Water Quality

Physico-chemical conditions	***Ecological quality ratio/standard*** ***Good boundary*** ***Coastal (All Types)***	***2009 Downstream sampling results***
Oxygenation conditions Table 9	***Coastal water body***	***Downstream sampling results***
Biochemical Oxygen Demand (BOD) (mgO_2/l)	No Limit	-
Acidification Status Table 9	***Coastal Water Body***	***Downstream sampling results***
pH (individual values)	No Limit	-
Nutrient conditions Table 9	***Coastal Water body***	***Downstream sampling results***
Total Ammonia (mg N/l)	No Limit	-
Molybdate Reactive Phosphorus (MRP) (mg P/l)	No Limit	-
Specific pollutants Table 10	***Other surface waters AA-EQS***	***Downstream sampling results***
Phenol	46	<0.1µg/L
Toulene	No Limit	-
Xylene	No Limit	-
Arsenic	No Limit	-
Total Chromium	32	11.97µg/L
Copper (depending on water hardness)	No Limit	-
Cyanide	No Limit	-
Flouride	No Limit	-
Zinc (depending on water hardness)	No Limit	-
Priority Substances Table 11	***Other surface waters AA-EQS***	***Downstream sampling results***
Atrazine	0.6	<0.01µg/L
Dichloromethane	20	<1.0µg/L
Simazine	1	<0.01µg/L
Lead and its compounds	7.2	2.81µg/L
Nickel and its compounds	20	1.35µg/L
Priority Hazardous Substances Table 12	***Other surface waters AA-EQS***	***Downstream sampling results***
Cadmium and its compounds (depending on water hardness)	0.2	<1.0µg/L
Mercury and its compounds	0.05	<0.2µg/L

Note the following:
The black results are within the EQR/S.
The blue results may break the EQR/S.
The red results break the EQR/S.
The results highlighted grey are at the limit of detection.

Attachment

- Habitats Directive Assessment (Screening Report) in respect of the discharge licence for Ballydehob Waste Water Treatment Plant

Habitats Directive Assessment (Screening Report) in respect of

Application by Cork County Council to the EPA

for discharge license in respect of the

Ballydehob Waste Water Treatment Plant

D0467-01

June 2010

1 Introduction

1.1 The present treatment system in Ballydehob is a primary treatment plant (septic tank) adjacent to the tennis courts on the road to the pier. Built in the mid 1980's with a capacity of 164m3, it was originally designed for a p.e. of 700. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe.

1.2 The plant is located adjacent to Ballydehob Bay and the discharge point is within Ballydehob Bay which forms part of the Roaringwater Bay & Islands Special Area of Conservation which is designated under the **EU Habitats Directive (92/43/EEC)** as transposed into Irish Law under the European Union (Natural Habitats) Regulations SI 94/1997. As this is the case, and in accordance with requirements under this Directive, the potential impacts of proposed developments that have the potential to impact on Special Areas of Conservation must be assessed. The procedure to do this is called a **Habitats Directive Assessment**. The purpose of such an assessment is to identify whether there may be potential for elements of the project to have a significant impact on nature conservation sites within its impact zone, and if so, to predict the potential for such impacts to affect the overall integrity of such nature conservation sites. The European Union has provided guidance as to how to make a Habitats Directive Assessment which identifies four main stages in the process as follows:

Stage One: Screening
The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, wither alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

Stage Two: Appropriate assessment
The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stage Three: Assessment of alternative solutions
The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain.
An assessment of compensatory measures, where in the light of an assessment of imperative reasons of overriding public interest, it is deemed that the project or plan should proceed.

1.3 This document brings together all of the information necessary to make determination as to whether there are likely to be significant impacts arising from the Ballydehob Waste Water Treatment Plant on

the adjacent Roaringwater Bay & Islands Special Area of Conservation and represents the first stage of this process (Screening).

Step 1:
Provide a description of the plan and other plans and projects that, in combination, have the potential to have significant effects on Natura 2000 sites within the potential impact zone;

Step 2:
Identify Natura 2000 sites which may be impacted by the plan, and compile information on their qualifying interests and conservation objectives;

Step 3:
Determine whether the plan needs to be screened for potential impacts on Natura 2000 sites;

Step 4:
Carry out an assessment of likely effects - direct, indirect and cumulative - undertaken on the basis of available information as a desk study or field survey or primary research as necessary;

Step 5:
Assess the significance of any such effects on the Natura 2000 sites within the impact zone.

1.4 The assessment has been prepared in accordance with the following guidance:

European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the Habitats Dreictive 92/43/EEC.

European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habtiats Directive 92/43/EEC.

Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Environment, Heritage and Local Government, 2009.

2 Appropriate Assessment Screening Matrix

2.1 Description of project	
Location	Ballydehob WWTP, Ballydehob, Co. Cork. See attached Map.
Description of the key components of the project	The treatment system in Ballydehob is a primary treatment plant (septic tank) adjacent to the Bay. Built in the mid 1980's with a capacity of 164m3, it was originally designed for a p.e. of 700. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe

	approx 200m south of the septic tank. A new WWTP is proposed for Ballydehob which 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).
Distance from designated sites in potential impact zone*	Discharge is within the SAC

2.2 Description of the Natura 2000 sites within the potential impact zone[1]	
Name	Roaringwater Bay & Islands Special Area of Conservation
Site Code	000101
Site Description	Roaringwater Bay, Co. Cork, is a wide shallow bay located on the southwest coast. The site includes the immediate coastline on the mainland from Long Island to Baltimore together with the whole bay and most of the islands. Bedrock is composed of a series of Devonian Old Red Sandstone reefs that run parallel to troughs of Devonian Carboniferous marine clastics in a north east/south west direction. These reefs emerge to form the islands on the south side of the bay and within the bay. Generally the coast is low-lying but the southern edge rises, in line with the hills behind Baltimore, to culminate in a summit of 160m on Cape Clear. The bay itself has a wide variety of reef and sediment habitats, subject to a range of wave exposures and tidal currents, and has been selected for three marine habitats listed under the EU Habitats Directive, i.e. large shallow inlets and bays, marine caves and reefs. The terrestrial habitats are also of conservation interest and include good examples of two habitats listed under the EU Habitats Directive, i.e. dry heath and sea cliffs. Otter and Grey seal, two mammal species listed on Annex II of the EU Habitats Directive, occur within the site. The discharge from the Ballydehob Wastewater Treatment Plant enters Ballydehob Bay. More information on the Roaringwater Bay & Islands SAC is contained appendix 1 of this document.
Qualifying Interests of Roaringwater Bay & Islands	The site is selected for the following: *Habitats*

[1] Natura 2000 sites within the potential impact zone of the proposed development have been identified in accordance with guidance provided in the NPWS circular L8/08.

SAC.	Large shallow inlets and bays; Reefs; Vegetated sea cliffs of the Atlantic and Baltic coasts; European dry heaths; Submerged or partly submerged sea caves. *Species* Phocoena phocoena; Lutra lutra; Halichoerus grypus
Other Notable Features of Roaringwater Bay & Islands SAC.	The Site Synopsis is contained in appendix 1. The site holds a very important concentration of Choughs (33 pairs in 1992), as well as several pairs of Peregrine Falcons.
Conservation Objectives	Objective 1: To maintain the Annex I habitats for which the SAC has been selected at favourable conservation status: large shallow inlets and bay; Reefs; Vegetated sea cliffs of the Atlantic and Baltic coasts; European dry heaths; Submerged or partly submerged sea caves. Objective 2: To maintain the Annex II species for which the SAC has been selected at favourable conservation status: Phocoena phocoena; Lutra lutra; Halichoerus grypus. Objective 3: To maintain the extent, species richness and biodiversity of the entire site. Objective 4: To establish effective liaison and co-operation with landowners, legal users and relevant authorities. Favourable conservation status of a habitat is achieved when: • Its natural range, and area it covers within that range, is stable or increasing and • The ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and • The conservation status of its typical species is favourable as defined below. The favourable conservation status of a species is achieved when: • Population data on the species concerned indicate that is maintaining itself, and • The natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and • There is, and will probable continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. *Source – National Parks and Wildlife Service*

2.3 Assessment Criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	**Discharge from Ballydehob WWTP:** *Treated wastewater from the Ballydehob Waste Water Treatment Plant is discharged to Ballydehob Bay with the SAC of Roaringwater Bay & Islands.* *The discharge consists of treated effluent from the Ballydehob Waste Water Treatment Plant.* **Other Discharges within the SAC:** *Baltimore WWTP discharges to Roaringwater Bay to the east and Schull WWTP discharge to the bay to the west.* *See Map in Appendix 3 for discharge locations.*
Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site taking into account the following: ○ Size and scale ○ Land-take ○ Distance from the Natura 2000 site or key features of the site: ○ Resource requirements (water abstraction etc.) ○ Emissions (disposal to land, water or air) ○ Excavation Requirements ○ Transportation Requirements ○ Duration of construction, operation, decommissioning ○ Other.	**Discharges could give rise to elevated nutrients entering Ballydehob Bay and the most northern part of Roaringwater Bay. Increased nutrient levels may impact on the ecology of an area by changing the composition of floral communities and reducing the ability of less robust plants to survive. Increased nutrient levels may also result in increasing the invertebrate populations in the estuary, thereby increasing bird population levels.** However the potential for the treatment plant to result in elevated nutrients within the harbour is reduced by two main factors: 1. The treatment provided is considered as appropriate as set out in the Urban Wastewater Treatment Regulation standards for p.e <2000. 2. The treated effluent enters the Ballydehob Bay which is a large and well exchanged body of water with unlimited dilution capacity. ***1 The treatment provided is appropriat.*** *Treated effluent from the Ballydehob WWTP is monitored by CCC approx 5 times per year. Water quality monitoring was carried out by CCC in 2008/2009 upstream and downstream of the discharge point (see appendix 2 for effluent testing results). The results of monitoring indicate that there has been no deterioration in water quality.* **Note 1**: See appendix 2 for effluent quality results for 2008 to 2010. **Note 2**: The samples taken are grab samples. ***2 The treated effluent enters Roaringwater Bay & Islands SAC at Ballydehob Bay which is a large and well exchanged body of water with unlimited dilution capacity.***

	The proposed WWTP will utilise the existing outfall pipe from the septic tank thus minimising any effects of the construction work of the new plant on the SAC. Treatment process will also be improved and will result in an improve quality of effluent entering Ballydehob Bay.
Describe any likely changes to the site arising as a result of: ○ Reduction in habitat area ○ Disturbance to key species ○ Habitat or species fragmentation ○ Reduction in species density ○ Changes in key indicators of conservation value (water quality etc) ○ Climate Change	**Reduction in habitat area:** *Treated effluent is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on habitats within Ballydehob or Roaringwater Bay from the operation of this facility.* **Disturbance to key species:** *The operation of the WWTP does not cause any disturbance to habitats & species within the SPA.* **Habitat or species fragmentation:** *No habitat fragmentation has been caused as a result of the operation of this facility.* **Reduction in species density:** *Treated effluent is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species for which the SAC is designated.* **Changes in key indicators of conservation value eg water quality:** *While there is no ongoing monitoring of water quality for Roaringwater Bay, some sampling and testing were done and submitted as part of the Wastewater Licence Application. This testing, while insufficient for a complete analysis indicates that there is no deterioration in water quality associated with the Ballydehob discharge.*
Describe any likely impacts on the Natura 2000 site as a whole in terms of: ○ Interference with the key relationships that define the structure of the site ○ Interference with key relationships that define the function of the site	**Interference with the key relationships that define the structure of the site:** *The structure of the SAC is not impacted by the operation of this facility.* **Interference with key relationships that define the function of the site:** *The function of the SAC is not impacted by the operation of this facility.*
Describe from the above those elements of the project of plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	No significant impacts are predicted.

3. Finding of No Significant Effects Report Matrix

Name of project or plan	Ballydehob WWTP discharge
Name and location of Natura 2000 site	Roaringwater Bay & Islands
Description of the project or plan	The treatment system in Ballydehob is a primary treatment plant (septic tank) adjacent to the Bay. Built in the mid 1980's with a capacity of 164m3, it was originally designed for a p.e. of 700. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe approx 200m south of the septic tank. A new WWTP is proposed for Ballydehob which 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).
Is the project or plan directly connected with or necessary to the management of the site (provide details)?	No
The assessment of significance of effects	
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 Site.	Discharges from the Ballydehob WWTP either alone or in combination with discharges from other sources could give rise to elevated nutrients entering Roaringwater Bay. Increased nutrient levels may impact on the ecology of an area by changing the composition of floral communities and reducing the ability of less robust plants to survive. Increased nutrient levels may also result in increasing the invertebrate populations in the estuary, thereby increasing bird population levels. The effluent discharged from Ballydehob considered as appropriately treated under the Urban Wastewater Treatment Regulations, it is considered that the discharge from Ballydehob is not contributing negatively on the SAC.
Explain why these effects are not considered significant.	Appropriate treatment is being carried out as laid down in the Urban Waste Water Treatment Regulations and is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species for which the SAC is designated.
List of agencies consulted: provide contact name and telephone or email address	National Parks and Wildlife Service – Web site
Response to consultation	

Data collected to carry out the assessment			
Who carried out the assessment	**Sources of data**	**Level of assessment completed**	**Where can the full results of the assessment be accessed and viewed**
Orla O'Brien, Cork County Council	Water Quality Monitoring Data CCC; Waste water Discharge Assessment licence application, Report prepared by Cork County Council	Desktop review of cited data.	This report.

Appendix 1: Ecological Data

1 Roaringwater bay & Islands SAC 000101- Site Synopsis (National Parks and Wildlife Service)

Roaringwater Bay, Co. Cork, is a wide shallow bay located on the southwest coast. The site includes the immediate coastline on the mainland from Long Island to Baltimore together with the whole bay and most of the islands. Bedrock is composed of a series of Devonian Old Red Sandstone reefs that run parallel to troughs of Devonian Carboniferous marine clastics in a north east/south west direction. These reefs emerge to form the islands on the south side of the bay and within the bay. Generally the coast is low-lying but the southern edge rises, in line with the hills behind Baltimore, to culminate in a summit of 160m on Cape Clear.

The bay itself has a wide variety of reef and sediment habitats, subject to a range of wave exposures and tidal currents, and has been selected for three marine habitats listed under the EU Habitats Directive, i.e. large shallow inlets and bays, marine caves and reefs. The shores of the bay range from the exposed, rocky shores of South Sherkin Island, to the sheltered rock, sand and mud communities of the Inner Bay and estuarine communities where the rivers enter the bay. The shallow subtidal reefs have good examples of kelp forest community grazed by the sea urchin *Echinus esculentus*. The animal dominated reefs includes the feather star *Antedon bifida* community, the hydroid *Sertularia argentia* and *Hydralmania falcata* community, and sponge and ascidian communities some of which are species rich and in which two rare species occur; the sponge *Tethyspira spinosa* and the rare red alga *Phyllophora sicula*. The scarce hydroid *Tamarisca tamarisca* occurs at a number of sites within the bay. These communities are typical of very sheltered areas with some current present. The cave community on Sherkin Island is home to the rare filamentous red alga, *Pterosiphonia pennata*. The sedimentary communities in Roaringwater Bay are exceptional. Of particular interest is the extensive bed of the calcareous free living red alga *Lithophyllum dentatum*, (generally termed maerl but may be locally know as 'coral') which is the largest in the country for this species. This bed typically contains specimens that are very large and uniquely flattened in form with the rare filamentous red alga *Spyridia filimentosa*. *Lithophyllum dentatum* is only known from 2 other sites. There are also other maerl communities and several seagrass beds (*Zostera marina*) which may co-occur with a particularly good example in Horseshoe Bay, Sherkin Island.

The terrestrial habitats are also of conservation interest and include good examples of two habitats listed under the EU Habitats Directive, i.e. dry heath and sea cliffs. The coastal heath vegetation is typified by an abundance of Autumn Gorse (*Ulex gallii*), Heather (*Calluna vulgaris*) and Bell Heather (*Erica cinerea*). This is regularly burnt in most places so that there are clearings where grasses and herbs such as Wood Sage (*Teucrium scorodonia*), Common Violet (*Viola riviniana*) and Tormentil (*Potentilla erecta*) have a temporary rise to prominence before the shrubs grow again. Outcrops of rock bring variety into the heath and are the sites of the more interesting species. These include many southern plants, for example the rare Red Data Book species Hairy Birdsfoot Trefoil (*Lotus subbiflorus*), the Common Birdsfoot itself (*Ornithopus perpusillus*), Spotted Rockrose (*Tuberaria guttata*), Pale Heath Violet (*Viola lactea*) and Lanceolate Spleenwort (*Asplenium billotii*). In addition there is a small amount of Deptford Pink (*Dianthus armeria*), the only place it grows in Ireland though it was likely to have been introduced. Flushes and damp places through this vegetation support some interesting

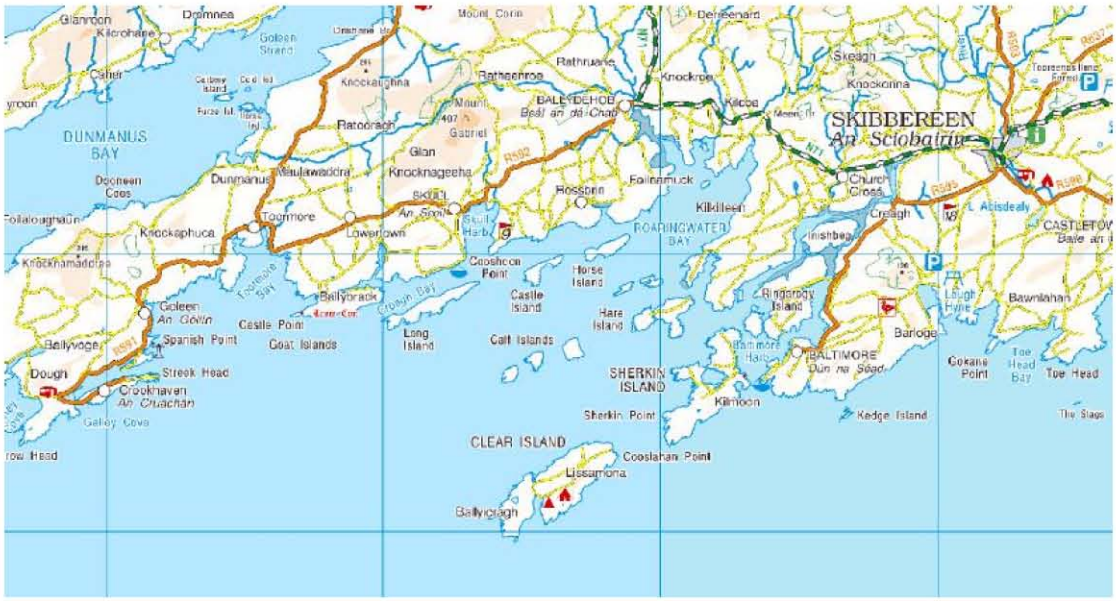
liverworts as well as Birdsfoot Clover (*Trifolium ornithopodioides*) and the special annual plants of the south-west, Chaffweed (*Anagallis minima*), Yellow Centaury (*Cicendia filiformis*) and Allseed (*Radiola linoides*). Chamomile (*Chamaemelum nobile*) is also common with Yellow Bartsia (*Parentucellia viscosa*) somewhat less so.

High rocky seacliffs are confined to the southern and south-eastern sides of Clear Island and Sherkin Island. The steep areas of rocky cliffs are generally between 30 and 60 m in height, but more sloping ground with a heath covering extends to 120 m on Clear Island and to 100 m on Sherkin Island. Low, gently sloping cliffs occur elsewhere on some of the islands and on coastal sections of the mainland (mostly less than 30 m). The cliffs have typical maritime vegetation, with Sea Pink (*Armeria maritima*), Scurvy Grass (*Cochlearia* spp.), Red Fescue (*Festuca rubra*), Sea Campion (*Silene maritima*), Plantains (*Plantago maritima*, *P. coronopus*), Sea Samphire (*Crithmum maritimum*), Tree Mallow (*Lavatera arborea*) and, locally, Dotted Sedge (*Carex punctata*) and the Slender Spikerush (*Eleocharis uniglumis*). Two other Red Data Book plants, Little Robin (*Geranium purpureum*) and Sea Pea (*Lathyrus japonicus*) occur rarely on shingle beaches while Ray's Knotgrass (*Polygonum raii*) is more widespread. Several streams have been ponded by such beaches to create marshes of Reed (*Phragmites australis*) where Marsh Pennywort (*Hydrocotyle vulgaris*), Marsh Cinquefoil (*Potentilla palustris*) and Marsh Orchids (*Dactylorhiza majalis*, *D. incarnata*) are frequent together with some Creeping Willow (*Salix repens*) and Gypsywort (*Lycopus europaeus*). On Clear Island a similar marsh has developed into a bog with abundant bog mosses (*Sphagnum* spp.), Bogbean (*Menyanthes trifoliata*) and St John's Wort (*Hypericum elodes*). Sand is a notable feature of Sherkin Island and occurs to a small extent elsewhere. Wild Radish (*Raphanus raphanistrum*), Crested Hairgrass (*Koeleria macrantha*) and Sea Storksbill (*Erodium maritimum*) grow in this habitat with a little Haresfoot Clover (*Trifolium arvense*), Knotted Clover (*T. striatum*) and the Red Data Book Lesser Centaury (*Centaurium pulchellum*).

Otter and Grey seal, two mammal species listed on Annex II of the EU Habitats Directive, occur within the site. Seabirds breed on some of the islands in the bay. A survey on Clear Island in 1995 reported the following species: Fulmar 716 pairs, Shag 59 pairs, Lesser Black-backed Gull 160 pairs, Herring Gull 51 pairs, Great Black-backed Gull 50 pairs, Guillemot 42 individuals and Razorbill 31 individuals. Cormorants breed on Calf Island, Carrigmore and The Catalogues (c. 100 pairs in mid 1980s), and there is a scattering of gulls on several other islands. Roaringwater Bay has a nationally important population of Black Guillemot, with 198 individuals counted in 1999. Terns (Arctic/Common) bred within the site in the 1980s, with a large colony of 122 pairs on Carrigviglash Rock in 1984. Such large numbers, however, have not been seen since and there have been no records of breeding in the last 10 years. The site holds a very important concentration of Choughs (33 pairs in 1992), as well as several pairs of Peregrine Falcons. Both of these species are listed on Annex I of the EU Birds Directive. Clear Island has Ireland’s only manned bird observatory (established in 1959) and there is a marine research station on Sherkin Island.

In conclusion, Roaringwater Bay and Islands is a site of exceptional conservation importance, supporting diverse marine and terrestrial habitats, five of which are listed under the EU Habitats Directive. The site is also notable for the presence of Otter and Grey Seal plus a number of rare species and also supports important sea bird colonies.

2 Map of Roaringwater Bay & Islands Special Area of Conservation & location of Ballydehob.



The treatment system in Ballydehob is a primary treatment plant (septic tank) adjacent to the Bay. Built in the mid 1980's with a capacity of 164m3, it was originally designed for a p.e. of 700. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe approx 200m south of the septic tank.

A new WWTP is proposed for Ballydehob which 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).

Appendix 2: Treated Effluent Quality Data 2008 and 2009.

Attachment E4 Ballydehob Inlet Table E4			
Sample Date	28/01/2009	12/02/2009	
Sample	Influent	Influent	**Average**
Sample Code	GT132	GT173	
Flow M^3/Day	*	*	
pH	7.3	*	7.3
Temperature ℃	*	*	
Cond 20℃	330	*	330
SS mg/L	30	*	30
NH_3 mg/L	2.8	*	2.8
BOD mg/L	61	*	61
COD mg/L	133	*	133
TN mg/L	3.5	*	3.5
Nitrite mg/L	0.124	*	0.124
Nitrate mg/L	2.85	*	2.85
TP mg/L	2.6	*	2.6
O-PO4-P mg/L	0.1	*	0.1
SO4 mg/L	<30	*	<30
Phenols µg/L	<0.10	*	<0.10
Atrazine µg/L	<0.01	*	<0.01
Dichloromethane µg/L	<1	*	<1
Simazine µg/L	<0.01	*	<0.01
Toluene µg/L	<1	*	<1
Tributyltin µg/L	<0.02	*	<0.02
Xylenes µg/L	<1	*	<1
Arsenic µg/L	<0.96	*	<0.96
Chromium ug/L	<20	<20	<20
Copper ug/L	<20	<20	<20
Cyanide µg/L	5	*	5
Fluoride µg/L	165	*	165
Lead ug/L	<20	<20	<20
Nickel ug/L	<20	<20	<20
Zinc ug/L	<20	<20	<20
Boron ug/L	37.19	49	43.095
Cadmium ug/L	<20	<20	<20
Mercury µg/L	<0.2	*	<0.2
Selenium µg/L	2.6	*	2.6
Barium ug/L	<20	<20	<20

HALF OF LOD FOR STATISTICAL PURPOSE

D0467-01 Attachment E4 Ballydehob Discharge Outlet Revised

Sample Date	22/05/2008	19/06/2008	03/09/2008	24/09/2008	18/12/2008	28/01/2009	12/02/2009	12/03/2009	13/08/2009	10/09/2009			
Sample	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	**Average**	**Kg/Day**	**Kg/year**
Sample Code	GS455	GS584	GS840	GS970	GS1396	GT131	GT170	GT336	GT1006	GT1132			
Flow M^3/Day			*	*	*	*	*	*	*	*			
pH	7.6	7.3	7.0	*	*	7.3	*	7.2	*	*	7.28		
Temperature ℃			*	*	*	*	*	*	*	*			
Cond 20℃	1980	2750	4150	*	*	539	*	*	*	*	2354.75		
SS mg/L	76	83	57	41	29	13	19	12	32	43	40.5		
NH4-N mg/L	15.1	21.0	13.1	*	*	4.9	*	*	*	*	13.525		
BOD mg/L	74	108	104	105	27.8	18	31	56	98	46	66.78		
COD mg/L	258	237	241	207	59	44	70	63	174	116	146.9		
TN mg/L	13.5		18.0	*	*	7.6	8.9	10	*	*	11.6		
Nitrite mg/L	*		*	*	*	0.081	*	*	*	*	0.081		
Nitrate mg/L	*		*	*	*	2.63	*	*	*	*	2.63		
TP mg/L	2.3	3.5	2.38	*	*	2.7	0.7	0.7	*	*	2.046667		
O-PO4-P mg/L	*	2.17	1.42	*	*	no result	*	*	*	*	1.795		
SO4 mg/L	*		*	*	*	<30	*	*	*	*			
Phenols µg/L	*		*	*	*	<0.10	*	*	*	*			
Atrazine µg/L	*		*	*	*	<0.01	*	*	*	*			
Dichloromethane	*		*	*	*	<1	*	*	*	*			
Simazine µg/L	*		*	*	*	<0.01	*	*	*				
Toluene µg/L	*		*	*	*	<1	*	*	*	*			
Tributyltin µg/L	*		*	*	*	<0.02	*	*	*	*			
Xylenes µg/L	*		*	*	*	<1	*	*		*			
Arsenic µg/L	*		*	*	*	<0.96	*	*		*			
Chromium ug/L	10	34	10	*	10	10	10	10	*	*	13.42857		
Copper ug/L	<20	<20	<20	*	<20	<20	<20	<20	*	*			
Cyanide µg/L	*	*	*	*	*	6	*	*	*	*	6		
Fluoride µg/L	*	*	*	*	*	150	*	*	*	*	150		
Lead ug/L	56	93	10	*	10	10	10	10	*	*	28.42857		
Nickel ug/L	<20	<20	<20	*	<20	<20	<20	<20	*	*			
Zinc ug/L	480	51	10	*	10	10	10	10	*	*	83		
Boron ug/L	97	181	229	*	10	10	175	118.4	*	*	117.2		
Cadmium ug/L	<20	<20	<20	*	<20	<20	<20	<20	*	*			
Mercury µg/L	*	*	*	*	*	<0.2	*	*	*	*			
Selenium µg/L	*	*	*	*	*	4.7	*	*	*	*	4.7		
Barium ug/L	28	38	31	*	31	10	10	10	*	*	22.57143		

HALF OF LOD FOR STATISTICAL PURPOSE

Appendix 3: Map showing locations of all discharges into Roaringwater bay & Islands SAC.