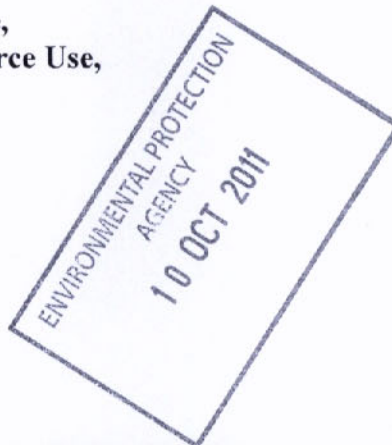


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6<sup>th</sup> October 2011.

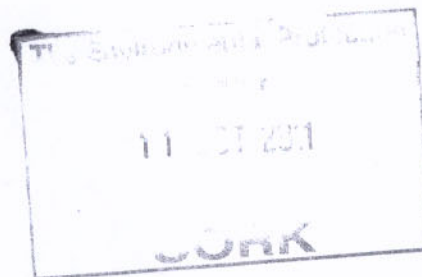
**Re: D0467-01 Ballydehob Waste Water Discharge Licence Application-Reply to Notice in accordance with Regulation 18(3(b) of The Waste Water Discharge (Authorisation) Regualtion 2007.**

I refer to the above and previous correspondence regarding same.

Attached, please find two hard copies and one CD-ROM version of the Natura Impact Statement of the Proposed Ballydehob Sewerage Scheme.

Yours sincerely,

Noel O'Keeffe,  
Co. Engineer & Director of Water Services,  
Cork Co. Council.



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# Natura Impact Statement of the Proposed Ballydehob Sewerage Scheme

## DOCUMENT CONTROL SHEET

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# 1 INTRODUCTION

RPS has been commissioned by Cork County Council to prepare a Natura Impact Statement (NIS) for proposed upgrading works at a wastewater treatment plant (WWTP) in Ballydehob, West Cork. The assessment and associated report are being completed as of the wastewater discharge licence application. The location of the WwTP site relative to Roaringwater Bay cSAC is depicted on Figure 1.1 below.

The NIS will be conducted in accordance with Schedule 6(3) of the Habitats Directive 92/43/EEC (Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites) and the recommendations and protocol set out in the Water Services Circular Letter L8/08: Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments (2nd September 2008).

## 1.1 LEGISLATIVE CONTEXT – HABITATS DIRECTIVE

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. The main aim of the Habitats Directive is “to contribute towards ensuring biodiversity through the conservation of natural habitats of wild fauna and flora in the European territory of the Member States to which the treaty applies” (92/43/EEC). Actions taken in order to fulfil the Directive must be designed to “maintain or restore, at a favourable conservation status, natural habitats and species of wild fauna and flora of Community interest” (92/43/EEC).

The Directive provides for the creation of protected sites known as Special Areas of Conservation (SACs) (Council Directive 92/43/EC) for a number of habitat types and certain species of flora and fauna. The Directive also seeks to establish “Natura 2000”, a network of protected areas throughout Europe. SACs together with Special Protection Areas (SPAs) designated under the Birds Directive (Council Directive 79/409 EEC) form the Natura 2000 network. The Directive was incorporated into Irish law by the European Communities (Natural Habitats) Regulations, SI 94/1997, under Regulation 31 (Annex 1.2).

An assessment is required under the EC Habitats Directive (92/43/EEC) for any plan or project likely to have significant effect on a Natura 2000 site. Article 6, paragraphs 3 and 4 of the Habitats Directive state as follows:

*6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*

*6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

*Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.*

This means that where the implementation of the proposed upgrading of the WwTP is likely to have a significant effect on a Natura 2000 site, the Local Authority must ensure that an appropriate assessment is carried out in view of that site's conservation objectives. The proposed development can only be approved if it has been ascertained that it will not adversely affect the integrity of the Natura 2000 sites concerned, or in the case of a negative assessment and where there are no alternative solutions, the scheme can only be approved for reasons of overriding public interest.

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No.	Date	By	Amendment / Issue	App.
D02	June 11	JM	DRAFT ISSUE	KPoS
D01	May 11	TH	DRAFT ISSUE	KPoS

Project:

**BALLYDEHOB SEWERAGE SCHEME  
PRELIMINARY REPORT**

Title:

**EXISTING SITE LOCATION  
AND cSAC  
FIGURE 1.1**

Drawn by:	JM - TH	Job No:	MCW0681
Checked by:	TC	File No:	MCW0681DG0001
Approved by:	KPoS	Drg. No:	<b>01</b>
Scale:	1:250	Rev:	D02
Date:	June, 2011		

## 2 METHODOLOGY

To date, the Department of the Environment, Heritage and Local Government has not published guidelines specifically for undertaking assessment of plans or projects likely to result in significant impacts to the Natura 2000 network in Ireland. This assessment has been carried out using the following guidance:

- Managing Natura 2000 Sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC, European Commission 2000;  
[http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision\\_of\\_art6\\_en.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision_of_art6_en.pdf)
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC;  
[http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura\\_2000\\_asses\\_en.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_asses_en.pdf)
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission.  
[http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/guidance\\_art6\\_4\\_en.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/guidance_art6_4_en.pdf)
- Guidelines on the information to be contained in Environmental Impact Statements (EPA 2002);
- Advice Notes on current practice in the preparation of Environmental Impact Statements (EPA, 2003);
- European Communities (Environmental Impact Assessment) (Amendment) Regulations, 1989 – 2001;
- Institute of Ecology and Environmental Management Draft Guidelines for Ecological Impact Assessment (IEEM 2005); and
- Interpretation Manual of European Union Habitats. Version EUR 27. European Commission 2007.

Based on these guidelines, the assessment process is a four-staged approach described below.

**Stage One: Screening / Test of Significance** - the process which identifies the likely impacts of a project or plan on a Natura 2000 site, either 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 of the project or plan on the integrity of the Natura 2000 site, either alone or in combination with other projects or plans, with respect to (i) the site's conservation objectives; and (ii) the site's structure and function and its overall integrity. 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; and

**Stage Four: Assessment Where Adverse Impacts Remain** - an assessment of compensatory measures where, in the light of an assessment of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

## 2.1 APPROPRIATE ASSESSMENT

### 2.1.1 Stage One: Screening

Cork County Council undertook the Screening Assessment for the proposed upgrading works in June 2010. This process provided an outline summary of the proposed development; summarised what the possible effects on those Natura 2000 sites could be in and screened out Natura 2000 sites that are unlikely to be affected.

The Screening Assessment concluded that there is a potential for alone or in combination effects. Therefore this Stage 2 Natura Impact Statement is required to determine potential significant effects to Roaringwater Bay & Islands cSAC (000101).

*“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 areas”.*

### 2.1.2 Screening Protocol in line with DEHLG Circular letter L8/08

Below is a flow diagram for screening water services infrastructure projects. This diagram is taken from Appendix I of the Water Services Schemes, Natural Heritage Checklist (Circular L8/08, DEHLG).



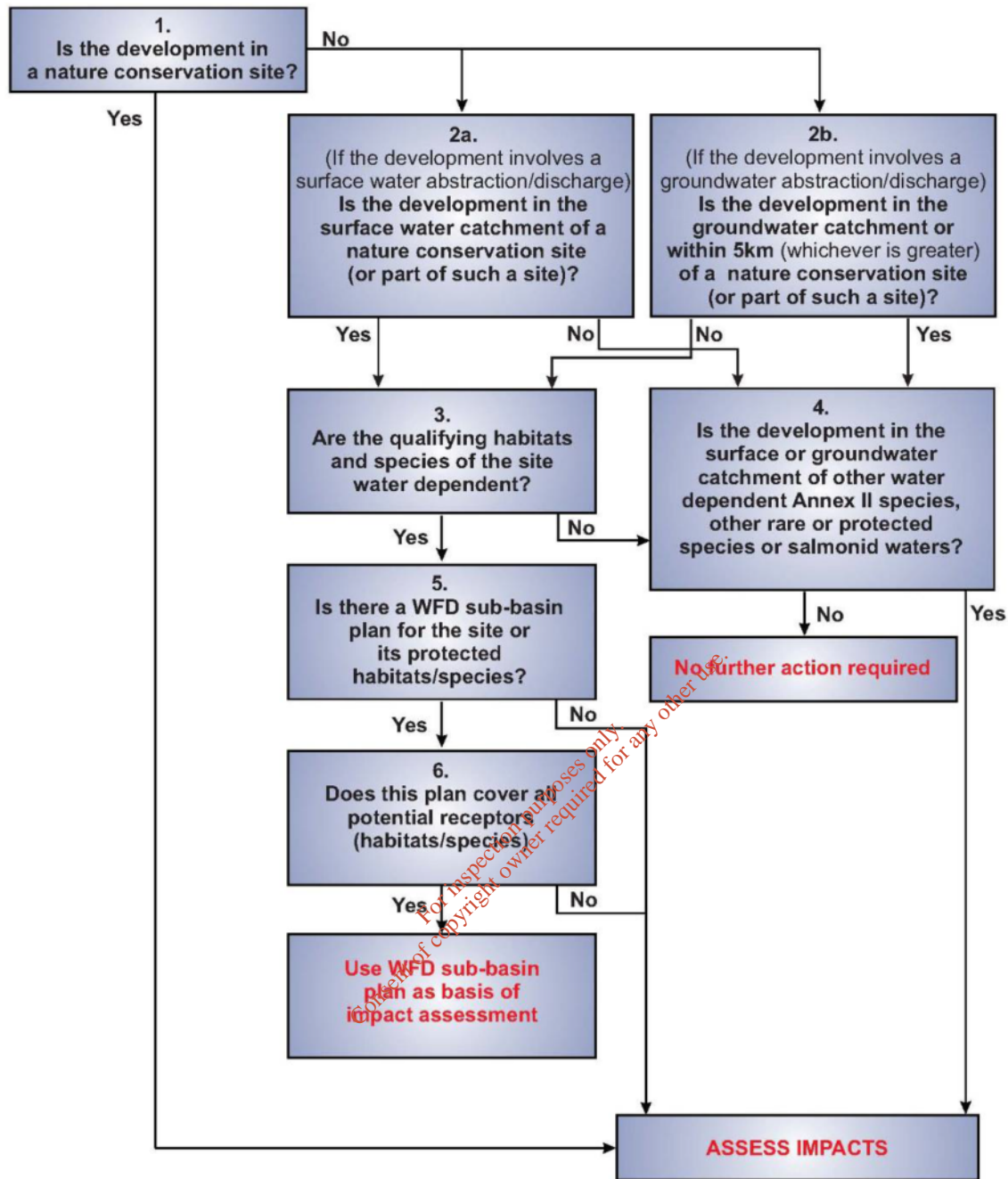


Figure 2.1 Flow Diagram for Screening Water Services Infrastructure Projects: Proposed Upgrade Works at Ballydehob WWTP.

The answers to the questions in the flow chart are as follows;

**Question 1 - Answer = No:** The proposed upgraded WWTP will not be constructed within Roaringwater Bay cSAC.

**Question 2A - Answer = Yes:** The proposed upgraded WWTP will discharge to Ballydehob Bay which in turn enters Roaringwater Bay cSAC.

**Question 3 - Answer = Yes:** Some of the qualifying habitats of Roaringwater Bay cSAC are water dependant.

**Question 5 - Answer – Yes:** The Roaringwater Bay Pollution Reduction Programme (PRP) is effectively a sub-basin plan of the River Basin Management Plan for the catchment and will be implemented during the first implementation cycle under the Water Framework Directive (i.e up to 2015).

**Question 6 - Answer – No:** The Roaringwater Bay PRP does not cover all the potential receptors (habitats/species) of the Roaring water bay cSAC. The PRP focuses on water quality in the designated shellfish growing waters of Roaringwater Bay cSAC.

**Overall Conclusion:** Assess Impacts- Stage 2 NIS.

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### 3 STAGE 2 – NATURA IMPACT STATEMENT

At this stage the impact of a project or plan alone and in combination with other projects or plans on the integrity of the Natura 2000 site is considered with respect to the conservation objectives of the site and to its structure and function (NPWS, 2010). As the Roaringwater Bay PRP does not cover all the potential receptors (habitats/species) of the Roaringwater Bay cSAC, there is the potential for cumulative water quality impacts in the Bay, and the construction methodology was not determined at the Screening Stage, Cork County Council have therefore applied the precautionary principle in relation to the screening assessment and requested that a Stage 2 Natura Impact Statement is prepared.

#### 3.1 EXISTING BASELINE ENVIRONMENTAL CONDITIONS

Located to the south of the town of Ballydehob near the estuary, the site is located in grassland on the inland side of a small access road which runs along the coastline of Ballydehob Bay which is connected to Roaringwater Bay via a small weir. The site of the proposed upgrade works is low lying in nature and consists of a small area of mown grassland. It is located outside the Roaringwater Bay cSAC adjacent to the small water course that runs into Ballydehob Bay. The south of the site is an area bounded by scrubland and woodland and to the north the area is managed grassland.

Figure 3-1 Aerial Photograph of the Area



### 3.1.1 Description of Natura 2000 Sites Affected: Roaringwater Bay & Islands cSAC

Roaringwater Bay 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. The 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 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, (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 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 site holds a very important concentration of Choughs as well as several pairs of Peregrine Falcons. Both of these species are listed on Annex I of the EU Birds Directive.

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.

In summary Roaringwater Bay is designated for the following species and habitats:

**Table 3-1 Qualifying Features of Roaringwater Bay Csac**

Habitat code	Habitat type
1160	Large shallow inlets and bays
1170	Reefs
1230	Vegetated sea cliffs of the Atlantic and Baltic coasts
4030	European dry heaths
8330	Submerged or partly submerged sea caves
Species code	Species name
1364	<i>Grey Seal (Halichoerus grypus)</i>
1355	<i>Otter (Lutra lutra)</i>
1351	<i>Harbour Porpoise (Phocoena phocoena)</i>

In the absence of a completed Conservation Management Plan for this Natura 2000 site, the conservation objectives for Roaringwater Bay cSAC as taken from the NPWS website on the 1<sup>st</sup> of June 2011 are taken to be as follows:-

- **Objective 1:** To maintain the favourable conservation status of the Qualifying Interests of the SAC (as shown in Table 3.1 above).

Favourable conservation of a habitat is achieved when

- Its natural range, and area it covers within that range, is stable or increasing;
- 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 indicate that its maintaining itself;
- 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.

At a national level the conservation status of qualifying interests for which the cSAC has been designated have been provided in the NPWS Conservation Status Report (2008) '*The status of EU Protected Habitats and Species in Ireland*'.

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**Table 3-2 Qualifying Interests of the Roaringwater Bay cSAC, and Records of these Interests**

<b>Natura Code</b>	<b>Qualifying Interest</b>	<b>Main Threats and Impacts</b>	<b>Water Dependent</b>	<b>Likely to Occur in Roaringwater Bay in the Vicinity of the Treatment Plant Location</b>	<b>Likely to occur in Roaringwater Bay in the Vicinity of the discharge location</b>
1160	Large shallow inlets and bays (1160)	Aquaculture, Professional Fishing, Recreational fishing, Removal of fauna, Housing development, Discharges, Autoroutes, Port/Marina, Water Pollution, Reclamation of land, Dredging, Dumping of dredged material, Invasion of species.	<b>Yes</b>	<b>No</b>	<b>Yes relates the whole of Roaringwater Bay</b>
1170	Reefs (1170)	Professional fishing, taking for fauna, taking for flora, water pollution, climate change, change in species Composition.	<b>Yes</b>	<b>No</b>	<b>No</b>
1230	Vegetated sea cliffs of the Atlantic and Baltic coasts (1230)	Fertilisation, grazing, overgrazing by sheep, hare, rabbits and small mammals, restructuring agricultural land holding, burning, hand cutting of peat, dispersed habitation, disposal of household waste, routes, autoroutes, golf course, camping and caravans, trampling, overuse, sea defence/coastal protection works and erosion	<b>No</b>	<b>No</b>	<b>No</b>
4030	European dry heaths (4030)	Overgrazing, abandonment of pastoral systems, general forestry management, forestry planning, burning, fertilisation, agricultural improvement, sand and gravel extraction	<b>No</b>	<b>No</b>	<b>No</b>
8330	Submerged or partly submerged sea caves (8330)	Water pollution that could lead to a loss of species. The level of threat is considered to be low and any occurrences are likely to impact on a very small proportion of the habitat.	<b>Yes</b>	<b>No</b>	<b>Unlikely Occurs on coast in exposed areas.</b>
1355	Otter ( <i>Lutra lutra</i> ) (1355)	Use of pesticides, fertilization, removal of hedges and copses, removal of scrub, felling of native or mixed woodland, professional fishing (including lobster pots and	<b>Yes</b>	<b>No</b>	<b>Possible, No evidence of activity during site surveys</b>

Natura Code	Qualifying Interest	Main Threats and Impacts	Water Dependent	Likely to Occur in Roaringwater Bay in the Vicinity of the Treatment Plant Location	Likely to occur in Roaringwater Bay in the Vicinity of the discharge location
		fyke nets), hunting, trapping, poisoning, poaching, sand and gravel extraction, mechanical removal of peat, urbanised areas, human habitation, continuous urbanization, industrial or commercial areas, discharges, disposal of household waste, disposal of industrial waste, disposal of inert materials, other discharges, routes, autoroutes, bridge, viaduct, water pollution, other forms or mixed forms of pollution, infilling of ditches, dykes, ponds, pools, marshes or pits, drainage, management of aquatic and bank vegetation for drainage purposes, removal of sediments, canalization or modifying structures of inland water course.			
1364	<i>Grey Seal (Halichoerus grypus) (1364)</i>	Illegal culling, continued by catch, competition for prey resources with fisheries, disturbance to breeding and haul out sites. Tourism associated developments on offshore islands	<b>Yes</b>	<b>No</b>	<b>Unlikely Nearest known haul out is 3kms away</b>
1351	<i>Harbour Porpoise (Phocoena phocoena) (1351)</i>	Fisheries bycatch competition for prey resources with fisheries, disturbance to breeding areas, habitat disturbance/destruction, marine noise	<b>Yes</b>	<b>No</b>	<b>No</b>

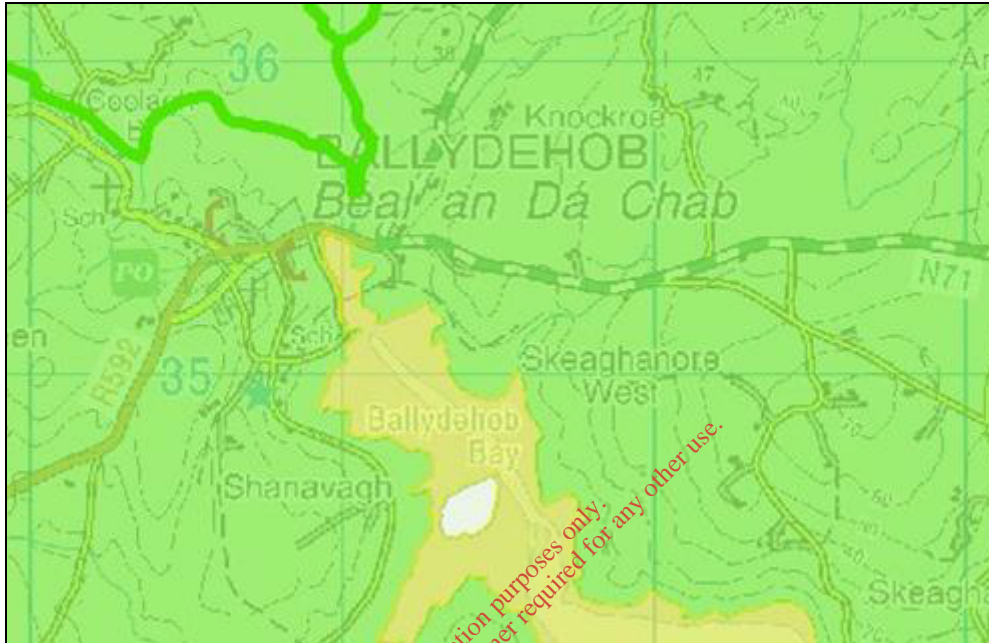
### 3.1.2 Water Quality

Water quality has been identified as a key indicator of conservation value for Roaringwater Bay cSAC with regard to the aquatic Annex II species listed as qualifying interests for the site. Deleterious impacts on water quality will directly interfere with the structure and function of the cSAC, where the conservation objectives of the site are focussed on maintaining the aquatic Annex I habitats and Annex II species at favourable conservation status. It is considered that the conservation status of these qualifying interests may be directly affected by water quality impacts.

### 3.1.2.1 EPA Water Quality

The location and extent of Ballydehob Bay, and its water quality status as determined by the EPA is depicted in Figure 3.2 below. Water Quality is depicted in “Yellow” indicating a Q-value of 3-Moderate.

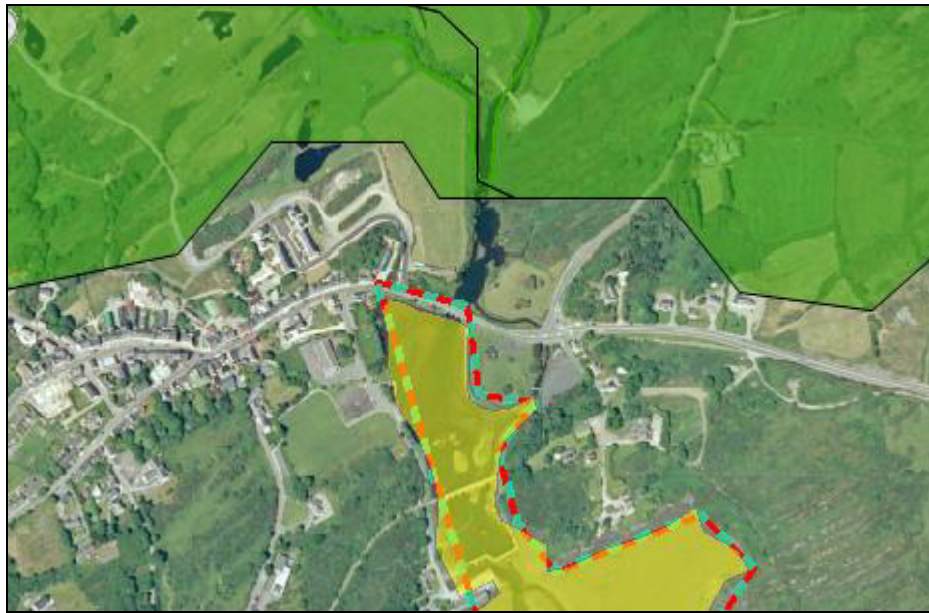
**Figure 3.2 EPA Water Quality Status**



Ballydehob Bay is situated in the South Western River Basin District (SWRBD). The River Basin Management Plan for the South Western River Basin District (2009 - 2015) was published on 6th July 2010. The Plan came into effect on 15th July 2010. A monitoring programme for the South Western RBD is currently being carried out. The Water Maps database which was produced in support of the RBD Management Plans has also classified the overall status of this waterbody as Moderate (Figure 3.3 below) and there is a requirement to restore good status by 2021. **Table 3.3** summarises the current status, risk category, objectives and measures of the sub-basin surface water body of the site.



**Figure 3.3 Water Framework Directive Status**



**Table 3-3 Roaringwater Bay Waterbody - Status as set out in the RBD Water Maps Database**

Element	Rating for the Roaringwater Bay	
<b>Water Quality Status</b>	Moderate	
<b>Water Body Category</b>	Coastal	
<b>Risk Category</b>	1A- At Risk	
<b>Objectives</b>	Protected Areas Objective - Restore 2021 Overall Objective - Restore by 2021	
<b>Point Source Risk</b>	Waterwater Treatment Plant 1A at Risk	
<b>Measures to Achieve Objectives</b>	<b>Basic/Legislative Measures</b> <ul style="list-style-type: none"> <li>- Habitats Directive</li> <li>- Major Accidents and Emergencies (Seveso) Directive</li> <li>- Environmental Impact Assessment Directive</li> <li>- Urban Wastewater Treatment Directive</li> <li>- Plant Protection Products Directive</li> <li>- Nitrates Directive</li> <li>- Integrated Pollution Prevention Control Directive</li> <li>-</li> </ul>	<b>Specific Measures</b> <ul style="list-style-type: none"> <li>- Control of point source discharges</li> <li>- Control of diffuse source discharges</li> <li>- Control of priority substances</li> <li>- Controls on physical modifications to surface waters</li> <li>- Controls on other activities impacting on water status</li> <li>- Prevention or reduction of the impact of accidental pollution incidents</li> <li>- Agglomerates with treatment works requiring capital works</li> <li>- Agglomerates with treatment plants requiring further investigation prior to capital works</li> <li>- On site wastewater treatment systems</li> <li>- Shellfish Pollution Reduction Plan</li> <li>- Water Pollution Act licences requiring review</li> </ul>

### 3.1.3 Discharge of Final Effluent

According to S.I No. 268 of 2006, European Communities (Quality of Shellfish Waters) Regulations 2006, part of Roaringwater Bay, but excluding Ballydehob Bay, is a designated shellfish water area. As part of the Preliminary Report for the proposal (RPS, 2008) a marine study was undertaken by Irish Hydrodata Limited to investigate the impact on the marine environment of proposed treated wastewater discharges from the town and environs of Ballydehob to Ballydehob Bay.

The study confirmed the following:

Effluent discharged from the municipal outfall just downstream of the town will be carried seaward along Ballydehob Bay towards Roaringwater Bay. As it travels downstream the effluent will mix with the bay waters. These waters are made up of saline sea water and fresh water from the river entering at Ballydehob.

That the main impacts of discharging from the treatment outfall will be confined to Ballydehob Bay and that by the time the discharge reaches Reen Point the bacterial levels are below allowable limits. The study also confirmed that a continuous discharge rather than a discharge on the ebb tide would result in minimal impact on receiving water (Irish Hydrodata Limited, 2007).

### 3.1.4 Roaring Water Bay Pollution Reduction Programme

A Pollution Reduction Programme (PRP) for the Shellfish waters at Roaring Water Bay and its associated Characterisation report was completed in 2009 for the purposes of the Shellfish Waters Directive (2006/113/EC) and Schedules 2 and 4 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006).

The results of monitoring undertaken for the purposes of the Shellfish Waters Directive (2006/113/EC) and Schedules 2 and 4 of the Quality of Shellfish Waters Regulations (S.I No.268 of 2006) do not indicate any water quality issues within/in the vicinity of this shellfish area.

There are no key pressures or secondary pressures currently potentially impacting shellfish water quality

## 3.2 SITE ASSESSMENT

A field survey was conducted on the 28<sup>th</sup> of May 2011. The survey consisted of an assessment of the proposed site, the discharge point and environs. The site is composed of a small area of mown grassland adjacent to the existing WwTP. This area is of no significant ecological value. To the south the area is bounded by an extensive area of dense scrub which is developing to immature woodland and is classified as the latter. It is composed mainly of native plant species and is of minor ecological value. This area provides good nesting habitat, cover and feeding habitat for mammals, birds and invertebrates.

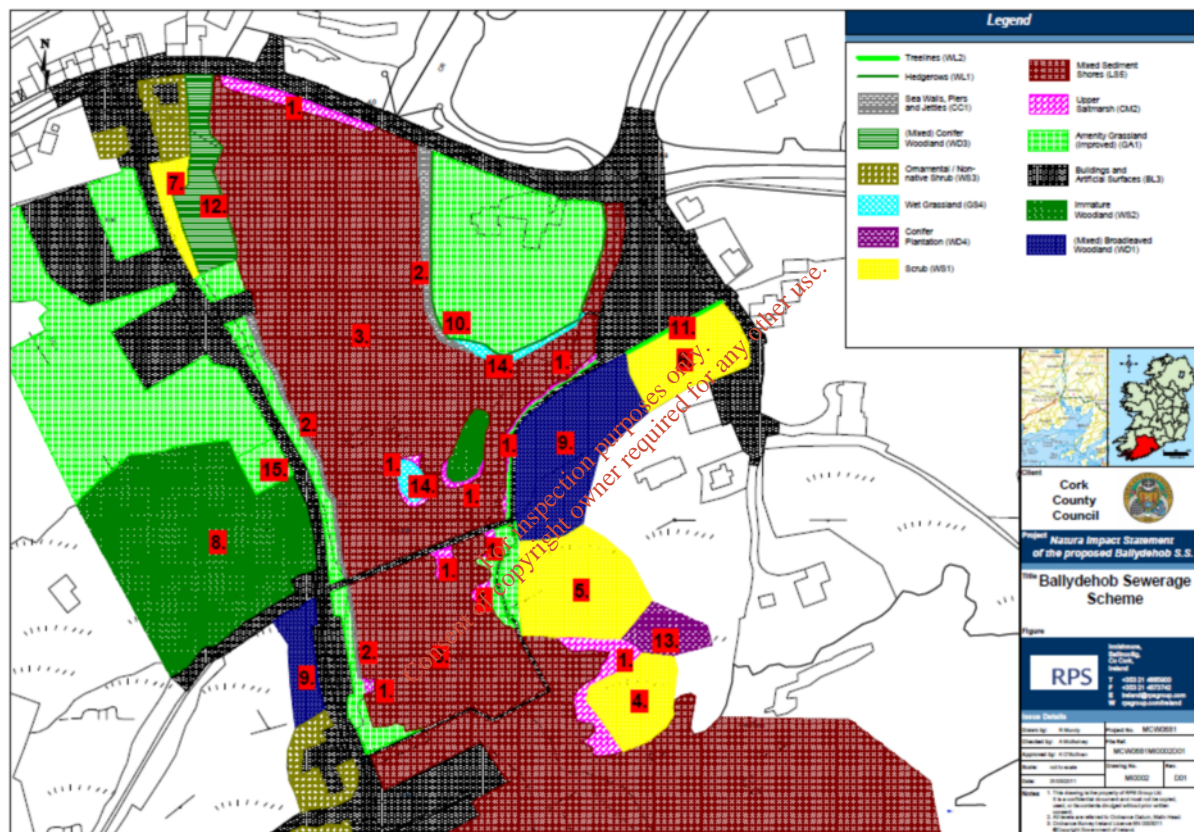
To the north the site is bordered by managed amenity grassland; and to the east by a hardstanding area of road and parking with verges of Amenity grassland and occasional groups of planted exotic conifer trees. These areas are of no significant ecological value.

### 3.2.1 Habitats

The site survey included an assessment of the habitats present on the site and in the surrounding area. These habitats were identified during the site assessment. At various points Target Notes were recorded where there were particular features, habitats or areas of interest. These are shown in the **Figure 3.4** and the sections below.

The most significant ecological habitats in the area are those in the intertidal and riverine areas and the shorelines of these areas. The site is a mixture of mown grassland and scrub with little ecological value. In the vicinity of the site are a number of habitats of note.

**Figure 3-4 Habitat Map and Target Note Locations of the Proposed Site and Environs.**



#### 3.2.1.1 Upper Saltmarsh (CM2) (Target Note 1)

Small patches of upper saltmarsh are present along the fringes of the channels and shown in pink hatch on **Figure 3.4**. The dominant plant species is Red Fescue, with Thrift, Saltmarsh Rush and Sea Plantain frequent.

#### 3.2.1.2 Sea Walls, Piers and Jetties (CC1) (Target Note 2)

Sections of the western shoreline are clad with stone, an upper saltmarsh community (see above) has developed in gaps between the stones. Concrete cladding is present along the shore to the southeast of the road bridge, sloped at approximately 45°.

### 3.2.1.3 Mixed Sediment Shores (LS5) (Target Note 3)

The intertidal areas are generally muddy with shingle and pebbles generally measuring 5 to 10cm in length, but larger shingles in some areas. Some small areas of rock occur in places, particularly around the viaduct. Dense cover of fucoids is present on rocks and on some loose sediment areas, *Ulva* species (including *Enteromorpha* species) are occasional to frequent but not abundant anywhere. Quite a lot of loose river-borne debris is present, mainly wood. To the south of the site within Ballydehob Bay and the SAC the area is presomnantlet mudflat with shingle and gravely mud fringes supporting fucoid species.

### 3.2.1.4 Scrub (WS1)

Four areas are present as follows:

**Target Note 4:** This area is dense, dominated by Common Gorse, Hawthorn, Blackthorn and Ash.

**Target Note 5.** This area is very dense, dominated by Common Gorse with some Hawthorn.

**Target Note 6:** This area includes a large stand dominated by Bracken and other tall ruderal species such as willowherbs, with Bramble and some Elder.

**Target Note 7:** This area is dominated by non-native exotic species such as box and appears to be a former garden.

### 3.2.1.5 Immature Woodland (WS2) (Target Note 8):

To the south and west of the WWTP is a large area of scrub that has developed into immature woodland. Ash, Hawthorn and Grey Willow dominate.

### 3.2.1.6 (Mixed) broadleaved woodland (WD1) (Target Note 9)

Two areas are present. On the eastern side of the estuary the woodland is dominated by Ash, up to about 15m in height, with some Sycamore, Scots Pine and spruce. On the western side, a small area of Ash and Sycamore trees up to 8m in height is present.

### 3.2.1.7 Hedgerows (WL1) (Target Note 10)

Around the children's playground is a well-maintained and dense Hawthorn hedge between 1 and 1.5m in height.

### 3.2.1.8 Treelines (WL2) (Target Note 11)

The treeline along the southern edge of the car park is composed of Leyland Cypress and eucalyptus approximately 15m in height.

### 3.2.1.9 (Mixed) Conifer woodland (WD3) (Target Note 12)

This area is dominated by non-native conifers up to 10m in height, with some Sycamore and non-native broadleaved shrubs. It appears to be a domestic garden.

### 3.2.1.10 Conifer Plantation (WD4) (Target Note 13)

This small plantation comprises spruce trees approximately 5m in height.

### 3.2.1.11 14. Wet Grassland (GS4) (Target Note 14)

Two areas of grassland occur, which are tentatively classified as wet grassland. Neither is of good quality or of high species diversity. Both are dominated by common grass species such as Creeping Bent, Cock's-foot and Yorkshire-fog. The grassland on the island has been planted with saplings of exotic shrubs and a species of birch.

### 3.2.1.12 Buildings and artificial surfaces (BL3)

Tarmac pathways connect the viaduct, weir walkway, children's playground, car parks, public road, tennis courts and buildings.

### 3.2.1.13 Amenity grassland (improved) (GA2)

Large areas are present around the tennis courts and at the children's playground. Borders of paths are frequently (and recently) mown but not obviously treated with chemicals. The WWTP site itself (Target Note 15) appears to be regularly mown and comprises a mix of common grass species and common herbs such as Common Daisy, Creeping Buttercup and Common Dandelion.

### Ornamental / Non-native Shrub (WS3)

A number of domestic gardens in the area are classified under this habitat.

## 3.2.2 Fauna

The scrub and woodland areas support common breeding bird species. The intertidal areas had few birds present, however this would be expected at this time of year and it is considered likely that these areas are of some importance to waders, wildfowl, gulls and other species during spring and autumn migration and during the winter.

Kingfisher was observed on three occasions along the eastern shore and the bird (or birds) appeared to be coming and going from the small channel to the east of the main river, adjacent to the children's playground. It is considered likely that a nest is present along this channel. This is a Birds Directive Annex I species that is relatively scarce in West Cork.

A mammal path that is considered likely to be a badger path is present at the eastern end of the viaduct.

No otter signs or spraint were observed despite extensive searching, however the area has a highly complex shoreline that includes a very large number of potential suitable sprainting locations, so spraint would be easily overlooked. It is considered highly likely, that the wider area and cSAC supports a strong population of otter and it is possible that they transit the site or could be present in the vicinity. There was Common or Grey seals observed within the adjacent cSAC area or within sightlines of the survey area.

**Table 3-4 Bird Species Observed 28<sup>th</sup> May 2011**

Species	Scientific Name	Breeding Activity
Blackbird	<i>Turdus merula</i>	Confirmed breeding, several pairs present in all areas of scrub and woodland
Blue Tit	<i>Parus caeruleus</i>	Confirmed breeding several pairs present in all areas of scrub and woodland
Bullfinch	<i>Pyrrhula pyrrhula</i>	One pair present in eastern woodland area
Chaffinch	<i>Fringilla coelebs</i>	Several singing, present in all areas
Chiffchaff	<i>Phylloscopus collybita</i>	One singing in immature woodland area
Goldfinch	<i>Carduelis carduelis</i>	Two present, likely to be breeding in woodland areas
Great Black-backed Gull	<i>Larus marinus</i>	Several present, non-breeding visitors
Great Tit	<i>Parus major</i>	Confirmed breeding, several pairs likely to be present
Greenfinch	<i>Carduelis chloris</i>	Two present, likely to be breeding in woodland areas
Herring Gull	<i>Larus argentatus</i>	Several present, non-breeding visitors
Kingfisher	<i>Alcedo atthis</i>	Seen three times, considered likely to be breeding (see above)
Lesser Black-backed Gull	<i>Larus fuscus</i>	Several present, non-breeding visitors
Linnet	<i>Carduelis cannabina</i>	Two present, likely to be breeding in scrub areas
Mallard	<i>Anas platyrhynchos</i>	Two present, likely to be breeding in scrub areas.
Oystercatcher	<i>Haematopus ostralegus</i>	Two present on intertidal mud – probably breeds on islands within a few km
Robin	<i>Erithacus rubecula</i>	Breeding confirmed - present in several areas.
Sand Martin	<i>Riparia riparia</i>	Three present, probably breeding within a few km but not at site
Swallow	<i>Hirundo rustica</i>	Four present, probably breeding within one km but not at site
Swift	<i>Apus apus</i>	Four present, probably breeding in Ballydehob town

Species	Scientific Name	Breeding Activity
Willow Warbler	<i>Phylloscopus trochilus</i>	One singing in immature woodland area
Whimbrel	<i>Numenius phaeopus</i>	One present on intertidal mud – migrant non-breeder
Wren	<i>Troglodytes troglodytes</i>	Several singing, likely to be breeding throughout area

**Table 3-5 Flowering Plant Species observed 28<sup>th</sup> May 2011**

Common Name	Scientific Name
Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
Box	<i>Buxus</i> sp.
Bramble	<i>Rubus fruticosus</i> agg.
Cock's-foot	<i>Dactylis glomerata</i>
Common Daisy	<i>Bellis perennis</i>
Common Dandelion	<i>Taraxicum officinale</i>
Common Gorse	<i>Ulex europaeus</i>
Common Scurveygrass	<i>Cochliaria officinalis</i>
Creeping Bent	<i>Agrostis stolonifera</i>
Creeping Buttercup	<i>Ranunculus repens</i>
Downy Birch	<i>Betula pubescens</i>
Elder	<i>Sambucus nigra</i>
Eucalyptus	<i>Eucalyptus</i> sp.
Grey Willow	<i>Salix cinerea</i>
Hawthorn	<i>Crataegus monogyna</i>
Leyland Cypress	<i>Cupressocyparis leylandii</i>
Red Fescue	<i>Festuca rubra</i>
Saltmarsh Rush	<i>Juncus gerardii</i>
Scot's Pine	<i>P:inus sylvestris</i>
Sea Plantain	<i>Plantago maritima</i>
Spruce	<i>Picea</i> sp.
Sycamore	<i>Acer pseudoplatanus</i>
Thrift	<i>Armerai maritima</i>
Yorkshire-fog	<i>Holcus lanatus</i>

## 4 EXISTING AND PROPOSED DEVELOPMENT

### 4.1 EXISTING SYSTEM

The existing treatment plant at Ballydehob was designed to serve a population equivalent (PE) of 700. The plant receives mainly domestic and commercial wastewater as there is no industrial activity in the village. The WwTP currently treats wastewater from a PE of 495 (167 commercial and 328 domestic).

The existing sewerage scheme in Ballydehob consists of a combined foul and storm water system. Combined flows from the eastern end of the collection system fall by gravity to a pumping station, while flows from the western area of the collection system flow by gravity directly to the existing septic tank for treatment. The rising main from the pumping station connects to the gravity system from the western area.

There are two stormwater over flows on the partially separate system. One is located at the pumping station while the other is located just upstream of the septic tank.

There are three existing dedicated storm sewers in the town. One is a 225 mm diameter system which outfalls just upstream of the bridge on the Skibbereen Road. Another is a 300 mm diameter sewer which runs from the western end of the town and outfalls to a stream at the top of Main Street. Thirdly, a box culvert system runs parallel to Main Street, at the back of the houses on the northern side of the street. This flows to an open channel section, which is then piped in a 225 mm diameter sewer to the estuary.

#### 4.1.1 Treatment Plant

The present treatment system in Ballydehob is a primary treatment plant (septic tank) situated adjacent to Ballydehob Bay see Figure 1.1 above. Built in the mid 1980's with a capacity of 143m<sup>3</sup>, it was originally designed for a PE of 700. Treated effluent from the septic tank outfalls to Ballydehob Bay via an existing outfall pipe approximately 200m south of the septic tank.

It has been recommended that the existing treatment system be upgraded to cater for the increased design P.E. and to protect water quality in Ballydehob Bay (Preliminary Report, RPS,2007).

#### 4.1.2 Deficiencies in the Existing System

From the investigation of the existing system the following deficiencies were identified:

The sewerage network is mostly a combined system as described above. During rainfall events there are significant volumes of storm run off entering the sewers, causing the storm water overflows in the system to be activated regularly. Some of the recently constructed housing estates have separate systems, therefore reducing the storm water flows in the system.

From the CCTV survey it was found that large proportions of the existing sewers are in poor condition and are in need of replacement.



The sewer network has inadequate capacity to cater for existing and future flows. The results of the simulation models of the existing sewerage system with existing and future flows (Preliminary Report, RPS, 2007) show widespread surcharging, flood risk and flooding under a 2 year return period storm. BS EN 752-2 recommends that no surcharging should occur for a 2 year return period storm and no flooding for a 20 year return period storm for residential areas.

The box culvert and pipe system north of Main Street has a history of flooding. Upgrading of the existing system is difficult due to the route which is through private property for the most part. Also the existing screen at the upstream end of the system is inadequate. A poor gradient in the sewer behind the Community Hall (upstream of the septic tank) is resulting in sedimentation and blockages.

## 4.2 PROPOSED WORKS

### 4.2.1 Treatment Plant –Construction Phase

The proposed WwTP will require the installation of a package treatment plant (incorporating both primary/secondary treatment) with the provision of additional treatment in the form of UV or similar prior to discharge to Roaringwater Bay to achieve a final effluent of 25mg/l BOD; 35mg/l SS; 125mg/l COD in accordance with the Urban Waste Water Treatment Regulations, 2001 (S.I No 254 of 2001). The proposed upgraded WwTP Site Layout plans are provided in Figure 4.1 below.

The existing treatment plant site will be retained and that the existing infrastructure will be incorporated into the proposed treatment works. The construction of a package treatment plant on a small footprint would be compatible with providing treatment on the existing site.

The proposed upgrade works will include the following;

- An inlet screen shall be provided to ensure that the pumps are protected from ragging,
- New pumping station to be provided with new macerator pumps capable of discharging a flow rate of 3 DWF (4.2m<sup>3</sup>/hr) to the package plant treatment system. A valve chamber will be installed adjacent to the pumping station with shutoff and non return valves,
- The WWTP treatment plant shall be a package plant with primary and secondary treatment. The secondary treatment process will be aeration process,
- Tertiary Treatment in the form of coliform and pathogen removal is required to meet the requirement of the PRP for Roaringwater Bay. The system will comprise a UV disinfection system,
- Inflows in excess of 3 DWF (i.e. 3 times the dry weather flow) entering the pumping station will overflow in the storm holding tank (converted old septic tank), where there is 97m<sup>3</sup> available for storage of the stormwater. This allows 80 litres per population equivalent for storage and results on a dilution factor greater than 2 on the overflow and complies with the Department of the Environment Community and Local Government publication "Procedures and Criteria in Relation to Storm Water Overflows".
- After the storm event stored stormwater will be returned to the inlet pumping station and pumped for treatment. As can be seen from the above the old septic will be decommissioned and the structure incorporated into the new treatment works.
- The site will then be graded, surfaced and landscaped in accordance with the layout drawings included in Appendix C of the Preliminary Report prepared by RPS in 2007.

The proposed works will give rise to some temporary nuisances associated with construction traffic, construction noise, soiling of roads, visual impact and runoff to Ballydehob Bay during the works. Any potential impacts will be reduced by adopting good working practices including effective programming of construction activities and implementation of measures to minimise dust and soiling of roads, etc. A construction stage waste management plan and a traffic and environmental plan will be prepared and will be required to be implemented.

The existing septic tank will continue to operate during the construction to ensure that primary treatment is provided until the new works is commissioned.

The use of hazardous materials will be minimised during the construction process and precautions will be taken to ensure that there are no spillages or silt discharges which may impact on the water quality of Ballydehob Bay.

Upgrading works will be carried out on a phased basis to ensure that wastewater is treated properly before discharge throughout the duration of the works.

Water pollution prevention measures should be implemented during construction in accordance with best practice and reference should be made to the following literature;

- Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. North Western Regional Fisheries Board,
- CIRIA (Construction Industry Research and Information Association) guidance on 'Control of Water Pollution from Linear Construction Projects' (CIRIA Report No. C648, 2006), and
- Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites. EPA 833-R-060-04 May 2007.

#### 4.2.2 Proposed Development – Operational Phase

During the operation of the proposed development, the level of wastewater treatment proposed will be in compliance with the EU Surface Water Regulations 2009 (S.I. No. 272 of 2009) and the Urban Wastewater Treatment Regulations ( S.I. 254 of 2001). The treatment plant will be designed to meet stringent quality standards in the final effluent in order to comply with the requirements of the Roaringwater Bay Pollution Reduction Programme.

These standards have been derived from waste assimilative capacity calculations completed for the upgrade and are detailed in **Table 4.1** below.

**Table 4.1 WwTP – Proposed Discharge Standards**

Parameter	Proposed Discharge Standards
BOD <sub>5</sub> (mg/l)	20
SS (mg/l)	30
COD (mg/l)	125
Total Ammonia (mg N/l)	20
Total Coliforms	99.99% Removal

Any overflow from the existing WwTP will be discharged into Ballydehob Bay via the existing final effluent outfall pipeline.

The plant will have a remote monitoring alarm system to alert the plant operator in the event of a breakdown. A connection will be provided to allow the use of an emergency generator during power cuts.

The plant will be operated by Cork County Council. The operation and maintenance of the plant will involve monitoring of final effluent quality, noise, odour and other parameters.

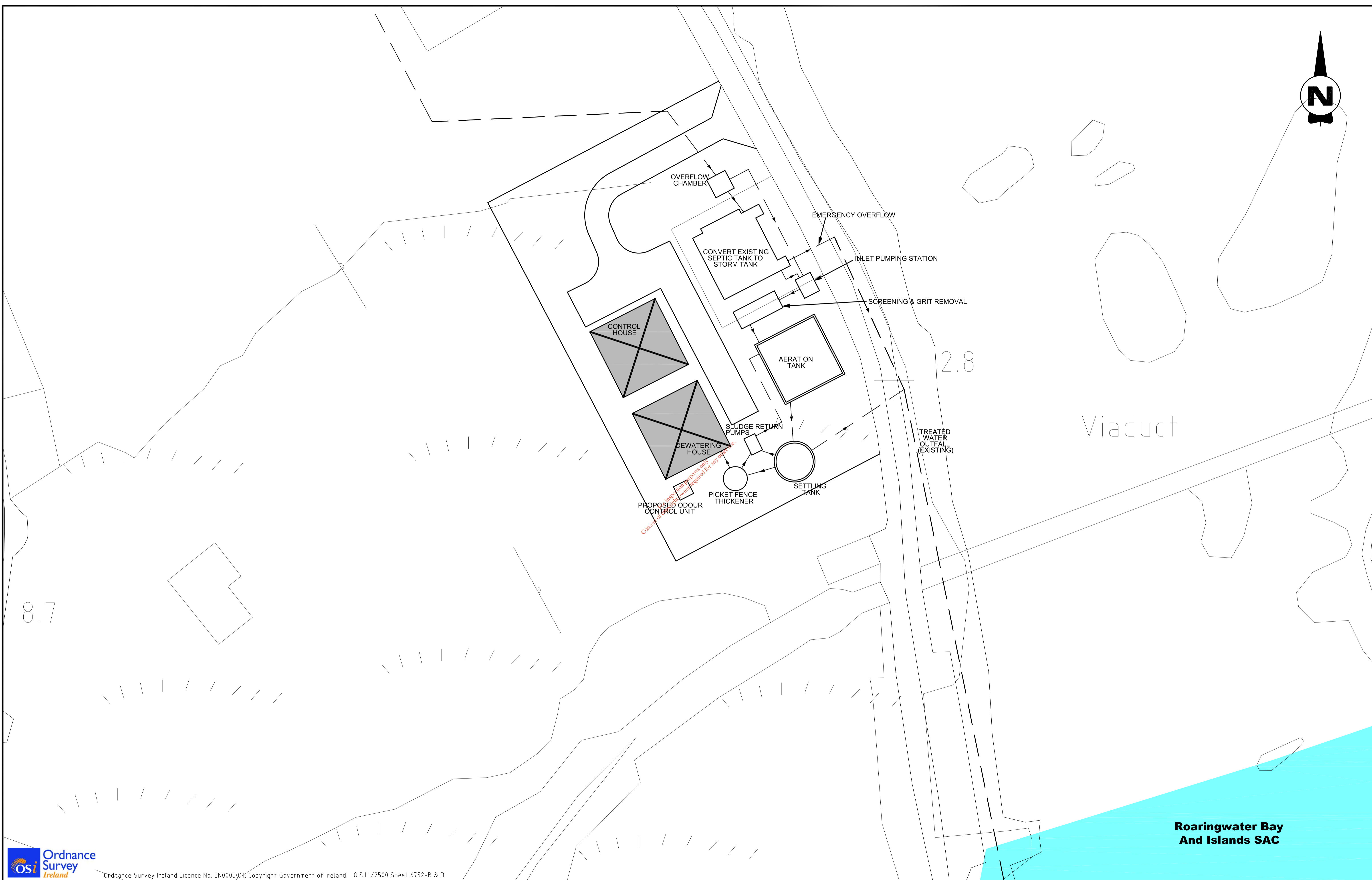
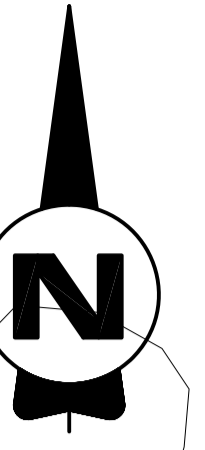
The proposed discharge after upgrade will be an improvement on the current discharge parameters


Figure 4.1 below provides an overview of the proposed upgrade to the WwTP.

#### **4.2.3 Other Plans and Projects in the Area**

In accordance with the EU guidance document on Appropriate Assessment, "Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites", other plans and projects in the area must be considered in addition to the site for the proposed development at the screening stage. This is required in order to identify any possible cumulative or in-combination impacts of the proposed development with other plans or developments on the relevant Natura 2000 sites. These plans and projects are considered further in this respect in Table 4.2.

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No.	Date	By	App.	Amendment / Issue
D01	June 11	TH	KPoS	DRAFT ISSUE

Project:

**BALLYDEHOB SEWERAGE SCHEME PRELIMINARY REPORT**

Title:

**PROPOSED SITE LOCATION AND cSAC**

**FIGURE 4.1**

Drawn by:	JM - TH	Job No:	MCW0681
Checked by:	TC	File No:	MCW0681DG0002
Approved by:	KPoS	Drg. No:	<b>02</b>
Scale:	1:250	Rev:	D01
Date:	June, 2011		

Table 4.2 Potential In-Combination Effects of Other Plans and Projects

Name of Project or Plan	Key Policies/Issues/Objectives Directly Related To The Roaringwater Bay cSAC	Impact on the qualifying features of the cSAC
<b>Land Use Plans</b>		
<b>Cork County Development Plan 2009-2015</b>	<ul style="list-style-type: none"> <li>• Water Supplies &amp; Wastewater Disposal Objectives</li> <li>• Natural Environment Objectives</li> <li>• Objectives for Nature Conservation Sites</li> <li>• Objectives for Management of Sensitive Sites</li> </ul>	Positive Impact
<b>Draft Bantry Electoral Area Local Area Plan April 2011</b>	<p><b>2.2.16 of the Draft Plan recognises that</b> in Ballydehob the wastewater currently receives only primary treatment (septic tank). The EPA require that secondary treatment is provided at minimum so there can be considered to be no effective capacity in the system to accommodate new development. No plans exist for upgrading of wastewater infrastructure within the current WSIP. Due to the presence of 'shellfish designated areas' in the bay it is likely that tertiary treatment will now be required.</p> <p><b>Policy</b></p> <p>DB-01 (b) In order to secure the population growth and supporting development proposed in DB-01 (a) appropriate and sustainable water and wastewater infrastructure, that will help secure the objectives of the relevant River Basin Management Plan and where applicable the protection of Natura 2000 sites, needs to be provided in tandem with the development.</p> <p><b>O-01</b> -Open Space to be protected for visual amenity and scenic qualities including the protection of Ballydehob Bay and to protect the setting of the village. Parts of the site area at risk of flooding. Any development proposals on this site will normally be accompanied by a flood risk assessment that complies with Chapter 5 of the Ministerial Guidelines "The Planning System and Flood Risk Management" as described in Objectives FD 1-4, 1-5 and 1-6 in Section 1 of the Plan.</p>	Potentially Positive Impact
<b>Water and Nature Conservation Management Plans</b>		
<b>NPWS Conservation Management Plans</b>	Conservation Management Plans for the Roaringwater Bay cSAC/pNHA has not yet been published by the NPWS.	No Impact

<b>South Western RBD Management Plan</b>	<p>The South Western RBD Management Plan published in July 2010 sets out a number of objectives and measures for all water bodies in the western catchment. The following applies to Roaringwater Bay cSAC/pNHA.</p> <p>Objectives: Ensure that the status of waters supporting protected areas is protected and (where necessary) improved by 2015.</p>	Positive Impact
<b>Licenced Activities</b>		
<b>IPPC and Waste Licence Activities</b>	There are no IPPC or Waste Licence holders discharging to Roaringwater Bay in the vicinity of Ballydehob Bay.	No Impact
<b>Local Authority Discharge</b>	The local authority discharge licence applications from Baltimore WWTP discharges to Roaringwater Bay to the east and Schull WWTP to the bay to the west.	Potentially Negative Impact
<b>Local Development</b>		
<b>Local Planning Applications</b>	<p>A search of the planning applications on Cork County Councils planning website was completed. The area considered included sites in close proximity to WWTP and within close proximity to Ballydehob Bay. The planning applications that have been successful and those that are currently under consideration were analysed.</p> <p>In 2006 one application opposite the site across the Ballydehob Bay:</p> <ul style="list-style-type: none"> <li>- 053119– Modification to dwellinghouse comprising of first floor extension over existing single storey extension, new 2 storey extension and alterations to elevations and provision of self contained granny flat.</li> </ul> <p>In 2007 one application to the north of the WwTP :</p> <ul style="list-style-type: none"> <li>- 071617– Alteration to elevation of community hall (new door).</li> </ul> <p>In 2007 one application to the north of the WwTP :</p> <ul style="list-style-type: none"> <li>- 071617– Alteration to elevation of community hall (new door).</li> </ul> <p>In 2009 one application to the north of the site adjacent to the road bridge</p> <ul style="list-style-type: none"> <li>- 082242– Demolition of an existing store and construction of dwelling house and all associated site work</li> </ul> <p>In 2011 one application was made to the south east of the site:</p> <ul style="list-style-type: none"> <li>- 11332 – Erection of extension and associated site works at Sciol Bhríde.</li> </ul> <p>Due to the nature, small scale and distance from the bay of these proposed plans, it is not considered likely that they will have a significant impact on the Natura 2000 site.</p>	<p>No Impact</p> <p>No Impact</p>

## 5 ASSESSMENT

### 5.1 ASSESSMENT CRITERIA

#### 5.1.1 Elements of the project likely to give rise to impacts on the Natura 2000 site

It is proposed to construct a new treatment plant, which will consist of preliminary and secondary treatment or their equivalent, to achieve a final effluent of 25mg/l BOD; 35mg/l SS; 125mg/l COD in accordance with the Urban Waste Water Treatment Regulations, 2001 (S.I No 254 of 2001). The existing treatment plant site will be retained and the existing infrastructure will be incorporated into the proposed treatment works.

The purpose of the new treatment plant is to provide for:

- (a) Treatment of flows from the foul/combined collection system to the standards outlined in Section 4.2.2
- (b) Retention of storm flows with return for treatment as described in Section 4.2.1.

The attenuated water will then be discharged to Ballydehob Bay which forms part of Roaringwater Bay cSAC.

#### 5.1.2 Direct, Indirect or Secondary Impacts

The proposed development is not directly connected or necessary to the management of the Natura 2000 sites. However, in the initial screening of impacts, a number of potential impacts have been identified as summarised in **Table 5.1 and 5.2 below**. These include:

- Proximity of the proposed constructed treatment plant to the cSAC;
- Potential run-off to Ballydehob Bay (part of Roaringwater Bay cSAC) from the construction phase (increased sediment, alteration of local hydrology) giving potential to alter existing water quality; and
- During the operational phase there will be discharge of attenuated storm water and treated effluent to Ballydehob Bay. This may result in increased nutrients which may impact on the ecology of the area.

**Table 5.1 Potential Significant Impacts on Roaringwater Bay cSAC from the Proposed Development**

Potential Impact	Roaringwater Bay cSAC
<b>Direct Impacts</b>	The proposed modifications to the exiting plant are situated on the current WwTP site which is outside the cSAC therefore there will be no direct impacts.
<b>Indirect/Secondary</b>	Potential temporary negative impacts to water quality during construction of the treatment plant. Short term noise and physical presence during construction Long term positive impacts to water quality
<b>Land-Take</b>	The Proposed development is not within the Roaringwater Bay cSAC, therefore, it will not impact (directly, indirectly or secondary) on the site in this regard.
<b>Resource Requirements (extraction and use of natural resources such as water abstraction etc.);</b>	Abstraction for water or other natural resources are not part of this project. Therefore - No impact on qualifying feature
<b>Emissions (disposal of wastes to land, water or air)</b>	Potential negative impacts during construction, however, long-term positive impact during the operation of the constructed WWTP
<b>Excavation Requirements</b>	The excavation of material during construction will not have a significant impact on the qualifying features of the site
<b>Transportation Requirements as part of the construction process</b>	No impact on qualifying feature as a result of the transport requirements of the construction process
<b>Duration of Construction, Operation, Decommissioning</b>	Potential negative impacts during construction, however positive impacts from the operation of the upgraded WwTP

### 5.1.3 Potential Significant Impacts to cSAC

The likely changes that will arise from the proposed development have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 sites (**Table 5.2**).



**Table 5.2 Likely Changes to Natura 2000 sites**

Site Name	Reduction of 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
Roaring Water Bay cSAC )	<p>None</p> <p>The proposed modifications to the exiting plant are situated on the current WwTP site which is outside the cSAC</p> <p>Treated effluent will be discharged to a large water body where dilution and dispersion potential is high.</p>	Potential for both positive (operational phase) and negative impact (construction phase).	None	None	Potential positive impact	None

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The likely impacts that will arise from the construction and operation of the proposed development have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 network (**Table 5.2**). The table shows that the proposed upgrade to the treatment plant: is not directly connected with or necessary to the management of a Natura 2000 site however it may have significant indirect effects on Roarnigwater Bay cSAC Natura 2000 site.

## **5.2 POTENTIAL INDIRECT EFFECTS FROM THE PROPOSED DEVELOPMENT**

### **5.2.1 General**

An analysis of assessment typically requires the identification of the type and magnitude of potential impacts; direct and indirect; short and long term; construction, operational and decommissioning effects; and isolated, interactive and cumulative effects. In this instance the assessment requires the identification of the construction and operation related impacts on the cSAC.

The potential significant impacts of the construction and operation of the proposed development will be:

- Accidental pollution of watercourses with suspended solids due to runoff of soil from construction phase;
- Accidental pollution of watercourses with other substances such as fuels, lubricants, waste concrete, waste water from site toilet and wash facilities, etc.;
- Physical presence and noise generated as part of construction process; and
- During the operational phase there will be discharge of attenuated storm water and treated effluent to Ballydehob Bay and Roaringwater Bay cSAC. It is anticipated that the discharge from the upgraded treatment plant will be of a quality (compliance with the EU Surface Water Regulations 2009 (S.I. No. 272 of 2009) and the Urban Wastewater Treatment Regulations (S.I. 254 of 2001)) that will not impact negatively on the current water quality of the Roaringwater Bay cSAC and will when compared to the existing situation have a positive direct impact on the cSAC.

### **5.2.2 Construction Impacts**

#### **5.2.2.1 Pollution with suspended solids**

Potential impacts from suspended sediment due to runoff of soil from construction areas can have severe negative impacts on invertebrate and plant life and on all life stages of fish. In addition the following can affect the ecology of the rivers/ streams:

- Suspended sediment can reduce water clarity and visibility in the stream, impairing the ability of fish to find food items; and
- Settled sediments can smother and displace aquatic organisms such as macroinvertebrates, reducing the amount of food items available to fish.

### 5.2.2.2 Pollution with other substances associated with the construction process

The potential exists for a range of serious pollutants to enter watercourses during the WwTP upgrade construction. For example any of the following will have deleterious effects on fish, plants and invertebrates if allowed to enter watercourses.

- Raw or uncured concrete and grouts;
- Wash down water from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks;
- Fuels, lubricants and hydraulic fluids for equipment used on the development site;
- Bitumen and silanes used for waterproofing concrete surfaces;
- Waste from on site toilet and wash facilities; and
- Litter.

### 5.2.2.3 Physical presence and noise associated with the construction process

The potential exists for minor impacts to species within the cSAC relating to the presence of the construction and associated noise. These can have deleterious effects on the behaviour of susceptible fish, birds and mammals

- Physical presence and / or noise on site cause avoidance of the area; and
- Physical presence and / or noise on site causing interference with normal behaviour.

## 5.2.3 Operational Impacts

### 5.2.3.1 Improved water quality

The current damaging activities and main threats to Ballydehob Bay and Roaringwater Bay cSAC are from the inputs of high nutrient loads to the system, which has resulted in its degraded water quality. The input of excess nutrients is from both diffuse and point sources; the spreading of slurry and fertiliser in the catchment, together with sewage effluent which has not been properly treated.

The water quality of Roaringwater Bay remains vulnerable and is currently classified as Moderate Status which is At Risk of not Achieving Good Status by 2015 (as per the requirements of the Water Framework Directive). However, good water quality is necessary to maintain the populations of the Annex II species for which the site is designated. This good water quality is dependent on controlling both the fertilisation of the grasslands and requires that sewage be properly treated before discharge. The proposed Sewerage Scheme will significantly reduce the nutrient loads entering Ballydehob Bay and Roaringwater Bay cSAC and therefore is likely to improve the water quality of this system. This improvement of water quality is necessary to sustain the populations of Annex II species for which the site has been designated.

### 5.3 IMPACT PREDICTION

These impacts have been described in detail in the previous sections and are summarised in **Table 5.3 below**.

Note that the table describes impacts in the absence of mitigation. Mitigation measures that avoid, reduce/minimise or remediate the significance of the potential impact are outlined in **Section 6**.

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**Table 5.3: Summary of Impacts on the Qualifying Features of the Roaringwater Bay cSAC**

<b>Qualifying Feature Annex I Habitats &amp; Annex II Species</b>	<b>Direct (isolated, interactive, cumulative, short-term, long- term)</b>	<b>Indirect (isolated, interactive, cumulative, short-term, long-term)</b>
Large Shallows inlets and bays	No direct effects predicted.	Deterioration of water quality can affect flora and fauna within the bay
Reefs	No direct effects predicted.	No indirect effects predicted as none occur in the vicinity of the site
Vegetated Sea Cliffs of the Atlantic and Baltic Coasts	No direct effects predicted.	No indirect effects predicted as none occur in the vicinity of the site
European Dry Heaths	No direct effects predicted.	No indirect effects predicted as none occur in the vicinity of the site
Submerged or partially submerged sea caves	No direct effects predicted.	None occur in the vicinity of the site. Caves are susceptible to collection of flotsam and litter due to the hydrodynamics of the habitat.
Grey Seal	No direct effects predicted	Indirect effects may occur during the construction phases due to physical presence and noise. Deterioration of water quality can impact species and prey
Harbour Porpoise	No direct effects predicted	Deterioration of water quality can impact species and prey
Otter	No direct effects predicted.	Potential short term indirect effects during the construction stage. Physical presence may impact otter behaviour. Deterioration of water quality can impact species and prey

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## 6 MITIGATION MEASURES

### 6.1 GENERAL

Where a likely significant adverse effect has been identified during an Natura Impact Assessment or cannot conclusively be ruled out, it may be possible to proceed with a proposal where mitigation measures can be implemented to address the adverse effect. Measures have been included in the design of the proposed development to ensure that the adverse impacts identified will be mitigated.

### 6.2 MITIGATION OF THE POTENTIAL IMPACT DURING CONSTRUCTION

#### 6.2.1 Reduction and Prevention of Suspended Solids Pollution

As the Ballydehob Bay is directly connected to the cSAC, measures will be put in place to ensure that no significant impact on the cSAC is caused by suspended solids. Discharges to watercourses shall therefore not exceed 25mg/l of total suspended solids. The key factors in erosion and sediment control for land based works are to intercept and manage runoff. This limits the potential for soils to be eroded and enter streams in runoff. Runoff and surface erosion control is more effective and less expensive than sediment control with sediment control ponds only. The following general guidelines for erosion and sediment control are largely based on Goldman *et al* (1986). They will be adhered to where possible during construction of the Proposed Development.

- i. Schedule development close to sensitive watercourses to minimise risk of potential erosion by, where possible, planning construction activities during drier months, halting construction during periods of heavy precipitation and run-off to minimise soil disturbance, and restrict vehicular and equipment access or provide working surfaces/pads.
- ii. Retain existing vegetation where possible and physically mark clearing boundaries on the construction site.
- iii. Re-vegetate denuded areas, particularly cut and fill slopes and disturbed slopes as soon as possible. Use mulches or other organic stabilisers to minimise erosion until vegetation is established on sensitive soils.
- iv. Cover temporary fills or stockpiles which are likely to erode into nearby watercourses with polyethylene sheeting.
- v. Divert runoff away from denuded areas.
- vi. Minimise the length and steepness of slopes where possible.
- vii. Minimise runoff velocities and erosive energy by maximising the lengths of flow paths for precipitation runoff, constructing interceptor ditches and channels with low gradients to minimise secondary erosion and transport, and lining unavoidably steep interceptors or conveyance ditches with filter fabric, rock or polyethylene lining to prevent channel erosion.
- viii. Retain sediments on site with erosion and sediment control structures such as sediment traps, silt fences and sediment control ponds.
- ix. It is important that at the planning stage provision is made for a sufficient land area to accommodate the necessary sediment control measures.
- x. Develop and implement a construction management plan that includes control of all sediment onsite.

A method statement should be agreed in advance with Inland Fisheries Ireland and the National Parks & Wildlife Service to ensure that significant contamination of Roaringwater Bay is prevented.

Works with a risk of significant suspended solids contamination of Roaringwater Bay should not be carried out between the end of September and the end of April unless otherwise agreed with Inland Fisheries Ireland.

### **6.2.2 Reduction or Elimination of Pollution with other Substances Associated with the Construction Process**

Where the construction site is close to a watercourse, the following guidelines based on Chilibeck *et al* (1992), NRA (2005) and SRFB (2007) shall be followed:

- i. Raw or uncured waste concrete should be disposed of by removal from the site or by burial on the site in a location and in a manner that shall not impact on the watercourse.
- ii. Wash down water from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks should be trapped on-site to allow sediment to settle out and reach neutral pH before clarified water is released to the stream or drain system or allowed to percolate into the ground.
- iii. Fuels, lubricants and hydraulic fluids for equipment used on the construction site shall be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to current best practice (Enterprise Ireland BPGCS005).
- iv. Fuelling and lubrication of equipment shall not be carried out on sites close to water courses.
- v. Any spillage of fuels, lubricants or hydraulic oils shall be immediately contained and the contaminated soil removed from the site and properly disposed of.
- vi. Oil booms and oil soakage pads shall be kept on site to deal with any accidental spillage.
- vii. Waste oils and hydraulic fluids shall be collected in leak-proof containers and removed from the site for disposal or re-cycling.
- viii. All pumps using fuel or containing oil shall be locally and securely bunded when situated within 25m of waters or when sited such that taking account of gradient and ground conditions there is the possibility of discharge to waters.
- ix. Develop and implement a construction management plan that includes control of all substances and litter onsite.

### **6.2.3 Mitigation of Other Impacts**

In relation to physical presence and noise, mitigation should be taken to reduce these as far as possible.

- i. Works should be scheduled, as far as possible, outside sensitive periods for breeding and moulting;
- ii. Works should be scheduled to minimise the length of construction time;
- iii. No significant construction noise generation (blasting etc) is anticipated for this construction; and
- iv. Particular attention should be paid at dawn and dusk to observe for otter on site and ensure avoidance.

## 7 CONCLUSIONS

### 7.1 HABITAT DIRECTIVE ASSESSMENT CONCLUSIONS

The construction works will be undertaken outside the boundary of the Natura 2000 site. As the work is predominantly in the terrestrial environment and suitable mitigation has been outlined for any bank works no significant impacts are anticipated. The works are anticipated to be of a short duration and relatively minor in extent. The only possible residual effect of the proposed works will be an improvement of water quality within the Natura 2000 site, and therefore the works will have an overall positive impact on the Natura 2000 site.

### 7.2 EUROPEAN PROTECTED SPECIES (HABITAT DIRECTIVE ANNEX IV SPECIES) SCREENING CONCLUSIONS

Under the Habitats Directive (and the European Communities (Natural Habitats) Regulations 1997 and Wildlife (Amendment) Act 1976 & 2000), specific species, which includes all marine mammals, are prohibited from the deliberate capture, killing, injury or disturbance.

Otter (*Lutra lutra*) are an Annex IV species and are likely to be present along the coast adjacent to the construction area (Yoxon, 2008). However, a site walkover in May 2011 revealed no evidence of spraint or other indicators of otter usage of the site. Short term avoidance may occur if otter are currently transiting the site. Care should be taken at dawn and dusk to observe for the species.

Grey Seals and Harbour Seals are protected under Annex II of EC Habitats Directive and the protected species of Wildlife (Amendment) Act. There are no known breeding sites in the immediate vicinity of the construction site. The nearest site known to be used by seals is approximately 3km to the south of the site on the sandier banks of the SAC out of line of sight of the construction site. Where possible construction works will occur outside the sensitive pupping and moulting seasons.



## 8 BIBLIOGRAPHY

EC (2000b) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg.

EC (2001) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg.

EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission, Office for Official Publications of the European Communities, Luxembourg.

Luker & Montague 1994 CIRIA Report No. 142.

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