



OFFICE OF CLIMATE, LICENSING, RESOURCES & RESEARCH

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director
From:	Suzanne Wylde, Donal Grant, Gavin Clabby, Breen Higgins & Eimer Godsil Environmental Licensing Programme
Date:	9 th January 2015
RE:	Application for a Waste Water Discharge Licence from Irish Water, for the agglomeration named Belgooly, Reg. No. D0541-01.

Application & Agglomeration Details

Agglomeration Name:	Belgooly (Appendix 1)
County:	Cork
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 1,001 to 2,000.
Licence application received:	21/08/2012
Notices under Regulation 18(3)(b) ¹ issued:	03/10/2013
Information under Regulation 18(3)(b) received:	08/11/2013
Site notice check:	19/09/2012
Site Visit:	10/10/2014
Submission(s) Received:	1 (30/10/2012)
Design Population Equivalent:	1,000
Actual Population Equivalent:	1,500
Type of treatment:	Tertiary
Plant description:	The plant consists of rotating biological contactors (RBCs). The network is divided, with one primary and two secondary discharges to the environment. UV treatment is on-site but is not operational.

¹ Wastewater Discharge (Authorisation) Regulations, 2007, as amended.

1. Discharges to waters

The following table outlines the main considerations in relation to discharges to waters from this agglomeration.

Table 1: Discharges to waters

Primary discharge point	
Receiving water name	Stick River
Type of receiving water	Freshwater
Normal flow	112.5m ³ /day
Maximum flow	180 m ³ /day
Secondary discharge point	
Receiving water name	Ballindeenisk River
Type of receiving water(s)	Freshwater
Normal flow	3.375 m ³ /day
Maximum flow	10.125 m ³ /day
Secondary discharge point	
Receiving water name	Oysterhaven
Type of receiving water(s)	Transitional
Normal flow	60 m ³ /day
Maximum flow	83 m ³ /day
Storm water overflow(s)	
Storm water overflow(s)	No
Emergency overflow(s)	
Emergency overflow(s)	No

Schedule A: Discharges & Discharge Monitoring of the recommended licence (RL) specifies the Emission Limit Values (ELVs) to which the discharge from the Belgooly agglomeration must conform. Monitoring of the discharges will take place as per this schedule of the RL.

2. Receiving waters and impact

The following table summarises the main considerations in relation to the primary and secondary discharges for Stick River, the Ballindeelisk River and Oysterhaven Estuary.

Table 2: Receiving waters

Characteristic	Classification	Comment
Receiving water name	Stick River	WFD Code: IE_SW_20_2214
	Ballindeenisk River	WFD Code: IE_SW_20_0100
	Oysterhaven Estuary	WFD Code: IE_SW_070_2216
Designations	Sovereign Islands SPA	SPA (Site code: 4124), ~8km d/s of the discharges
	Oysterhaven shellfish area	~3.5km d/s of the discharges
Receiving water monitoring stations for the primary discharge	Aghafantaun Bridge (EPA RS Code: RS20S030800)	630m u/s of SW001 on Stick River
	Transitional ambient monitoring point TW05003164OY1001	2.3km d/s of SW001 on Stick River
Water quality rating (Q value)	Stick River - Q4 (2012)	650m u/s of WWTP on Stick River
	Oysterhaven - Potentially eutrophic (2010-2012) (extrapolated)	Oysterhaven transitional waterbody 350m d/s of SW001
WFD status	Good (2011)	Restore 2021
WFD Risk Category	Stick River 2b - (2008)	Strongly expected to achieve good status
	Ballindeenisk - River 1a (2008)	At risk at not achieving good status
	Oysterhaven 2b (2008)	Strongly expected to achieve good status

The Bandon-Stick Water Management Unit Action Plan (WMUAP) identifies the WWTP in Belgooly as a point pressure on the River Stick catchment. The Office of Environmental Assessment (OEA) has currently assigned 'good' status to the receiving waterbody (Stick River).

The applicant carried out upstream ambient monitoring (at Aghafantaun Bridge) for 2012. The monitoring was for Q-value only, and not for physico-chemical parameters. However, this monitoring shows the water quality rating is at this point in the river is Q4, which is indicative of 'good' status. There is no downstream river monitoring. The next available monitoring point is in the transitional monitoring point TW05003164OY1001; No monitoring data is available for this point. However, for the purposes of trophic status, the OEA currently assigns the wider Oysterhaven transitional waterbody with an extrapolated value 'Potentially Eutrophic'.

Table 3: Mass Balance Calculations.

Parameter	Notional Clean River Values ^{Note 1}	Proposed ELVs for discharge from SW001 (mg/l)	Contribution from primary discharge (mg/l)	Predicted downstream concentration (mg/l)	Relevant standard (mg/l)
BOD	0.26	25	0.66	0.91	2.6 ^{Note 2}
Orthophosphate	0.005	1	0.026	0.031	0.075 ^{Note 2}
Total Ammonia	0.008	3	0.079	0.087	0.14 ^{Note 2}

Note 1: Notional clean river values for AC based on 1/5th of the mean "High Status" standard in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

Note 2: European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

The 'notional clean river' approach (formulated by the Office of Environmental Assessment) has been taken, whereby other sources of upstream pollution will be dealt with separately. The purpose of the mass balance calculations is to show the impact of the discharge with respect to water quality standards. The sources which give rise to the background concentrations are outside the control of this licence. The South Western River Basin Management Plan and the Bandon-Stick Water Management Unit Action Plan provide details of recommendations and planned measures to reduce pollution in water courses. The mass balance calculations are based on the 95th percentile flow in the receiving water (0.096 m³/s), the notional clean river background concentrations, the normal effluent discharge rate and the maximum concentration of the parameter in the effluent (Table 3).

The RL has set ELVs, for the primary and secondary discharges, of 25 mg/l for cBOD, 125 mg/l for chemical oxygen demand (COD) and 35 mg/l for suspended solids (SS), which apply from date of grant of licence. The limits are set based on the ELVs set in the Urban Waste Water Treatment Regulations, as amended, and are in accordance with Surface Waters Regulations. The WWTP currently has an overloaded treatment system (rotating biological contactors), which, as the applicant's discharge monitoring indicates, may have intermittent difficulty in achieving these standards set for BOD, COD and SS in the discharge. Condition 3.4 of the RL requires that the licensee to take such measures as are necessary to ensure that no deterioration in the quality of the receiving waters shall occur as a result of the discharge.

The RL also sets ELVs for the primary discharge, of orthophosphate (1 mg/l) and ammonia (3 mg/l). These limits are based on the requirements of the Surface Waters Regulations and the Water Framework Directive and accordingly, the RL requires that the proposed limits will apply from the 31st December 2019.

The achievement of the proposed limits for ammonia and orthophosphate limit is considered to be beyond the current system's ability.

The RL requires the licensee to ensure the necessary improvement works to meet the proposed ELVs are completed at the WWTP by the 31st December 2019. The RL also requires the cessation of the secondary discharges by the 31st December 2019, as well as the improvement of the treatment capacity of the waste water works. This deadline is in line with the Water Framework Directive objective for the receiving waterbody (2021).

Oysterhaven Shellfish Area

The Oysterhaven shellfish area is located 4km downstream from the primary and secondary discharge points. The Oysterhaven Pollution Reduction Programme (PRP) does not list the Belgooly urban waste water system as a key pressure on the protected shellfish area.

The results of monitoring (2012) undertaken in accordance with this PRP indicated that there were no historical water quality issues with faecal coliform levels within / in the vicinity of the shellfish area. The bivalve mollusc production areas in Oysterhaven are classified as 'Class B', for the purposes of EC Regulation 854/2004. The results of shellfish water monitoring for food hygiene purposes (2012) indicates low levels of faecal contamination in the Oysterhaven shellfish area, the results of shellfish water monitoring for the other parameters do not indicate any other water quality issues within/ in the vicinity of this shellfish area.

Due to the proximity of the discharge to the shellfish area and the fact that monitoring indicates that there is some faecal contamination in the shell fish area an assessment of the impact of the discharge on the shellfish area is included in the RL. Condition 5.6 of the RL, as drafted, requires the licensee to carry out an assessment of the impact of the discharge(s) from the waste water works on the microbiological quality (including viruses) of the shellfish in the Oysterhaven shellfish area. Conditions 5.7 & 5.8 require, where the assessment finds that the discharge is having a deleterious effect on the shellfish, to install and maintain appropriate disinfection systems within a specified timeframe.

3. Ambient Monitoring

Schedule B: Ambient Monitoring of the RL specifies the parameters, analysis method and frequency for which ambient monitoring of the primary discharge shall be carried out. The requirements for ambient monitoring in *Schedule B: Ambient Monitoring* are sufficient to ensure that there will be no deterioration in the status of the receiving water as a result of the discharge.

4. Combined Approach

The Wastewater Discharge (Authorisation) Regulations, 2007, as amended, specify that a 'combined approach' in relation to licensing of waste water works must be taken, whereby the emission limits for the discharge are established on the basis of the stricter of either or both, the limits and controls required under the Urban Waste Water Treatment Regulations, 2001, as amended, and the limits determined under statute or Directive for the purpose of achieving the environmental objectives established for surface waters, groundwater or protected areas for the water body into which the discharge is made. The RL as drafted gives effect to the principle of the Combined Approach as defined in Wastewater Discharge (Authorisation) Regulations, 2007, as amended.

5. Programme of Improvements

The WWTP in Belgooly provides secondary treatment for wastewater from the Belgooly agglomeration. Condition 5.1 of the RL requires the licensee to prepare and submit to the Agency a programme of infrastructural improvements to maximise the effectiveness and efficiency of the waste water works. The conditions and emission limit values specified in the RL will ensure no deterioration in the quality of the receiving waters as a result of the discharge.

The RL, as drafted, requires that improvement works be carried out in order to ensure compliance with the emission limit values as set out in *Schedule A: Discharges & Discharge Monitoring* of the RL. *Schedule C: Programme of Improvements* requires that these works be completed by 31st December 2019. The RL also requires the cessation of the secondary discharges by the 31st December 2019, as well as the improvement of the treatment capacity of the waste water works. This deadline is in line with the Water Framework Directive objective for the receiving waterbody (2021).

6. Compliance with EU Directives

In considering the application, regard was had to the requirements of Regulation 6(2) of the Wastewater Discharge (Authorisation) Regulations, 2007, as amended, notably:

Table 4: Compliance with EU Directives/Regulations

Compliance with Directives/Regulations	Description and Conditions in RL
Urban Waste Water Treatment Directive [91/271/EEC]	Not compliant in 2012 based on quality of effluent.
Water Framework Directive [2000/60/EC]	Good status to be achieved by 2021
EC Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009), as amended	Schedule A of RL sets ELVs to contribute towards achieving good status water quality standards.
Bathing Water Directive [2006/7/EC]	No bathing waters present
Dangerous Substances Directive [2006/11/EC]	Condition 4 requires screening for priority substances.
Environmental Impact Assessment Directive [85/337/EEC]	An EIS was not required for Belgooly WWTP.
Environmental Liability Directive	Condition 7.2 of RL

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

The primary discharge from the Belgooly WWTP discharges to the Stick River which flows into Oysterhaven Bay. There are two secondary discharges from the agglomeration to the Ballindeenisk River and Oysterhaven Estuary. The nearest European Site is the Sovereign Islands SPA², designated under the Birds Directive for the conservation of wild birds.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects, is likely to have a significant effect on a European Site(s). In this context, particular attention was paid to the European Site at Sovereign Islands SPA. The Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of the site as a European Site and that it can be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects will have a significant effect on a European Site, and accordingly the Agency determined that an Appropriate Assessment of the activity was not required. This determination is based on the following:

² SPA: Special Protection Area designated under the *Birds Directive*, Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

- The Agency has assigned a WFD status of 'Good' to the primary discharge receiving water (Stick River) based on Agency monitoring in the receiving water,
- The location of the European Site in a coastal water body with extensive dilution and dispersion capacity, and
- The distance (>8km) of the primary discharge from the European Site.

7. Cross Office Liaison

Advice and guidance issued by the Waste Water Technical Working Group (TWG) was followed in my assessment of this application. Advice and guidance issued by the TWG is prepared through a detailed cross-office co-operative process, with the concerns of all sides taken into account. The Board of the Agency has endorsed the advice and guidance issued by the TWG for use by licensing inspectors in the assessment of wastewater discharge licence applications.

In assessing the application, consultation was undertaken with Office of Environmental Assessment (Shane O'Boyle/Robert Wilkes) in relation to water quality issues.

8. Submissions

One (1 no.) submission was received in relation to this licence. The submission received was submitted by Mr Declan Hamilton, Principal Environmental Health Officer, Health Services Executive. The issues raised in the submissions are summarised in below. However, the original submission should be referred to at all times for greater detail and expansion of particular points.

Health Services Executive

In their submission Inland Fisheries Ireland provided comments on the issue of water quality. The HSE requests that the licence restricts and prohibits the discharge of dangerous substances.

Condition 4.15 of the RL requires the licensee to undertake a risk based assessment of the discharge(s) in order to identify the relevant priority substances for monitoring. The Condition further requires the licensee to take the necessary measures to reduce and eliminate priority substances in the discharge.

9. Charges

The RL sets an annual charge for the agglomeration at €4,152.18 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

10. Recommendation

I recommend that a Final Licence be issued subject to the conditions and for the reasons as set out in the attached Recommended Licence.

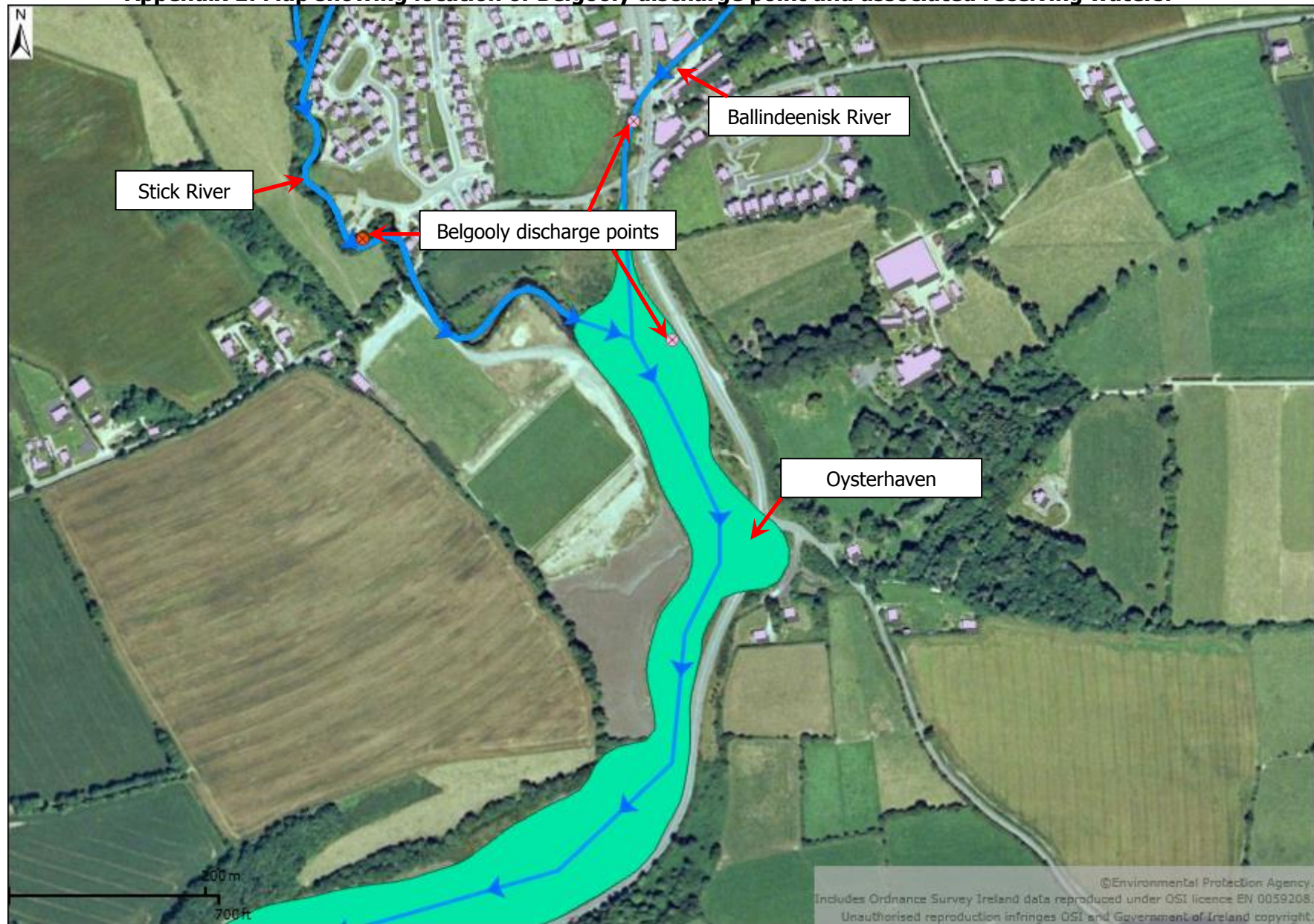
Signed



Suzanne Wylde, Donal Grant, Gavin Clabby, Breen Higgins & Eimer Godsil

Environmental Licensing Programme

Appendix 1: Map showing location of Belgooly discharge point and associated receiving waters.



Appendix 2: Map showing location of Oysterhaven shellfish area and Sovereign Islands SPA.

