Annual Environmental Report

2021

Belgooly

D0541-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0541-01, Belgooly, in Cork in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

1.2 TREATMENT SUMMARY

- Belgooly - Riverbank Estate WWTP with a Plant Capacity PE of 1000, the treatment type is 3P - Tertiary P removal
- Cramers Close WWTP (TPEFF0500D0541SW002) with a Plant Capacity PE of 75, the treatment type is secondary RBC.
- Belgooly Secondary Discharge (TPEFF0500D0541SW003) is a direct discharge (untreated)

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV’s can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0500D0541SW003	Belgooly Secondary Discharge	Secondary Treatment	Non-Compliant	COD-Cr mg/l Suspended Solids mg/l BOD mg/l
TPEFF0500D0541SW002	Cramers Close WWTP	Secondary Treatment	Non-Compliant	COD-Cr mg/l Suspended Solids mg/l
TPEFF0500D0541SW001	Belgooly - Riverbank Estate WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l ortho-Phosphate (as P) - unspecified mg/l

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
There are no Licence Specific Reports included in this AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 BELGOOLY – SECONDARY DISCHARGE - TREATED DISCHARGE

2.1.1 EFFLUENT MONITORING SUMMARY – SW003

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	6	4	4	292	Fail
Suspended Solids mg/l	35	87.5	N/A	6	4	2	58	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	6	6	4	103	Fail
pH units	9.00	9.00	N/A	6	N/A	N/A	7.70	Pass
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	2	N/A	N/A	24197	
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	N/A	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
E. Coli no./100mls	N/A	N/A	N/A	2	N/A	N/A	24197	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Secondary discharge is not fully treated prior to discharge

Significance of Results:

Discharge is non compliant with WWDL ELVs

2.1.2 AMBIENT MONITORING SUMMARY FOR THE UNTREATED DISCHARGE TPEFF0500D0541SW003

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	166771,54081	RS20B690960	No	No	No	No	Good
Downstream	166300, 52125	TW05003164OY1001	No	No	No	Yes	Unassigned

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in Ammonia, concentrations downstream of the effluent discharge is noted.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

The discharge from the wastewater treatment plant does not have an observable impact on the coastal/transitional water quality.

2.2 BELGOOLY – CRAMERS CLOSE WWTP - TREATED DISCHARGE

2.2.1 EFFLUENT MONITORING SUMMARY – SW002

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	6	5	2	246	Fail
Suspended Solids mg/l	35	87.5	N/A	6	4	2	71	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	6	N/A	N/A	94	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
pH units	9.00	9.00	N/A	6	N/A	N/A	7.82	Pass
E. Coli no./100mls	N/A	N/A	N/A	2	N/A	N/A	24197	
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	N/A	
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	2	N/A	N/A	24197	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Inadequate infrastructure

Significance of Results:

The WWTP is non compliant with the ELV's set in the Wastewater Discharge Licence.

2.2.2 AMBIENT MONITORING SUMMARY FOR THE UNTREATED DISCHARGE TPEFF0500D0541SW002

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	166771,54081	RS20B690960	No	No	No	No	Good
Downstream	166300, 52125	TW05003164OY1001	No	No	No	Yes	Unassigned

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results do not meet the required EQS at the upstream monitoring location. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in Ammonia, concentrations downstream of the effluent discharge is noted.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

The discharge from the wastewater treatment plant does not have an observable impact on the coastal/transitional water quality.

2.3 BELGOOLY - RIVERBANK ESTATE WWTP - TREATED DISCHARGE

2.3.1 INFLUENT MONITORING SUMMARY - BELGOOLY - RIVERBANK ESTATE WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
COD-Cr mg/l	6	395	295
Suspended Solids mg/l	6	231	113
BOD, 5 days with Inhibition (Carbonaceous mg/l)	6	182	118
Hydraulic Capacity	N/A	498	196

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.3.2 EFFLUENT MONITORING SUMMARY - TPEFF0500D0541SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	6	N/A	N/A	45	Pass
Suspended Solids mg/l	35	87.5	N/A	6	N/A	N/A	9.67	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
BOD, 5 days with Inhibition (Carbonaceo mg/l	25	50	N/A	6	N/A	N/A	9.46	Pass
pH pH units	9.00	9.00	N/A	6	N/A	N/A	7.86	Pass
Ammonia-Total (as N) mg/l	3.00	3.60	N/A	6	6	6	21	Fail
ortho-Phosphate (as P) - unspecified mg/l	1.00	1.20	N/A	6	6	6	2.73	Fail
E. Coli no./100mls	N/A	N/A	N/A	2	N/A	N/A	24197	
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	821	
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	2	N/A	N/A	3088	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

WwTP requires upgrade

Significance of Results:

The WWTP is non compliant with the ELV's set in the Wastewater Discharge Licence. The impact on receiving waters is assessed further in section2.

2.3.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0500D0541SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	166326, 54277	RS20S030800	No	No	No	No	Good
Upstream	166771,54081	RS20B690960	No	No	No	No	Good
Downstream	166300, 52125	TW05003164OY1001	No	No	No	Yes	Unassigned

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in Ammonia, concentrations downstream of the effluent discharge is noted.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

The discharge from the wastewater treatment plant does not have an observable impact on the coastal/transitional water quality.

2.3.4 OPERATIONAL PERFORMANCE SUMMARY - BELGOOLY - RIVERBANK ESTATE WWTP

2.3.4.1 Treatment Efficiency Report - Belgooly - Riverbank Estate WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
SS	7062	603	91
cBOD	7372	590	92
TP	N/A	N/A	N/A
TN	N/A	N/A	N/A
COD	18422	2801	85

Note: The above data is based on sample results for the number of dates reported

2.3.4.2 Treatment Capacity Report Summary - Belgooly - Riverbank Estate WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

Belgooly - Riverbank Estate WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	675
DWF to the Treatment Plant (m^3/day)	225
Current Hydraulic Loading - annual max (m^3/day)	498
Average Hydraulic loading to the Treatment Plant (m^3/day)	196
Organic Capacity (PE) - As Constructed	1000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	840
Organic Capacity (PE) - Remaining	160
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.3.5 SLUDGE / OTHER INPUTS - BELGOOLY - RIVERBANK ESTATE WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2021.			

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	Yes	Yes
Breach of ELV	WWTP upgrade required to meet ELV	1	Yes	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	2
Number of Incidents reported to the EPA via EDEN in 2021	2
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow (High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
There are no Storm Water Overflows in this Agglomeration.							

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO Assessment included the requirements of relevant of WWDL schedules?	N/A
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0541-SIP:01	Improvements to ensure compliance with the ELVs as specified in Schedule A by 31/12/2019	C	31/12/2019	Yes	Not Started		
D0541-SIP:02	Provide sufficient capacity in the wastewater works to satisfy the requirements of this licence	C	31/12/2019	Yes	Not Started		
D0541-SIP:03	SW002 Secondary Discharge Point to be Discontinued	C	31/12/2019	Yes	Not Started		
D0541-SIP:04	SW003 Secondary Discharge Point to be discontinued	C	31/12/2019	Yes	Not Started		

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

N/A

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Year included in AER	Included in this AER
Priority Substances Assessment	Yes	2015	No
Shellfish Impact Assessment	Yes		No

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Has a Technical amendment/licence review application been submitted to the Agency by IW?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Date: 26/05/2022

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of,

Katherine Walshe

Acting Head of Environmental Regulation

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

			Designations					cBOD	o-Phosphate (as P)	Ammonia (as N)
Ambient monitoring point/Coastal Monitoring Code	Irish Grid Reference	Monitoring point	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status	Results	Results	Results
Upstream Monitoring Point	166326.26, 54277.85	RS20S030800					Good	1.17	0.0225	0.018
Downstream Monitoring Point	166299.81, 52125.06	TW05003164OY1001 (TPEFF0500D0541SW001)	No	No	No	No	Unassigned	1.8	0.03	0.209
Difference								0.63	0.0075	0.191
EQS								4	0.06	N/A
% of EQS								15.75	12.5	#VALUE!

Ambeint Monitoring Results for SW002 & SW003

			Designations					cBOD	o-Phosphate (as P)	Ammonia (as N)
Ambient monitoring point/Coastal Monitoring Code	Irish Grid Reference	Monitoring point	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status	Results	Results	Results
Upstream Monitoring Point	166770.92, 54080.67	RS20B690960					Good	1.65	0.054	0.09
Downstream Monitoring Point	166299.81, 52125.06	TW05003164OY1001 (TPEFF0500D0541SW001)	No	No	No	No	Unassigned	1.8	0.03	0.209
Difference								0.15	-0.024	0.119
EQS								4	0.06	N/A
% of EQS								3.75	-40	#VALUE!

WaterbodyName	WaterbodyCode	Waterbodytype	MonitoringStati	SampleDate	SampleMe	ParameterNa	ParameterUnit	ParameterUn	Result	TestResult	ResultStri	LimitOfDet	ReportRes	ReportTes	ReportRes	ReportLimi
STICK_010	IE_SW_20S030800	River	RS20S030800	11/11/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.042			0	0.042			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/11/2021	Grab	BOD - 5 days	mg/l	milligrams pe	1.3			1	1.3			1
STICK_010	IE_SW_20S030800	River	RS20S030800	03/03/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.018			0	0.018			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.014			0	0.014			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.014			0	0.014			
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.042			0	0.042			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	pH	pH units	pH Units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	pH	pH units	pH Units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	pH	pH units	pH Units	7.7			2	7.7			2
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	pH	pH units	pH Units	7.7			2	7.7			2
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.006			0	0.006			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.004			0	0.004			
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	BOD - 5 days	mg/l	milligrams per litre			<1.0	1	0.5	<1.0		1
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	BOD - 5 days	mg/l	milligrams pe	2.2			1	2.2			1
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	95.7			0	95.7			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/11/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	98.5			0	98.5			
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	Faecal colifor	no./100mls	Number per o	1046			0	1046			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.038			0	0.038			
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	E. Coli	no./100mls	Number per o	457			0	457			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/11/2021	Grab	pH	pH units	pH Units	7.5			2	7.5			2
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Temperature	Ã°C	Degrees cent	11.4			0	11.4			
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	Temperature	Ã°C	Degrees cent	19.1			0	19.1			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Enterococci (	no./100mls	Number per o	435			0	435			
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.021			0	0.021			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.005			0	0.005			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	BOD - 5 days	mg/l	milligrams pe	1			1	1			1
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	BOD - 5 days	mg/l	milligrams pe	2.2			1	2.2			1
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	104.4			0	104.4			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	95.7			0	95.7			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Faecal colifor	no./100mls	Number per one hundred millilitres			>2420	0	2420	>2420		2420
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.032			0	0.032			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/11/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.021			0	0.021			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/03/2021	Grab	pH	pH units	pH Units	7.9			2	7.9			2
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	pH	pH units	pH Units	7.7			2	7.7			2
STICK_010	IE_SW_20S030800	River	RS20S030800	03/03/2021	Grab	Suspended So	mg/l	milligrams pe	3			2.5	3			2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	03/03/2021	Grab	Temperature	Ã°C	Degrees cent	8.4			0	8.4			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Temperature	Ã°C	Degrees cent	11.2			0	11.2			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	E. Coli	no./100mls	Number per one hundred millilitres			>2420	0	2420	>2420		2420
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	Enterococci (	no./100mls	Number per o	201			0	201			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/03/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.045			0	0.045			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.006			0	0.006			
STICK_010	IE_SW_20S030800	River	RS20S030800	03/03/2021	Grab	BOD - 5 days	mg/l	milligrams per litre			<1.0	1	0.5	<1.0		1
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	BOD - 5 days	mg/l	milligrams per litre			<1.0	1	0.5	<1.0		1
STICK_010	IE_SW_20S030800	River	RS20S030800	03/03/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	99.8			0	99.8			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	105.4			0	105.4			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	106.9			0	106.9			
STICK_010	IE_SW_20S030800	River	RS20S030800	12/05/2021	Grab	Suspended So	mg/l	milligrams per litre			<2.5	2.5	1.25	<2.5		2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	07/07/2021	Grab	Suspended So	mg/l	milligrams per litre			<2.5	2.5	1.25	<2.5		2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	Suspended So	mg/l	milligrams per litre			<2.5	2.5	1.25	<2.5		2.5
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	Temperature	Ã°C	Degrees cent	14			0	14			
STICK_010	IE_SW_20S030800	River	RS20S030800	01/09/2021	Grab	Temperature	Ã°C	Degrees cent	14			0	14			
STICK_010	IE_SW_20S030800	River	RS20S030800	11/11/2021	Grab	Temperature	Ã°C	Degrees cent	11.5			0	11.5			

RS20B690960 Monitoring Upstream of SW002 & SW003

WaterbodyName	WaterbodyCode	Waterbodytype	MonitoringStati	SampleDate	SampleMe	ParameterNa	ParameterUnit	ParameterU	Result	TextResult	ResultStrii	LimitOfDe	ReportRes	ReportTex	ReportRes	ReportLimi
STICK_010	IE_SW_20S030800	River	RS20B690960	12/05/2021	Grab	ortho-Phospl	mg/l	milligrams pe	0.02			0	0.02			
STICK_010	IE_SW_20S030800	River	RS20B690960	01/09/2021	Grab	ortho-Phospl	mg/l	milligrams pe	0.04			0	0.04			
STICK_010	IE_SW_20S030800	River	RS20B690960	03/03/2021	Grab	ortho-Phospl	mg/l	milligrams pe	0.011			0	0.011			
STICK_010	IE_SW_20S030800	River	RS20B690960	07/07/2021	Grab	ortho-Phospl	mg/l	milligrams pe	0.145			0	0.145			

WaterbodyName	WaterbodyCode	Waterbodytype	MonitoringStati	SampleDate	SampleMe	ParameterNa	ParameterUnit	ParameterUi	Result	TextResult	ResultStrii	LimitOfDe	ReportRes	ReportTex	ReportRes	ReportLim
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.494			0	0.494			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	01/09/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.189			0	0.189			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.082			0	0.082			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	BOD - 5 days i	mg/l	milligrams per litre			<1.0	1	0.5	<1.0	1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	01/09/2021	Grab	BOD - 5 days i	mg/l	milligrams pe	2.9			1	2.9		1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	pH	pH units	pH Units	8			2	8		2	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	pH	pH units	pH Units	7.9			2	7.9		2	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	pH	pH units	pH Units	7.9			2	7.9		2	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	01/09/2021	Grab	pH	pH units	pH Units	7.9			2	7.9		2	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	95.7			0	95.7			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	Faecal colifor	no./100mls	Number per	1439			0	1439			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	Temperature	Â°C	Degrees cent	19.4			0	19.4			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	01/09/2021	Grab	Temperature	Â°C	Degrees cent	17.2			0	17.2			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	01/09/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.04			0	0.04			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	Total Nitroge	mg/l	milligrams pe	3.9			0	3.9			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	Enterococci (I	no./100mls	Number per	121			0	121			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	Enterococci (I	no./100mls	Number per	63			0	63			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	Suspended Sc	mg/l	milligrams pe	23			2.5	23		2.5	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	Temperature	Â°C	Degrees cent	14.4			0	14.4			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	Dissolved Inor	mg/l	milligrams pe	3.98			0	3.98			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	E. Coli	no./100mls	Number per	504			0	504			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	Ammonia-Tot	mg/l	milligrams pe	0.072			0	0.072			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	BOD - 5 days i	mg/l	milligrams pe	1.1			1	1.1		1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	BOD - 5 days i	mg/l	milligrams pe	2.7			1	2.7		1	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	94			0	94			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	01/09/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	83.6			0	83.6			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	Faecal colifor	no./100mls	Number per	364			0	364			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	Temperature	Â°C	Degrees cent	8.2			0	8.2			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	Total Oxidise	mg/l	milligrams pe	3.88			0	3.88			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	E. Coli	no./100mls	Number per	246			0	246			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	Dissolved Oxy	% Saturation	Percentage S	104.6			0	104.6			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	03/03/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.03			0	0.03			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.03			0	0.03			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	ortho-Phosph	mg/l	milligrams pe	0.021			0	0.021			
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	12/05/2021	Grab	Suspended Sc	mg/l	milligrams pe	139			2.5	139		2.5	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	07/07/2021	Grab	Suspended Sc	mg/l	milligrams pe	60			2.5	60		2.5	
Oysterhaven	IE_SW_070_0100	Transitional	TW05003164OY	01/09/2021	Grab	Suspended Sc	mg/l	milligrams pe	32			2.5	32		2.5	