Annual Environmental Report

2023

Uisce Éireann
Irish Water

Ringsend

D0034-01

CONTENTS

7 APPENDIX

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0034-01, Ringsend, in Dublin 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.

The Greater Dublin Area Agglomeration comprises the geographical area of Dublin City Council and sections of the functional areas of:

- Fingal County Council
- South Dublin County Council
- Dun Laoghaire Rathdown County Council
- Meath County Council

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Ringsend WWTP with a Plant Capacity PE of 2,100,000, the treatment type is 2 - Secondary treatment.

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
TPEFF0700D0034SW001	Ringsend WWTP	Treated	Non-Compliant	BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l COD mg/l TSS mg/l Total Phosphorus (as P) mg/l Total Nitrogen mg/l E.coli (MPN/100ml)

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report	Included in AER
Priority Substances Assessment	Yes - **Appendix 7.2**
Toxicity/Leachate Management Report	Yes - **Appendix 7.3**
Toxicity of Final Effluent Report	No – Report not included in 2023 AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 RINGSEND WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - RINGSEND 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
Ammonia-Total (as N) mg/l	244	38	24
BOD, 5 days with Inhibition (Carbonaceous) mg/l	133	369	256
Total Nitrogen mg/l	102	58	38
COD-Cr mg/l	244	807	492
Total Phosphorus (as P) mg/l	102	7.03	4.51
pH pH units	244	7.70	7.40
ortho-Phosphate (as P) - unspecified mg/l	244	3.87	2.05
Suspended Solids mg/l	244	450	224
Hydraulic Capacity	N/A	804,220	493,240

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'*.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0700D0034SW001

	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	Total P (mg/l)	Total N (mg/l)	pH	Toxicity (TU)	Comment
WWDL ELV (*Schedule A*)	25	125	35	1	10	6-9	5	
ELV with Condition 2 Interpretation included	50	250	87.5	1.2	12.0	-	-	
Number of sample results	132**	244***	244***	101 *	102 *	244***	0	Composite samples taken except for toxicity
Number of sample results above WWDL ELV	75	95	192	101	87	0	-	
Number of sample results above ELV with Condition 2 Interpretation included	15	21	76	101	74	0	-	
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	3.37	20.35	N/A	N/A	
Overall Compliance (Pass/Fail)	Fail	Fail	Fail	Fail	Fail	Pass	-	

**96-110 samples therefore 9 non-compliant results allowed of the lower tier ELV, once the max ELV is breached then all exceedances thereafter are reportable.*
***126-140 samples therefore 11 non-compliant results allowed of the lower tier ELV, once the max ELV is breached then all exceedances thereafter are reportable.*
****236-251 samples therefore 18 non-compliant results allowed of the lower tier ELV, once the max ELV is breached then all exceedances thereafter are reportable.*

Table 2.1.2 *continued* - Effluent Monitoring Summary – RINGSEND WWTP 2023

	DIN (mg/l N)	Ammonia (mg/l N)	Ortho-Phosphate (mg/l P)	OFG (mg/l)	E.coli (MPN/100ml)	Enterococci (CFU/100 ml)	Colour (Hazen)	Comment
WWDL ELV (*Schedule A*)	-	-	-	-	100,000	-	-	
ELV with Condition 2 Interpretation included	-	-	-	-	120,000	-	-	
Number of sample results	244	244	244	101	61* (SPOT)	46 (SPOT)	243	*Licence specifies 1st May to 31st August for E. Coli compliance
Number of sample results above WWDL ELV/not achieving min % reduction	-	-	-	-	1	-	-	Composite sample taken for chemistry parameters
Number of sample results above ELV with Condition 2 Interpretation included	-	-	-	-	1	-	-	
Annual Mean (for parameters where a mean ELV applies)								
Overall Compliance (Pass/Fail)	N/A	N/A	N/A	N/A	**FAIL** *Sample No. 2122026 taken on 30/08/2023 had E.Coli = 129,970 MPN/100 mls	N/A	N/A	1 sample exceeded 100,000 MPN/100ml during the specified period.

Cause of Exceedance(s):

The non-compliances were due to overloading.

Significance of Results:

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 75 samples non-compliant with the ELV in relation to cBOD. The non-compliance is due to overloading. There were 95 samples non-compliant with the ELV in relation to COD. The non-compliance is due to overloading. There were 192 samples non-compliant with the ELV in relation to TSS. The non-compliance is due to overloading. There were 101 samples non-compliant with the ELV for TP. The non-compliance was due to no P removal treatment on site. There were 87 samples non-compliant with the ELV for TN. The non-compliance was due to overloading. The WWTP effluent was compliant with the pH ELV set in the wastewater discharge licence. The WWTP was non-compliant with the ELV set in the wastewater discharge licence for Faecal Coliforms (E. Coli) monitored during the specified period.

The impact on receiving waters is assessed further in **Section 2.3**.

Discounting of Results:

There was no reported discounting of results in 2023.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0700D0034SW001

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*	EPA Feature Coding Tool code	Receiving Waters Designation (Yes)				WFD Status (2016-2021)	Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?
			Bathing Water	Drinking Water	FWPM	Shellfish		
Upstream monitoring point	***Liffey U/S Islandbridge***	Unknown	No	No	No	No	Poor	The River Liffey U/S Islandbridge is freshwater and cannot be impacted by estuarine receiving waters.
Downstream monitoring points	***Liffey Estuary Upper***	Unknown	No	No	No	No	Good	Yes Impacts in the near field and the plume of the sewage discharge – See **Section 2.1.3.1** below. Liffey Estuary is tidal.
Downstream monitoring points	***Liffey Estuary Lower***	Unknown	No	No	No	No	Moderate	Yes Impacts in the near field and the plume of the sewage discharge – See **Section 2.1.3.1** below. Liffey Estuary is tidal.
Downstream monitoring points	***Tolka Estuary***	Unknown	No	No	No	No	Poor	Yes

Ambient Monitoring Point from WWDL (or as agreed with EPA)	*Irish Grid Reference*	EPA Feature Coding Tool code	Receiving Waters Designation (Yes)				WFD Status (2016-2021)	Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?
			Bathing Water	Drinking Water	FWPM	Shellfish		
								Impacts of the sewage discharge plume and the Tolka River inflow – See **Section 2.1.3.1** below. Tolka Estuary is tidal.
Downstream monitoring points	***Dublin Bay***	Unknown	No	No	No	No	Good	No. See **Section 2.1.3.1** below.
Downstream monitoring points	Designated Bathing Waters Dollymount Bathing Zone Sandymount	Unknown	**Yes**	No	No	No	**2023 EPA Predicted** Good Poor	See **Section 2.1.3.1** below.

The results for the upstream and downstream ambient monitoring are included in **Appendix 7.1**.

2.1.3.1 AMBIENT MONITORING PARAMETER SUMMARY-RINGSEND WWTP

The ambient results and additional monitoring data sets are included in the **Appendix 7.1 - Ambient Monitoring Summary**.

Significance of Results:

- The Ringsend WWTP was non-compliant with the ELV's set in the wastewater discharge licence as detailed in **Section 2.1.2**.
- The primary discharge from the wastewater treatment plant does have an observable negative impact on the water quality in the near field of the discharge and in the Liffey and Tolka Estuaries.
- The primary discharge from the WWTP does not have an observable negative impact on the Water Framework Directive status in the Liffey Estuary.
- Other potential causes of deterioration in water quality relevant to this area are upstream riverine pollutants, combined sewer overflows, exfiltration from sewers and misconnections to surface water sewers in the large urban agglomeration.

Licence D0034-01 requires monitoring and assessment of the impacts of the Ringsend effluent discharge on receiving water quality at agreed sampling locations as follows:

- 9 Ambient Surface Waters **(ASW2 to ASW10)** covering sampling points in the lower Liffey Estuary in the near field of the discharge **(ASW2 to ASW5)**, and points on the River Liffey and River Tolka **(ASW6 to ASW10 - Surface and Depth samples)**
- 11 additional monitoring points on the Liffey and Tolka Estuaries **(DB 020 to DB 420 – Surface, Depth and Composite samples)**
- 9 monitoring locations in Dublin Bay **(DB 430 to DB 610 – Surface, Depth and Composite samples)**
- 8 shoreline locations, 2 of which are EC designated bathing waters - Dollymount Bathing Zone and Sandymount **(ASW 11 to ASW 18)**

See map of monitoring locations agreed with the EPA in **Appendix 7.1.1**.

See all monitoring data for 2023 in **Appendix 7.1**.

The Liffey Estuary from Islandbridge Weir to the Poolbeg Lighthouse including the River Tolka Basin and the South Bull Lagoon is designated as a *"sensitive area*" by Part 2, Schedule 3, of the Urban Wastewater Regulations, S.I. No. 254 of 2001. S.I. No. 272 of 2009 (as amended) / S.I. No. 77 of 2019, set physico-chemical standards for High and Good status in transitional and coastal water bodies to be complied with outside the allocated mixing zone of a licensed discharge.

The Rivers Liffey and Tolka and their estuaries are classified under the Water Framework Directive as Transitional Water Bodies. The outer estuary / Dublin Bay is classified as a Coastal Water Body.

The parameter suite set in the marine monitoring section of the licence was tested in all samples (Temperature / Dissolved Oxygen / BOD / Salinity / Dissolved Inorganic Nitrogen / Total Oxidised Nitrogen / Molybdate Reactive Phosphate / Ammonia / Silica / Chlorophyll).
Tidal Conditions during the 6 monthly estuarine surveys in **2023** are tabulated below:

Survey No. and Month 2023	Date	High Tide Time	Height (m OD)	Low Tide Time	Height (m OD)	Tidal Status during Survey
1. April	19/04/23	11.54	4.11	05.18	0.61	High to Mid-Ebb
2. May	17/05/23	10.48	3.95	16.39	0.56	High to Mid-Ebb
3. June	15/06/23	10.27	3.82	16.17	0.90	High to Mid Ebb
4. July	13/07/23	09.03	3.66	14.58	1.21	High to Mid-Ebb
5. August	10/08/23	07.26	3.52	13.15	1.41	High to Ebb
6. September*	28/09/23	11.39	4.01	17.09	0.68	High to Mid-Ebb
7. October	11/10/23	10.51	3.57	16.26	1.31	High to Mid-Ebb

*Partial sampling due to bad weather conditions

2.1.3.1.1 Marine Monitoring Summary – ASW2 to ASW10

A total of 6 surveys were carried out in the Liffey and Tolka Estuaries during 2023 at the designated locations in the licence, tabulated below:

EPA Map Code	Licence Code	Sampling Point
		Liffey Estuary Lower
	ASW2	25 metres North of Poolbeg Wall
	ASW3	50 metres North of Poolbeg Wall
	ASW4	75 metres North of Poolbeg Wall
	ASW5	100 metres North of Poolbeg Wall
		Liffey
DB000	**ASW6**	Liffey City, Downstream Islandbridge Weir
DB010	**ASW7**	Liffey City, Heuston Station, Upstream of Camac Outfall
	ASW8	Liffey City, Winetavern Street Bridge
		Liffey Estuary Lower
DB210	**ASW9**	Liffey (Surface), Downstream of East Link Toll Bridge
		Tolka
DB310	**ASW10**	Tolka, Downstream of Annesley Bridge

A summary of transitional water quality compliance with S.I. .No. 272 of 2009 (as amended) / S.I. No. 77 of 2019 for the above locations is presented below and complete water quality data is presented in **Appendix 7.1.2**.

BOD values were compliant with transitional water quality criteria at all locations and on all dates except for:

- **ASW 3D –** on 19/04/23 (BOD = 4 mg/l) and on 11/10/23 (BOD = 5 mg/l)

Median Chlorophyll a values were compliant with transitional water quality criteria at all locations except for:

- **ASW 2D** - (median concentration = 5.5 mg/m^3)
- **ASW 3D -** (median concentration = 8.5 mg/m^3)

Data showed compliance with temperature, dissolved oxygen (lower) and dissolved oxygen (upper) at all locations on all survey dates except for:

- **ASW 4S** - on 15/06/2023 (DO Upper = 125% Saturation)
- **ASW 4D** - on 15/06/2023 (DO Upper = 122% Saturation)
- **ASW 10S -** on 15/06/20232 (DO Lower = 69% Saturation)

Exceedances of median Molybdate Reactive Phosphate (MRP) standards occurred in the near field of the Ringsend discharge at ASW2, ASW3 and ASW4, and at ASW 10S, River Tolka, D/S Annesley Bridge (Surface sample).

Location	MRP 2023 Median Result	SI .No. 272 of 2009 (as amended) / S.I. No. 77 of 2019 Standard	Comment
		60 ug/l as P (median) at 0-17% PSU to 40 ug/l as P (median) at 35% PSU	
ASW2 (Surface)	186 ug/l as P		Close to SW1 Outfall within the Mixing Zone
ASW2 (Depth)	63 ug/l as P		Close to SW1 Outfall within the Mixing Zone
ASW3 (Surface)	177.5 ug/l as P		Close to SW1 Outfall within the Mixing Zone
ASW3 (Depth)	47 ug/l as P		Close to SW1 Outfall within the Mixing Zone
ASW4 (Surface)	50 ug/l as P		Close to SW1 Outfall within the Mixing Zone
ASW10 (Surface)	75.5 ug/l as P		Outside the Mixing Zone - Upstream River Pollution

2.1.3.1.2 Marine Monitoring – 2023 - Transitional Water Monitoring – Points Agreed with the EPA (DB 020 to DB 420)

A total of 6 surveys were carried out in the Liffey and Tolka Estuaries during 2023, at 11 locations agreed with the EPA, tabulated below:

EPA Map Code	Sampling Point
	Liffey Estuary Upper
DB 020	Matt Talbot Bridge
	Liffey Estuary Lower
DB 120	Dodder / Grand Canal Basin
DB 210	East Link Toll Bridge
DB 220	RO RO Ramp No.5 (Old Treatment Works Outfall)
DB 410	Ringsend Cascade
DB 420	Poolbeg Lighthouse
	Tolka
DB 300	Upstream of Drumcondra Bridge
	Tolka Estuary
DB 320	East Point Business Park Bridge
DB 330	Castle Avenue
DB 340	Clontarf Boat Club
DB 350	South Lagoon at Bull Wall Wooden Bridge

A summary of transitional water quality compliance with S.I. No. 272 of 2009 (as amended) / S.I. No. 77 of 2019 for the above locations is presented below and the complete water quality data is presented in **Appendix 7.1.3**.

These surveys showed full compliance with BOD, Temperature, Dissolved Oxygen (upper and lower) and median Reactive Phosphorus at all locations, on all survey dates except those detailed below.

BOD Saline results exceeded the limit of < 4 mg/l O_2 at :

- **DB 120 (Depth)** on 15/06/2023 **(4 mg/l).**
- **DB 320 (Depth)** on 19/04/2023 **(4 mg/l**) and 15/06/2023 **(5 mg/l).**
- **DB 330 (Composite)** on 15/06/2023 (**4 mg/l).**

- DO exceeded the upper limit at **DB 120 (Surface)** on 15/06/2023 (**126% Sat)** and **DB 120 (Depth)** on 15/06/2023 (**122% Sat).**
- DO exceeded the upper limit at **DB 220 (Surface)** on 15/06/2023 (**122% Sat).**
- DO exceeded the upper limit at **DB 410 (Surface)** on 15/06/2023 (**125% Sat)** and **DB 410 (Depth)** on 15/06/2023 **(122% Sat).**
- DO exceeded the upper limit at **DB 330 (Composite)** on 15/06/2023 **(126% Sat).**
- DO exceeded the upper limit at **DB 340 (Composite)** on 15/06/2023 **(126.9% Sat).**
- DO exceeded the upper limit at **DB 350 (Composite)** on 15/06/2023 **(126.5% Sat).**

Molybdate Reactive Phosphate (MRP) median exceedances occurred at locations as follow:

Location	MRP 2023 Median Result	S.I. No. 272 of 2009 (as amended) / S.I. No. 77 of 2019	Comment
	Liffey Estuary Lower	< 40ug/l P(med) < 60 ug/l P (med)	
DB 220 (Depth)	**44 ug/l P**		SW 1 Discharge
DB 410 (Surface)	**49 ug/l P**		SW 1 Discharge
DB 420 (Composite)	**48 ug/l P**		SW1 Discharge and riverine impacts
	Tolka Estuary		
DB320 (Surface)	**99.5 ug/l P**		SW1 Discharge and riverine impacts
DB320 (Depth)	**93 ug/l P**		SW1 Discharge and riverine impacts
DB330 (Composite)	**91 ug/l P**		SW1 Discharge and riverine impacts
DB340 (Composite)	**42.5 ug/l P**		SW1 Discharge and riverine impacts
DB350 (Composite)	**54 ug/l P**		SW1 Discharge and riverine impacts

2.1.3.1.3 Marine Monitoring – Dublin Bay, 2023- Points Agreed with the EPA

A total of 4 surveys were carried out at 9 locations in Dublin Bay during 2023, these locations – 6 coastal waters and 3 Irish Sea locations (*), as agreed with the EPA, are tabulated below:

See map in **Appendix 7.1.1**. All monitoring data is included in **Appendix 7.1.4**.

EPA Map Code	Coastal Water Sampling Points
	Dublin Bay
DB 610	Off Bailey Lighthouse, Howth
DB 430	1 km. NE Poolbeg Lighthouse
DB 450	South Bull Buoy, 1 km. SE Poolbeg Lighthouse
DB 510*	2.5 km. ENE Poolbeg Lighthouse
DB 540*	2.5 km. SSE Poolbeg Lighthouse
DB 550	No.4 Buoy, 2.5 km. E of S Poolbeg Lighthouse
DB 560	Drumleck Point, Howth, 5 km. ENE Poolbeg Lighthouse
DB 570*	5 km. ESE Poolbeg Lighthouse
DB 580	Dun Laoghaire, 5 km. E of S Poolbeg Lighthouse

These locations were sampled at surface (S) and depth (D) only when the Salinity varied on the recommendation of the EPA. Composite samples (C) were taken at all other times.

A summary of coastal water quality compliance with S.I .No. 272 of 2009 (as amended) / S.I. No. 77 of 2019 for the above locations is presented below and complete water quality data is presented in **Appendix 7.1.4.**

Monitoring data for 2023 shows full compliance with Temperature, Dissolved Oxygen (lower) and Dissolved Oxygen (upper).

The median Chlorophyll Good to Moderate limit (< 5.0 ug/l) was complied with at all 9 sampling locations in 2023.

The Dissolved Inorganic Nitrogen (DIN) standards for coastal waters (High Status) were complied with at all of the sampling locations on all survey dates. except for **DB 450**.(Composite Sample), taken on 09/08/2023. The DIN value was **267 ug/l N** which failed to meet the Good status criterion.

There were **no other measured impacts** on regulated coastal and Irish Sea water quality during 2023.

2.1.3.1.4 Shoreline Monitoring – 2023 Bathing Season

Bathing Water is currently regulated by the Bathing Water Quality Regulations, 2008 (S.I. No.79 of 2008) and Bathing Water Quality (Amendment) Regulations 2011 (S.I. No. 351 of 2011).

Shoreline sampling was carried out at 8 locations during the 2023 bathing season :

- ASW 11 - Dollymount North,
- **ASW 12 - Dollymount Bathing Zone***
- ASW 13 - Dollymount South
- ASW 14 - Bull Wall Wood Causeway
- ASW 15 - Poolbeg Outfall (Main)**
- ASW 16 - Half Moon Club Southside
- **ASW 17 – Sandymount Strand***
- ASW 18 – Merrion Strand (All season bathing restriction came into place in 2020 due to Poor water quality. It had been classified as Poor status for five consecutive years (2015 to 2019).

**Note that Point ASW 15 - Poolbeg Outfall - is not a bathing area and is monitored to check the impact of the Ringsend discharge plume.

A summary of bathing water quality compliance for the above locations, two of which are **designated*** is presented below and complete water quality data is presented in **Appendix 7.1.5.**

In Summary:

Bathing water predicted status is determined by the EPA for the year 2024. The status at the different designated locations is also available on the EPA website (www.beaches.ie).
Note the widespread occurrences of Ectocarpus at ASW 11, 12, 13 (the 3 Dollymount sampling locations). Note also the occasional occurrences of Ectocarpus at ASW 16 (Half Moon) and the widespread occurrences at Shellybanks (405-42), ASW 17 (Sandymount Strand) and ASW 18 (Merrion Strand).

Designated bathing water at Dollymount (Bathing Zone) will be allocated **GOOD status** in 2024 (predictive).
Designated bathing waters at Sandymount will be allocated **POOR status** in 2024 (predictive).

Site Location	ASW 12	ASW 17
No. of samples	19	19
2023 Annual Status (predicted)	Good	Poor

The remaining 6 locations monitored are not designated bathing waters.

Monitoring data for non-designated bathing waters between 06/06/23 and 11/09/23 is included in **Appendix 7.1.5.**

2023 - Non-Designated Bathing Waters: Single Sample Status Assessment Criteria

Parameter	Excellent	Good	Sufficient	Poor
IE (Intestinal Enterococci) cfu/100ml	≤100	101-200	201-250	>250
EC (E.coli) cfu (mpn)/100ml	≤250	251-500	501-1000	>1000

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - RINGSEND WWTP

2.1.4.1 Treatment Efficiency Report - Ringsend 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)
COD	89,603,984	23,959,072	73
TP	818,446	581,172	29
SS	40,894,760	13,593,501	67
TN	6,810,167	3,545,291	48
cBOD	44,660,365	6,025,103	87

2.1.4.2 Treatment Capacity Report Summary - Ringsend 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.

Ringsend WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	959,040
DWF to the Treatment Plant (m^3/day)	397,440
Current Hydraulic Loading - annual max (m^3/day)	804,220
Average Hydraulic loading to the Treatment Plant (m^3/day)	493,240
Organic Capacity (PE) - As Constructed	2,100,000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	2,362,572
Organic Capacity (PE) - Remaining	0
Will the capacity be exceeded in the next three years? (Yes/No)	Yes *

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.

* It currently scheduled for the final WWTP upgrade, to a capacity of 2.4 million p.e., to be completed by end of 2025.

SLUDGE / OTHER INPUTS - RINGSEND WWTP

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

Input type	Quantity	Unit	p.e.**	% of p.e 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)
Domestic /Septic Tank Sludge	Unknown *	m^3/yr	Unknown *	Unknown *	Yes	Yes	Yes
Industrial / Commercial Sludge	Unknown *	m^3/yr	Unknown *	Unknown *	Yes	Yes	Yes
Landfill Leachate (delivered by tanker) – Ballynagran Landfill – Wicklow County Council	1,913.96	m^3/yr	23.3	0.0012	Yes	Yes - Tanker Waste Consignment Note System	Yes
Landfill Leachate (delivered by tanker) – Kerdiffstown Landfill – Kildare County Council	2,800	m^3/yr	34.1	0.0017	Yes	Yes - Tanker Waste Consignment Note System	Yes
Landfill Leachate (delivered by tanker) – Knockharley Landfill – Meath County Council	1,100.1	m^3/yr	13.4	0.0007	Yes	Yes - Tanker Waste Consignment Note System	Yes

* 2023 Sludge breakdown volumes were not available at the time of preparing the 2023 AER.
** PE = m^3/year /0.225 x365
*** % PE Load to WWTP = Daily Leachate PE/ Mean Daily Influent PE X100 (*Mean Daily Influent 1.968,810*)

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
5	Blocked Sewer	0	5
2	Water Pollution	0	2
2	Broken Sewer Pipe	0	2
2	Emergency overflow caused by pump failure	1	1
2	SWO design not meeting DoEHLG Criteria	2	0
2	Adverse Weather	0	2
5	Discharge to waters	1	4

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 Uisce Éireann 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	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	WWTP upgrade required to meet ELV	Yes	No
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	No
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	No
Uncontrolled release	Emergency overflow caused by pump failure	No	No
Uncontrolled release	Blocked Sewer	No	No
Spillage	Plant or equipment breakdown at WWTP	No	No
Spillage	Screen maintenance issue	No	No
Uncontrolled release	Emergency overflow caused by pump failure	No	No
Uncontrolled release	Emergency overflow caused by ragging or blocking	No	No
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Broken Sewer Pipe	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Adverse Weather	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	Emergency overflow caused by ragging or blocking	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	No	Yes
Uncontrolled release	Emergency overflow caused by power failure	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Breach of ELV	Inadequate Operational Procedures/Training	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Uncontrolled release	Network Infrastructure	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Uncontrolled release	Adverse Weather	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Adverse Weather	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment maintenance at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Uncontrolled release	Inadequate Operational Procedures/Training	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	Emergency overflow caused by power failure	No	Yes
Uncontrolled release	Emergency overflow caused by power failure	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	Emergency overflow caused by ragging or blocking	No	Yes
Uncontrolled release	Blocked Sewer	No	Yes
Uncontrolled release	SWO exceptional rainfall and overflow expected	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	115
Number of Incidents reported to the EPA via EDEN in 2023	115
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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
SW289	321566	243257	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Not Monitored
CSO186DCC	317881	232505	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO97DCC	319365	230619	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO98DCC	319362	230612	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
Fingal-SW50	306076	243269	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
Fingal-SW51	308619	238545	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
Fingal-SW52	308308	238767	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
Fingal- SW53	309614	238262	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
Fingal-SW54	307991	238729	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW315	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SW2	320332	233800	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SW3	306100	252760	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Not Monitored
SW4	305906	252236	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SW5	302637	251605	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SW6	303221	251534	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Not Monitored
SW7	306663	245815	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
SW8	306385	246297	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Not Monitored
SDCCPS04	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCPS19	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCSWO05	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCSWO06	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 021D	323002	226304	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 001D	323352	228938	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO37DCC	312064	233584	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	312548	233667	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO72DCC	312634	233620	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO28DCC	313355	233720	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	313355	233720	Yes	Medium Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	313355	233720	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
SW201	313218	233704	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CS049DCC	313785	234372	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO66DCC	313785	234372	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO80DCC	314205	234283	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO59DCC	314244	234312	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO79DCC	314332	234279	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO24DCC	314414	234303	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO25DCC	314583	234276	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CS02DCC	314662	234251	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO51DCC	315554	234208	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO48DCC	315554	234208	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO21DCC	315554	234208	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO27DCC	315554	234208	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO6DCC	315554	234208	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO7DCC	315554	234208	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO50DCC	315554	234208	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO61DCC	315554	234208	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO60DCC	315554	234208	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO47DCC	315279	234194	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO29DCC	315432	234237	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO45DCC	315554	234257	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO46DCC	315724	234302	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO35DCC	317026	234337	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO11DCC	316105	234412	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO23DCC	316113	234458	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO34DCC	317179	234428	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
CSO33DCC	317179	234428	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO9DCC	316056	236694	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO8DCC	316176	236728	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	317236	234315	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO62DCC	317392	234298	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO74DCC	312548	233667	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO65DCC	313737	234202	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO83DCC	313949	234326	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CS01DCC	314768	234218	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO13DCC	314901	234185	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO16DCC	312963	234299	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO18DCC	316949	236161	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO19DCC	316949	236161	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO44DCC	316949	236161	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO73DCC	318619	235576	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	318619	235576	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	318619	235576	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO53DCC	309745	234945	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO40DCC	309745	234945	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO69DCC	310802	234027	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
CSO70DCC	310261	234248	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	310276	234429	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
CSO68DCC	310276	234429	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO67DCC	310369	234145	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO71DCC	310501	234093	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
CSO38DCC	312691	234330	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO58DCC	313061	233674	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO56DCC	313023	233673	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO54DCC	312990	233664	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO10DCC	313520	233817	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO84DCC	315143	234129	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO85DCC	315143	234129	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO41DCC	314987	234140	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO78DCC	314688	234206	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO77DCC	314493	234257	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO12DCC	316024	234384	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO14DCC	316859	234353	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO3DCC	315867	234360	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO50DCC	317992	233867	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO89DCC	317775	234381	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO20DCC	313520	233817	Yes	Medium Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	314332	234279	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
CSO76DCC	-	-	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	316855	234458	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	317364	235905	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	309007	234984	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
CSO15DCC	312961	234299	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO43DCC	313368	233724	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO4DCC	317062	236049	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	317775	234381	Yes	High Significance	Meeting Criteria	Unknown	Unknown	Monitored
CSO88DCC	317775	234381	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	317553	234404	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	312976	234346	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	310802	234027	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	High Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	309277	228129	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW233	309737	229575	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	311471	227363	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	311471	227363	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW004	312639	228184	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	314155	228977	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 007D	314831	229661	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	315427	229531	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	315555	229630	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	316989	229389	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW269	316941	229707	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 005	316697	230047	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
DLRCC B5 R 011D	316989	229389	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	312242	229797	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
TBC	318389	229639	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
TBC	317878	229577	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 010D	316969	229569	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
Fingal-SW55	308950	237336	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
Fingal-SW56	306505	237441	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS01	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCPS02	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCPS03	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
SDCCPS05	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCPS06	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS07	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS08	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS09	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCPS10	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCPS13	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS14	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS15	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS16	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
SDCCPS17	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCPS21	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCPS22	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCSN01	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCSWO01	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SDCCSWO08	307301	231708	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCSWO09	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCSWO10	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC/B5/R/004	319857	230074	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO36	317234	234294	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO87DCC	316865	234654	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CS082	317299	235411	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	312689	234345	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	314332	234279	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO180DCC / NotApplicable_22	318090	232881	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO171DCC	317550	232447	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
CSO176DCC	317639	232519	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO168DCC	318139	233413	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO184DCC	317824	232486	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
SW103	317860	232456	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
CSO188DCC	314451	230170	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	310741	232270	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO173DCC	317849	231357	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO181DCC	315892	232164	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO169DCC	318143	233378	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO177DCC	314575	231744	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO93DCC	319319	231456	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO94DCC	310338	232484	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO190DCC	317162	230641	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO182DCC	314820	232377	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW107	318741	232076	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO178DCC	314571	231742	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CS0167DCC	317858	231360	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO187DCC	316306	230383	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO170DCC	317699	231474	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW173	316956	230477	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO175DCC	317743	231303	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO101DCC	319921	230594	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO90DCC	311589	231731	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO31DCC	315902	236814	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO100DCC	313421	232721	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313403	232803	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO106DCC	319384	231534	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW260	317562	230767	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO174DCC	317852	231363	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO179DCC	318112	233464	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO183DCC	316679	230062	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO185DCC	316609	232018	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO91DCC	311398	230549	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
CSO92DCC	313440	232441	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO95DCC	318880	233947	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW096	313774	232636	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SW099	313291	229848	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317326	233389	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	318249	230834	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317766	231213	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
CSO197DCC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
SDCCSWO05A	307108	231571	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	328391	239452	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	323087	239136	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	320441	237735	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	323541	242485	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317072	240689	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	322843	238113	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	323155	238450	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	322130	239548	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	323952	241538	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	324671	240385	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	328711	239308	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	319348	237237	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	319092	237194	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	319051	237218	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	317288	237032	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	312837	239706	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	314678	237505	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	315291	237280	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	316191	236748	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	317482	236223	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	317339	236668	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	317275	236972	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	315674	237839	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317527	236397	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	313188	241541	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	317840	236426	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	319115	235885	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	321004	236217	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	320292	236509	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317069	240694	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317083	240679	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	320092	235761	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	327805	239454	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	323228	239139	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	319535	239913	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	318032	236337	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	326299	238441	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	326279	238441	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	318162	241489	Yes	TBC	Not Yet Assessed	Unknown	Unknown	TBC
TBC	316297	237050	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	315933	237459	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	318903	237248	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	323839	243155	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	322306	241250	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	323156	238449	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313240	238954	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	319900	235823	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	315392	237217	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	315978	236912	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	317476	236267	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313415	238521	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317564	236640	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	319927	235869	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	320097	235761	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	321116	237636	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313755	237700	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	323624	238690	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	324824	239198	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	324387	239355	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	312746	239249	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313201	236289	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313840	237484	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313170	238854	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	324838	244371	Yes	High Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313270	238784	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313415	238521	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313685	238438	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	313685	238438	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	325886	239468	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	317527	236397	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	314692	238454	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	314216	238253	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	314692	238454	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	315371	237860	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	316652	238118	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	317414	238590	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	318559	237699	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	319906	235824	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	321004	236217	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	320166	237863	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	320812	238462	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B4 R 001D	321290	229580	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SW269	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B4 R 008D	327236	226598	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	327228	226665	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC
TBC	326942	226990	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
SW277	321297	229506	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 4 020D	321568	229551	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 018D	321284	229508	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 025D	321793	229409	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	325269	228005	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 026D	323352	228938	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	325187	228053	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	320901	229956	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
DLRCC B5 R 017D	320901	229956	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	319767	230085	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B4 4 004D	319938	230443	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B5 R 019D	321297	229506	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
DLRCC B4 R 005DL	324033	229855	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	324957	228322	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Monitored
TBC	321004	236217	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	321184	236124	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	321437	236402	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	321423	236404	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC

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 2023 (No. of events)	Total volume discharged in 2023 (m^3)	Monitoring Status
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	321138	238300	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	TBC
TBC	-	-	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Not Monitored
TBC	326343	227776	Yes	Low Significance	Not Yet Assessed	Unknown	Unknown	Not Monitored

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 monitored SWOs in the agglomeration in the year (m^3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes, where applicable
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	Yes

SWO Summary	
	WWDL Review Application submitted to the EPA on 22nd May 2023. New licence issued 28th May 2024.

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.

4.2.1a Specified Improvement Programme Summary - Dublin City Council Functional Area:

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
Upgrade waste water treatment plant and ancillary works in accordance with Condition 5.5	C.1	22nd December 2015	Yes	Part-commenced	The project comprises four key elements: • Provision of additional secondary treatment facility capacity with nutrient reduction (400,000 p.e.). • Upgrade of the 24 existing secondary treatment tanks to provide additional capacity and nutrient	The infrastructure required to meet the interim Urban Wastewater Treatment Directive (UWWTD) compliance milestone for a population equivalent (p.e.) of 2.1 million was completed as planned in December 2023. The upgraded assets are operational. Compliance with the Urban Wastewater Treatment Directive is assessed retrospectively based on the attainment of 12 months compliance with the UWWTD Emission Limit Values (ELVs). Operators are monitoring the performance of the

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
					reduction, which is essential to protect the nutrient-sensitive Dublin Bay area. • Provision of a new phosphorous recovery process; and • Expansion of the plant's sludge treatment facilities. Underpinning the elements above is a substantial programme of ancillary works. An Bord Pleanála granted planning permission for the upgrade of the plant on 24th April 2019. The 400,000 p.e. Capacity Upgrade Design Build (DB) contract is completed and in operation. Upgrade of the 24 existing secondary treatment with Aerobic Granular Sludge (AGS)	plant closely with a view to achieving this at the earliest possible time. Works to provide the infrastructure needed to reach 2.4m p.e. treatment capacity will continue until the end of 2025.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
					technology to provide additional capacity and nutrient reduction: the strategy for the works to retrofit the AGS technology to the existing secondary treatment tanks is based on achieving compliance at the earliest stage possible, utilising the technology as effectively and efficiently as possible. Works to upgrade the tanks with AGS technology commenced on a phased basis in November 2020 and are progressing to schedule. The first phase of the Hybrid Retrofit works was completed in Q4 2021. Phase 2 of the Hybrid Retrofit works commenced in Q3 2023. Block 2 and Block 3 Retrofit works were completed as planned by the end of Q4 2023. The phosphorus recovery facility works contract commenced in Q1 2021 with construction and trial operation period	

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
					successfully completed in Q1 2023. Works are ongoing to optimise the performance of the existing sludge treatment infrastructure to maximise the removal of phosphorus by the facility. These optimisation works are scheduled for completion by the end of 2024. Upgrades to sludge treatment facilities have been progressing incrementally since 2020. Initial upgrades to sludge treatment facilities have been completed, with further sludge line enabling works carried out from Q4 2021 to Q1 2023. The remaining sludge line upgrade commenced in Q2 2023 and construction is progressing to plan. The infrastructure required to meet the interim Urban Wastewater Treatment Directive (UWWTD) compliance milestone	

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
					for a population equivalent (p.e.) of 2.1 million was completed as planned in December 2023.	
Upgrade storm water storage tank at WWTP as necessary	C.1	22nd December 2015	Yes		There are no current plans to upgrade the storm water storage tanks at the Works. This will be reassessed on completion of the drainage areas plans where network is currently being considered under the model solution.	The four drainage area plans under investigation are for the MLPS, Sutton, Dodder Valley and West pier catchments.
City Centre Sewerage Scheme (CCSS)	C.3	None specified	Not applicable	In progress	Stage 4 completed, with progression on prioritised projects to specimen design. Programme to be determined.	Elements of upgrades are occurring. Note projects such as Eden Quay siphon upgrade progressed in 2022. Critical Assets surveys progressed to survey in 2022.
North Docklands Sewerage Scheme	C.3	None specified	Not applicable	Completed	Completed	

4.2.1b Specified Improvement Programme Summary – South Dublin County Council Functional Area:

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
None						

4.2.1c Specified Improvement Programme Summary – Fingal County Council Functional Area:

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
(D0034-SIP:01) Discharge S4 Fingal to the Irish Sea to be discontinued	A.3	31/12/2011	Yes	Proceeding to detailed design.	2027	Planning consents progressed and were submitted in 2022. Planning received Jan 2023. Target completion dates are subject to change pending successful completion of the relevant statutory processes.

4.2.1d Specified Improvement Programme Summary – Dún Laoghaire Rathdown County Council Functional Area:

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
None						

4.2.1e Specified Improvement Programme Summary – Meath County Council Functional Area:

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
None						

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

4.2.2a Improvement Programme Summary - Dublin City Council Functional Area:

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
WWTP Upgrade	WWTP Upgrade	WWTP (Condition 5.2)	End 2023 – Completion of interim works to enable the production of a compliant effluent for 2.1 million p.e. End 2025 – Scheduled completion of final works to upgrade WWTP to a capacity of 2.4 million p.e.	It is important to note that end of 2023 is the date that the plant start producing an effluent in line with the parameters set out in the UWWTD and the actual confirmed UWWTD compliance determination will be up to 12 months from that date (on attaching 12 months compliance with the UWWTD standards).
Main Lift Pumping Station Catchment DAP -Rathmines & Pembroke -Crumlin/Drimnagh/Bluebell	Survey & Assessment of Wastewater Network		2025	Flow surveys complete and Model Build in progress – Ongoing. Advanced assessment and model build carried out in Crumlin for flood investigation. Currently at optioneering stage.

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
Sutton Pumping Station Catchment DAP -North Fringe -North Dublin Drainage Scheme (NDDS)	Survey & Assessment of Wastewater Network		2026	Surveys currently ongoing. Project delays due to Covid-19 restrictions. In 2022 Project splitting and Advancement of key areas for growth on the North Fringe sewer earmarked. Assessment of flows from Dublin airport completed as part of advanced works. Future growth assessments for the NFS catchment are being delivered with the aim to claw back time in the critical growth areas.
Main Lift Pumping Station Upgrade Works	Upgrade to MLPS (Civil & M&E Works including pumps and panel replacements)		2023	Civil & M&E Works including pumps and panel replacement complete. Additional Works were identified to replace the two existing Inverted Syphons. Siphons 3 & 4 confirmed replaced in July 2023.
Wastewater Pumping Station Capital Maintenance Works Programme	Capital Maintenance Works to Multiple Wastewater Pumping Stations		Completed	

4.2.2b Improvement Programme Summary - South Dublin County Council Functional Area:

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
Main Lift Pumping Station Catchment DAP -Newcastle/Rathcoole/Saggart -Lucan/Clondalkin	Survey & Assessment of Wastewater Network		2025	Flow surveys complete and Model Build commenced. Still on track.
Dodder Valley Sewers DAP	Survey & Assessment of Wastewater Network		2023	Asset Surveys complete. Draft stage 3 report submitted September 2023.
Newcastle Local Network Reinforcement Project	Provision of additional capacity and storage to control overflows and reduce flooding risk.	Wastewater catchment plan completed 2022	Separate alternative Project being progressed to service Newcastle area. Alternative servicing implemented with developer. Upgrade of Newcastle WWPS for equipment replacement and optimisation to be completed in Q3 2023 / Q1 2024 as a result of the catchment assessment.	Wastewater catchment plan completed 2022.
Ballycullen/Oldcourt Network Reinforcement Project	Provision of additional capacity to control reduce flooding risk.	Network Upgrade	Completed	Works for the new 450mm sewer were completed as of September 2022.

4.2.2c Improvement Programme Summary - Fingal County Council Functional Area:

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
Sutton Pumping Station Catchment DAP -North Fringe	Survey & Assessment of Wastewater Network		2026	Surveys currently ongoing. Project delays due to Covid-19 restrictions Overall DAP still on track. As per above note key areas are being advanced in 2023 to interim model build and catchment growth assessment to the development of projects in critical growth areas.
Blanchardstown Sewerage Scheme Phase 2 Contract 2: Duplication of 9C Sewer & Storage	Provision of additional capacity and storage to control overflows and reduce flooding risk.	Wastewater Pumping Station, Storage and Network Upgrade	Q3 2023	Construction completed. Currently under commissioning phase.
Liffey Siphons Refurbishment	Provision of additional capacity to reduce risk of flooding	Network Upgrade	Completed	
Portmarnock Local Network Reinforcement Project	Provision of additional capacity and storage to control overflows and reduce flooding risk.	Wastewater Pumping Station, Storage and Network Upgrade	2025	Delay encountered due to An Bord Pleanala (ABP) planning refusal. Subsequent Planning delays - still awaiting appeal decision.
Kinsealy Local Network Reinforcement Project	Provision of additional capacity and storage to control overflows and reduce flooding risk.	Wastewater Pumping Station, Storage and Network Upgrade	Completed	

4.2.2d Improvement Programme Summary - Dún Laoghaire Rathdown County Council Functional Area:

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2e - Moreen Environs Foul Sewer Upgrade, Phase 4 - Removal of deficiencies in capacity	Network Upgrade	Specimen design under way	Moreen (Sewer Upgrade at Drummartin Link Road Junction: Q3 2025
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2 - Network Upgrade Sandyford/ Stillorgan Improvement-Tunnel - Removal of deficiencies in capacity	Storage and Network Upgrade	Specimen design under way.	Sandyford/Stillorgan WW Upgrade (Stillorgan reservoir site storage & associated WW Upgrades in the general Sandyford Business Park area): Q3 2027 Sandyford WW Upgrades (Storage South of M50 and associated upstream WW Upgrades): Q2 2026
Goatstown Local Network Reinforcement Project	Provision of additional capacity to reduce risk of flooding	Network Upgrade	Completed	
Churchtown/Landscape Rd Network Reinforcement Project	Provision of additional capacity to reduce risk of flooding	Network Upgrade	2024	Contractor has been appointed and site investigations underway. Works at this location are expected to be completed by Q1 2024.
West Pier Pumping Station Catchment DAP **- West Pier East** **- West Pier West**	Survey & Assessment of Wastewater Network	Not Applicable	2023	Asset Surveys complete. Stage 3 assessment due for completion 2023 – On track.

4.2.2e Improvement Programme Summary – Meath County Council Functional Area:

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
Seal the leaking cable ducts and other points	Seal the leaking cable ducts and other points that flood the wet well sumps;	Not Applicable	Completed	Completed

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
that flood the wet well sumps.	a) at Ashbourne PS b) at Kilbride PS			
A new radio signal system in Ashbourne, Kilbride & Ratoath pump stations.	Installation of a new radio signal system in the Ashbourne, Ratoath and Kilbride pumping stations which when complete will provide a robust alarm system for the pumping stations and help prevent unauthorised discharges from Kilbride PS.	Not Applicable	Completed	Completed

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Tables.

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	Required in this AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	Yes	Yes	Summary of finding in **Table 5.1**. Full report in **Appendix 7.2**.
Toxicity/Leachate Management	Yes	Yes	Yes	Summary of findings in **Table 5.2**. Full report in **Appendix 7.3**.
Toxicity of Final Effluent Report	Yes	Yes	No	N/A

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report is included in **Appendix 7.2** . A summary of the findings of this report is included below.

Priority Substances Assessment	On-going review of licenced discharges to sewers in the catchment of Ringsend WWTP. Priority substances detected in effluent should have no negative impacts outside the near field of the discharge due to dilution. See **Appendix 7.2**.

5.2 TOXICITY/LEACHATE MANAGEMENT

The Toxicity of Toxicity/Leachate Management Repot is included in **Appendix 7.3** . A summary of the findings of this report is included below.

Toxicity/Leachate Management	Annual leachate volume at Ringsend is not significant at **182,226** cubic metres. This constitutes 499 cubic metres per day (0.10 % v/v) based on the 2023 mean daily influent volume of 493,240 cubic metres. See **Appendix 7.3**.

5.3 TOXICITY OF FINAL EFFLUENT

The Toxicity of Final Effluent Report is not included in this 2023 AER. A summary of the findings of this report is included below.

Toxicity of Final Effluent Report	A Toxicity of Final Effluent Report has not been prepared for this 2023 AER. It should be noted that the toxicity test results in previous AERs have consistently shown that the effluent aquatic toxicity complies well with the licence limit of 5 TU.

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?	Yes
List reason e.g., additional SWO identified	EPA Initiated Review
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	N/A
List reason e.g., changes to monitoring requirements	N/A
Have these processes commenced?	Yes
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	No – Toxicity of Final Effluent Report has not been prepared for this AER.

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

Date: 25/10/2024

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

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

In the appendix include all the detailed or site-specific reports that are relevant to the AER.

Appendix
Appendix 7.1 - Ambient Monitoring Summary
Appendix 7.2 - Priority Substances Assessment
Appendix 7.3 - Toxicity Leachate Management Report
Appendix 7.4 - Final Effluent Toxicity Assessment
Appendix 7.5 - Met Eireann Orange and Red Alerts affecting Ringsend WWTP

Appendix 7.1 - Ambient Monitoring Summary

Appendix 7.1.1 Dublin Ambient Sampling Points Map

Appendix 7.1.2 Transitional Monitoring Water Quality Data: ASW2 – ASW10

Appendix 7.1.3 Transitional Monitoring - Water Quality Data: Points Agreed by the EPA

Appendix 7.1.4 Coastal Monitoring - Dublin Bay Water Quality Data: Points Agreed by the EPA

Appendix 7.1.5 Coastal Monitoring – Bathing Water Quality Data: ASW11 – ASW18

Appendix 7.1.1 Dublin Ambient Sampling Points Map

Appendix 7.1.2 Transitional Water Body Monitoring 2023 ASW2- ASW10

Report for Samples Taken During the Period: 01/04/2023 - 31/10/2023

Customer	EPA Code	Test List	Sampling Point	Sampling Point Description	Sampled Date	Sample Number	Ammonia µg/l as N	B.O.D. Saline mg/l	Chlorophyll a mg/m3	DIN µg/l	Dissolved Oxygen LOW % Sat.	Dissolved Oxygen HIGH % Sat.	Pheophytin a mg/m3	Phosphorus (React) µg/l SRP as P	Salinity PSU	Silica µg/l as SiO_2	Temperature °C	TON µg/l as N
				Surface Water Objectives for Transitional Water Bodies SI 272 of 2009 as amended by SI 77 of 2019				HIGH <3.0 mg/l (95%-ile) GOOD <4.0 mg/l (95%-ile)	HIGH-GOOD 2.5 median GOOD - MODERATE 5.0 median		Lower Limit 0 PSU 95%-ile > 70% Sat Lower Limit 35 PSU 95%-ile > 80% Sat	Higher Limit 0 PSU 95%-ile < 130% Sat Higher Limit 35 PSU 95%-ile < 120 % Sat		HIGH 0% to 17% PSU <0.030 mg/l p (median) GOOD 0 - 17% PSU <0.060 mg/l P (median)				
				Compliant														
				Non-Compliant														
DCC	ASW 2S	123_ESTUAR	130842	(130842) Liffey Estuary Lower, 25m North of Poolbeg Wall - Surface Sample	19/04/2023 10:22	2075755	549	3	12.4	1267	100		2.8	101	33.42	97	12.2	718
					17/05/2023 10:11	2085277	11	3	2.7	3036	100		0.8	215	33.16	1922	13.7	3025
					15/06/2023 10:46	2095157	41	2	21.2	272	120		3.4	157	34.61	708	19.6	231
					13/07/2023 11:04	2105190	1400	2	2.3	2375	98		1.2	669	33.77	1596	18.7	975
					10/08/2023 09:30	2114821	210	<1	2.5	419	103		1.3	90	33.26	918	18.6	209
					11/10/2023 09:20	2136938	17	2	1.5	2474	101		0.5	488	34.44	3004	15.9	2457
									2.6					**186**				
DCC	ASW 2D	123_ESTUAR	130843	(130843) Liffey Estuary Lower, 25m North of Poolbeg Wall - Depth Sample	19/04/2023 10:23	2075756	262	2	7.7	372	94		4.5	74	34.52	<50	10.6	110
					17/05/2023 10:12	2085278	<10	3	7.5	816	96		1.8	79	34.46	331	12.6	816
					15/06/2023 10:48	2095158	<10	2	14.7	123	118		2.9	23	34.76	606	19.3	123
					13/07/2023 11:06	2105191	127	1	3.5	173	93		2.3	52	34.68	174	14.8	46
					10/08/2023 09:35	2114822	71	<1	2.7	120	102		0.9	30	33.57	154	18.2	49
					11/10/2023 09:25	2136939	13	2	2.3	597	98		1.3	143	34.83	843	15.6	584
									5.5					**63**				
DCC	ASW 3S	123_ESTUAR	130844	(130844) Liffey Estuary Lower, 50m North of Poolbeg Wall - Surface Sample	19/04/2023 10:14	2075757	85	3	12.7	2091	99		2.6	155	33.58	120	11.8	2006
					17/05/2023 09:59	2085279	12	2	3.7	3790	99		0.9	184	33.29	1752	14.6	3778
					15/06/2023 10:36	2095159	56	3	15.4	347	118		2.6	171	34.56	935	19.5	291
					13/07/2023 10:41	2105192	1088	2	1.5	1891	97		0.8	619	33.82	1354	16.3	803
					10/08/2023 09:40	2114823	1954	2	1.5	2087	102		1.1	148	32.97	732	18.7	133
					11/10/2023 09:33	2136940	19	2	1.3		101		0.3	500	34.36	3035	15.8	2830
									2.6					**177.5**				
DCC	ASW 3D	123_ESTUAR	130845	(130845) Liffey Estuary Lower, 50m North of Poolbeg Wall - Depth Sample	19/04/2023 10:15	2075758	47	**4**	15.1	256	92		5.3	38	34.69	<50	9.9	209
					17/05/2023 10:00	2085280	<10	1	16.1	307	91		<0.1	61	34.48	192	12.7	307
					15/06/2023 10:39	2095160	<10	2	13.8	< 50	113		2.6	15	34.91	124	19	<40
					13/07/2023 10:43	2105193	58	1	2.9	58	93		2.3	35	34.8	124	14.4	<40
					10/08/2023 09:45	2114824	194	<1	2.3	315	102		1.5	56	34.46	707	18	121
					11/10/2023 09:38	2136941	20	**5**	3.2	1094	100		3	285	34.78	675	15.4	1074
									8.5					**47**				

DCC	ASW 4S	123_ESTUAR	130846	(130846) Liffey Estuary Lower, 75m North of Poolbeg Wall - Surface Sample	19/04/2023 09:50	2075759	134	3	12	1537	98		3	112	33.41	<50	11.7	1403
					17/05/2023 09:30	2085281	<10	1	3.2	2465	99		0.8	124	33.82	1048	13	2465
					15/06/2023 10:16	2095161	<10	2	22.4	108	**125**		4.5	11	34.43	489	18.5	108
					13/07/2023 10:05	2105194	62	<1	2.8	204	98		0.9	39	33.9	337	15.7	142
					10/08/2023 09:49	2114825	61	<1	2.5	354	103		1.3	29	33.39	577	18.6	293
					11/10/2023 10:55	2136942	17	<1	2.3	466	100		0.2	61	34.24	1021	15.7	449
									3					**50**				
DCC	ASW 4D	123_ESTUAR	130847	(130847) Liffey Estuary Lower, 75m North of Poolbeg Wall - Depth Sample	19/04/2023 09:51	2075760	31	2	12.4	87	93		2.3	12	34.66	54	9.7	56
					17/05/2023 09:31	2085282	<10	1	5.5	351	91		1.4	60	34.75	201	12.2	351
					15/06/2023 10:19	2095162	<10	2	21.4	82	**122**		4.5	18	34.93	269	18.1	82
					13/07/2023 10:07	2105195	22	<1	2.1	22	92		0.5	25	34.98	104	14.5	<40
					10/08/2023 09:53	2114826	46	<1	2.1	114	102		1.7	30	34.23	352	17.9	68
					11/10/2023 11:00	2136943	<10	<1	2.1	190	96		0.2	37	34.78	429	15.2	190
									3.8					**27.5**				
DCC	ASW 5S	123_ESTUAR	130848	(130848) Liffey Estuary Lower, 100m North of Poolbeg Wall - Surface Sample	19/04/2023 09:28	2075761	60	2	13.8	569	98		3.5	38	34.2	<50	11.4	509
					17/05/2023 09:18	2085283	<10	1	4.7	427	100		1.1	66	33.68	361	13.1	427
					15/06/2023 10:22	2095163	<10	2	27.1	< 50	120		5.9	<10	34.82	132	18.4	<40
					13/07/2023 09:48	2105196	37	<1	2.7	37	99		0.5	28	33.75	128	15.5	<40
					10/08/2023 10:00	2114827	66	<1	2.4	246	102		1.6	28	33.45	674	18.2	180
					11/10/2023 11:09	2136944	<10	<1	2	397	100		0.2	52	34.39	921	15.8	397
									3.7					**33**				
DCC	ASW 5D	123_ESTUAR	130849	(130849) Liffey Estuary Lower, 100m North of Poolbeg Wall - Depth Sample	19/04/2023 09:29	2075762	23	2	13.1	23	97		3.1	12	34.75	105	10.5	<40
					17/05/2023 09:19	2085284	<10	1	5.6	189	94		1	57	34.69	164	12.4	189
					15/06/2023 10:25	2095164	<10	2	18.2	78	117		3.8	<10	34.91	506	18	78
					13/07/2023 09:50	2105197	31	<1	2.1	31	97		0.9	23	34.81	100	14.8	<40
					10/08/2023 10:04	2114828	41	1	2.8	100	101		1.1	26	33.63	341	17.6	59
					11/10/2023 11:14	2136945	29	<1	2.3	300	96		0.3	53	34.7	537	15.5	271
									4.2					**24.5**				
DCC	ASW 6S	123_ESTUAR	40063	(40063) Liffey City D/S Islandbdg Weir	19/04/2023 09:05	2075712	25	<1	2.3	2177	96		1.8	20	0.22	3588	11.7	2152
					17/05/2023 09:00	2085154	<10	1	2.8	1318	100		2.8	10	0.3	217	14.4	1318
					15/06/2023 09:10	2094897	78	1	6.3	2914	94		3.7	<10	0.2	3282	19	2836
					13/07/2023 08:35	2105100	35	1	3.7	1861	90		3.1	33	0.2	3575	16.5	1826
					10/08/2023 09:10	2114623	30	<1	5.6	1971	95		2.8	50	0.2	4902	17.3	1941
					28/09/2023 09:00	2132270	19	<1	2	1815	93		1.8	45	0.2	5239	14	1796
									3.25					**26.5**				
DCC	ASW 7S	123_ESTUAR	40067	(40067) Liffey City Heuston Stn u/s Camac	19/04/2023 09:30	2075713	<10	<1	2.4	2046	94		1.9	39	0.23	4267	11.2	2046
					17/05/2023 09:15	2085155	14	<1	1.3	1653	91		2.8	12	0.6	326	14	1639
					15/06/2023 09:25	2094898	25	<1	3.3	1981	85		2.3	16	0.2	3739	18.7	1956
					13/07/2023 08:55	2105101	29	1	4.3	1610	90		2.1	34	1	4085	16.3	1581
					10/08/2023 09:25	2114624	29	2	2.3	1703	95		1.5	33	0.2	4913	17.2	1674
					28/09/2023 02:00	2132271	34	<1	1.3	1800	93		2.3	45	0.2	6535	14.1	1766
									2.35					**33.5**				

DCC	ASW 8S	123_ESTUAR	40072	(40072) Liffey City Winetav St Bridge	19/04/2023 09:55	2075714	<10	1	1.2	1997	92		1.5	43	0.32	4112	11.6	1997
					17/05/2023 11:15	2085156	17	<1	1.7	1408	95		2.8	18	2.2	633	15.8	1391
					15/06/2023 11:35	2094899	18	<1	6.1	1885	89		2.4	12	2.9	3240	20.1	1867
					13/07/2023 10:55	2105102	51	<1	4.8	1564	88		2.5	32	4.4	3727	15.6	1513
					10/08/2023 11:00	2114625	26	<1	5.2	1440	93		3.7	42	0.2	4844	17.3	1414
					28/09/2023 09:45	2132272	90	<1	1.2	1905	92		1.9	46	0.3	6446	13.8	1815
									3.25					38				
DCC	ASW 9S	123_ESTUAR	40457	(40457) Liffey (S) D/S Toll Bridge	19/04/2023 10:15	2075715	33	1	2	1612	94		2	<10	4.05	3653	11.6	1579
					17/05/2023 10:00	2085157	<10	1	1.7	< 50	92		1.2	11	10.1	<50	14.1	<40
					15/06/2023 10:00	2094900	11	<1	20.2	674	100		3.8	12	11.4	861	18.6	663
					13/07/2023 09:30	2105103	60	2	4.7	735	81		5.6	34	5.5	4429	15.6	675
					10/08/2023 09:50	2114626	39	1	1.5	522	93		1.2	48	4.3	3687	17.3	483
					28/09/2023 10:15	2132273	60	<1	1.1	688	94		1.4	22	1.9	4305	13.3	628
									0.95					17				
DCC	ASW 10S	123_ESTUAR	45082	(45082) Tolka River D/S Annesley Bridge	19/04/2023 10:25	2075716	26	1	3	1618	90		4.4	174	1.76	2520	10.1	1592
					17/05/2023 10:10	2085158	40	<1	1.9	1267	93		3.3	22	0.9	962	12.6	1227
					15/06/2023 10:20	2094901	98	<1	4.7	755	**69**		4.1	61	14.5	7842	17.5	657
					13/07/2023 10:20	2105104	57	<1	1.7	1168	90		2.3	90	1.3	6281	15.6	1111
					10/08/2023 10:10	2114627	38	<1	0.9	1801	96		1.1	36	0.4	3621	16.4	1763
					28/09/2023 10:30	2132274	72	1	1.5	2007	89		1.7	93	0.4	7952	13.8	1935
									1.8					75.5				

Appendix 7.1.3 Transitional Water Body Monitoring 2023 - EPA DB-020 to DB-420

Report for Samples Taken During the Period: 01/04/2023 - 31/10/2023

EPA Code	Test List	Sampling Point	Sampling Point Description	Sampled Date	Sample Number	Ammonia µg/l as N	B.O.D. Saline mg/l	Bottom Oxygen % Sat.	Bottom Temperature °C	Chlorophyll a mg/m3	DIN µg/l	Dissolved Oxygen LOW % Sat.	Pheophytin a mg/m3	Phosphorus (React) µg/l SRP as P	Salinity PSU	Salinity (Mean) PSU	Silica µg/l as SiO2	Surface Oxygen % Sat.	Surface Temperature °C	Temperature °C	TON µg/l as N
			Surface Water Objectives for Transitional Water Bodies SI 272 of 2009 as amended by SI 77 of 2019																		
			Compliant				HIGH <3.0 mg/l (95%-ile) GOOD <4.0 mg/l (95%-ile)			HIGH-GOOD 2.5 median GOOD - MODERATE 5.0 median		Lower Limit 0 PSU 95%-ile > 70% Sat Lower Limit 35 PSU 95%-ile > 80% Sat		HIGH 0% to 17% PSU <0.030 mg/l p (median) GOOD 0 - 17% PSU <0.060 mg/l P (median)							
			Non-Compliant																		
DB 020	123_ESTUAR	130870	(130870) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Surface Sample	19/04/2023 08:01	2075763	12	<1			2.4	1321	96	2.3	10	16.61		<50			11.3	1309
				17/05/2023 08:01	2085285	<10	<1			0.7	1983	98	1.5	55	20.2		1981			13.5	1983
				15/06/2023 08:26	2095165	<10	2			26.7	803	121	5.7	<10	34.62		1056			18.6	803
				13/07/2023 07:50	2105198	29	1			2.1	1032	97	2.1	44	23.71		1939			15.6	1003
				10/08/2023 08:23	2114829	19	<1			1.2	771	104	1.8	33	29.27		5530			18.3	752
				11/10/2023 08:30	2136946	<10	<1			0.7	2477	102	0.5	49	24.78		7446			16.3	2477
																24.87					
										1.65				38.5							
DB 020	123_ESTUAR	130871	(130871) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Depth Sample	19/04/2023 08:02	2075764	<10	3			18.7	507	93	16.6	15	33.24		<50			10.1	507
				17/05/2023 08:02	2085286	<10	1			5.3	555	93	2.5	130	33.19		634			12.7	555
				15/06/2023 08:30	2095166	10	3			40	128	120	9.5	23	32.44		253			18.3	118
				13/07/2023 07:52	2105199	135	1			3.5	212	93	2.5	50	33.55		252			15.1	77
				10/08/2023 08:25	2114830	49	<1			1.2	187	103	1.4	18	32.17		740			17.9	138
				11/10/2023 08:37	2136947	<10	<1			0.9	1341	99	0.6	58	33.29		3475			15.9	1341
																32.98					
										4.4				36.5							
DB 120	123_ESTUAR	130800	(130800) Liffey Estuary Lower, Dodder Grand Canal Basin- Surface Sample	19/04/2023 08:10	2075746	<10	<1			2	691	100	2.6	<10	18.74		<50			11.4	691
				17/05/2023 08:07	2085268	<10	<1			2.4	1514	98	<0.1	58	23.5		1927			13.5	1514
				15/06/2023 08:41	2095148	<10	2			26.7	843	126	4.4	<10	23.37		989			18.4	843
				13/07/2023 08:04	2105181	73	1			1.5	802	96	2.8	36	19.61		4595			15.3	729
				10/08/2023 08:36	2114812	26	1			2.3	534	104	1.7	21	25.73		3200			18.5	508
				11/10/2023 08:45	2136929	15	<1			0.9	1269	100	0.7	31	23.62		7711			15.9	1254
																22.43					
										2.15				26							
DB 120	123_ESTUAR	130801	(130801) Liffey Estuary Lower, Dodder Grand Canal Basin- Depth Sample	19/04/2023 08:11	2075747	11	2			12	896	93	11.9	<10	33.27		<50			11.1	885
				17/05/2023 08:08	2085269	<10	2			<0.1	556	95	17.4	95	33.22		551			12.9	556
				15/06/2023 08:45	2095149	14	4			38.1	195	122	6.8	11	35.62		731			17.9	181
				13/07/2023 08:06	2105182	94	2			6.8	182	90	4.4	41	33.62		241			14.6	88
				10/08/2023 08:39	2114813	30	<1			2.5	785	103	1.9	31	30.33		4583			18.1	755
				11/10/2023 08:54	2136930	17	<1			1.1	440	100	0.7	65	34.22		924			15.6	423
																33.38					
										4.65				36							
DB 210	123_ESTUAR	130810	(130810) Liffey Estuary Lower, East Link Toll Bridge - Surface Sample	19/04/2023 08:16	2075748	<10	<1			2.3	1359	100	2.1	<10	23.19		813			11.5	1359
				17/05/2023 08:13	2085270	<10	1			1.6	1364	99	0.8	65	25.2		1625			13.2	1364
				15/06/2023 08:58	2095150	<10	2			21.1	770	108	3.8	<10	30.67		929			18	770
				13/07/2023 08:15	2105183	58	1			2.1	734	96	1.3	39	26.39		1445			15.5	676
				10/08/2023 08:45	2114814	27	<1			1.1	327	103	1.4	30	29.62		2018			18.7	300
				11/10/2023 09:00	2136931	18	<1			0.5	1835	101	0.4	49	30.31		5543			15.9	1817
																27.56					
										1.85				34.5							
DB 210	123_ESTUAR	130811	(130811) Liffey Estuary Lower, East Link Toll Bridge - Depth Sample	19/04/2023 08:17	2075749	<10	2			10.7	463	92	6.9	<10	34.17		118			10.7	463
				17/05/2023 08:14	2085271	<10	1			4.8	410	94	1.1	82	33.67		415			12.7	410
				15/06/2023 09:04	2095151	<10	2			32.4	182	104	5.8	23	35.27		82			17.5	182
				13/07/2023 08:17	2105184	77	<1			2.8	148	94	0.9	34	33.75		234			14.2	71
				10/08/2023 08:50	2114815	68	<1			2	468	103	1.2	37	33.56		1427			18.3	400
				11/10/2023 09:06	2136932	10	<1			1.3	325	99	0.4	56	33.09		629			15.5	315
																33.92					
										3.8				35.5							

DB 220	123_ESTUAR	130820	(130820) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Surface Sample	19/04/2023 08:23	2075750	17	1			8.8	728	100	2.7	18	27.6		286			11.4	711
				17/05/2023 08:22	2085272	<10	<1			3.9	451	99	0.6	65	32.71		442			13.1	451
				15/06/2023 09:18	2095152	<10	2			27.6	137	122	4.7	24	33.72		348			18	137
				13/07/2023 08:28	2105185	80	<1			2.3	208	98	0.6	39	30.3		299			15.4	128
				10/08/2023 09:00	2114816	50	<1			1.9	298	104	2.2	27	32.84		1054			18.6	248
				11/10/2023 10:25	2136933	14	<1			1.7	457	101	0.3	44	32.78		1118			15.8	443
																31.66					
										3.1				33							
DB 220	123_ESTUAR	130821	(130821) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Depth Sample	19/04/2023 08:24	2075751	81	2			10.8	561	91	3.3	48	34.55		82			10.2	480
				17/05/2023 08:23	2085273	<10	1			4.4	223	94	1.4	51	34.44		191			12.6	223
				15/06/2023 09:20	2095153	<10	2			21.8	160	119	3.4	16	34.43		848			17.7	160
				13/07/2023 08:30	2105186	44	<1			2.9	86	96	1.1	34	34.5		160			14.7	42
				10/08/2023 09:05	2114817	67	<1			1.3	435	103	0.7	43	34.37		1377			18.1	368
				11/10/2023 10:31	2136934	16	<1			2.3	345	99	0.5	45	33.41		517			15.3	329
																34.28					
										3.65				44							
DB 410	123_ESTUAR	130830	(130830) Liffey Estuary Lower, Ringsend Cascade - Surface Sample	19/04/2023 10:02	2075752	398	3			8	2910	98	3.2	185	33.38		387			11.3	2512
				17/05/2023 09:42	2085274	<10	2			2.8	2179	100	0.7	146	33.58		1138			14.7	2179
				15/06/2023 10:25	2095154	<10	3			27.2	102	125	5.3	10	34.33		414			18.6	102
				13/07/2023 10:21	2105187	54	<1			2.9	151	98	1.2	37	33.72		261			15.9	97
				10/08/2023 09:15	2114818	73	<1			2.3	323	103	0.8	37	33.06		903			18.8	250
				11/10/2023 10:37	2136935	15	<1			2	447	102	0.1	61	33.89		928			15.7	432
																33.66					
										2.85				49							
DB 410	123_ESTUAR	130831	(130831) Liffey Estuary Lower, Ringsend Cascade - Depth Sample	19/04/2023 10:03	2075753	30	2			12	30	88	3.5	17	34.49		<50			9.8	<40
				17/05/2023 09:43	2085275	<10	1			6.7	216	91	1.5	61	34.68		156			12.6	216
				15/06/2023 10:28	2095155	<10	2			21	61	122	3.1	20	34.82		280			17.8	61
				13/07/2023 10:23	2105188	28	<1			2.3	28	90	0.8	28	34.68		113			14.2	<40
				10/08/2023 09:19	2114819	51	<1			2.1	135	102	1.4	32	34.24		386			18.2	84
				11/10/2023 10:44	2136936	22	<1			1.9	292	99	0.5	47	34.93		571			15.2	270
																34.64					
										4.5				30							

DB 420	123A_ESTUA	130839	(130839) Liffey Estuary Lower, Poolbeg Lighthouse - Composite Sample	19/04/2023 10:56	2075754	16	2	100.2	9.5	9.3	16		2.1	13	34.98		<50	100.9	9.8		<40
				17/05/2023 10:28	2085276	<10	1	100.8	12.3	3.7	583		1.4	78	35.19		299	101.1	12.6		583
				15/06/2023 10:52	2095156	47	2	117	17.3	13.8	232		2.1	89	35.19		365	117.8	17.7		185
				13/07/2023 11:38	2105189	130	<1	100.3	15.1	3.1	201		0.9	53	35.32		203	100.9	15.5		71
				10/08/2023 11:25	2114820	23	<1	101.3	18.7	2.4	87		1.4	18	34.98		441	101.9	19.1		64
				11/10/2023 11:30	2136937	18	<1	99.5	15.6	1.6	235		0.1	43	35.16		420	100	15.8		217
																35.14					
										3.4				48							
DB 300	123_ESTUAR	45076	(45076) Tolka River U/S Drumcondra Bridge	19/04/2023 11:40	2075717	23	1			6.1	1628	89	2.9	<10	0.37		5038			11.8	1605
				17/05/2023 10:45	2085159	51	1			2.1	1594	104	3	21	0.2		1043			13.9	1543
				15/06/2023 11:15	2094902	47	<1			2.1	1457	112	2	21	0.4		6291			18.6	1410
				13/07/2023 10:35	2105105	33	1			1.5	1257	101	2.3	95	0.3		6527			16.6	1224
				10/08/2023 10:40	2114628	58	<1			0.7	2851	101	0.7	201	0.4		6395			16.8	2793
				28/09/2023 11:15	2132275	47	1			1.2	2021	94	2.6	112	0.3		7694			13.8	1974
																0.33					
										1.8				58							

DB 320	123_ESTUAR	130900	(130900) Tolka Estuary at East Point Business Park Bridge - Surface Sample	19/04/2023 10:40	2075718	220	1			4	1649	94	4.6	245	6.27		2418			9.5	1429
				17/05/2023 10:30	2085160	69	1			2.7	881	93	2.5	29	4.2		1656			13.4	812
				15/06/2023 10:30	2094903	156	2			34.9	791	95	8.3	239	22.2		977			19.9	635
				13/07/2023 09:45	2105106	86	1			3.9	1006	77	2.7	95	5.6		5237			15.8	920
				10/08/2023 10:30	2114629	63	<1			1.1	2059	95	1	38	1.9		2778			16.9	1996
				28/09/2023 10:45	2132276	117	1			2	1989	88	1.9	104	2.2		6625			13.7	1872
																7.06					
										3.3				99.5							

DB 320	123_ESTUAR	130901	(130901) Tolka Estuary at East Point Business Park Bridge - Depth Sample	19/04/2023 10:50	2075719	11	4			29.1	982	96	13.7	593	12.76		2843			9.9	971
				17/05/2023 10:20	2085161	137	<1			2.9	494	83	3.5	43	14.3		841			14.8	357
				15/06/2023 10:40	2094904	1209	5			29.4	2088	86	4.8	647	19.1		1898			20.1	879
				13/07/2023 10:05	2105107	110	1			3.7	736	76	2.7	85	15.5		3541			15.7	626
				10/08/2023 10:20	2114630	45	<1			1.3	1405	92	1.7	46	3.1		4063			17.1	1360
				28/09/2023 10:55	2132277	160	1			1.5	1892	87	1.7	101	4.4		7540			13.8	1732
																11.53					
										3.3				93							

DB 330	123A_ESTUA	130912	(130912) Tolka Estuary, Castle Ave. - Composite Sample	19/04/2023 08:59	2075765	20	3	99.8	11.4	12.1	394		3.4	50	34.56		91	99.9	11.5		374
				17/05/2023 08:52	2085287	<10	3	100.5	13	5.7	718		2.9	102	34.89		554	100.5	13.1		718
				15/06/2023 09:30	2095167	<10	4	126	19.5	40.9	148		8.5	88	34.74		284	126.1	19.5		148
				13/07/2023 09:24	2105200	121	1	99.8	15.2	4.3	259		1	56	34.88		486	100	15.4		138
				10/08/2023 10:35	2114831	117	1	103.5	18.5	2.9	323		1.7	48	33.87		1032	103.6	18.6		206
				11/10/2023 09:58	2136948	<10	<1	99.8	15.7	2.4	433		1.3	70	33.83		991	99.9	15.7		433
																34.46					
										5				91							

DB 340	123A_ESTUA	130922	(130922) Tolka Estuary, Clontarf Boat Club - Composite Sample	19/04/2023 08:47	2075766	98	2	100	10.9	13.2	770		3.5	46	34.68		82	100.1	11.1		672
				17/05/2023 08:41	2085288	<10	1	100.2	12.5	2.4	299		1	49	35.06		222	100.3	12.7		299
				15/06/2023 09:46	2095168	<10	3	126.9	19	25.5	59		6.2	27	34.82		277	127	19		59
				13/07/2023 09:15	2105201	46	<1	100	15.4	2.9	86		1.2	39	35		164	100.1	15.5		40
				10/08/2023 10:47	2114832	133	1	103.2	18.5	2.7	266		1.7	57	34.36		652	103.2	18.5		133
				11/10/2023 09:50	2136949	<10	<1	99.7	15.8	3.2	228		0.2	38	34.06		436	99.7	15.9		228
																34.66					
										3.05				42.5							

DB 350	123A_ESTUA	130932	(130932) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Composite Sample	19/04/2023 09:11	2075767	35	2	100.2	10.9	15.2	35		5.1	17	34.61		83	100.3	11		<40
				17/05/2023 09:03	2085289	<10	1	99.8	13	3.2	431		0.6	66	34.92		278	99.9	13		431
				15/06/2023 09:54	2095169	<10	3	126.5	18.7	35.6	106		8	44	35.1		295	126.5	18.7		106
				13/07/2023 09:36	2105202	81	1	99.6	15.2	3.2	167		1.4	50	35.07		237	99.6	15.2		86
				10/08/2023 10:55	2114833	213	1	102.9	18.5	2.8	356		2.3	78	34.19		539	102.9	18.6		143
				11/10/2023 10:09	2136950	<10	<1	99.8	15.8	2.4	328		0.1	58	34.09		677	99.9	15.8		328
																34.66					
										3.2				54							

Appendix 7.1.4 Dublin Bay Water Qua;ity Monitoring Points Agreed by the EPA

Report for Samples Taken During the Period: 01/04/2023 - 31/10/2023

EPA Code	Test List	Sampling Point	Sampling Point Description	Sampled Date	Sample Number	Ammonia µg/l as N	B.O.D. Saline mg/l	Bottom Oxygen % Sat.	Bottom Temperature °C	Chlorophyll a mg/m3	DIN µg/l Winter and Summer	Pheophytin a mg/m3	Phosphorus (React) µg/l SRP as P	Salinity (mean) PSU	Silica µg/l as SiO2	Surface Oxygen % Sat.	Surface Temperature °C	TON µg/l as N
			Surface Water Objectives for Transitional Water Bodies SI 272 of 2009 as amended by SI 77 of 2019															
			Compliant				**HIGH <3.0 mg/l (95%-ile) GOOD <4.0 mg/l (95%-ile)**			**HIGH-GOOD 2.5 median GOOD - MODERAT 5.0 median**	**HIGH STATUS 0 % PSU < 1000 ug/l N GOOD STATUS 0 % PSU 2,600 ug/l N**		**HIGH 0% to 17% PSU <0.030 mg/l p (median) GOOD 0 - 17% PSU <0.060 mg/l P (median)**					
			Non-Compliant															
DB 610	123A_ESTUA	130602	(130602) Irish Sea Dublin, Bailey - Composite Sample	10/05/2023 10:03	2082600	11	<1	97.7	11.7	3.2	11	0.5	<10	35.8	90	98.6	12.1	<40
				14/06/2023 09:34	2094517	<10	<1	104.7	15.3	3.5	< 50	0.7	<10	35.68	<50	105.6	16	<40
				12/07/2023 10:24	2104701	33	<1	99.9	14.7	2.7	33	1.2	23	35.76	113	101.7	15.7	<40
				09/08/2023 09:59	2114404	20	<1	99.9	18.2	1.2	108	0.3	19	35.68	688	100.6	18.6	88
										2.95			**12**					
DB 430	123A_ESTUA	130702	(130702) Dublin Bay,1km NE Poolbeg Lighthouse - Composite Sample	10/05/2023 10:18	2082592	<10	<1	99.4	11.5	2.3	54	0.9	<10	35.59	129	99.7	11.7	54
				14/06/2023 10:07	2094509	<10	1	112.9	16.4	4.1	40	1.7	43	35.57	222	113.6	16.6	40
				12/07/2023 09:31	2104693	31	<1	99.4	14.9	2.9	31	1.5	20	35.48	107	100.1	15.3	<40
				09/08/2023 10:42	2114396	59	<1	99.5	18.1	1.3	162	0.7	45	35.55	600	99.9	18.2	103
										2.6			**31.5**					
DB 450	123A_ESTUA	130712	(130712) Dublin Bay, South Bull Bouy, 1km SE Poolbeg Lighthouse - Composite Sample	10/05/2023 09:47	2082593	<10	<1	99.1	11.4	1.6	< 50	0.4	<10	35.63	62	99.6	11.8	<40
				14/06/2023 10:20	2094510	<10	<1	106.8	15.5	2	< 50	0.4	16	35.65	119	107.9	16.1	<40
				12/07/2023 08:58	2104694	24	<1	98.9	15	2.3	24	0.7	22	35.6	100	99.9	15.5	<40
				09/08/2023 11:00	2114397	159	<1	100	17.9	1.6	267	<0.1	66	35.64	670	100.4	18.3	108
										1.8			**19**					
DB 510*	123A_ESTUA	130722	(130722) Dublin Bay, 2.5km ENE Poolbeg Lighthouse - Composite Sample	10/05/2023 10:33	2082595	<10	<1	97.2	11.5	2.1	< 50	1.8	<10	35.76	77	97.7	11.9	<40
				14/06/2023 09:57	2094512	<10	<1	113.9	16.4	4.8	< 50	1.1	22	35.62	78	114.9	16.7	<40
				12/07/2023 09:49	2104696	34	<1	99.7	15.1	3.3	34	0.7	26	35.53	124	100.5	15.7	<40
				09/08/2023 10:20	2114399	66	<1	99.4	18.3	2	158	0.1	35	35.65	542	99.9	18.6	92
										2.7			**24**					
DB 540*	123A_ESTUA	130732	(130732) Dublin Bay, 2.5km SSE Poolbeg Lighthouse - Composite Sample	10/05/2023 09:34	2082596	<10	<1	98.9	11.5	2.9	< 50	0.4	<10	35.71	52	99.6	11.8	<40
				14/06/2023 10:34	2094513	<10	<1	105.7	15.3	3.1	71	0.6	20	35.62	495	107.1	16	71
				12/07/2023 09:14	2104697	32	<1	100.1	15.2	3.1	32	0.9	23	35.57	101	100.8	15.9	<40
				09/08/2023 09:45	2114400	21	<1	100.1	18.2	1.2	92	<0.1	28	35.58	512	100.7	18.6	71
										3			**21.5**					
DB 550	123A_ESTUA	130742	(130742) Dublin Bay, No. 4 Bouy, 2.5km E of S Poolbeg Lighthouse - Composite Sample	10/05/2023 09:15	2082594	37	<1	97.7	11.4	2.1	37	0.4	<10	35.75	78	98.5	11.8	<40
				14/06/2023 09:00	2094511	<10	<1	104.8	15.3	2.8	73	0.4	15	35.66	496	106	15.9	73
				12/07/2023 08:47	2104695	42	<1	98.6	14.6	2.4	42	0.7	21	35.51	101	99.6	15.4	<40
				09/08/2023 09:15	2114398	47	<1	100	18.1	1.9	127	0.2	43	35.65	538	100.6	18.5	80
										2.25			**18**					
DB 560	123A_ESTUA	130752	(130752) Dublin Bay, Drumleck Point, 5km ENE Poolbeg Lighthouse - Composite Sample	10/05/2023 10:31	2082598	<10	<1	97.7	11.7	2.7	62	0.7	<10	35.69	99	98.2	12.1	62
				14/06/2023 09:43	2094515	<10	<1	111.1	15.8	4.9	< 50	0.8	<10	35.66	<50	111.7	16.4	<40
				12/07/2023 10:10	2104699	29	<1	99.7	15.1	3.2	29	1	25	35.55	108	100.9	15.6	<40
				09/08/2023 10:15	2114402	33	<1	100.3	18.4	1.5	88	0.2	24	35.65	384	100.8	18.8	55
										2.95			**14.5**					
DB 570*	123A_ESTUA	130762	(130762) Dublin Bay, 5km ESE Poolbeg Lighthouse - Composite Sample	10/05/2023 09:23	2082599	<10	1	97.9	11.7	3.3	< 50	0.8	<10	35.74	<50	98.5	12.1	<40
				14/06/2023 09:12	2094516	<10	<1	104	15.1	2.7	< 50	0.5	<10	35.67	57	104.9	15.8	<40
				12/07/2023 08:34	2104700	17	<1	100.1	14.8	2.4	17	1	23	35.63	75	101.1	15.8	<40
				09/08/2023 09:30	2114403	34	<1	99.9	18.3	1.6	81	0.1	19	35.69	185	100.7	18.9	47
										2.55			**12**					
DB 580	123A_ESTUA	130772	(130772) Dublin Bay, Dún Laoghaire, 5km E of S Poolbeg Lighthouse - Composite Sample	10/05/2023 08:47	2082597	14	1	98.2	11.6	2.3	54	0.6	<10	35.8	68	98.7	12	40
				14/06/2023 08:50	2094514	12	<1	103.8	15.2	2.8	12	0.8	<10	35.62	<50	104.8	15.9	<40
				12/07/2023 08:21	2104698	29	<1	98.9	15.2	2.7	29	0.9	22	35.62	101	100.3	15.9	<40
				09/08/2023 09:00	2114401	32	<1	100.2	18.3	1.5	95	0.1	26	35.58	440	100.9	18.7	63
										2.5			**13.5**					

Appendix 7.1.5 Bathing Water Monitoring

Report for Samples Taken During the Period: 15/05/2023 - 30/09/2023

EPA Code **Test List** **Sampling Poi** **Sampling Point Description**

Compliant with Sufficient Quality
Non-Compliant with Sufficient Quality
POOLBEG DISCHARGE PLUME

EPA Code	Test List	Sampling Poi	Sampling Point Description	Sampled Date	Sample Number	E. coli MPN/100ml	Enterococci CFU/100ml	Enterococci (Confirmed) CFU/100ml	Floating Materials	Mineral Oil (visual)	pH pH	Phenols_Olfactory	Salinity PSU	Surfactants	Visual Comments	Visual Inspection
ASW 11	121_BEA_DCC	40520	(40520) Dollymount North	22/05/2023 14:30	2086615	<10	<1		Ectocarpus Present	Absent	8.7	Absent	33.8	Absent	Birds	Ectocarpus present
				06/06/2023 10:20	2091646	10		5	Ectocarpus Present	Absent	8.4	Absent	33.3	Absent	Dogs & Birds	Ectocarpus Present
				12/06/2023 06:35	2093294	52		87	Ectocarpus Present	Absent	8.1	Absent	32.4	Absent	No Comment	Ectocarpus present
				13/06/2023 08:00	2093869	<10		140	Ectocarpus Present	Absent	8	Absent	32.2	Absent	Birds	Ectocarpus present
				18/06/2023 12:10	2095777	<10		6	Ectocarpus Present	Absent	8.4	Absent	33.4	Absent	Birds	Ectocarpus present
				28/06/2023 06:20	2099324	131		20	Ectocarpus Present	Absent	8	Absent	32.9	Absent	Birds	Ectocarpus present
				03/07/2023 09:55	2101277	75		90	Absent	Absent	8.2	Absent	30.2	Absent	Dogs & Birds	Normal
				12/07/2023 06:50	2104319	41		120	Ectocarpus Present	Absent	8.1	Absent	33.9	Absent	Birds	Ectocarpus present
				17/07/2023 10:20	2105954	<10		6	Absent	Absent	8.3	Absent	31.8	Absent	Birds	Normal
				23/07/2023 14:50	2108093	<10	<1		Ectocarpus Present	Absent	8.3	Absent	32.4	Absent	Dogs	Ectocarpus present
				31/07/2023 09:15	2110882	341		**670**	Absent	Absent	8	Absent	32.3	Absent	Birds	Normal
				01/08/2023 10:00	2111378	**3448**		**1780**	Absent	Absent	8.2	Absent	32	Absent	Birds	Normal
				08/08/2023 16:05	2113874	20		1	Ectocarpus Present	Absent	8.5	Absent	33.5	Absent	Birds	Ectocarpus present
				14/08/2023 11:20	2115797	269		15	Absent	Absent	8.3	Absent	33.5	Absent	No Comment	Normal
				15/08/2023 12:10	2116408	213		19	Absent	Absent	8.2	Absent	33.7	Absent	No Comment	Normal
				20/08/2023 13:45	2118046	**605**		**210**	Ectocarpus Present	Absent	8.3	Absent	31	Absent	Birds	Ectocarpus present
				28/08/2023 11:25	2120854	<10		7	Ectocarpus Present	Absent	8.3	Absent	32.5	Absent	Birds	Ectocarpus present
				29/08/2023 09:15	2121357	134		60	Ectocarpus Present	Absent	8.1	Absent	33.1	Absent	Birds	Ectocarpus present
				03/09/2023 13:50	2123279	10		2	Ectocarpus Present	Absent	8.8	Absent	31.6	Absent	Birds	Ectocarpus present
				11/09/2023 13:00	2126130	148		62	Absent	Absent	8.2	Absent	32.8	Absent	No Comment	Normal
				Number		**19**	**1**	**18**								
				25/09/2023 11:25	2130925	213		58	Ectocarpus Present	Absent	8.3	Absent	32.3	Absent	Birds	Ectocarpus present
ASW 12*	121_BEA_DCC	40526	(40526) Dollymount Bathing Zone	22/05/2023 14:45	2086616	<10		15	Ectocarpus Present	Absent	8.5	Absent	33.7	Absent	Birds	Ectocarpus present
				06/06/2023 10:30	2091647	110		10	Ectocarpus Present	Absent	8.5	Absent	33.1	Absent	Dogs & Birds	Ectocarpus Present
				12/06/2023 07:25	2093295	195		112	Ectocarpus Present	Absent	8	Absent	30.5	Absent	No Comment	Ectocarpus present
				13/06/2023 08:15	2093870	408		**240**	Ectocarpus Present	Absent	8	Absent	30.3	Absent	Birds	Ectocarpus present
				18/06/2023 12:20	2095778	345		25	Ectocarpus Present	Absent	8.3	Absent	32	Absent	Birds	Ectocarpus present
				28/06/2023 06:35	2099325	246		30	Ectocarpus Present	Absent	8	Absent	32.7	Absent	Birds	Ectocarpus present
				03/07/2023 10:20	2101278	52		80	Absent	Absent	8.2	Absent	31.2	Absent	Dogs & Birds	Normal
				12/07/2023 07:00	2104320	63		45	Ectocarpus Present	Absent	8	Absent	34	Absent	Birds	Ectocarpus present
				17/07/2023 10:35	2105955	41		17	Ectocarpus Present	Absent	8.4	Absent	31.8	Absent	Birds	Ectocarpus present
				23/07/2023 15:00	2108094	10		4	Ectocarpus Present	Absent	8.3	Absent	32.7	Absent	Birds	Ectocarpus present
				31/07/2023 09:30	2110883	295		70	Ectocarpus Present	Absent	8	Absent	31.9	Absent	Birds	Ectocarpus present
				01/08/2023 10:20	2111379	**3448**		**250**	Absent	Absent	8.4	Absent	32.6	Absent	Birds	Normal
				08/08/2023 16:25	2113875	31		2	Ectocarpus Present	Absent	8.2	Absent	33	Absent	Birds	Ectocarpus present
				14/08/2023 11:30	2115798	30		18	Absent	Absent	8.4	Absent	33.5	Absent	No Comment	Normal
				15/08/2023 12:20	2116409	85		50	Absent	Absent	8.2	Absent	33.7	Absent	No Comment	Normal
				20/08/2023 14:00	2118047	323		80	Ectocarpus Present	Absent	8.1	Absent	31.6	Absent	Birds	Ectocarpus present
				28/08/2023 11:40	2120855	20		25	Ectocarpus Present	Absent	8.3	Absent	32.4	Absent	Birds	Ectocarpus present
				29/08/2023 09:30	2121358	226		100	Ectocarpus Present	Absent	8.2	Absent	33.1	Absent	Birds	Ectocarpus present
				03/09/2023 14:00	2123280	62		9	Ectocarpus Present	Absent	8.8	Absent	31.7	Absent	Birds	Ectocarpus present
				11/09/2023 13:10	2126131	109		56	Absent	Absent	8.1	Absent	32.6	Absent	No Comment	Normal
						19		**19**								
				25/09/2023 11:40	2130926	441		103	Ectocarpus Present	Absent	8.2	Absent	32	Absent	Birds	Ectocarpus present

ASW 13	121_BEA_DCC	40530 (40530) Dollymount South	22/05/2023 15:20	2086617	<100	<1		Ectocarpus Present	Absent	8.8	Absent	34.8	Absent	Birds	Ectocarpus present
			06/06/2023 11:05	2091648	52		26	Ectocarpus Present	Absent	8.4	Absent	33.9	Absent	Birds	Ectocarpus Present
			12/06/2023 06:55	2093296	30		100	Ectocarpus Present	Absent	8.1	Absent	33.1	Absent	Dogs	Ectocarpus present
			13/06/2023 08:30	2093871	**670**		**1770**	Ectocarpus Present	Absent	8.1	Absent	32.1	Absent	Dogs	Ectocarpus present
			18/06/2023 12:30	2095779	<10	<1		Ectocarpus Present	Absent	8.3	Absent	32.9	Absent	Birds	Ectocarpus present
			28/06/2023 07:05	2099326	73		95	Ectocarpus Present	Absent	8	Absent	33	Absent	Birds	Ectocarpus present
			03/07/2023 10:50	2101279	30		12	Ectocarpus Present	Absent	8.2	Absent	32.6	Absent	Dogs	Ectocarpus present
			12/07/2023 07:30	2104321	<10		24	Ectocarpus Present	Absent	8	Absent	34.1	Absent	Birds	Ectocarpus present
			17/07/2023 10:50	2105956	63		9	Ectocarpus Present	Absent	8.1	Absent	32.7	Absent	Birds	Ectocarpus present
			23/07/2023 15:50	2108095	10		21	Ectocarpus Present	Absent	8.6	Absent	31.7	Absent	Birds	Ectocarpus present
			31/07/2023 09:50	2110884	20		14	Ectocarpus Present	Absent	8	Absent	32.9	Absent	Birds	Ectocarpus present
			01/08/2023 10:50	2111380	132		60	Ectocarpus Present	Absent	8.1	Absent	32.6	Absent	Dogs & Birds	Ectocarpus present
			08/08/2023 17:10	2113876	63		9	Ectocarpus Present	Absent	8.5	Absent	30.4	Absent	Birds	Ectocarpus present
			14/08/2023 11:50	2115799	292		47	Absent	Absent	8	Absent	33.5	Absent	No Comment	Normal
			15/08/2023 12:30	2116410	135		7	Absent	Absent	8	Absent	33.5	Absent	No Comment	Normal
			20/08/2023 14:25	2118048	**1314**		**210**	Ectocarpus Present	Absent	8.1	Absent	24.7	Absent	Birds	Ectocarpus present
			28/08/2023 12:10	2120856	20		11	Ectocarpus Present	Absent	8.1	Absent	32.2	Absent	Birds	Ectocarpus present
			29/08/2023 09:50	2121359	62		31	Ectocarpus Present	Absent	8.1	Absent	33.1	Absent	Birds	Ectocarpus present
			03/09/2023 14:35	2123281	41		13	Ectocarpus Present	Absent	8.6	Absent	32.3	Absent	Birds	Ectocarpus present
			11/09/2023 13:20	2126132	213		26	Absent	Absent	8.1	Absent	33.1	Absent	No Comment	Normal
					19	**1**	**18**								
			25/09/2023 12:10	2130927	538		340	Ectocarpus Present	Absent	8.1	Absent	32.8	Absent	Birds	Ectocarpus present
ASW 14	121_BEA_DCC	40535 (40535) Bull Wall Wood Causeway	22/05/2023 15:05	2086618	<10		55	Absent	Absent	8.2	Absent	32.4	Absent	Dogs	Normal
			06/06/2023 10:50	2091649	85		11	Absent	Absent	9.5	Absent	32.7	Absent	No Comment	Normal
			12/06/2023 07:15	2093297	350		57	Ectocarpus Present	Absent	8.1	Absent	31.7	Absent	No Comment	Ectocarpus present
			13/06/2023 08:15	2093872	74		9	Absent	Absent	8.1	Absent	32	Absent	Birds	Normal
			18/06/2023 12:00	2095780	41		11	Absent	Absent	8.1	Absent	31	Absent	Birds	Normal
			28/06/2023 06:55	2099327	457		96	Absent	Absent	7.9	Absent	30.7	Absent	Dogs & Birds	Normal
			03/07/2023 10:35	2101280	75		35	Absent	Absent	8.2	Absent	30.4	Absent	No Comment	Normal
			12/07/2023 07:45	2104322	**988**		**630**	Absent	Absent	7.9	Absent	30.2	Absent	No Comment	Normal
			17/07/2023 11:05	2105957	**1391**		**260**	Absent	Absent	8.2	Absent	28.7	Absent	No Comment	Normal
			23/07/2023 15:30	2108096	**1918**		**540**	Absent	Absent	8	Absent	31	Absent	Birds	Normal
			31/07/2023 10:10	2110885	**609**		**270**	Absent	Absent	7.9	Absent	29.8	Absent	Dogs	Normal
			01/08/2023 10:40	2111381	243		130	Absent	Absent	8.1	Absent	29.9	Absent	Birds	Normal
			08/08/2023 17:30	2113877	712		124	Absent	Absent	7.8	Absent	24.1	Absent	No Comment	Normal
			14/08/2023 11:45	2115800	521		74	Absent	Absent	8	Absent	26.6	Absent	No Comment	Normal
			15/08/2023 12:40	2116411	282		30	Absent	Absent	8	Absent	28.1	Absent	No Comment	Normal
			20/08/2023 14:45	2118049	**717**		**190**	Absent	Absent	8	Absent	31.7	Absent	No Comment	Normal
			28/08/2023 12:55	2120857	146		30	Absent	Absent	8.2	Absent	30.2	Absent	Birds	Normal
			29/08/2023 09:40	2121360	410		137	Absent	Absent	8.1	Absent	28.7	Absent	Birds	Normal
			03/09/2023 14:15	2123282	52		9	Absent	Absent	8.1	Absent	30.8	Absent	Birds	Normal
			11/09/2023 13:40	2126133	**2603**		690	Absent	Absent	8	Absent	31.5	Absent	No Comment	Normal
					19		**19**								

				25/09/2023 11:55	2130928	8164		1360	Ectocarpus Present	Absent	8.1	Absent	26.3	Absent	Birds	Ectocarpus present
ASW 15	121P_BW	40538 (40538) Poolbeg Outfall Main Discharge		22/05/2023 14:50	2086619	10950		540	Absent	Absent	7.4	Absent	15.6	Absent	No Comment	Normal
				06/06/2023 11:55	2091650	40		2	Absent	Absent	8.1	Absent	31.4	Absent	Birds	Normal
				12/06/2023 06:40	2093298	2274		260	Absent	Absent	7.5	Absent	22.6	Absent	Birds	Normal
				13/06/2023 08:20	2093873	3248		5400	Absent	Absent	7.4	Absent	22.2	Absent	Birds	Normal
				18/06/2023 13:00	2095781	558		270	Absent	Absent	8	Absent	31.8	Absent	No Comment	Normal
				28/06/2023 06:00	2099328	718		118	Absent	Absent	7.6	Absent	26	Absent	Birds	Normal
				03/07/2023 11:30	2101281	4611		2300	Absent	Absent	7.7	Absent	27.3	Absent	Birds	Normal
				12/07/2023 07:10	2104323	1248		83	Absent	Absent	7.6	Absent	25.3	Absent	No Comment	Normal
				17/07/2023 11:45	2105958	3978		870	Absent	Absent	7.5	Absent	22.1	Absent	No Comment	Normal
				23/07/2023 15:15	2108097	10950		2000	Absent	Absent	7.2	Absent	17.2	Absent	No Comment	Normal
				31/07/2023 10:45	2110886	1096		330	Absent	Absent	7.8	Absent	28	Absent	Birds	Normal
				01/08/2023 11:30	2111382	1684		480	Absent	Absent	7.8	Absent	28.9	Absent	No Comment	Normal
				08/08/2023 16:25	2113878	2666		182	Absent	Absent	7.5	Absent	23.6	Absent	No Comment	Normal
				14/08/2023 12:20	2115801	7308		2300	Absent	Absent	7.4	Absent	22.1	Absent	No Comment	Normal
				15/08/2023 13:10	2116412	5206		1882	Absent	Absent	7.5	Absent	22.3	Absent	No Comment	Normal
				20/08/2023 13:40	2118050	1466		330	Absent	Absent	7.6	Absent	25	Absent	Birds	Normal
				28/08/2023 09:10	2120858	4128		400	Absent	Absent	7.5	Absent	23.4	Absent	Birds	Normal
				29/08/2023 10:20	2121361	4884		3200	Absent	Absent	7.6	Absent	25	Absent	Birds	Normal
				03/09/2023 13:10	2123283	4564		620	Absent	Absent	7.8	Absent	26	Absent	Birds	Normal
				11/09/2023 14:10	2126134	9222		7800	Absent	Absent	7.4	Absent	20.8	Absent	No Comment	Normal
						19		**19**								
				25/09/2023 10:15	2130929	2224		5600	Absent	Absent	7.8	Absent	29.3	Absent	Birds	Normal
ASW 16	121_BEA_DCC	40540 (40540) Half Moon Club S-Side Wall		22/05/2023 15:10	2086620	10		10	Absent	Absent	8.1	Absent	33.4	Absent	No Comment	Normal
				06/06/2023 12:30	2091651	<10	<1		Absent	Absent	8.2	Absent	33.3	Absent	No Comment	Normal
				12/06/2023 07:05	2093299	<10		16	Absent	Absent	8.1	Absent	32.7	Absent	Birds	Normal
				13/06/2023 08:45	2093874	<10		5	Ectocarpus Present	Absent	8.1	Absent	33.6	Absent	No Comment	Ectocarpus present
				18/06/2023 12:40	2095782	1014		19	Absent	Absent	8.1	Absent	33.6	Absent	No Comment	Normal
				28/06/2023 06:35	2099329	20		6	Absent	Absent	8	Absent	33.1	Absent	Birds	Normal
				03/07/2023 11:50	2101282	10		2	Absent	Absent	8.1	Absent	32.9	Absent	Birds	Normal
				12/07/2023 07:40	2104324	10		102	Absent	Absent	8	Absent	34	Absent	No Comment	Normal
				17/07/2023 12:10	2105959	<10		1	Ectocarpus Present	Absent	8.1	Absent	32.5	Absent	Birds	Ectocarpus present
				23/07/2023 15:50	2108098	63		5	Absent	Absent	8	Absent	32.7	Absent	No Comment	Normal
				31/07/2023 11:05	2110887	52		5	Ectocarpus Present	Absent	8.1	Absent	33.1	Absent	Birds	Ectocarpus present
				01/08/2023 11:50	2111383	20		5	Ectocarpus Present	Absent	8.1	Absent	32.8	Absent	Birds	Ectocarpus present
				08/08/2023 16:10	2113879	10		104	Ectocarpus Present	Absent	8	Absent	32.3	Absent	Birds	Ectocarpus present
				14/08/2023 13:20	2115802	203		17	Absent	Absent	8	Absent	33.2	Absent	No Comment	Normal
				15/08/2023 13:20	2116413	20		15	Absent	Absent	8.1	Absent	34.3	Absent	No Comment	Normal
				20/08/2023 13:55	2118051	86		16	Absent	Absent	8	Absent	31.4	Absent	Birds	Normal
				28/08/2023 09:40	2120859	109		12	Absent	Absent	8	Absent	30.8	Absent	Birds	Normal
				29/08/2023 10:40	2121362	187		21	Absent	Absent	8.2	Absent	33	Absent	Birds	Normal
				03/09/2023 13:30	2123284	<10		2	Absent	Absent	8.1	Absent	28.8	Absent	Birds	Normal
				11/09/2023 14:30	2126135	487		97	Absent	Absent	8	Absent	33.4	Absent	No Comment	Normal
						19	**1**	**18**								
				25/09/2023 10:40	2130930	211		23	Absent	Absent	8	Absent	33	Absent	No Comment	Normal

	121A_BEA_DCC	40542 (40542) Shelley Banks	22/05/2023 14:40	2086623	<10		1	Ectocarpus Present	Absent	8.1	Absent	33.8	Absent	No Comment	Ectocarpus present
			06/06/2023 11:45	2091654	<10		5	Absent	Absent	8.2	Absent	34.1	Absent	Birds	Normal
			12/06/2023 06:30	2093302	41		26	Ectocarpus Present	Absent	8	Absent	33.3	Absent	Birds	Ectocarpus present
			13/06/2023 08:00	2093877	<10		9	Ectocarpus Present	Absent	8.1	Absent	33.5	Absent	Birds	Ectocarpus present
			18/06/2023 13:10	2095785	189		106	Ectocarpus Present	Absent	8.2	Absent	33.3	Absent	Birds	Ectocarpus present
			28/06/2023 05:55	2099332	272		33	Absent	Absent	8	Absent	33.8	Absent	No Comment	Normal
			03/07/2023 11:20	2101285	110		23	Ectocarpus Present	Absent	8.1	Absent	33.1	Absent	Birds	Ectocarpus present
			12/07/2023 06:50	2104327	275		83	Ectocarpus Present	Absent	8	Absent	34	Absent	Birds	Ectocarpus present
			17/07/2023 11:35	2105962	<10		1	Ectocarpus Present	Absent	8.5	Absent	33	Absent	Birds	Ectocarpus present
			23/07/2023 15:00	2108101	<10		1	Ectocarpus Present	Absent	8	Absent	33.3	Absent	Birds	Ectocarpus present
			31/07/2023 10:35	2110890	439		**270**	Ectocarpus Present	Absent	7.7	Absent	33	Absent	Birds	Ectocarpus present
			01/08/2023 11:20	2111386	465		72	Ectocarpus Present	Absent	8	Absent	32.7	Absent	Birds	Ectocarpus present
			08/08/2023 15:40	2113882	**529**		102	Ectocarpus Present	Absent	8.2	Absent	33.9	Absent	Birds	Ectocarpus present
			14/08/2023 12:10	2115805	63		25	Ectocarpus Present	Absent	8	Absent	34.2	Absent	No Comment	Ectocarpus present
			15/08/2023 13:00	2116416	181		18	Ectocarpus Present	Absent	8.3	Absent	34.6	Absent	No Comment	Ectocarpus present
			20/08/2023 13:30	2118054	86		20	Ectocarpus Present	Absent	8	Absent	31	Absent	Birds	Ectocarpus present
			28/08/2023 09:00	2120862	**5172**		95	Ectocarpus Present	Absent	7.5	Absent	31.7	Absent	Birds	Ectocarpus present
			29/08/2023 10:10	2121365	**1333**		85	Ectocarpus Present	Absent	8	Absent	33.6	Absent	Birds	Ectocarpus present
			03/09/2023 13:00	2123287	10		2	Ectocarpus Present	Absent	8	Absent	30.2	Absent	Birds	Ectocarpus present
			11/09/2023 14:00	2126138	443		24	Ectocarpus Present	Absent	8	Absent	33.3	Absent	No Comment	Ectocarpus present
					19		**19**								
			25/09/2023 10:05	2130933	201		36	Absent	Absent	8.1	Absent	33.2	Absent	Birds	Normal
ASW 17*	121A_BEA_DCC	40545 (40545) Sandymount	22/05/2023 14:30	2086621	<10	<1		Ectocarpus Present	Absent	8.4	Absent	34.7	Absent	Birds	Ectocarpus present
			06/06/2023 12:55	2091652	52		1	Ectocarpus Present	Absent	8.2	Absent	34.3	Absent	Birds	Ectocarpus Present
			12/06/2023 06:50	2093300	31		30	Absent	Absent	8	Absent	33.1	Absent	Birds	Normal
			13/06/2023 07:45	2093875	279		130	Ectocarpus Present	Absent	7.9	Absent	32.4	Absent	Birds	Ectocarpus present
			18/06/2023 12:30	2095783	63		10	Ectocarpus Present	Absent	8.1	Absent	33.1	Absent	Birds	Ectocarpus present
			28/06/2023 06:35	2099330	256		25	Absent	Absent	8	Absent	33.5	Absent	Birds	Normal
			03/07/2023 12:10	2101283	96		18	Ectocarpus Present	Absent	8.1	Absent	33	Absent	Dogs & Birds	Ectocarpus present
			12/07/2023 06:55	2104325	20		135	Ectocarpus Present	Absent	8	Absent	33.8	Absent	Birds	Ectocarpus present
			17/07/2023 12:30	2105960	<10		2	Ectocarpus Present	Absent	8.1	Absent	32.3	Absent	Dogs	Ectocarpus present
			23/07/2023 15:30	2108099	52		22	Ectocarpus Present	Absent	8.1	Absent	31.9	Absent	Birds	Ectocarpus present
			31/07/2023 11:30	2110888	**548**		130	Ectocarpus Present	Absent	8	Absent	32.3	Absent	Dogs	Ectocarpus present
			01/08/2023 12:15	2111384	**759**		45	Ectocarpus Present	Absent	8.1	Absent	32.5	Absent	Birds	Ectocarpus present
			08/08/2023 16:30	2113880	52		15	Ectocarpus Present	Absent	8.1	Absent	32	Absent	Birds	Ectocarpus present
			14/08/2023 13:00	2115803	98		18	Absent	Absent	8.1	Absent	34.5	Absent	No Comment	Normal
			15/08/2023 13:40	2116414	145		12	Absent	Absent	8.1	Absent	34.4	Absent	No Comment	Normal
			20/08/2023 14:25	2118052	73		28	Ectocarpus Present	Absent	8.4	Absent	29.5	Absent	Birds	Ectocarpus present
			28/08/2023 09:55	2120860	374		57	Ectocarpus Present	Absent	8.2	Absent	31.5	Absent	Birds	Ectocarpus present
			29/08/2023 10:55	2121363	311		66	Ectocarpus Present	Absent	8.2	Absent	32.9	Absent	Birds	Ectocarpus present
			03/09/2023 13:50	2123285	31		1	Ectocarpus Present	Absent	8.2	Absent	29.9	Absent	Birds	Ectocarpus present

				11/09/2023 14:45	2126136	422		152	Absent	Absent	8.2	Absent	27.1	Absent	No Comment	Normal
						19		**19**								
				25/09/2023 09:00	2130931	882		170	Ectocarpus Present	Absent	7.9	Absent	32.6	Absent	No Comment	Ectocarpus present
ASW 18	**121_BEA_DCC**	**40553**	**(40553) Merrion Strand (non-identified BW)**	22/05/2023 14:45	2086622	10		1	Ectocarpus Present	Absent	8.3	Absent	34.5	Absent	Birds	Ectocarpus present
				06/06/2023 14:00	2091653	96		10	Ectocarpus Present	Absent	8.1	Absent	34.9	Absent	Birds	Ectocarpus Present
				12/06/2023 07:15	2093301	85		64	Ectocarpus Present	Absent	8.1	Absent	33.4	Absent	Birds	Ectocarpus present
				13/06/2023 08:10	2093876	216		93	Ectocarpus Present	Absent	8.1	Absent	32.9	Absent	Birds	Ectocarpus present
				18/06/2023 12:55	2095784	41		14	Ectocarpus Present	Absent	8.1	Absent	33.3	Absent	Birds	Ectocarpus present
				28/06/2023 06:55	2099331	199		64	Ectocarpus Present	Absent	8	Absent	33.3	Absent	Birds	Ectocarpus present
				03/07/2023 12:30	2101284	120		**430**	Ectocarpus Present	Absent	8	Absent	33	Absent	Birds	Ectocarpus present
				12/07/2023 07:30	2104326	288		**960**	Ectocarpus Present	Absent	8	Absent	33.2	Absent	Birds	Ectocarpus present
				17/07/2023 12:50	2105961	20		7	Ectocarpus Present	Absent	8.1	Absent	32.8	Absent	Birds	Ectocarpus present
				23/07/2023 15:45	2108100	185		30	Ectocarpus Present	Absent	8.1	Absent	31.4	Absent	Birds	Ectocarpus present
				31/07/2023 11:45	2110889	**4884**		**570**	Ectocarpus Present	Absent	8.1	Absent	31.6	Absent	Birds	Ectocarpus present
				01/08/2023 12:35	2111385	**1597**		**360**	Ectocarpus Present	Absent	8.2	Absent	32.8	Absent	Birds	Ectocarpus present
				08/08/2023 16:50	2113881	85		149	Ectocarpus Present	Absent	8.2	Absent	32.3	Absent	Birds	Ectocarpus present
				14/08/2023 13:10	2115804	155		30	Absent	Absent	8.2	Absent	34.3	Absent	No Comment	Normal
				15/08/2023 13:50	2116415	41		4	Absent	Absent	8.2	Absent	34.4	Absent	No Comment	Normal
				20/08/2023 14:45	2118053	52		5	Ectocarpus Present	Absent	8.5	Absent	30.8	Absent	Birds	Ectocarpus present
				28/08/2023 10:15	2120861	279		79	Ectocarpus Present	Absent	8.3	Absent	31.8	Absent	Birds	Ectocarpus present
				29/08/2023 11:15	2121364	144		84	Ectocarpus Present	Absent	8.4	Absent	33.2	Absent	Birds	Ectocarpus present
				03/09/2023 14:01	2123286	10		9	Ectocarpus Present	Absent	8.2	Absent	30.4	Absent	Birds	Ectocarpus present
				11/09/2023 14:50	2126137	435		90	Absent	Absent	8.3	Absent	32.9	Absent	No Comment	Normal
						19		**19**								
				25/09/2023 09:20	2130932	1421		210	Ectocarpus Present	Absent	7.8	Absent	32.7	Absent	Birds	Ectocarpus present

Appendix 7.2 – Priority Substance Assessment

Table 7.2.1 : Screening of Effluent (Sample 2116166, 15/08/2023)

Table 7.2.2 : Screening of Effluent (Sample 2128708, 19/09/2023)

Table 7.2.3 : Screening of Effluent (Sample 2141193, 24/10/2023)

Table 7.2.4 : Screening of Effluent (Sample 2150726, 21/11/2023)

Assessment of the Significance of the Discharge SW1 on Receiving Water Quality - 2023

Ringsend SBR Effluent Priority Substances Screening 2023

To comply with condition **4.11.1** of Licence D0034-01, 4 samples of the Ringsend SBR effluent were analysed during 2023 for a comprehensive suite of parameters from the:

- PRTR test suite
- EPA's 54 parameter test suite (Appendix 1, EPA Guidance on the Screening for Priority Substances for Waste Water Discharge Licences) which was issued on 17/01/11.

Summary of SBR Effluent Screening Results:

SBR Effluent Sample 1 - Reference 2116166 - Taken On 15/08/2023.

See **Table 7.2.1.** Many of the parameters tested for the PRTR suite in this effluent sample were reported as below the detection limit.

Parameters from the EPA's Guidance document detected in this effluent sample are highlighted in **Table 7.2.1.** These included low (microgram and sub-microgram per litre) levels of:

AOXs : were detected at 0.13 mg/l.

Total Nitrogen was detected at 7.1 mg/l as N.

Metals : The metals Lead (1 ug/l), (Arsenic (2 ug/l), Copper (7 ug/l), Zinc (51 ug/l) and Nickel (2 ug/l) were detected.

Results for other general parameters and additional tests were in the normal range for effluent sewage.

Table 7.2.1. Ringsend SBR Effluent Sample 1, 2116166 – 15/08/2023 Screening

EPA Parameters Screened for in Waste Water Discharges

No.	Compound	Result	Group of Compounds
	AOX's	**0.13 mg/l**	**AOX's**
1.	Benzene	< 0.1 ug/l	**VOC's**
2.	Carbon Tetrachloride		
3	1,2-Dichloroethane	< 0.2 ug/l	
4	Dichloromethane	< 0.5 ug/l	
	Bromodichloromethane		
5	Tetrachloroethylene	< 0.1 ug/l	
6	Trichloroethylene	< 0.1 ug/l	
7	Trichlorobenzene (sum of isomers))	< 0.50 ug/l	
8	Trichloromethane (Chloroform)		
9	Xylenes (sum of isomers)	< 0.1 ug/l	
10	Ethyl Benzene	< 0.5 ug/l	
11	Toluene	< 0.5 ug/l	
	Chloroalkanes (C10-C-13)	< 50.00 ug/l	
12	Naphthalene	< 0.005 ug/l	**PAH's**
13	Fluoranthene	< 0.005 ug/l	
14	Benzo(k)fluoranthene	< 0.005 ug/l	
15	Benzo(ghi)perylene	< 0.005 ug/l	
16	Indeno(1,2,3-c,d)pyrene	< 0.005 ug/l	
17	Benzo(b)fluoranthene	< 0.005 ug/l	
18	Benzo(a)pyrene	< 0.003ug/l	
	Acenaphthene	< 0.005 ug/l	
	Pyrene	< 0.005 ug/l	
	Anthracene	< 0.005 ug/l	
	Fluorene	< 0.005 ug/l	

No.	Compound	Result	Group of Compounds
	Phenanthrene	< 0.005 ug/l	
	Benz(a)anthracene	< 0.005 ug/l	
	Dibenz(ah)anthracene	<0.005 ug/l	
	Chrysene	<0.005 ug/l	
		< 0.078 ug/l	**Total PAH's**
19	Di(2-ethylhexyl)phthalate (DEHP)	< 1 ug/l	**Plasticisers**
	Diethyl Phthalate		
20	Isodrin	< 0.050 ug/l	**Pesticides**
	Aldrin	< 0.003 ug/l	
	Endrin	< 0.003 ug/l	
21	Dieldrin	< 5 ng/l	
22	Alachlor	< 0.01 ug/l	
23	Diuron	< 0.03 ug/l	
24	Isoproturon	< 0.10 ug/l	
25	Atrazine	< 0.100 ug/l	
26	Glyphosate		
	Chlorfenvinphos	< 0.15 ug/l	
	Chlorpyriphos	< 0.00 ug/l	
27	Mecoprop		
28	2,4-D		
	Gamma-HCH (Lindane)	<0.0500 ug/l	
	Heptachlor	< 0.003 ug/l	
	Hexachlorobenzene	< 0.05 ug/l	
	Hexachlorobutadiene	< 0.5 ug/l	
29	MCPA		
30	Linuron		
31	Dichlobenil		
32	2,6-Dichlorobenzamide		
	Diazinon		
	Dimethoate		

No.	Compound	Result	Group of Compounds
	Mirex	< 0.01 ug/l	
	Nonylphenol Ethoxylate	< 0.30 ug/l	
	Toxaphene	< 0.10 ug/l	
	Trifluoralin	< 0.05 ug/l	
	Vinyl Chloride	< 0.1 ug/l	
33	Total PCB's	< 0.07 ug/l	**PCB's**
34	Total Phenols (EPA)	< 100.0 ug/l	**Phenols**
	m,p- Methylphenol		**Cresols**
	o- Methylphenol		
	Total Nitrogen	**7.1 mg/l as N**	**Nutrients**
35	Lead (Total as Pb)	**1 ug/l**	**Metals**
36	Arsenic (Total as As))	**2 ug/l**	
37	Copper (Total as Cu)	**7 ug/l**	
38	Zinc (Total as Zn)	**51 ug/l**	
39	Cadmium (Total as Cd)	< 0.45 ug/l	
40	Mercury (Total as Hg)	< 0.5 ug/l	
41	Chromium (Total as Cr)	< 1 ug/l	
42	Selenium (Total as Se)		
43	Antimony (Total as Sb)		
44	Molybdenum (Total as Mo)		
45	Tin (Total as Sn)		
	Organo-Tin	< 0.05 ug/l	
	Tributyl Tin	< 0.02 ug/l	
	Triphenyl Tin	< 0.05 ug/l	
46	Barium (Total as Ba)		
47	Boron (Total as B)		
48	Cobalt (Total as Co)		
49	Vanadium (Total as V)		

No.	Compound	Result	Group of Compounds
50	Nickel (Total as Ni)	**2.0 ug/l**	
51	Fluoride (as F)	**0.4 mg/l**	**General**
52	Chloride (as Cl)	**320.1 mg/l**	
53	TOC (as C)		
54	Cyanide (Total as CN)	< 10 ug/l	
55	Sulphate (Total as SO4)		
	(Sample 2116153)		
56	Conductivity	1436	**Additional Tests**
57	Hardness (mg/l CaCO3)	-	
58	pH	7.6	

SBR Effluent Sample 2 - Reference 2128708 - Taken On 19/09/2023.

See Table 7.2.2. Many of the parameters tested for the PRTR suite in this effluent sample were reported as below the detection limit.

Parameters from the EPA's Guidance document detected in this effluent sample are highlighted in **Table 7.2.2**. These included low (microgram and sub-microgram per litre) levels of :

Total Nitrogen was detected at 7.6 mg/l as N.

Metals: The metals Lead (3 ug/l), Arsenic (3 ug/l), Copper (19 ug/l), Zinc (61 ug/l), Chromium (7 ug/l) and Nickel (8 ug/l) were detected.

Results for other general parameters and additional tests were in the normal range for effluent sewage.

Table 7.2.2. Ringsend SBR Effluent Sample 2, 2128708 – 19/09/2023 Screening

EPA Parameters Screened for in Waste Water Discharges

No.	Compound	Result	Group of Compounds
	AOX's	< 0.01 mg/l	**AOX's**
1.	Benzene	< 0.1 ug/l	**VOC's**
2.	Carbon Tetrachloride		
3	1,2-Dichloroethane	< 0.2 ug/l	
4	Dichloromethane	< 0.5 ug/l	
	Bromodichloromethane		
5	Tetrachloroethylene	< 0.1 ug/l	
6	Trichloroethylene	< 0.1 ug/l	
7	Trichlorobenzene (sum of isomers))	< 0.50 ug/l	
8	Trichloromethane (Chloroform)		
9	Xylenes (sum of isomers)	< 0.1 ug/l	
10	Ethyl Benzene	< 0.5 ug/l	
11	Toluene	< 0.5 ug/l	
	Chloroalkanes (C10-C-13)	< 50.00 ug/l	
12	Naphthalene	< 0.005 ug/l	**PAH's**
13	Fluoranthene	< 0.005 ug/l	
14	Benzo(k)fluoranthene	< 0.005 ug/l	
15	Benzo(ghi)perylene	< 0.005 ug/l	
16	Indeno(1,2,3-c,d)pyrene	< 0.005 ug/l	
17	Benzo(b)fluoranthene	< 0.005 ug/l	
18	Benzo(a)pyrene	< 0.003 ug/l	
	Acenaphthene	< 0.005 ug/l	
	Acenaphthylene	< 0.005 ug/l	
	Pyrene	< 0.005 ug/l	

No.	Compound	Result	Group of Compounds
	Anthracene	< 0.005 ug/l	
	Fluorene	< 0.005 ug/l	
	Phenanthrene	< 0.005 ug/l	
	Benz(a)anthracene	< 0.005 ug/l	
	Dibenz(ah)anthracene	<0.005 ug/l	
	Chrysene	<0.005 ug/l	
		< 0.078 ug/l	**Total PAH's**
19	Di(2-ethylhexyl) phthalate (DEHP)	< 1 ug/l	**Plasticisers**
	Diethyl Phthalate		
20	Isodrin	< 0.050 ug/l	**Pesticides**
	Aldrin	< 0.003 ug/l	
	Endrin	< 0.003 ug/l	
21	Dieldrin	< 5 ng/l	
	Alachlor	< 0.01 ug/l	
22	Diuron	< 0.03 ug/l	
23	Isoproturon	< 0.10 ug/l	
24	Atrazine	< 0.100 ug/l	
25	Simazine	< 0.100 ug/l	
26	Glyphosate		
	Chlorfenvinphos	< 0.15 ug/l	
	Chlorpyriphos	< 0.00 ug/l	
27	Mecoprop		
28	2,4-D		
	Gamma-HCH (Lindane)	<0.0500 ug/l	
	Heptachlor	< 0.003 ug/l	
	Hexachlorobenzene	< 0.05 ug/l	
	Hexachlorobutadiene	< 0.5 ug/l	
29	MCPA		
30	Linuron		
31	Dichlobenil		

No.	Compound	Result	Group of Compounds
32	2,6-Dichlorobenzamide		
	Diazinon		
	Dimethoate		
	Mirex	< 0.01 ug/l	
	Nonylphenol Ethoxylate	< 0.30 ug/l	
	Toxaphene	< 0.10 ug/l	
	Trifluoralin	< 0.05 ug/l	
	Vinyl Chloride	< 0.1 ug/l	
33	Total PCB's	< 0.07 ug/l	**PCB's**
34	Total Phenols (EPA)	< 100.0 ug/l	**Phenols**
	m,p- Methylphenol		**Cresols**
	o- Methylphenol		
	Total Nitrogen	**7.6 mg/l as N**	**Nutrients**
35	Lead (Total as Pb)	**3 ug/l**	**Metals**
36	Arsenic (Total as As))	**3 ug/l**	
37	Copper (Total as Cu)	**19 ug/l**	
38	Zinc (Total as Zn)	**61 ug/l**	
39	Cadmium (Total as Cd)	< 0.45 ug/l	
40	Mercury (Total as Hg)	< 0.5 ug/l	
41	Chromium (Total as Cr)	**7 ug/l**	
42	Selenium (Total as Se)		
43	Antimony (Total as Sb)		
44	Molybdenum (Total as Mo)		
45	Tin (Total as Sn)		
	Organo-Tin	< 0.05 ug/l	
	Tributyl Tin	< 0.02 ug/l	
	Triphenyl Tin	< 0.05 ug/l	
46	Barium (Total as Ba)		

No.	Compound	Result	Group of Compounds
47	Boron (Total as B)		
48	Cobalt (Total as Co)		
49	Vanadium (Total as V)		
50	Nickel (Total as Ni)	**8.0 ug/l**	
51	Fluoride (as F)	**0.3 mg/l**	**General**
52	Chloride (as Cl)	**234.3 mg/l**	
53	TOC (as C)		
54	Cyanide (Total as CN)		
55	Sulphate (Total as SO4)		
	(Sample 2128705)		
56	Conductivity	1139	**Additional Tests**
57	Hardness (mg/l CaCO3)	-	
58	pH	7.5	

SBR Effluent Sample 3 - Reference 2141193 – Taken On 24/10/2023.

See Table 7.2.3. Many of the parameters tested for the PRTR suite in this effluent sample were reported as below the detection limit.

Parameters from the EPA's Guidance document detected in this effluent sample are highlighted in **Table 7.2.3**. These included low (microgram and sub-microgram per litre) levels of :

AOXs : were detected at 0.14 mg/l.

VOCs : Dichloromethane was detected at 1 ug/l,

Total Nitrogen was detected at 10 mg/l as N.

Metals : The metal Lead (2 ug/l) was detected.

Results for other general parameters and additional tests were in the normal range for effluent sewage.

Table 7.2.3. Ringsend SBR Effluent Sample 3, 2141193 – 24/10/2023 Screening

EPA Parameters Screened for in Waste Water Discharges

No.	Compound	Result	Group of Compounds
	AOX's	**0.14 mg/l**	**AOX's**
1.	Benzene	< 0.1 ug/l	**VOC's**
2.	Carbon Tetrachloride		
3	1,2-Dichloroethane	< 0.2 ug/l	
4	Dichloromethane	**1 ug/l**	
	Bromodichloromethane		
5	Tetrachloroethylene	< 0.1 ug/l	
6	Trichloroethylene	< 0.1 ug/l	
7	Trichlorobenzene (sum of isomers))	< 0.50 ug/l	

No.	Compound	Result	Group of Compounds
8	Trichloromethane (Chloroform)		
9	Xylenes (sum of isomers)	< 0.1 ug/l	
10	Ethyl Benzene	< 0.5 ug/l	
11	Toluene	< 0.5 ug/l	
	Chloroalkanes (C10-C-13)	< 50.00 ug/l	
12	Naphthalene	< 0.005 ug/l	**PAH's**
13	Fluoranthene	< 0.005 ug/l	
14	Benzo(k)fluoranthene	< 0.005 ug/l	
15	Benzo(ghi)perylene	< 0.005 ug/l	
16	Indeno(1,2,3-c,d)pyrene	< 0.005 ug/l	
17	Benzo(b)fluoranthene	< 0.005 ug/l	
18	Benzo(a)pyrene	< 0.003 ug/l	
	Acenaphthene	< 0.005 ug/l	
	Acenaphthylene	< 0.005 ug/l	
	Pyrene	< 0.005 ug/l	
	Anthracene	< 0.005 ug/l	
	Fluorene	< 0.005 ug/l	
	Phenanthrene	< 0.005 ug/l	
	Benz(a)anthracene	< 0.005 ug/l	
	Dibenz(ah)anthracene	<0.005 ug/l	
	Chrysene	<0.005 ug/l	
		< 0.078 ug/l	**Total PAH's**
19	Di(2-ethylhexyl) phthalate (DEHP)	< 1 ug/l	**Plasticisers**
	Diethyl Phthalate		
20	Isodrin	< 0.050 ug/l	**Pesticides**
	Aldrin	< 0.003 ug/l	
	Endrin	< 0.003 ug/l	
21	Dieldrin	< 5 ng/l	

No.	Compound	Result	Group of Compounds
	Alachlor	< 0.01 ug/l	
22	Diuron	< 0.03 ug/l	
23	Isoproturon	< 0.10 ug/l	
24	Atrazine	< 0.100 ug/l	
25	Simazine	< 0.100 ug/l	
26	Glyphosate		
	Chlorfenvinphos	< 0.15 ug/l	
	Chlorpyriphos	< 0.00 ug/l	
27	Mecoprop		
28	2,4-D		
	Gamma-HCH (Lindane)	<0.0500 ug/l	
	Heptachlor	< 0.003 ug/l	
	Hexachlorobenzene	< 0.05 ug/l	
	Hexachlorobutadiene	< 0.5 ug/l	
29	MCPA		
30	Linuron		
31	Dichlobenil		
32	2,6-Dichlorobenzamide		
	Diazinon		
	Dimethoate		
	Mirex	< 0.01 ug/l	
	Nonylphenol Ethoxylate	< 0.30 ug/l	
	Toxaphene	< 0.10 ug/l	
	Trifluoralin	< 0.05 ug/l	
	Vinyl Chloride	< 0.1 ug/l	
33	Total PCB's	< 0.07 ug/l	**PCB's**
34	Total Phenols (EPA)	< 100.0 ug/l	**Phenols**

No.	Compound	Result	Group of Compounds
	m,p- Methylphenol		**Cresols**
	o- Methylphenol		
	Total Nitrogen	**10 mg/l as N**	**Nutrients**
35	Lead (Total as Pb)	**2 ug/l**	**Metals**
36	Arsenic (Total as As))	< 1 ug/l	
37	Copper (Total as Cu)	< 1 ug/l	
38	Zinc (Total as Zn)	< 8 ug/l	
39	Cadmium (Total as Cd)	< 0.45 ug/l	
40	Mercury (Total as Hg)	< 0.5 ug/l	
41	Chromium (Total as Cr)	< 1 ug/l	
42	Selenium (Total as Se)		
43	Antimony (Total as Sb)		
44	Molybdenum (Total as Mo)		
45	Tin (Total as Sn)		
	Organo-Tin	< 0.05 ug/l	
	Tributyl Tin	< 0.02 ug/l	
	Triphenyl Tin	< 0.05 ug/l	
46	Barium (Total as Ba)		
47	Boron (Total as B)		
48	Cobalt (Total as Co)		
49	Vanadium (Total as V)		
50	Nickel (Total as Ni)	< 1 ug/l	
51	Fluoride (as F)	**0.3 mg/l**	**General**
52	Chloride (as Cl)	**200.5 mg/l**	
53	TOC (as C)		
54	Cyanide (Total as CN)	< 10 ug/l	
55	Sulphate (Total as SO4)		

No.	Compound	Result	Group of Compounds
	(Sample 2141190)		
56	Conductivity (20 degrees C)	1153	**Additional Tests**
57	Hardness (mg/l CaCO3)	-	
58	pH	7.6	

SBR Effluent Sample 4 - Reference 2150726 - Taken On 21/11/2023.

See Table 7.2.4. Many of the parameters tested for the PRTR suite in this effluent sample were reported as below the detection limit.

Parameters from the EPA's Guidance document detected in this effluent sample are highlighted in **Table 7.2.4**. These included low (microgram and sub-microgram per litre) levels of :

AOXs : were detected at 0.1 mg/l.

The PAHs Fluoranthene (0.007 ug/l) and Pyrene (0.011 ug/l) were detected in this sample.

Total Nitrogen was detected at 18.9 mg/l as N.

Metals : The metals Lead (2 ug/l), Arsenic (2 ug/l), Copper (27.0 ug/l), Zinc (83 ug/l), Chromium (2 ug/l) and Nickel (5 ug/l) were detected.

Results for other general parameters and additional tests were in the normal range for effluent sewage.

Table 7.2.4. Ringsend SBR Effluent Sample 4, 2150726 – 21/11/2023 Screening

EPA Parameters Screened for in Waste Water Discharges

No.	Compound	Result	Group of Compounds
	AOX's	**0.1 mg/l**	**AOX's**
1.	Benzene	< 0.1 ug/l	**VOC's**
2.	Carbon Tetrachloride		
3	1,2-Dichloroethane	< 0.2 ug/l	
4	Dichloromethane	< 1.0 ug/l	
	Bromodichloromethane		
5	Tetrachloroethylene	< 0.1 ug/l	
6	Trichloroethylene	< 0.1 ug/l	
7	Trichlorobenzene (sum of isomers))	< 0.50 ug/l	
8	Trichloromethane (Chloroform)		
9	Xylenes (sum of isomers)	< 0.1 ug/l	
10	Ethyl Benzene	< 0.5 ug/l	
11	Toluene	< 0.5 ug/l	
	Chloroalkanes (C10-C-13)	< 50.00 ug/l	
12	Naphthalene	< 0.005 ug/l	**PAH's**
13	Fluoranthene	**0.007 ug/l**	
14	Benzo(k)fluoranthene	< 0.005 ug/l	
15	Benzo(ghi)perylene	< 0.005 ug/l	
16	Indeno(1,2,3-c,d)pyrene	< 0.005 ug/l	
17	Benzo(b)fluoranthene	< 0.005 ug/l	
18	Benzo(a)pyrene	< 0.003 ug/l	
	Acenaphthene	< 0.005 ug/l	
	Acenaphthylene	< 0.005 ug/l	
	Pyrene	**0.011 ug/l**	
	Anthracene	0.01 ug/l	

No.	Compound	Result	Group of Compounds
	Fluorene	< 0.005 ug/l	
	Phenanthrene	< 0.005 ug/l	
	Benz(a)anthracene	< 0.005 ug/l	
	Dibenz(ah)anthracene	<0.005 ug/l	
	Chrysene	<0.005 ug/l	
		< 0.078 ug/l	**Total PAH's**
19	Di(2-ethylhexyl) phthalate (DEHP)	< 1 ug/l	**Plasticisers**
	Diethyl Phthalate		
20	Isodrin	< 0.050 ug/l	**Pesticides**
	Aldrin	< 0.010 ug/l	
	Endrin	< 0.010 ug/l	
21	Dieldrin	< 5 ng/l	
	Alachlor	< 0.01 ug/l	
22	Diuron	< 0.05 ug/l	
23	Isoproturon	< 0.10 ug/l	
24	Atrazine	< 0.100 ug/l	
25	Simazine	< 0.100 ug/l	
26	Glyphosate		
	Chlorfenvinphos	< 0.15 ug/l	
	Chlorpyriphos	< 0.05 ug/l	
27	Mecoprop		
28	2,4-D		
	Gamma-HCH (Lindane)	<0.0500 ug/l	
	Heptachlor	< 0.010 ug/l	
	Hexachlorobenzene	< 0.05 ug/l	
	Hexachlorobutadiene	< 0.5 ug/l	
29	MCPA		
30	Linuron		

No.	Compound	Result	Group of Compounds
31	Dichlobenil		
32	2,6-Dichlorobenzamide		
	Diazinon		
	Dimethoate		
	Mirex	< 0.01 ug/l	
	Nonylphenol Ethoxylate	< 0.60 ug/l	
	Toxaphene	< 0.10 ug/l	
	Trifluoralin	< 0.05 ug/l	
	Vinyl Chloride	< 0.1 ug/l	
33	Total PCB's	< 0.70 ug/l	**PCB's**
34	Total Phenols (EPA)	< 100 ug/l	**Phenols**
	m,p- Methylphenol		**Cresols**
	o- Methylphenol		
	Total Nitrogen	**18.9 mg/l as N**	**Nutrients**
35	Lead (Total as Pb)	**2 ug/l**	**Metals**
36	Arsenic (Total as As))	**2 ug/l**	
37	Copper (Total as Cu)	**27ug/l**	
38	Zinc (Total as Zn)	**83 ug/l**	
39	Cadmium (Total as Cd)	< 0.45 ug/l	
40	Mercury (Total as Hg)	< 0.5 ug/l	
41	Chromium (Total as Cr)	**2 ug/l**	
42	Selenium (Total as Se)		
43	Antimony (Total as Sb)		
44	Molybdenum (Total as Mo)		
45	Tin (Total as Sn)		

No.	Compound	Result	Group of Compounds
	Organo-Tin	< 0.40 ug/l	
	Tributyl Tin	< 0.05 ug/l	
	Triphenyl Tin	< 0.05 ug/l	
46	Barium (Total as Ba)		
47	Boron (Total as B)		
48	Cobalt (Total as Co)		
49	Vanadium (Total as V)		
50	Nickel (Total as Ni)	**5.0 ug/l**	
51	Fluoride (as F)	**0.4 mg/l**	**General**
52	Chloride (as Cl)	**260.2 mg/l**	
53	TOC (as C)		
54	Cyanide (Total as CN)	< 10 ug/l	
55	Sulphate (Total as SO4)		
	(Sample 2150723)		
56	Conductivity (20 degrees C)	1360	**Additional Tests**
57	Hardness (mg/l CaCO3)	-	
58	pH	7.5	

Assessment of the Significance of the Discharge SW1 on Receiving Water Quality - 2023

A summary of 4 effluent screening results is presented below with a limited assessment of the significance of the discharge on receiving water. Note that the SBR effluent results are sampled at the licensed point of discharge (SW1) and that a mixing zone boundary has not been defined in WWDL D0034-01.

SBR Effluent from SW1 receives a significant dilution within the undefined near field mixing zone before receiving water standards are applicable.

Chromium (Total), Copper and Zinc were the only metals screened in the effluent samples that exceeded the EQS's set for the receiving waters.
A minimum dilution factor of 2 to 6 in the near field mixing zone allows for compliance with the EQS's
for specific pollutants which are set as an annual average (AA).

The 4 results for Total Phenols were less than the detection limit (< 100 ug/l). Unfortunately, this limit is much higher than the AA-EQS of 8 ug/l.

This assessment does not indicate a significant impact from the specific pollutants listed for the receiving waters outside the near field of the SW1 discharge point.

Table 7.2.5 Assessment of the Significance of the Discharge SW1 on Receiving Water Environmental Quality Standards for Specific Pollutants (Table 10, S.I. No. 272 of 2009, as amended)

Specific Pollutant Parameters Detected 2023 :	AA-EQS (ug/l)	SBR Effluent 2116166 (15/08/23)	SBR Effluent 2128708 (19/09/23)	SBR Effluent 2141193 (24/10/23)	SBR Effluent 2150726 (21/11/23)
		SW1	**SW1**	**SW1**	**SW1**
Arsenic	20	2	3		2
Chromium VI	0.6		**7***		**2***
Copper	5	**7**	**19**		**27**
Cyanide	10				
Diazinon	0.01				
Dimethoate	0.8				
Fluoride	1,500	400	300	300	400
Glyphosate	-				
Linuron	0.7				
Mancozeb	2				

Specific Pollutant Parameters Detected 2023 :	AA-EQS (ug/l)	SBR Effluent 2116166 (15/08/23)	SBR Effluent 2128708 (19/09/23)	SBR Effluent 2141193 (24/10/23)	SBR Effluent 2150726 (21/11/23)
Monochlorobenzene	25				
Total Phenols(EPA)	8	**<100.00**	**<100.00**	**<100.00**	**<100**
Toluene	10				
Xylenes	10				
Zinc	40	**51**	**61**	< 8	**83**

*= Total Chromium which is > Chromium VI

Other parameters are assessed for compliance in **Tables 7.2.6** and **7.2.7**.

Table 7.2.6. Assessment of the Significance of the Discharge SW1 on Receiving Water Environmental Quality Standards for Priority Pollutants (Table 11, SI 272 of 2009 as amended).

Specific Pollutant Parameters Detected 2023 :	AA-EQS (ug/l)	SBR Effluent 2116166 (15/08/23)	SBR Effluent 2128708 (19/09/23)	SBR Effluent 2141193 (24/10/23)	SBR Effluent 2150726 (21/11/23)
		SW1	**SW1**	**SW1**	**SW1**
Alachlor	0.3				
Atrazine	0.6				
Benzene	8.0				
Carbon Tetrachloride	12				
Chlorfenvinphos	0.1				
Chlorpyriphos	0.03				
Sum of Drins	0.005	**< 0.061**	**< 0.061**	**< 0.061**	**<0.075**
DDT Total	0.025				
Para-para-DDT	0.01				
1,2-Dichloroethane	10				
Dichloromethane	20		**1**		
DEHP	1.3				
Diuron	0.2				
Fluoranthene	0.0063				**0.007**

Specific Pollutant Parameters Detected 2023 :	AA-EQS (ug/l)	SBR Effluent 2116166 (15/08/23)	SBR Effluent 2128708 (19/09/23)	SBR Effluent 2141193 (24/10/23)	SBR Effluent 2150726 (21/11/23)
Isoproturon	0.3				
Lead and Compounds	1.3	**1**	**3**	**2**	**2**
Naphthalene	2				
Nickel and Compounds	8.6	2	8		**5**
Octyl-Phenol	0.01				
Pentachloro-phenol	0.4				
Simazine	1				
Tetrachloro-ethylene	10				
Trichloro-Ethylene	10				
Trichloro-benzenes	0.4	**< 0.50**	**<0.50**	**<0.50**	**<0.50**
Trichloro-methane	2.5				
Trifluoralin	0.03	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**

Table 7.2.7. Assessment of the Significance of the Discharge SW1 on Receiving Water Environmental Quality Standards for Priority Hazardous Substances (Table 12, SI 272 of 2009 as amended).

Specific Pollutant Parameters Detected 2023 :	AA-EQS (ug/l)	SBR Effluent 2116166 (15/08/23)	SBR Effluent 2128708 (19/09/23)	SBR Effluent 2141193 (24/10/23)	SBR Effluent 2150726 (21/11/23)
		SW1	**SW1**	**SW1**	**SW1**
Anthracene	0.1				**0.01**
Brominated Di-phenylether					
Cadmium and Compounds	0.2				
C-10-13 Chloroalkanes	0.4	**< 50**	**< 50**	**< 50**	**< 50**
DEHP	1.3	< 1.00	< 1.00	< 1.00	< 1.00
Endosulphan	0.0005				
Hexachlorobenzene	0.01	**< 0.05**	**< 0.05**	**< 0.05**	**< 0.05**

Specific Pollutant Parameters Detected 2023 :	AA-EQS (ug/l)	SBR Effluent 2116166 (15/08/23)	SBR Effluent 2128708 (19/09/23)	SBR Effluent 2141193 (24/10/23)	SBR Effluent 2150726 (21/11/23)
Hexachloro-butadiene	0.1	**<0.5**	**< 0.5**	**< 0.5**	**< 0.5**
Hexachloro-cyclohexane	0.002				
Mercury and Compounds	0.05	**<0.5**	**< 0.5**	**< 0.5**	**< 0.5**
Nonyl-phenol	0.3				
Pentachloro-benzene	0.0007				
Benzo(a)pyrene	0.00017	**< 0.003**	**< 0.003**	**< 0.003**	**< 0.003**
Benzo(b)-fluoranthene + Benzo(k)-fluoranthene		< 0.010	< 0.010	< 0.010	< 0.010
Benzo(ghi)-perylene +Indeno(1-2-3-cd)-pyrene		**< 0.010**	**< 0.010**	**< 0.010**	**< 0.010**
Tributyl Tin Compounds	0.0002	**< 0.12**	**< 0.12**	**< 0.12**	**< 0.50**
Heptachlor and Heptachlor Epoxide	0.0001	**< 0.003**	**< 0.003**	**< 0.003**	**< 0.003**

Appendix 7.3 - Toxicity Leachate Management Report

Leachate received by tanker at the Ringsend WWTP is managed using a system of application forms, consignment notes, monitoring and invoicing.

Leachate is also discharged to sewer, and this is managed by consent to discharge.

A total volume of **182,226** cubic metres of leachate was received in 2023 as tabulated below:

Landfill Source	**Local Authority**	**Leachate Annual Volume 2023 (m^3)**	**Daily PE ***	**Daily % Influent PE Load****
Ballynagran (by tanker)	Wicklow County Council	1,913.96	23.3	0.0012
Kerdiffstown (by tanker)	Kildare County Council	2,800	34.1	0.0017
Bord Na Mona Drehid Landfill (by tanker)	Kildare County Council	5,942.86	72.4	0.0037
Knockharley Landfill (by tanker)	Meath County Council	1,100.1	13.4	0.0007
Dunsink (to sewer)	Fingal County Council	170,469	2075.73	0.1054
Total		182,226	2219	0.113

The daily leachate PE load represents **0.113%** of the average daily calculated PE load in 2023 **(1.968,810PE)**

* PE = m^3/year /0.225 x365
** % PE Load to WWTP = Daily Leachate PE/ Mean Daily Influent PE X100 (*Mean Daily Influent 1.968,810*)

Appendix 7.4 - Toxicity of Final Effluent Report

A Toxicity of Final Effluent Report is not included in the 2023 AER.

It should be noted that the toxicity test results in previous AERs have consistently shown that the effluent aquatic toxicity complies well with the licence limit of 5 TU.

Appendix 7.5 - Met Éireann Orange and Red Alerts affecting Ringsend WWTP

There were no days discounted due to Met Éireann Red Alerts in 2023.