

Annual Environmental Report

2018



Navan

D0059-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0059-01, Navan, in Meath in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports are included as an appendix to the AER as follows:

1.1 Licence specific reporting included in AER

Assessment / Report	Included in AER
There is no Licence Specific Reports included in the AER.	

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant NAVAN WWTP with a Plant Capacity PE of 50000. The treatment process includes the following:

1.2.1 NAVAN WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Screening and grit classification
Primary Treatment	Yes	Primary Settlement
Secondary Treatment	Yes	Diffused Aeration
Nutrient Removal	Yes	Ferric Chloride dosing for the precipitation of phosphate
Tertiary Treatment	Yes	Final Sedimentation Tanks

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 2.2 Discharges from the agglomeration.

1.3 ELV Overview

1.3.1 NAVAN WWTP

Compliance Status	
Were all parameters compliant for NAVAN WWTP treatment plant	No
Where non compliant see Table 2.2.1 for details of parameters	

1.4 Sludge Removal

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
NAVAN WWTP	Cake Sludge	4293	Weight (Tonnes)	21.5	Paddy Brady Agri Ltd

Annual Statement of Measures

There were no major capital or operational changes undertaken.

2 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

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

2.1.1 Influent Monitoring Summary - NAVAN WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Suspended Solids mg/l	25	564	184.6
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	756	210.21
Total Nitrogen mg/l	25	67.1	41.05
Total Phosphorus (as P) mg/l	25	7.91	4.81
COD-Cr mg/l	25	1029	378.3
Hydraulic Capacity		22956	12032

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 3.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - NAVAN WWTP

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included ^{Note 1}	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified mg/l	0	0	0	26	0	0	0.08	N/A
Nitrite (as N) mg/l	0	0	0	6	0	0	3.86	N/A
Suspended Solids mg/l	35	87.5	0	26	0	0	6.55	Pass
Total Nitrogen mg/l	0	0	0	26	0	0	8.38	N/A
Nitrate (as N) mg/l	0	0	0	6	0	0	0.11	N/A
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	13	26	0	26	2	0	6.22	Pass
Ammonia-Total (as N) mg/l	3	3.6	0	26	1	1	0.53	Fail
Total Phosphorus (as P) mg/l	1	1.2	0	26	0	0	0.19	Pass
COD-Cr mg/l	100	200	0	26	0	0	33.03	Pass

Notes:

1– This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Not Applicable.

Significance of Results:

The WWTP was non-compliant with the ELV's set in the Wastewater Discharge Licence. There was one Ammonia-N Condition 2 ELV exceedance. The impact on the receiving water is assessed in Section 2.3.

2.3 Ambient monitoring summary

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

2.3.1 Ambient Monitoring Report Summary - NAVAN WWTP

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	288486, 269101	TPEFF2300D0059SW001	No	No	No	No	Unassigned
Downstream	291858, 271311	TPEFF2300D0059SW001	No	No	No	No	Moderate

2.3.2 Ambient Monitoring Parameter Summary - NAVAN WWTP

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Alkalinity-total (as CaCO ₃) mg/l	RS07B041900	249.4	RS07B042000	268.71		
Total Oxidised Nitrogen (as N) mg/l	RS07B041900	2	RS07B042000	1.91		
Dissolved Oxygen mg/l	RS07B041900	11.05	RS07B042000	11.01		
Ammonia-Total (as N) mg/l	RS07B041900	0.05	RS07B042000	0.05	0.14	-2.8
Total Hardness (as CaCO ₃) mg/l	RS07B041900	291.4	RS07B042000	313.29		
ortho-Phosphate (as P) - unspecified mg/l	RS07B041900	0.04	RS07B042000	0.03	0.075	-5.2
BOD - 5 days (Total) mg/l	RS07B041900	1.5	RS07B042000	1.46	2.6	-1.8
pH pH units	RS07B041900	8.06	RS07B042000	8.11		
Nitrate (as N) mg/l	RS07B041900	2	RS07B042000	1.91		
Chloride mg/l	RS07B041900	25.26	RS07B042000	24.8		
Conductivity @25°C µS/cm	RS07B041900	607	RS07B042000	624.14		
Nitrite (as N) µg/l	RS07B041900	11.4	RS07B042000	10.47		
Dissolved Oxygen % Saturation	RS07B041900	79.01	RS07B042000	82.44		

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Temperature °C	RS07B041900	10.06	RS07B042000	12.09		
Total Nitrogen mg/l	RS07B041900	3.37	RS07B042000	3.2		
True Colour mg/litre Pt Co	RS07B041900	42	RS07B042000	37.43		

Significance of Results:

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

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

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

The discharge from the WWTP has no observable negative impact on the Water Framework Directive status.

3 OPERATIONAL REPORTS SUMMARY

3.1 Treatment Efficiency Report

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:

3.1.1 Treatment Efficiency Report Summary - NAVAN WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TN	180403	28751.41	84.06
cBOD	923894.05	21358.09	97.69
COD	1662678.22	113347.25	93.18
SS	811361.73	22495.54	97.23
TP	21151.02	666.36	96.85

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

3.2 Treatment Capacity Report Summary

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.

NAVAN WWTP	
Peak Hydraulic Capacity (m ³ /day) - As Constructed	33750
DWF to the Treatment Plant (m ³ /day)	12500
Current Hydraulic Loading - annual max (m ³ /day)	22956
Average Hydraulic loading to the Treatment Plant (m ³ /day)	12032
Organic Capacity (PE) - As Constructed	50000
Organic Capacity (PE) - Collected Load (peak week)	35990
Organic Capacity (PE) - Remaining	14010
Will the capacity be exceeded in the next three years? (Yes/No)	No

3.3 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
54	Blocked Sewer	1	53

3.4 Reported Incidents Summary

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

A summary of reported incidents is included below.

3.4.1 Summary of Incidents

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Other	Plant or equipment breakdown at WWTP	1	No	No
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes
Non-compliance	Plant or equipment breakdown at WWTP	2	No	Yes
Uncontrolled release	Other	1	No	Yes
Uncontrolled release	Plant or equipment breakdown at WWTP	1	No	Yes
Uncontrolled release	Other	2	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes
Other	Plant or equipment breakdown at WWTP	1	No	Yes
Uncontrolled release	Other	1	No	Yes
Non-compliance	Plant or equipment breakdown at WWTP	1	No	Yes
Uncontrolled release	Other	1	No	Yes

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Spillage	Other	2	No	No
Spillage	EO caused by ragging or blocking	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	17
Number of Incidents reported to the EPA via EDEN in 2018	17
Explanation of any discrepancies between the two numbers above	N/A

3.5 Sludge / Other inputs to the WWTP

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

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP?(Y/N)
Landfill Leachate (delivered by tanker)	6254	Weight (Tonnes)	76	0.14	Yes	Yes	Yes
Waterworks Sludge	4479	Weight (Tonnes)	55	0.1	Yes	Yes	Yes

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:

No Appendix Included.

4.1.1 SWO Identification

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2018 (No. of events)	Total volume discharged in 2018 (m ³)	Monitoring Status
SW10	286931, 265091	Yes	Low	Meeting			Not Monitored
SW11	287974, 266636	Yes	Low	Meeting			Not Monitored
SW12	288478, 265670	Yes	Low	Meeting			Not Monitored
SW2	288378, 288809	Yes	Low	Meeting			Not Monitored
SW3	288083, 268258	Yes	Low	Meeting			Not Monitored
SW4	287279, 268000	Yes	Low	Meeting			Not Monitored
SW5	287209, 267991	Yes	Low	Meeting			Not Monitored

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2018 (No. of events)	Total volume discharged in 2018 (m ³)	Monitoring Status
SW6	286591, 268367	Yes	Low	Meeting			Not Monitored
SW7	287189, 267932	Yes	Low	Meeting			Not Monitored
SW8	287251, 267762	Yes	Low	Meeting			Not Monitored
SW9	286789, 266088	Yes	Low	Meeting			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m ³)?	Not Monitored
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?	No
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

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 list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
Upgrading of sewer network to ensure all SWO's comply with criteria set out in DoEHLG.....	C	31/01/2011	Yes	Works Completed		
Waste water sewer network rehabilitation works and improvements	C	31/01/2011	Yes	Works Completed		

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

4.2.2 Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

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 Table.

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 list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	2015	No	
Toxicity of Final Effluent	Yes	2016	No	

6 CERTIFICATION AND SIGN OFF

6.1 Summary of AER Contents

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

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

Date: 19/03/2019

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

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

There are no Appendices included.