

Backstop Improvement Condition Extension Report

This document has been submitted to explain and evidence the need for an extension to the 12-month Backstop Improvement Condition, which has been issued to Dŵr Cymru as part of the Review of Permits process, and the subsequent investment programme of works.

WwTW Name	MATHRY STW
Permit Number	BG0009701
Catchment	West Cleddau
Water Body	W Cleddau - headwaters to conf with Cleddau North
Can the site meet the total Phosphorus backstop limits now	No
Explanation	<ul style="list-style-type: none"> • No phosphorus removal processes installed on site currently. • Current long-term mean average performance 5.1mg/l Ave. (Peak in excess of 11mg/l in dryer months)
Can the site meet the total Phosphorus in 12 months	No
Explanation	<ul style="list-style-type: none"> • Current on-site assets cannot be optimised further. • The current works' assets would not allow for adequate dosing or short term solution to be implemented (inadequate turbulence seen at the point of application) • Design and installation of additional assets required. • Currently inadequate footprint on site to host the required additional assets.
Primary Extension Category	Reconfiguration of site required
Secondary Extension Category	Nature Based Solution
Headline category of solution	Hybrid (Dosing solution and Reedbed)
Details of proposed solution	<ul style="list-style-type: none"> • New ferric dosing package plant (into the RBC) • New alkalinity dosing package plant • New safety shower • Reedbed (requirements and sizing to be determined at detailed design)
Land purchase required	Yes, to be confirmed at detailed design
Planning required	Yes anticipated, to be confirmed at detailed design
Protected Area surveys & Ecology approvals	Yes
NBS Candidate	Yes
Partnership / Multi sector scheme candidate	No

Extension Requested	32 months
Date requested on extended permit Improvement Condition	28 th January 2028
Date submitted to NRW	24 th of May 2024
DCWW senior Signature	<i>L. Harrell</i>
NRW Senior Signature	

Appendix

A1.

Photo of current assets on site and surrounding space remaining. And GIS and Aerial image of WwTW, with 'redline boundary' of DCWW's existing landholding.







A2. Raw sample data

Date	BOD ATU	Ammoniacal Nitrogen	Suspended solids	Ortho phosphate	Total Phosphorus
21/Jul/21 09:09	7	0.49	10	10.48	10.2
18/Aug/21 12:22	4	0.2	7	8.9	9
24/Sep/21 10:08	4	0.2		9.85	9.77
29/Oct/21 09:50	55	9.33	68	5.14	6.25
25/Nov/21 09:10		0.2	11	3.92	4.13
17/Dec/21 09:14	5	0.2	7	1.77	2.03
14/Jan/22 08:59	9	0.2	8	2.6	2.87
09/Feb/22 10:43	8	0.2	16	6.23	6.8
10/Mar/22 10:39	8	0.2	12	3.07	3.5
28/Apr/22 09:25	11	0.67	21	7.35	7.8
11/May/22 09:46	14	0.65	35	7.72	8.1
13/Jun/22 12:04	11	0.2	14	10.01	9.9
07/Jul/22 12:23	10	0.22	15	9.36	9.7
26/Aug/22 09:57	9	0.2	6	12.4	11.5
15/Sep/22 11:07	4	0.2	9	4.49	4.97
06/Oct/22 13:09	7	0.2	15	2.22	2.63
24/Nov/22 09:29	11	0.2	8	0.54	0.87
16/Dec/22 08:25	10	0.56	19	4.74	5.4
05/Jan/23 09:10				0.96	1.18
05/Jan/23 11:25	6	0.4	9	0.98	1.16

18/Jan/23 13:00	8	0.4	7	1.48	1.82
04/Apr/23 08:46				1.8	2.13
09/May/23 09:22				6.2	6.8
10/May/23 11:18	14	0.4	34	6.63	7.02
06/Jun/23 09:19				9.36	9.5