

## 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.*

<b>WwTW Name</b>	Glyndyfrdwy STW
<b>Permit Number</b>	CM0026801
<b>Catchment</b>	Dee
<b>Water Body</b>	Dee - Ceiriog to Alwen
<b>Can the site meet the total Phosphorus backstop limits now</b>	No
<b>Explanation</b>	<ul style="list-style-type: none"> <li>No phosphorus removal processes installed on site currently.</li> <li>Current long-term mean average performance 6.3 mg/l Ave. (Peak in excess of 9 mg/l)</li> </ul>
<b>Can the site meet the total Phosphorus in 12 months</b>	No
<b>Explanation</b>	<ul style="list-style-type: none"> <li>Current on-site assets cannot be optimised further.</li> <li>The Works consists of submersible inlet pumps that feed a rectangular PST which then feeds one biofilter with paddle-driven arms. Flow from the biofilter flows into a new FE sample chamber and to the outfall. There is no HST on site therefore no adequate settlement will be possible.</li> <li>Design and installation of additional assets required.</li> <li>Currently inadequate footprint on site to host the required additional assets.</li> </ul>
<b>Primary Extension Category</b>	Land Purchase Risk
<b>Secondary Extension Category</b>	Large site refurbishment and power upgrade required
<b>Headline category of solution</b>	Dosing Unit
<b>Details of proposed solution</b>	<ul style="list-style-type: none"> <li>New inlet screen</li> <li>New ferric dosing package plant</li> <li>New alkalinity dosing package plant</li> <li>A new HST to allow for settlement</li> <li>New safety shower</li> <li>Repair sludge tank + additional sludge tank if detailed design demonstrates the need</li> <li>Recirculation P/S</li> </ul>
<b>Land purchase required</b>	Potentially, to be determined in detailed design
<b>Planning required</b>	Not anticipated, but to be confirmed at detailed design
<b>Protected Area surveys &amp; Ecology approvals</b>	Yes

NBS Candidate	No
Partnership / Multi sector scheme candidate	Yes
Extension Requested	24 months
Date requested on extended permit Improvement Condition	26 <sup>th</sup> January 2027
Date submitted to NRW	24 <sup>th</sup> of May 2024
DCWW senior Signature	<i>L. Harrell</i>
NRW Senior Signature	

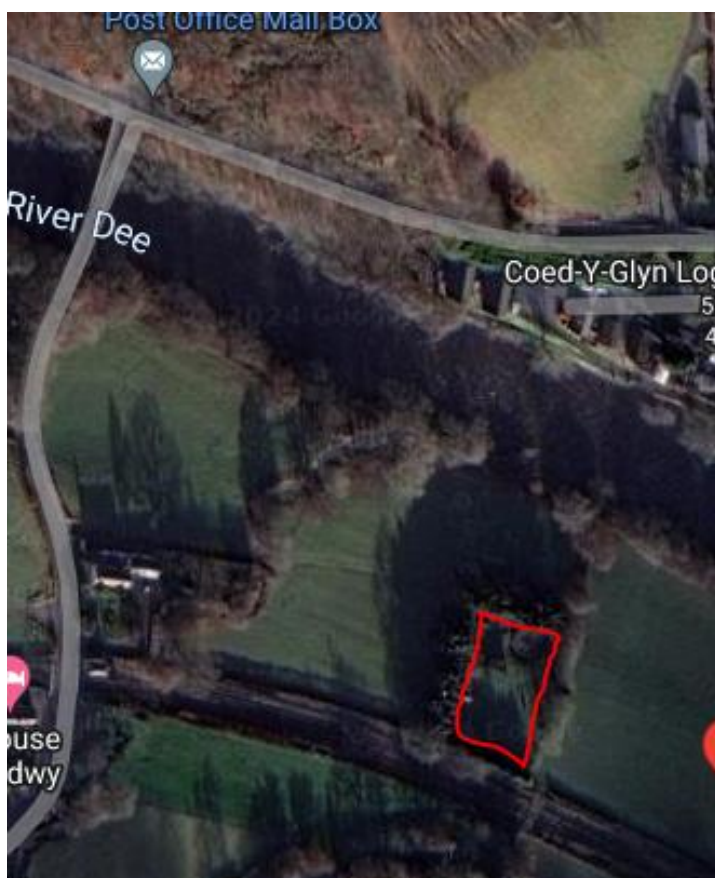
## Appendix

### A1.

Photo of current assets on site and surrounding space remaining. And GIS and Areal image of WwTW, with 'redline boundary' of DCWW's existing landholding. Demonstrating there is no further room to expand without further land purchase, considering the river and tributary and railway line on either side of the existing land.









## A2. Raw sample data

Date	BOD ATU	Ammoniacal Nitrogen	Suspended solids	Ortho phosphate	Total Phosphorus
11/Jan/23 10:30	8	2.19	27	1.98	2.88
17/Jan/23 10:40	8	2.09	27	1.8	2.69
19/Jan/23 10:00	8	2.38	55	1.8	2.8
25/Jan/23 09:45	28	8.48	65	3.04	4.83
31/Jan/23 10:40	47	13	124	3.99	6.84
09/Feb/23 10:30	12	6.95	65	3.7	5.72
07/Mar/23 10:45	28	12.3	64	4.83	6.95
28/Apr/23 09:00	22	1.89	59	5.03	6.28
19/May/23 08:30	37	6.37	103	6.77	8.41

25/May/23 08:30	19	1.76	52	5.08	6.74
06/Jun/23 11:00	22	3.67	41	6.25	7.63
12/Jun/23 11:50	364	90.1	150	11.4	13.45
10/Jul/23 08:30	8	1.73	27	4.75	5.86
20/Jul/23 09:25	37	37.1	72	7.65	8.58
14/Aug/23 11:35	17	8.8	35	6.71	7.65
01/Sep/23 08:45	11	1.7	39	4.95	6.01
29/Sep/23 08:15	16	4.04	37	4.78	6.16
03/Oct/23 10:30	9	0.91	25	3.98	5.07
13/Oct/23 11:15	8	3.07	20	3.84	4.56