

Design statement for Afon Wnin (Ty'n Llwyn) Hydro Abstraction

9/7/2026

Flow Split

The scheme has been designed to be able to abstract no more than 70% of the flow above the HOF (hands off flow). The screen notches are set at the same level as the flow split notches so that the ratio of water discharged over each is the same as the flow split ratio. Details of the calculation for each intake are shown on page 2 of each intake drawing.

Hands off Flow

The scheme has been designed to deliver the HOF of Q95 at each intake.

Main intake – 3 l/s

Intake 2 – 1 l/s

This is delivered using a rectangular notch set below the level of the the screen notch.

Details of the calculation for how these are delivered are shown on each intake drawing on page 2.

Rated flow

The rated flow is set at the mean flow of each watercourse as per a Zone 3 abstraction. As shown on the drawings these are:

Main Intake – 29 l/s

Intake 2 – 10 l/s

Flow Modelling

The low flows modelling is attached to this application. This was run at the main intake location.

The flows at Intake 2 have been calculated by scaling by catchment area. The flows at each intake location are shown in the table below (Flows in m³/s).

	Main intake	Second Intake	Total
Catchment Area (km ²)	0.637	0.220	0.857
Mean Flow	0.029	0.010	0.039
Q5	0.099	0.034	0.133
Q10	0.068	0.023	0.091
Q20	0.042	0.014	0.056
Q30	0.029	0.010	0.039
Q40	0.022	0.008	0.030
Q50	0.016	0.006	0.022
Q60	0.012	0.004	0.016
Q70	0.009	0.003	0.012
Q80	0.007	0.002	0.009
Q90	0.004	0.0014	0.005
Q95	0.003	0.0010	0.004
Q99	0.002	0.0007	0.003