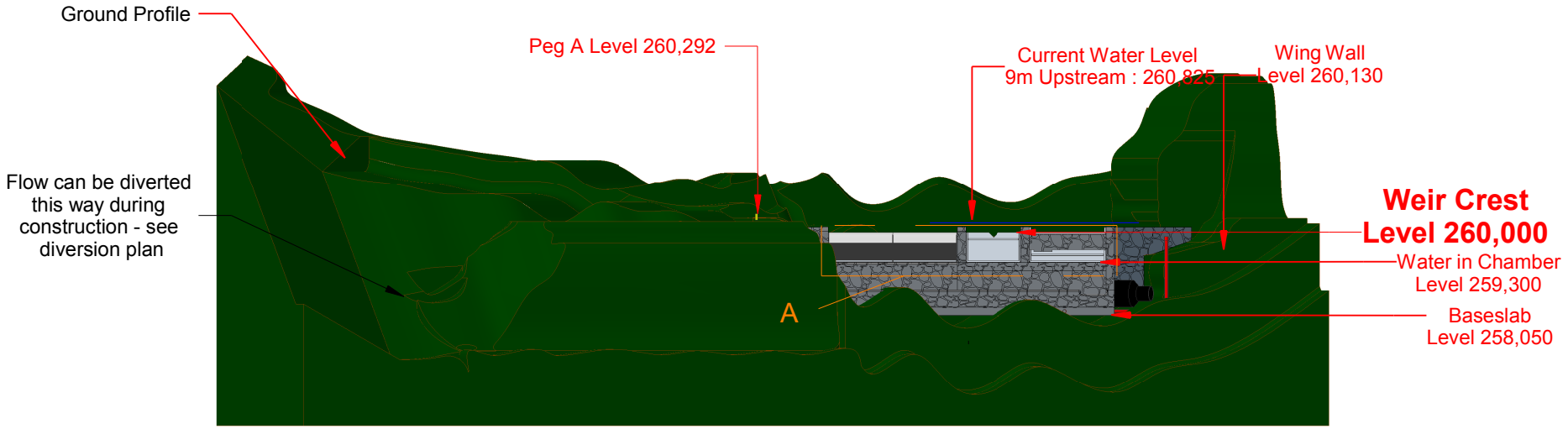
Wyn Jones Afon Gennog Weir Front Elevation, Levels and Calculations

View from Downstream with Stream Bed Profile



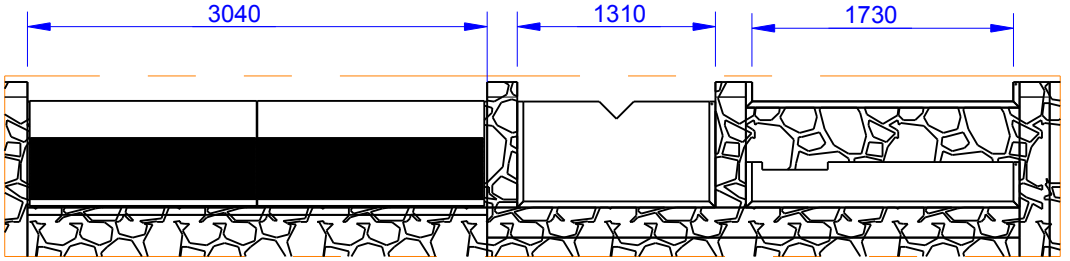
Detail A, Scale 1 : 50 (Streambed profile omitted for clarity)

Calculation of flow over V-notch weir.
Angle = 90 degrees
Discharge coefficient Cd = 0.59
V-notch depth H = 0.160m

$$Q = \frac{8}{15} C_d \sqrt{2g} \tan\frac{\theta}{2} \times H^{\frac{5}{2}}$$

= 0.59 * 2.362 * tan(45) * 0.160^2.5
= 0.001427 m^3 / sec
= 14.27 lps

Total Crest Width 3040 + 1310 + 1730 = 6080
Screen Width 3040. Take = 3040/6080 = 50%



Calculation of impoundment capacity
Area of upstream face of weir = 9 sqm
Reach of impoundment = 8m
Volume (assuming constant gradient) = 9 x 8 x 0.5 = 36 cubic m

0 3000 6000mm

All dimensions in mm. All levels relative to Newlyn

Client : **Wyn Jones** *Address :* Bryniog-Isa, Melin Y Coed Llanwrst, LL26 0TR *Drawn By :* MJP	Date : 17/08/13 Scale : 1 : 150 Drawing No : 130817MP02 Version : 3	Revision Details v2 : Mortared rock construction v3 : Take fixed at 50%	Greenearth Hydro Greenearth Hydro Limited Bronafon, Bridge Street, Llanfyllin, Powys, SY22 5AU Tel: 01691 648 378 www.greenearthhydro.co.uk Company Registration Number 7417466 MCS Hydro Transition Installer 123