

Cwmrhydyceirw Quarry, Swansea groundwater abstraction

1. Purpose of this document

This report:

- explains how the application for a transitional full licence (also known as ‘New Authorisation’ licence) has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the use of specific bespoke conditions within the licence.

In determining this application, NRW has exercised its duties and powers under The Water Abstraction (Transitional Provisions) Regulations 2017.

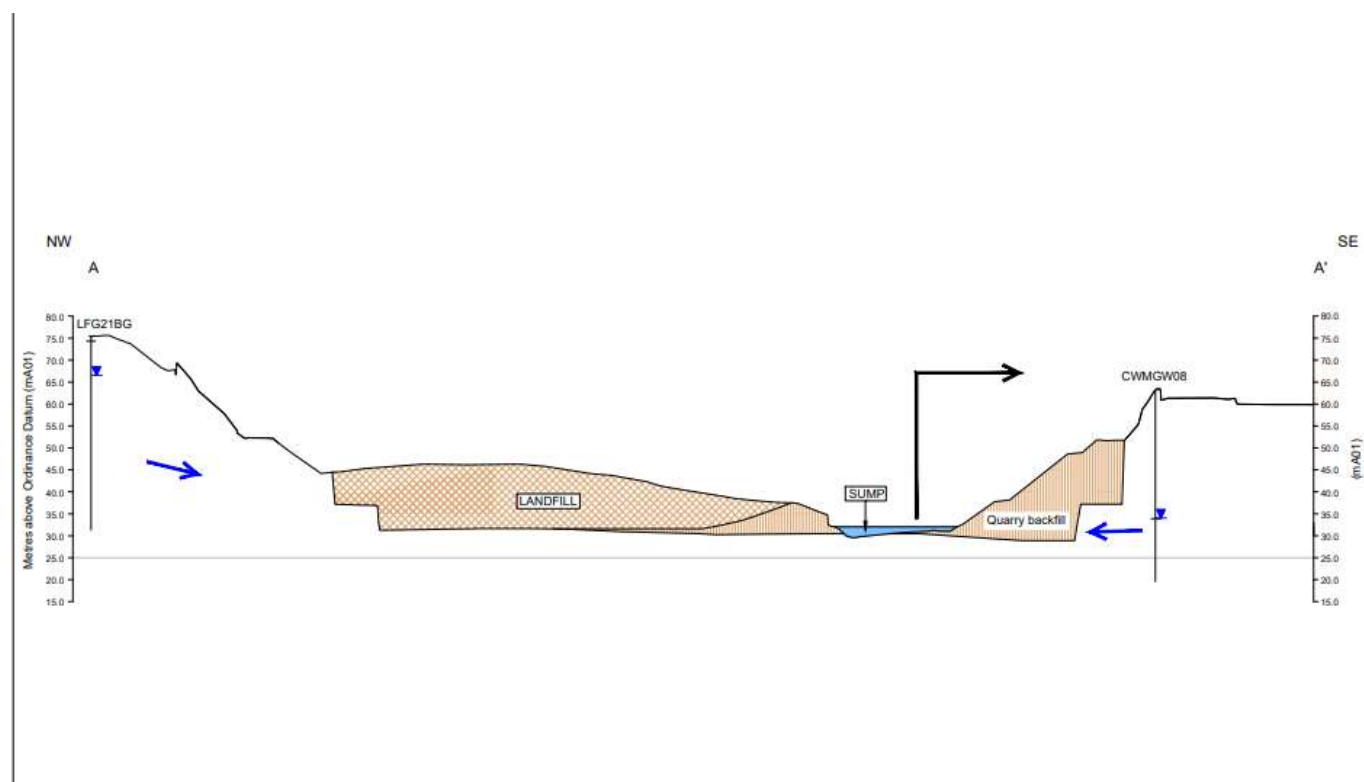
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3. Summary of the application

This is an application for a full abstraction licence to authorise a previously exempt groundwater abstraction at Cwmrhydyceirw Quarry Landfill, Morriston, Swansea for dewatering the groundwater sump to control the groundwater level as permitted by EPR permit number EPR/TP3835LV. Cwmrhydyceirw Quarry was a former sandstone quarry prior to becoming a landfill site between 1985 and 1991.

An existing cast iron submersible pump operated by a float switch ensures the water level in the sump stays below 32 metres Above Ordnance Datum (AOD). Consequently this ensures that groundwater will not enter the landfilled area of the former quarry. The sump is approximately 8 metres deep with the lowest level of the base of the sump being 28.8mAOD, and the level of the edge of the abstraction area at 37mAOD. The water is discharged into the cwmrhydyceirw stream, a tributary of the River Tawe provided it is compliant with the conditions in the EPR permit, otherwise it is discharged into the foul sewer. As water is not always discharged to the local watercourse, a full abstraction rather than a transfer abstraction licence is required to authorise the dewatering operation.



Schematic showing cross-section of former quarry with dewatered sump



Map showing location of area dewatered 'Area A' and discharge locations 'Point Q' and 'Point R'

We have decided to issue the licence on 24th January 2022. Licensing this abstraction is considered a first step to move towards sustainable abstraction and it will continue to be reviewed through future sustainability review processes.

4. Application and licence determination details

Application details	
Applicant name and address	SI Green UK Limited, C/O Harris Bassett, 5 Llys Felin, Newydd Phoenix Way, Enterprise Park Swansea, SA7 9FG. Company number: 02777304
Application contact details	Jo Congo Telephone: 01827 717891 Email: Jocongo@mjca.co.uk
Application reference number	PAN-007568
New licence number	WA/059/0001/0028
WFD Waterbody number & name	Groundwater: GB41002G201000 – Swansea carboniferous coal measures

	Surfacewater: GB110059032180 – Tawe – Confluence with Twrch to tidal limit
Abstraction Licensing Strategy (ALS)	Swansea Bay Rivers
Catchment and sub-catchment	Tawe C059003 Tawe: 0001
NRW Area	South West

Determination process details

Date application received	17 th October 2019
Date technical checks undertaken	4 th November 2019
Date any final further information received and application validated	<p>6th December 2019 – Additional information regarding licence type, licence duration, evidence of abstraction and volume calculations submitted.</p> <p>10th December 2019 – Application validated</p> <p>6th January 2022 – Applicant confirmed National Grid Reference of sewer discharge point.</p>
Reason abstraction was previously exempt	Abstraction is for dewatering as part of mining/quarrying/engineering operations, this activity was previously exempt from licensing under section 29 of the Water Resources Act 1991.
Non- statutory determination date	31/12/2021
Application publication	Application advertised in South Wales Evening Post on 17 th June 2021. No public representations or comments received from statutory bodies advert voucher copy . This advertising decision was agreed by the NA Panel on 14/01/2021 and recorded in the NA Screening spreadsheet .
National Park notification	Not relevant as abstraction not located within a National Park.
External Consultation	None undertaken in accordance with current policies and guidance.
Environmental Impact Assessment Regulations (EIA) requirements	The proposal is not relevant under these regulations; therefore no environmental statement is required.

Abstraction details	Licence details
Location of abstraction	Cwmrhydyceirw Quarry, Vicarage road, Cwmrhydyceirw, Morriston, Swansea, SA6 6DR
Source of supply	Underground strata comprising of Swansea member
Points of abstraction (NGR) (area)	Within the area marked 'Area A' on the map and not outside the boundary formed by straight lines running between the following National Grid References SS 66520 99296, SS 66567 99296, SS 66567 99248 and SS 66520 99248.
Purpose of abstraction	Transfer for the purpose of dewatering

Abstraction details	Licence details
Period of abstraction	All year
Quantities and rates:	
cubic metres per hour	N/a
cubic metres per day	1,218
cubic metres per year	155,637
litres per second	N/a
Means of abstraction	Submersible pump
Measurement of abstraction	Meter
Frequency of measurement	Weekly
Frequency of recording/reporting	Weekly
Annual returns requirement	Yes
Licence end date	31/03/2029 in accordance with Swansea Bay Rivers ALS
Minimum value condition (Y/N)	N
Issue date	24/01/2022
Effective date	24/01/2022

5. Advertisement of application

See Application publication in section 4 above. No representations were received

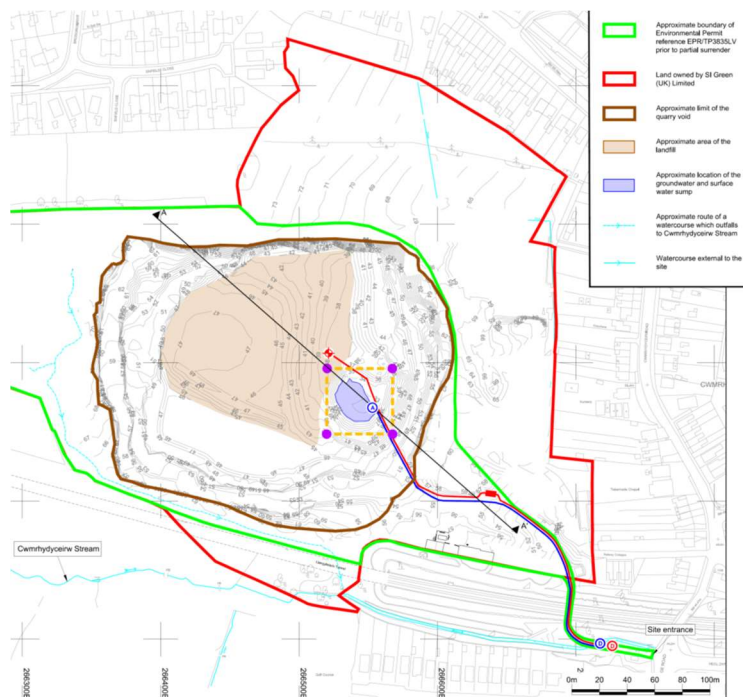
6. Location of abstraction and discharge

The discharge point for the dewatered water is at National Grid Reference SS 66718 99097 into the Cwmrhydyceirw stream, as detailed in the sites existing Environmental Permit number EPR/TP3835LV. The applicant states that the permit allows a maximum discharge quantity of 155,650 cubic metres per year, however no limit can be found on the permit itself for quantity of water, only conditions for the quality of the water appear present.

Should the quality of the discharge not meet the permit standards, water is discharged directly to the foul sewer. Confirmation of the location of this discharge point at SS 66716 99104 was confirmed by [email on 6th January 2022](#).

7. Rights of Access

The map provided includes an outline of the landownership of the applicant and demonstrates that the abstraction point lies within their landownership. A map is included with the application documentation. [Application documents](#)



8. Historical Evidence of abstraction and volumes

As part of the transitional licence application, applicants were required to submit evidence to demonstrate the quantities of water abstracted and when the abstraction took place during the seven year 'qualifying period' (January 2011 – December 2017).

The applicant has provided meter readings taken from a magnetic flow meter installed on the discharge pipe as evidence of their ongoing abstraction via a pump between January 2011 and December 2017, see [Application documents](#) submitted by applicant. The applicant has requested an abstraction period of all year which is supported by the time periods given in their evidence.

The evidence provided suggested that the maximum quantities abstracted during the qualifying period are as follows:

1,218 m³ per day
155,637 m³ per year

Concerns have been raised regarding the inclusion of abstraction volumes in the licence which could hinder the prevention of maintaining the groundwater levels below 32 metres AOD in order to prevent groundwater entering the landfilled area (see [ICE pack](#)). However, in accordance with legislation maximum abstraction quantities must be included on full abstraction licences, and in line with guidance for determination of New Authorisation applications. The maximum quantities must be determined by evidenced abstractions within the qualification period. The daily volumes the applicant has applied for are based upon the largest abstraction quantity during the qualifying period, and therefore should be sufficient. Hourly and instantaneous rates are not included within the licence, although supplied by the applicant. This will allow the operator flexibility as to how the maximum daily quantity is achieved. Any increase in abstraction

quantities will need to be fully determined in a licence variation should the applicant wish to do this in the future.

The applicant has also provided photographic evidence of the sump, the pump in situ and the flow meter. NRW considers the volumes applied for acceptable. The evidence submitted supports the application and demonstrates that the abstraction has occurred during the qualifying period.

9. Technical assessment of the proposal

The application has been screened according to the New Authorisations (NA) screening process [and the results are recorded within the NA screening spreadsheet](#). Following this the application has been assigned a moderate risk and complexity score. This score was agreed by the [NA Panel on 14/01/2021](#).

9.1 Water Framework Directive Regulations 2017

The abstraction is located within waterbody GB41002G201000 – Swansea carboniferous coal measures.

The status of this waterbody is at Good Quantitative status, however, the surface water body is classified as Moderate Ecological Status. Flows do support Good Ecological Status (GES) and whilst it is thought there is *potential* connectivity between groundwater and surface water flows no concerns have been raised about the dewatering activity impacting on the baseflow of the surface waterbody, see [ICE pack](#).

In line with the approach set out in [Annex D of OGN 72](#) for amber activities, the application was reviewed as part of the further consultation stage to determine whether scoping / detailed assessment was required under WFD Regulations 2017. This review concluded no scoping / detailed assessment was required under the WFD Regulations 2017

The abstraction will be licensed based on historic operation so there will be no change in groundwater levels or quantitative status of the waterbody as a result of this abstraction.

Licensing this abstraction is considered a first step to move towards sustainable abstraction and it will continue to be reviewed through future sustainability review processes.

9.2 Hydrogeology/Hydrology and low flows protection

The abstraction is located in Swansea member underground strata and lies 1.1 kilometres west of the River Tawe.

The abstraction has been occurring lawfully for many years, and in recognition of this the [2017 Government response](#) allows NRW as the regulator to have some discretion about the application HoFs to transitional licences.

It is recognised that not applying a HoF may not be in line with the Abstraction Licensing Strategy (ALS) for the Tawe catchment, but licensing the abstraction is

considered a first step towards sustainable management, through future sustainability review processes.

For abstractions that are located within WFD waterbodies where flows are 'supporting good ecological status', the [2017 Government response](#) suggests the application of a 75% of Qn99 HoF condition. However, in line with our regulatory discretion, NRW consider this HoF is not required for the following reasons:

- The abstraction is from groundwater. The status of this waterbody is at Good quantitative status and the abstraction is not considered to be impacting surface water flows.
- There is insufficient evidence in Wales that a prescribed flow of 75% of Qn99 would provide any environmental benefit / be likely to result in any improvement to WFD status.
- Finally, flow gauges are not generally considered to operate reliably at such low flows, and therefore any condition applying this HoF would not be considered legally enforceable.

9.3 Impact on fisheries

Not applicable to this application as a groundwater abstraction and considered unlikely to have any impacts to local surface waters.

9.4 Impact on water quality

There are no known local discharges in the area where the abstraction has been occurring; therefore no impacts upon water quality are expected.

As part of the activity operation some of the water abstracted is discharged to a watercourse known locally as the cwmrhydyceirw stream, a tributary of the River Tawe. A condition is included within the licence to ensure that water abstracted is discharged either to the nearby watercourse or to the foul sewer (water quality dependent) ensuring that the abstraction consumptiveness of the abstraction is captured. The discharge is permitted under permit ref. EPR/TP3835LV.

9.5 Protected rights and lawful users

Following MyMap screening and consultation screening 2 licensed abstractions and/or lawful users have been identified in the vicinity of the abstraction. Deregulated licence serial number 22/59/1/0057 exists 1.34km north east of abstraction, and deregulated licence serial number 22/59/1/0083 exists 565m south west of abstraction.

NRW acknowledges that the existing abstraction has been operating lawfully for many years under an exemption, without any concerns about impact to other water users/abstractors being raised. NRW considers the abstraction poses no risk to existing water users and should be licensed.

9.6 Habitats Directive, CROW Act, Conservation, heritage and landscape impacts

No protected, heritage or landscape sites have been identified as a result of screening the application using MyMap. See [MyMap screening results](#) for full details.

9.7 Serious Damage

Not applicable to this application.

9.8 Cumulative Impacts

The abstraction has been ongoing for many years with no reported impacts, therefore we are satisfied that there are no anticipated cumulative / in-combination impacts.

9.9 Subsidence and Desiccation

The abstraction has been ongoing for many years with no reported impacts, therefore we are satisfied that there are no anticipated impacts relating to subsidence and desiccation.

9.10 Existing legislation and permissions

Planning consent number 2014/0977 was granted to Edenstone Homes Limited and SI Green UK Limited on appeal to Welsh Government for 'Proposed cessation of landfill and other Operations enabled by residential development circa 300 dwellings, public open space, associated highway and ancillary works' on land at Parc Ceirw. A copy was submitted by the applicant with their application. See Appendix B in [Application documents](#). The developers will still have an obligation to continue the dewatering operations on the site once the site has been developed. The applicant has stated that as part of the residential development the discharge location will change. The applicant will be informed upon issue of their abstraction licence that should any part of the activity change resulting in the need for their licence conditions to be updated they will need to submit a formal licence variation application to NRW. A partial surrender of their EPR permit number EPR/TP3835LV was submitted in respect of the majority of non-landfill areas in December 2018.

With regards to the site discharge under the EPR permit, the applicant has stated that if the water quality is not in accordance with the compliance limits set on the permit, the water is instead discharged to the foul sewer until the compliance limits are met. Therefore this abstraction cannot be classed as non-consumptive.

10. Means of measurement of abstraction

The applicant confirmed that the abstractions are measured via an existing flow meter (please see form WRH dated 18/10/2019, saved to DMS) and will be advised of the measuring requirements which will comply with Natural Resources Wales's Abstraction Metering Good Practice Manual (R & D Technical Report W84).

In accordance with current guidance, weekly records of water abstracted will need to be submitted to the NRW within 28 days of 31 March each year or within 28 days of the NRW requesting the records in writing.

The Licence Holder will also be required to keep all records for at least 6 years and to make them available for inspection during all reasonable hours

11. Considerations of SMNR – Compliance with our General Purpose

We are satisfied that this decision is compatible with our general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

12. Criticality, PALS purposes and abstraction annual charges

Criticality Class

Less Critical

PALS Purposes

Primary Code	Secondary Code	Use/Loss Level code
I:Industrial, Commercial, Public Services	DRG: Drainage operations	660: Dewatering - Very Low

Abstraction annual charges

The licence will be charged by multiplying together the following factors:

STANDARD CHARGE:						
Volume (ML)	Source	Season	Loss Purpose:	Special Charges Agreements	SUC	Charge
155.65	1	1	0.003	n/a	15.89	£7.42

PLUS

COMPENSATION CHARGE:						
Volume (ML)	EIUC Source	Season	Loss Purpose:	Special Charges	EIUC	Charge
155.65	1	1	0.003	n/a	0.00	£0.00

Total Charge for 2021 - 2022	£25* minimum abstraction charge applies
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A second map at scale 1:2,500 has been included on the licence document so that both discharge points can be clearly seen, which is not possible at 1:10,000 scale.