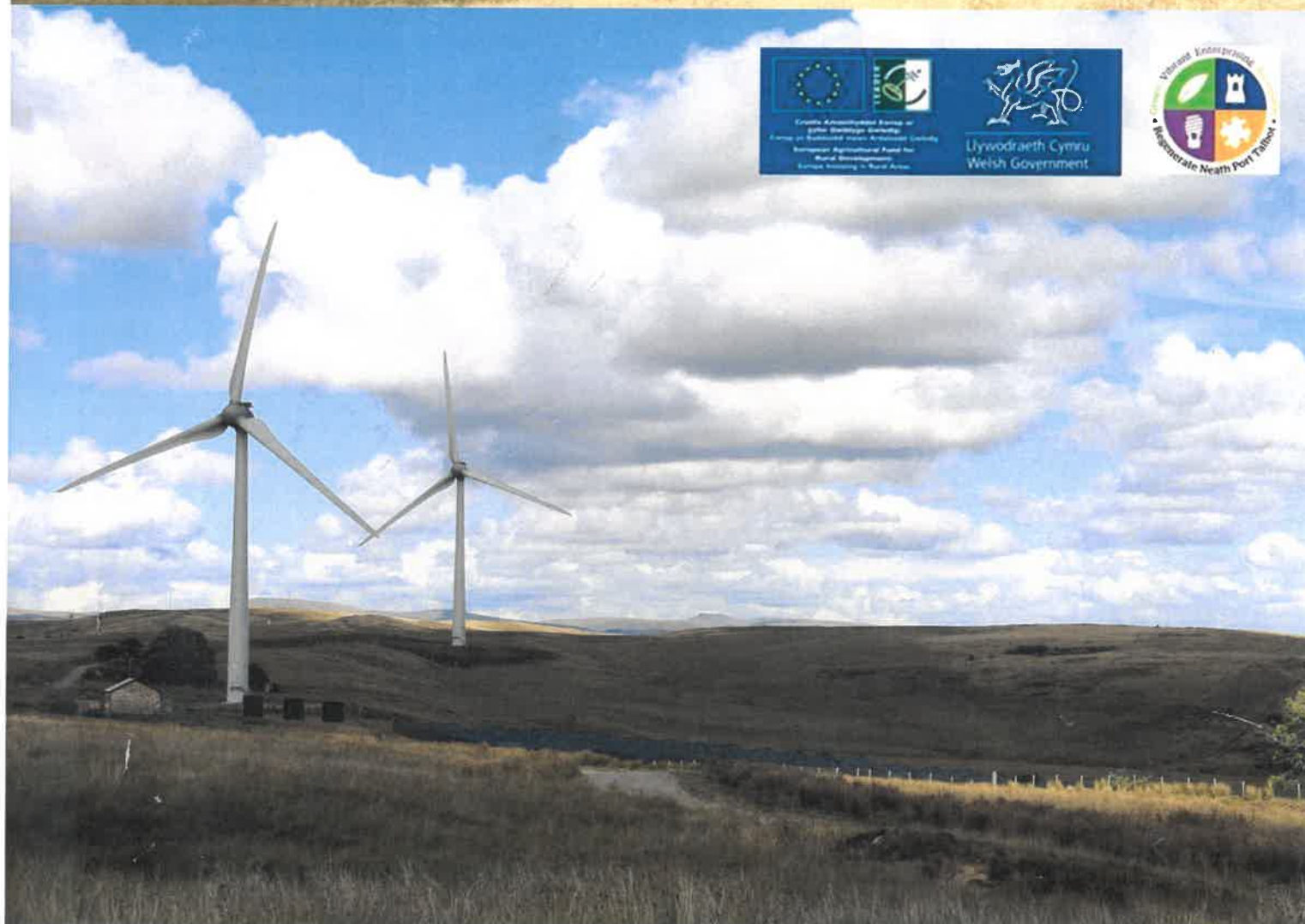


Mynydd y Gwrhyd Solar and Battery

Feasibility Study

March 2019

Volume III



Reference No: P2018/0502

**NEATH PORT TALBOT COUNTY BOROUGH COUNCIL
CYNGOR BWRDEISTREF SIROL CASTELL-NEDD PORT TALBOT**

**TOWN AND COUNTRY PLANNING ACT 1990
THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT
ASSESSMENT) (WALES) (AS AMENDED) REGULATIONS 1999**

SCREENING OPINION – ENVIRONMENTAL STATEMENT NOT REQUIRED

**Name and address of the
applicant**

DAN MCCALLUM
AWEL AMAN Tawe
76-78 HEOL GWILYM
CWMLLYNFELL
SWANSEA
SA9 2GN

DATE REGISTERED: Tuesday, 12 June 2018

APPLICATION NO: P2018/0502

LOCATION: MYNYDD Y GWHRYD FARM PONTARDAWE

PROPOSAL: Request for screening opinion under Regulation 6(1) of
the (Environmental Impact Assessment)(Wales)
Regulations 2017 for a ground mounted 1.4.MW solar PV
array and 10 MW battery storage.

THE NEATH PORT TALBOT COUNTY BOROUGH COUNCIL AS THE LOCAL
PLANNING AUTHORITY IN PURSUANCE OF ITS POWER UNDER THE ABOVE
MENTIONED ACT AND REGULATION HEREBY ADOPTS THE FOLLOWING
SCREENING OPINION THAT THE DEVELOPMENT IS NOT AN E.I.A. DEVELOPMENT
AND THAT THE APPLICATION NEED NOT BE ACCOMPANIED BY AN
ENVIRONMENTAL STATEMENT. THE REASONS FOR THIS OPINION ARE SET OUT
IN THE ATTACHED REPORT.

Signed : 
Nicola Pearce – Head of Planning & Public Protection

Date : 02/07/2018

MR DAN McCALLUM
AWEL AMAN TAWE
76-78 HEOL GWILYM
CWMMLYNFELL
SA9 2GN

BY EMAIL ONLY TO dmmcallum@awelamantawe.co.uk

Dear Sir / Madam,

Town and Country Planning Act, 1990 (as amended)

Pre-App. Ref: Q2018/0131

Proposal: Statutory pre application for a 1.4mw ground mounted solar PV and 10mw battery storage.

Location: Land at Myndydd Y Gwrhyd, Cwmllynfell

I refer to your application received on 05/07/18, concerning the above and your request for pre-application advice. Having considered the nature of submission in detail, I respond as follows.

The proposed development would require planning permission and due to the scale of the development would be classed as a major development. As such any application submitted would have to be supported by a Pre-application Consultation Report (PAC) Report. I have attached a copy of the Welsh Government's Guidance regarding the requirements in relationship to the Pre-application Consultation exercise and the resultant preparation of the PAC Report. In addition to this all major planning applications require the submission of a Design and Access Statement, produced in accordance with Welsh Government Guidance "Guidance on Design and Access Statements." March 2016.

Local Context and Constraints

- Part of the site is located with the Coal Authority's – High Risk Area.
The site is located within a special landscape area
- The site is located with Safeguarded Category 1 Sandstone resource

Environment

Nicola Pearce Head of Planning and Public Protection
The Quays, Brunel Way, Baglan Energy Park, Neath SA11 2GG
Tel 01639 686868

Yr Amgylchedd

Nicola Pearce Pennaeth Cynllunio a Gwarchod y Cyhoedd
Y Ceiau, Ffordd Brunel, Parc Ynni Baglan, Castell-nedd SA11 2GG
Ffôn 01639 686868

We welcome correspondence in Welsh and will deal with Welsh and English correspondence to the same standards and timescales.
Croesewir gohebiaeth yn y Gymraeg a byddwn yn ymdrin â gohebiaeth Gymraeg a Saesneg i'r un safonau ac amserlenni.

Please note that this information is based on our current records and is, as far as possible, accurate. Nevertheless, we reserve the right to advise you of any additional constraints that may be identified at the time of your application.

Relevant Planning History

From an examination of our records, the application site/ property has the following relevant planning history:

- **P2004/1381** Community wind farm consisting of 4 turbines (as opposed to 5 previously), substation, met mast and access road and additional works including borrow pits. Planning permission refused September 2005. **Refused 01/09/05**
-Appeal dismissed September 2006
-Judicial Review draft judgement October 2007, which held that the appeal be dismissed.
- **P2007/1059** Revised scheme screening opinion for 2 wind turbines 100m to tip (60m tower, 40m blade) **Disposed under article 2912/12/08**
- **P2007/1413** Community wind farm consisting of 2 turbines, substation met mast and access tracks also additional temporary works including borrow pits **Refused 17/08/08- Appeal allowed May 2009**
- **P2010/1225** Lawful development certificate for the proposed construction of two wind turbines with hub height of 59 metres and tip height of 100 metres **Lawful development certificate issued (proposed) 03/03/11**
- **P2010/0921** 10/0921 Erection of an anemometry mast up to 60.0m in height for a temporary period of 18 months **Approved 15/10/10**
- **P2013/0893** 13/0893 Details to be agreed in association with condition 5 (scheme of archaeological investigation) and Condition 6 (archaeological sites) of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Approved 23/01/14**
- **P2013/0905** Details to be agreed in association with condition 21 (facilities for storage of oils, fuels or chemicals) of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Approved 06/05/14**
- **P2013/0906** Details to be agreed in association with condition 4 (restoration works), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Withdrawn 28/04/14**
- **P2013/0907** Details to be agreed in association with condition 7 (landscaping scheme), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 (Amended / additional information received 17.02.14) **Withdrawn 28/04/14**
- **P2013/0908** Details to be agreed in association with condition 20 (drainage), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Withdrawn 28/04/14**
- **P2013/0909** Details to be agreed in association with condition 11 (traffic management plan) of planning permission ref: P2007/1413

- (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Withdrawn 28/04/14**
- **P2013/0910** Details to be agreed in association with condition 12 (details of construction compound), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Withdrawn 28/04/14**
 - **P2013/0911** Details to be agreed in association with condition 18 (location of cables), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Withdrawn 17/02/14**
 - **P2013/0912** Details to be agreed in association with condition 16 (felling of trees), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Withdrawn 17/02/14**
 - **P2013/0913**
 - **P2013/0914** Details to be agreed in association with condition 13 (siting of substation), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Approved 23/01/14**
 - **P2013/0915**
 - **P2013/0916** Details to be agreed in association with condition 8 (construction method statement) of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Approved 13/02/14**
 - **P2014/0078** Details to be agreed in association with condition 10 (Ecological management and mitigation monitoring plan) of planning permission Ref P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/09 **Approved 06/05/14**
 - **P2014/0320** Details to be agreed in association with condition 9 (borrow pit details), of planning permission ref: P2007/1413 (APP/Y6930/A/08/2092727) granted on 07/05/2009 **Withdrawn 16/05/14**
 - **P2014/0402** Variation of condition 1 of Planning Permission P2007/1413 (Granted on Appeal on the 07.05.09) to allow for the extension of time for the commencement of development and variation of conditions 3 (reference to all works in Environmental Statement and to allow a maximum tip height of 100m and maximum blade diameter of 82m), 9 (borrow pits), 14 (highway improvement works to facilitate revised access route) and 15 (internal access tracks) **Approved 02/09/15**
 - **P2015/0110** Engineering works to facilitate highway improvements, including improved junction arrangements with A474 plus road / track widening, in order to facilitate access for construction vehicles in association with the construction of 2 no. wind turbines proposed under planning application reference P2014/0402 **Approved 10/11/15**
 - **P2015/0842** Non-material amendment to Planning Permission P2014/0402 (Approved on the 02/09/2015) to vary the wording of condition 2 to increase the rated capacity of the scheme from 4MW to 5MW. **Approved non material amendment 10/09/15**
 - **P2016/0027** Details pursuant to the discharge of condition 12 (Ministry of Defence notification - Aviation safety) of planning permission P2014/0402 (Approved on the 02-09-2015) **Approved 19/01/16**

- **P2016/0131** Non-material amendment to Planning Permission P2014/0402 (Approved on 02/09/2015) to vary method statement outlining the treatment of turf and soils. **Approved non material amendment 10/03/16**
- **P2016/0146** Details pursuant to the partial discharge of condition 26 (pre-development condition survey of the existing highway network) of planning permission P2014/0402 (approved on 02/09/2015) **Approved 09/03/16**
- **P2016/0300** Non-material amendment to Planning Permission P2014/0402 (Approved on 02/09/2015) to vary method statement outlining hedge translocation **Approved non material amendment 06/04/16**
- **P2016/0438** Details pursuant to the partial discharge of condition 11 (Micro siting of turbines) of planning permission P2014/0402 (approved on 02/09/2015) **Approved 21/06/16**
- **P2016/0450** Non-material amendment to Planning Permission P2014/0402 (Approved on 02/09/2015) to allow 24 hour working for four days during turbine foundation concrete pour and turbine erection and for alterations to the design and layout of the sub-station building **Approved non material amendment 14/06/16**
- **P2016/0914** Variation of conditions 2 (environmental statement), 16 (traffic management scheme) & 19 (construction method statement) of planning permission P2014/0402 (approved on the 2/9/15 for 2 No. Wind Turbines previously approved under P2007/1413, granted on appeal on the 07.05.09) to allow for the retention of an alternative type and source of material that has been used in the construction of the roadways/hardstandings within the application site. **Ongoing**
- **P2018/0502** Request for screening opinion under Regulation 6(1) of the (Environmental Impact Assessment)(Wales) Regulations 2017 for a ground mounted 1.4.MW solar PV array and 10 MW battery storage. **EIA Not required 02/07/18**

Relevant Planning Policies

In addition to national guidance contained within Planning Policy Wales, any application would be considered against the Policies within the Adopted Neath Port Talbot [Local Development Plan](#), details of which are available on the Council's web site .The relevant policies would include:

Strategic Policies

- **Policy SP1** Climate Change
- **Policy SP2** Health
- **Policy SP3** Sustainable Communities
- **Policy SP14** The Countryside and Undeveloped coast
- **Policy SP15** Biodiversity and Geodiversity
- **Policy SP17** Minerals
- **Policy SP18** Renewable and Low Carbon Energy.
- **Policy SP20** Transport Network
- **Policy SP21** Built Environment and Historic Heritage

Topic based Policies

- **Policy SC1** Settlement limits
- **Policy EN2** Special Landscaped areas
- **Policy EN6** Important Biodiversity and Geodiversity sites
- **Policy EN7** Important Natural Features
- **Policy M1** Development on mineral safeguarding areas
- **Policy RE1** Criteria for assessment of renewable and low carbon energy development
- **Policy TR2** Design and Access of New Development
- **Policy BE1** Design

Supplementary Planning Guidance:

The following SPG's are of relevance to this application: -

- Renewable and low carbon energy (July 2017)
- Design(July 2017)
- Landscape and Seascape (May 2018)
- Biodiversity and Geodiversity (May 2018)

Analysis of Proposal

Policy SC1 lists the types of development that would be acceptable outside settlement limits, indicating that proposals for renewable energy developments would be acceptable in principle subject to compliance with other relevant policies (criterion 10 which states "*It is associated with either agriculture, forestry, minerals or energy generation;*")

Policy RE1 sets out requirements for renewable energy developments criterion 4 states "*all renewable energy or low carbon energy development proposals will be required to demonstrate that:*

- a) *Measures have been taken to minimise impacts on visual amenity and the natural environment;*
- b) *There will be no unacceptable impacts on residential amenity;*
- c) *The development will not compromise highway safety;*
- d) *The development would not interfere with radar, air traffic control systems, telecommunications links, television reception, radio communication and*
- e) *emergency services communications; and*
- f) *There are satisfactory proposals in place for site restoration as appropriate."*

As detailed information has not been submitted as part of this pre application you are advised that you will be required to demonstrate that these requirements have been met, in particular (a) relating to impacts on visual amenity and the natural environment, taking into account that the site is within the Mynydd y Garth Special Landscape Area. Policy EN2/1 states that it must be demonstrated that the proposal will have no adverse impacts on the features and characteristics for which the SLA has been designated.

Full information about the features and characteristics and further advice about these matters is set out in the Landscape and Seascape SPG. A detailed evaluation of landscape issues should be included with the application.

The application is also located within a mineral Safeguard Area (Category 1 Sandstone resource) again no detailed information has been submitted as such you are advised that the development proposal would only be permitted where you can demonstrate the following:

1. The mineral concerned is no longer of any value or potential value; or
2. The mineral can be extracted satisfactorily prior to the development taking place; or
3. In the case of temporary development, it can be implemented and the site restored within the timescale that the mineral is likely to be needed; or
4. There is an overriding need for the development; or
5. The scale and location of the development would have no significant impact on the possible working of the resource.

To conclude, it is considered that the general principle of a solar farm at this location would be acceptable subject to complying with the other relevant policies that are listed above.

Visual Amenity

As limited information has been provided we are not able to comment on design and visual amenity. However as a minimum the following would be required as part of the planning application

The application will need to be accompanied by a Landscape and Visual Impact Assessment with photomontages from critical view points as part of any future planning application, should you wish us to comment on locations for these viewpoints you would need to provide us with a zones of theoretical visibility plan.

The site is in close proximity of Historic Landscape Character Areas (HLCAs) associated with the Black Mountain and Mynydd Myddfai Historic

As such the application would need to be assessed and mitigated against if required as part of the planning application process subject to the submission of a via the submission of a full ASIDOHL2 assessment with particular consideration given to the visual impact of the proposal.

Residential Amenity

As limited information has been provided we are not able to provide a detailed comment on residential amenity, however our records show the nearest residential property to be Troed Rhiw Felin Farm which is approximately 950m away. The impact the solar farm would have upon this property and others within the area would need to be fully assessed as part of the planning application.

Highways and Pedestrian safety

We do not consult any internal sections as part of our Statutory Pre-application; however as this is considered to be a major development the application will need to be accompanied by a Transport Statement which shall include as a minimum:

- a) Delivery vehicle type(s).
- b) Scoping route for deliveries
- c) Calculation of the number of delivery vehicles during the course of the construction period.

- d) Statement regarding the operational vehicle movements.
- e) Details of staff car parking area, compound area and site office during the course of construction.

Drainage

No details of drainage have been provided however you should ensure that adequate provision is made for the drainage of the site, to ensure that the drainage of any adjoining land is not interrupted or otherwise adversely effected by the development. There must also be no interference, alteration or diversion of any ditch, watercourse, stream or culvert crossing or bordering the site.

You should assess how the development would affect and inland watercourses, wetland, ponds or underground waters as part of the planning application

Ecology

We do not consult any internal sections as part of our Statutory pre application however due to the scale of the project, it is recommended that you should take advice from a suitably qualified ecologist on this development in relation to the impact this development may have upon protected species. The following documents would be required as part of the full planning application as advised by our Ecologist within a recent screening opinion.

- An Extended Phase 1 habitat survey, this should include the identification of the presence of S7 Environment (Wales) Act (S42 NERC Act 2006)/ LBAP habitats and species, sites that meet SINC criteria, in addition to protected species. A balance of S7/LBAP/SINC habitat loss/gain to the scheme should be included. The surveys should cover all areas that may be impacted by the scheme including the access route. The results of this survey should inform the requirement for further more specific surveys, such as bird surveys, reptile
- A biodiversity record search from the South East Wales Biodiversity Records Centre (SEWBRc) should be undertaken to inform the required surveys and the assessment.
- An assessment of the impacts upon areas identified as sites of importance for nature conservation (SINC) and all areas that would meet the criteria of a SINC. NB details of identified SINC are available from SEWBRc and the criteria are available from the Wales Biodiversity Partnership website.
- An assessment of ecosystem resilience (Section 2 Environment (Wales) Act 2016); this shall particularly consider:
 - a) diversity between and within ecosystems;
 - b) the connections between and within ecosystems;
 - c) the scale of ecosystems;
 - d) the condition of ecosystems (including their structure and functioning);
 - e) the adaptability of ecosystems.
- An assessment of impacts upon bird habitat (Section 10 The Conservation of Habitats and Species Regulations 2017); this should ideally be based on up to date survey information (including breeding, foraging and wintering requirements).

- Proposals for mitigation/compensation for any adverse impacts identified in the above assessments.

Coal Mining

As stated above the application lies within the Coal Authority's development high risk area, you will therefore need to submit a coal report together with a coal mining risk assessment. You should take advice from a suitably qualified specialist on this matter as this could affect the development. More information on this can be obtained from the following link <https://www.gov.uk/guidance/planning-applications-coal-mining-risk-assessments>

Archaeological Impact

We do not consult external bodies as part of the Statutory pre-application. However Glamorgan Gwent Archaeological Trust recently commented on a Screening opinion for this development. They advised that there are several prehistoric structures in the vicinity, including numerous cairns along the prominent ridge although it is likely that some of these features date to the medieval and Post-medieval periods. In the medieval period it was located in the ecclesiastical parish of Llangiwg, and two farms are depicted on Rees' map of the 14th century, Bryn Du and Pen Rhiw. Farms are also depicted on the Yniscledwn Estate map, with later cartographic sources indicating cairns, boundary stones, pits, quarries and coal workings. It is considered that these impacts need to be assessed and mitigated against if required via the submission of an archaeological desk-based assessment and mitigation strategy.

Should you wish to have a more detailed response and advice from other departments you can take benefit of our Additional Non-Statutory Pre-Application Advice service for a top up fee of £600 I would strongly recommend that you to do this and also provide additional detailed information as outlined above so that we can fully assess the proposal.

Major Developments

Please be aware that as a 'major' development there is now a statutory requirement (introduced by s17 of the Planning (Wales) Act 2015) for the applicant / developer to consult the community and relevant statutory consultees in advance of formal submission of an application.

Please note that a major application cannot be validated until such consultation is undertaken and a Pre-Application Consultation (PAC) Report submitted with the application.

Detailed advice on Pre-application Consultation can be found on the [Welsh Government website](#).

Community Fund Benefit

Para 5.0.1 of the Neath Port Talbot Supplementary Planning Guidance "Renewable Energy and low carbon Energy" states that "*Welsh Government guidance acknowledges that there may be a need to mitigate the impact of some renewable or low carbon energy developments and recognises the established principle of such measures being made the subject of conditions or legal agreements / obligations required to make the proposal acceptable and allow planning permission to be granted. A clear distinction is however drawn between requirements of this type which are necessary to make a proposal acceptable and voluntary arrangements entered into by developers which secure benefits for host communities but should have no influence on the determination of any planning application.*"

It is acknowledged that different types of development have different impacts upon the local communities. Moreover, it is also acknowledged that the financial returns to developers differ between developments; i.e. wind farms are more profitable than solar farms and the impacts are also significantly different. The scale of fees within Annex B of the *Community funds policy relating to renewable energy generating developments* reflects these differences.

Following consideration of the proposed development and potential impacts and needs arising from the development, I would advise that the Council is likely to seek a community fund benefit of £42,000 as a single payment or spread as phased payments over the first 5 years of the development. This figure is in accordance with Annex B of the *Community funds policy relating to renewable energy generating developments*.

Required Supporting Documentation

We would encourage you to submit your application electronically via www.planningportal.gov.uk.

Having regard to the nature of your proposal, it is considered at this stage that in addition to the submission of standard mandatory supporting documentation such as application forms, plans and fee, any application for the above development should also be accompanied by the following additional documentation: -

- Pre-Application Consultation (PAC) Report ('Major' development)
- Design and Access Statement (see TAN 12 Design, Appendix 1)
- Surface Water Drainage Strategy.
- Transport Assessment.
- Landscape and Visual Impact Assessment with photomontages from critical view points
- ASIDOHL2 assessment with particular consideration given to the visual impact of the proposal.
- Ecology surveys to include:
 - Extended Phase 1 habitat survey
 - A biodiversity record search from the South East Wales Biodiversity Records Centre (SEWBRcC)
 - An assessment of the impacts upon areas identified as sites of importance for nature conservation (SINC) and all areas that would meet the criteria of a SINC.
 - An assessment of ecosystem resilience
 - An assessment of impacts upon bird habitat
 - Proposals for mitigation/compensation for any of the above.
- Archaeological desk-based assessment and mitigation strategy.
- Coal mining report and risk assessment.
- An assessment of the impact the development would have upon the Sandstone resource.

If any subsequent application fails to include the information above, there is a chance it may not be registered and, in any event, it is likely that an application will either be refused or will not be able to be progressed until its satisfactory submission.

It is also this Authority's practice to recommend to applicants that detailed information is submitted at application stage to ensure that, in the event of planning permission being granted, that 'pre-commencement' conditions (which require approval of details prior to work starting on site) can be minimised. You are therefore encouraged to ensure that your initial submissions

incorporate as much information as possible (for example materials, ecology mitigation, Construction Management Plan, Travel Plan etc.), and address all matters raised in the advice given above.

Detailed guidance on the use of the national standard application form for planning permission and other associated consent regimes; and the information which must accompany a planning application so that the local planning authority can determine the validity of the application, can be found as follows: -

“Guidance on the use of the standard application form ('1app') and validation of applications”:

<http://wales.gov.uk/topics/planning/policy/guidanceandleaflets/1appguidance>

The Town and Country Planning (Development Management Procedure)(Wales) Order 2012 :

[\(original Order\)](http://www.legislation.gov.uk/wsi/2012/801/contents/made (original Order))

[\(Note subsequent Amendment Orders: 2014 ; 2015 ; 2016 ; and 2017\)](#)

How we will deal with your planning application

As part of its emphasis on 'Delivering Quality Development Quickly', the Planning department prides itself on the service it offers our customers. Once your application has been received, this will include an allocated case officer making contact with you or your appointed agent within the first week and arranging a visit, following which we will contact you by phone or email to advise of any discrepancies with your application. We will also work with you to address any outstanding concerns, including any amendments required to make your proposal acceptable.

Once we are happy with the validity of your application, we will formally consult neighbours and relevant consultees. Provided there are no significant matters of concern resulting from such consultations, we will then seek to determine your application as swiftly as possible after the expiry of the statutory publicity period, and aim to do so within the 8 week statutory period.

While Officers will endeavour to ensure you are aware of the progress of your application, we would encourage you to contact the case officer should you wish to discuss any matter further.

Development Team Approach – Building Control

The Development Management and Building Control teams work closely to assist developer's in improving the quality of their development and ensuring compliance with all appropriate conditions and Regulations. In particular, Building Control provide a competitive and highly professional service and seek to actively engage with developer's at the earliest stage of their project. You are therefore encouraged to contact the Building Control team on 01639 686820 or by emailing building.control@npt.gov.uk to enter into early negotiations and understand the benefits of the Council's Development Team approach.

Requests for Further Advice

Following receipt of this initial advice, should you wish to discuss your scheme prior to formal submission, please contact the case officer on the direct number or email address given above. Further charges may apply.

Yours faithfully,

Steven Jenkins
Senior Planning Officer

If you require this information in larger print, or in an alternative format, please contact the above named officer.

Please Note:

The advice offered in this response represents an informal opinion, provided in accordance with the Council's Planning Pre-Application Service Protocol. In particular, it is emphasised that while this pre application advice will be carefully considered in reaching a decision or recommendation on an application, the final decision on any application that you may make can only be taken after we have consulted local people, statutory consultees and any other interested parties. It does not, therefore prejudice any decision which the Local Planning Authority may make should an application be submitted.

Michael Phillips

To: Philip Poucher
Subject: RE: RE: Mynydd y Gwrhyd Solar

Subject: RE: WSI Mynydd y Gwrhyd
Date: Tue, 14 Aug 2018 08:30:59 +0000
From: Judith Doyle <Judith@ggat.org.uk>
To: Siân Thomas <sian@arch-wales.co.uk>
CC: Phil Poucher <phil@arch-wales.co.uk>

Hi Siân,

Regarding the ASIDOHL , I've had a chat with Rob and we consider that there is not a requirement for this to be undertaken, given the information we have currently,

Do contact us if you need further clarification,

Kind regards

Judith

Michael Phillips

From: Chris MacArthur <ChrisMacArthur@coal.gov.uk>
Sent: 14 September 2018 11:14
To: Michael Phillips
Subject: A potential solar farm project; MYNYDD Y GWRHYD, NEATH PORT TALBOT

Dear Michael

Further to you email dated 13 September 2018, and the included attachment. I can confirm that this consultee response was sent out in error and should be ignored (i.e. not the CA position, which was subsequently conveyed to you in my email dated 12 September 2018 – albeit quoted as my 'personal opinion'). Consequently, The Coal Authority can confirm; that on the basis that the vast majority of the site for the solar farm would be outside of the defined Development High Risk Area, and that in the area contained within the DHRA shallow mine workings have previously been disproven by probe drilling, the CMRA you refer to would be sufficient and fit for purpose to accompany the forthcoming planning application.

I hope this clarifies things.

Best regards

 **The Coal Authority**

Chris MacArthur [B.Sc](#) (Hons), DipTP, MRTPI
Planning Liaison Manager – Planning and Local Authority Liaison
T : (01623) 637 119
E : planningconsultation@coal.gov.uk
W : gov.uk/government/organisations/the-coal-authority

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GLAMORGAN GWENT ARCHAEOLOGICAL TRUST HISTORIC ENVIRONMENT RECORD ENQUIRY REPORT - CORE RECORDS

Enquiry reference number: 5840

Prepared by: Calli Rouse, Glamorgan Gwent Archaeological Trust
Produced for: Siân Thomas, Archaeology Wales

The following information has been provided under the terms and conditions of access as detailed on the GGAT HER Enquiry and Copyright Declaration forms. Copyright is reserved on all data supplied by the GGAT HER Charitable Trust. All output resulting from the use of the data must acknowledge the source as follows:-
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Search criteria

1km search radius of SN 72720 10538

PRN 00474w **NAME** TYNCOEDCAE NORTHWEST 1 **NGR** SN7191010241 **COMMUNITY** Gwaun-cae-gurwen

TYPE Bronze Age, Cairn, **RANK:** 1

SUMMARY A circular area of sandstone and quartz conglomerate blocks, mainly rounded and <0.3m across. This cairn is c 45m from 475w, and they should probably be considered as a pair (PRN 5041w). 7.2m; 0.2m high GGAT 72 Prehistoric Funerary and Ritual Sites

DESCRIPTION A circular area of sandstone and quartz conglomerate blocks, mainly rounded and <0.3m across. This cairn is c 45m from 475w, and they should probably be considered as a pair (PRN 5041w). 7.2m; 0.2m high GGAT 72 Prehistoric Funerary and Ritual Sites survey 2001. (1956) Two robbed cairns which are now circular patches of medium sized stones, overgrown with grass. In each case there is a slight depression in the centre, though no trace of a cist. Diameter 8.0m, height 0.1m. Judged by its diameter it is prehistoric and not a boundary mound. (Source 02) (1963/1976) On Penlle'rfedwen, a broad moorland ridge E. of Gwaencae-gurwen. The sites are all between 317 and 352 m above O.D. In addition to those listed, the O.S. maps show a cairn at SN 7366 1113, now destroyed by a road leading to coal workings; and a cairn at SN 7425 1086, where nothing but a boundary stone can be found (Rutter, P. Gower, p. 53, A2 and A1 respectively). Some of the cairns, in particular those associated with boundary stones, are of doubtful antiquity. The stones are all marked 'CGN', which apparently stands for Caegurwen. A survey of the manor of Caegurwen in 1610 (Arch. Camb., Supp., 1861 - 70, p. 178.) describes the course of the boundary in this area as passing through 'y Garn ar ben y rhwfau' (which must be the 7425 1086 site), and then by way of 'y Garn llwyd', 'y Ffos heleg', 'y Rhyd garregos', 'Carn Vredydd', and 'Bryn y waen' to 'Nant y gasseg'. The last named is at SN 703 086, so that the traverse must have followed the ridge of Penlle'rfedwen and Mynydd Uchaf along the same line as that occupied by the cairns. North - west of Tyncoedcae. A circular stony patch, 7.6 m in diameter. (Source 01) (1982) No change. The larger cairn is to the NE. (Source 03)

CONDITION

CONDITION: Damaged **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1976

STATUS None recorded

CROSS REFERENCES Associated with 1476w, Associated with 473w, Associated with 475w, Associated with 476w, Associated with 477w, Associated with 5041w, Associated with 5042w GGATE002399

SOURCES

01/ PM list// RCAHM/// 1976/ Glam Invent/ p 62 No 96
 01/pm desc text/RCAHM//1976/Invent I 1/no 96
 02/ MM Record card/ OS/// 1956/ SN 71 SW 7/
 03/ MM Record card/ OS/// 1982/ SN 71 SW 7/
 04/ PM Desc text// Rutter/ JG/ 1948/ Prehistoric Gower/ p 53 , A 7

PRN 00475w NAME TYNCOEDCAE NORTHWEST 2 NGR SN7198610266 COMMUNITY Gwaun-cae-gurwen

TYPE Bronze Age, Cairn, RANK: 1

SUMMARY A roughly circular area of scattered rubble blocks, mainly <0.4m across, in sandstone and ?quartzite. A fallen post-medieval boundary stone marked CGN lies at the NW side. This cairn is c 45m from 474w, and they should probably be considered as a pair.

DESCRIPTION A roughly circular area of scattered rubble blocks, mainly <0.4m across, in sandstone and ?quartzite. A fallen post-medieval boundary stone marked CGN lies at the NW side, but this cairn is c 45m from 474w, and they should probably be considered as a pair (PRN 5041w) of prehistoric cairns of which this one was reused as a boundary marker. 14.5m; 0.1m high GGAT 72 Prehistoric Funerary and Ritual Sites survey 2001. (1956) Two robbed cairns which are now circular patches of medium sized stones, overgrown with grass. In each case there is a slight depression in the centre, though no trace of a cist. Diameter 13.0m , height 0.1m with a modern boundary stone in the NW quadrant. Judged by its diameter it is prehistoric and not a boundary mound. (Source 05) (1963/1976) On Penlle'r-fedwen, a broad moorland ridge E. of Gwaen cae gurwen. The sites are all between 317 and 352 m above O.D. In addition to those listed, the O.S. maps show a cairn at SN 7366 1113, now destroyed by a road leading to coal workings; and a cairn at SN 7425 1086, where nothing but a boundary stone can be found (Rutter, P. Gower, p. 53, A2 and A1 respectively. Some of the cairns, in particular those associated with boundary stones, are of doubtful antiquity. The stones are all marked 'Cgn ', which apparently stands for Caegurwen. A survey of the manor of Caegurwen in 1610 (Arch. Camb., Supp., 1861 - 70, p.178.) describes the course of the boundary in this area as passing through ' y Garn ar ben y rhwfaur ' (which must be the 7425 1086 site), and then by way of ' y Garn llwyd, ' y Ffos heleg ', y Rhyd garregos ', 'Carn Vredydd ' and ' Bryn y waen ' to ' Nant y gasseg '. The last named is at SN 703 086, so that the traverse must have followed the ridge of Penlle'r-fedwen and Mynydd Uchaf along the same line as that occupied by the cairns. Recorded by RCAHMW at SN 7196 1026. North - west of Tyncoedcae. A circular stony patch, 14 m in diameter, raised very slightly above the surrounding moorland. A modern boundary stone stands near its N. E. edge. (Source 01) (1977) Of doubtful antiquity ; possibly medieval boundary cairns. (Source 02) (1982) No change . The larger cairn is to the NE. (Source 03)

CONDITION

CONDITION: Damaged **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1976

STATUS None recorded

CROSS REFERENCES Associated with 1476w, Associated with 473w, Associated with 475w, Associated with 476w, Associated with 477w, Associated with 5041w, Associated with 5042w GGATE002399

SOURCES

01/ PM list// RCAHM/// 1976/ Glam Invent/ p 62 No 97
 01/pm desc text/RCAHM//1976/Invent I 1/no 97
 02/ MM Record card/ OS/// 1977/ SN 71 SW 7/
 03/ MM Record card/ OS/// 1982/ SN 71 SW 7/
 04/ PM Desc text// Rutter/ JG/ 1948/ Prehistoric Gower/ p 53 A 6
 05/ MM Record card/ OS/// 1956/ SN 71 SW 7/

PRN 00476w NAME PEN-Y-WAUN NORTHWEST 1 NGR SN7231810629 COMMUNITY Gwaun-cae-gurwen

TYPE Bronze Age, Cairn, RANK: 1

SUMMARY A roughly circular area of stone, almost entirely grass-grown, the only visible stone being a couple of blocks of sandstone <0.1m across. There is a post-medieval boundary stone in the middle, marked GCN. Cairn paired with 477w.

DESCRIPTION A roughly circular area of stone, almost entirely grass-grown, the only visible stone being a couple of blocks of sandstone <0.1m across. There is a post-medieval boundary stone in the middle, marked GCN. This cairn is only a short distance upslope from 477w and they should probably be considered as a pair (PRN 5042w) of prehistoric cairns of which this one was reused as a boundary marker, though less certainly than 474w and 475w in view of the relatively small size. 5.8m diameter; 0.2m high GGAT 72 Prehistoric Funerary and Ritual Sites survey 2001. (1956) A: A circular patch of medium sized stones, 13.0m in diameter and 0.1m high, with a modern boundary

stone in the NW quadrant. The cairn has been stripped to below ground level in the east part of the perimeter. It is overgrown with grass (Source 05). (1963/1976) On Penlle'rfedwen, a broad moorland ridge E. of Gwaencae'gurwen. The sites are all between 317 and 352 m above O.D. In addition to those listed, the O.S. maps show a cairn at SN 7366 1113, now destroyed by a road leading to coal workings; and a cairn at SN 7425 1086, where nothing but a boundary stone can be found (Rutter, P. Gower, p. 53, A2 and A1 respectively). Some of the cairns, in particular those associated with boundary stones, are of doubtful antiquity. The stones are all marked 'CGN', which apparently stands for Caegurwen. A survey of the manor of Caegurwen in 1610 (Arch. Camb., Supp., 1861 - 70, p.178.) describes the course of the boundary in this area as passing through 'y Garn ar ben y rhwfaur' (which must be the 7425 1086 site), and then by way of 'y Garn llwyd', 'y Ffos heleg', 'y Rhyd garregos', 'Carn Vredydd', and 'Bryn y waen' to 'Nant y gasseg'. The last named is at SN 703 086, so that the traverse must have followed the ridge of Penlle'rfedwen and Mynydd Uchaf along the same line as that occupied by the cairns. North - west of Pen - y - waen. A vague stony patch, mostly grass grown, about 13.7 m long from N. to S. by 11 m wide. A modern boundary stone stands a little W. of its centre. (Source 01) (1977) Of doubtful antiquity; possibly medieval boundary cairn. (Source 02) (1982) No change (Source 03)

CONDITION

CONDITION: Damaged DESCRIPTION: - RELATED EVENT: - RECORDED: 1976

STATUS None recorded

CROSS REFERENCES Associated with 1476w, Associated with 473w, Associated with 474w, Associated with 475w, Associated with 477w, Associated with 5041w, Associated with 5042w GGATE002399

SOURCES

- 01/ PM list// RCAHM/// 1976/ Glam Invent/ p 63 No 98
- 01/pm desc/RCAHM///1976/Invent I 1/no 98
- 02/ MM Record card/ OS/// 1977/ SN 71 SW 5/
- 03/ MM Record card/ OS/// 1982/ SN 71 SW 5/
- 04/ PM Desc text// Rutter/ JG/ 1998/ Prehistoric Gower/ p 53 A 5
- 05/ MM Record card/ OS/// 1957/ SN 71 SW 5/

PRN 00477w **NAME** PEN-Y-WAUN NORTHWEST 2 **NGR** SN7234810576 **COMMUNITY** Gwaun-cae-gurwen
TYPE Bronze Age, Cairn, **RANK:** 1

SUMMARY A roughly circular patch of stone, highest at the N. Largely grass-grown, but the visible stones and sandstone blocks and slabs are mainly <0.2m across. One of a pair with 476w (PRN 5042w), and probably prehistoric. GGAT 72

DESCRIPTION (2017 Poucher) Turf covered mound with a central hollow circa 5.7m across and between 0.5-0.8m high. (2001) A roughly circular patch of stone, highest at the N. Largely grass-grown, but the visible stones and sandstone blocks and slabs are mainly <0.2m across. One of a pair with 476w (PRN 5042w), and probably prehistoric in view of this, through less certainly than 474w and 475w in view of the relatively small size. 6.2m (GGAT 72 Prehistoric Funerary and Ritual Sites survey) (1956) B: This consists of a circular rim, 12.0m in diameter, 1.5m wide and 0.2m high, composed of medium sized stones. The rim has been completely destroyed on the E and SE and the turf has been stripped from the NE quadrant to reveal packed stones; otherwise the site is grass covered. It is similar to A and is possibly a robbed cairn. Judged by its diameter, A is prehistoric and not a boundary mound. (Source 05) (1963/1976) On Penlle'rfedwen, a broad moorland ridge E. of Gwaencae'gurwen. The sites are all between 317 and 352 m above O.D. In addition to those listed, the O.S. maps show a cairn at SN 7366 1113, now destroyed by a road leading to coal workings; and a cairn at SN 7425 1086, where nothing but a boundary stone can be found (Rutter, P. Gower, p. 53, A2 and A1 respectively). Some of the cairns, in particular those associated with boundary stones, are of doubtful antiquity. The stones are all marked 'CGN', which apparently stands for Caegurwen. A survey of the manor of Caegurwen in 1610 (Arch. Camb., Supp., 1861 - 70, p.178.) describes the course of the boundary in this area as passing through 'y Garn ar ben y rhwfaur' (which must be the 7425 1086 site), and then by way of 'y Garn llwyd', 'y Ffos heleg', 'y Rhyd garregos', 'Carn Vredydd', and 'Bryn y waen' to 'Nant y gasseg'. The last named is at SN 703 086, so that the traverse must have followed the ridge of Penlle'rfedwen and Mynydd Uchaf along the same line as that occupied by the cairns. North - west of Pen - y - waen. A disturbed level area, roughly circular and about 10.7 m in diameter, with stones visible, especially in an area of greater disturbance towards the N. side. (Source 01) (1977) As above, listed under round cairns (Source 02) (1982) A possible ring cairn 13.0m in diameter but too disturbed for positive identification. (Source 03)

CONDITION

CONDITION: Damaged DESCRIPTION: - RELATED EVENT: - RECORDED: 1976

CONDITION: DAMAGED DESCRIPTION: Described as a low turf covered mound with a dip in the centre suggesting previous disturbance/robbing (Poucher 2017) RELATED EVENT: E005920 RECORDED: 2016

STATUS None recorded

CROSS REFERENCES Associated with 1476w, Associated with 473w, Associated with 474w, Associated with 475w,

Associated with 476w, Associated with 5041w, Associated with 5042w GGATE002399, GGATE005920

SOURCES

Report (digital) Poucher, P. 2017 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Archaeological Watching Brief 3530

01/ PM list/ RCAHM/// 1976/ Glam Invent/ p 63 No 99

01/pm desc text/RCAHM///1976/Invent I 1/no 99

02/ MM Record card/ OS/// 1977/ SN 71 SW 9/

03/ MM Record card/ OS/// 1982/ SN 71 SW 9/

04/ MM Record card/ OS/// 1985/ SN 71 SW 9/

05/ MM Record card/ OS/// 1957/ SN 71 SW 9/

PRN 00478w NAME Miynydd Uchaf Cairn **NGR** SN73261102 **COMMUNITY** Cwmllynfell

TYPE PREHISTORIC, CAIRN, **RANK:** 1

SUMMARY A Prehistoric cairn, badly damaged, but with a surviving bank to the west.

DESCRIPTION A prehistoric cairn 'On the north a vestige of the bank is preserved, 1.5m wide and 0.5m high, with a slab of its inner side perhaps from an original revetment. The remainder of the cairn is destroyed, though a stony area about 12.2m in diameter is just discernible, raised slightly above the surrounding moorland, and there is a faint suggestion of the bank on the west' (Rutter 1948). A site visit in 1956 noted that the site had been subject to open cast mining, and no sign of the cairn remained as the area had been resurfaced (Quinnell 1956). However, an assessment undertaken in 2003 (E004837) found that the site was still as described in 1948, and there were no obvious signs of open cast mining in the vicinity (Pearson & Sherman 2003).

CONDITION

CONDITION: Near destroyed **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1997

CONDITION: NEAR DESTROYED **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 2003

STATUS None recorded

CROSS REFERENCES -- GGATE002399, GGATE004837

SOURCES

Report Pearson, A. & Sherman, A. 2003 Awel Aman Tawe Community Windfarm, Gwaun-Cae-Gurwen, Neath Port Talbot: Archaeological desk-based assessment and historic landscape study 1300 203/02

PRN 01476w NAME MYNYDD UCHAF **NGR** SN720104 **COMMUNITY** Sandfields West

TYPE Prehistoric, Round barrow, **RANK:** 1

SUMMARY Well-marked mound of stones, largely grass-covered but with some blocks of sandstone (<0.3m across) visible at surface. On the edge of what looks like a dry stream bed. It is not certain whether this is associated with the probable Bronze Age groups (P)

DESCRIPTION Well-marked mound of stones, largely grass-covered but with some blocks of sandstone (<0.3m across) visible at surface. On the edge of what looks like a dry stream bed. It is not certain whether this is associated with the probable Bronze Age groups (PRNs 473w, 474w, 475w, 476w, 477w) or whether it is a medieval/post-medieval boundary marker; although it is not itself associated with a boundary stone, it is certainly much smaller than the other cairns and less robbed. 4.8m (NW-SE) x 3.4m ; 0.8m high GGAT 72 Prehistoric Funerary and Ritual Sites survey 2001. (1956) Marked as a cairn in JG Rutter 1948 Prehistoric Gower. No trace of a cairn was found in this area, which is uncultivated mountain pasture of a marshy nature. There has been no disturbance which could account for the removal of the cairn and it seems likely that the grid reference given may be in error. (Source 01) (1982) Nothing resembling a cairn could be found in the area cited except a turf-covered clearance heap 5.0m in diameter and 0.5m in high at SN72071041. The area is now improved grassland (Source 02)

CONDITION

CONDITION: Damaged **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:**

STATUS None recorded

CROSS REFERENCES Associated with 473w, Associated with 474w, Associated with 475w, Associated with 476w, Associated with 477w, Associated with 5041w, Associated with 5042w

SOURCES

01/ MM Record card/ OS/// 1957/ SN 71 SW 6/

02/ MM Record card/ OS/// 1982/ SN 71 SW 6/

PRN 03349w NAME *BLAEN-NANT-HIR* **NGR** *SN72711148* **COMMUNITY** *Gwaun-cae-gurwen*
TYPE *Post-Medieval, Building, RANK: 1*
SUMMARY *Building shown on Llangiwig Tithe map*

DESCRIPTION *Building shown on Llangiwig Tithe map*

CONDITION

CONDITION: Not known DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*

CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03350w NAME *Mynydd Bach Building 3* **NGR** *SN72651127* **COMMUNITY** *Gwaun-cae-gurwen*
TYPE *Post-Medieval, Building, RANK: 1*
SUMMARY *Building shown on Llangiwig Tithe map*

DESCRIPTION *Building shown on Llangiwig Tithe map*

CONDITION

CONDITION: Destroyed DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*

CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03351w NAME *PEN-HOW* **NGR** *SN72121088* **COMMUNITY** *Gwaun-cae-gurwen*
TYPE *Post-Medieval, Building, RANK: 1*
SUMMARY *Building shown on Llangiwig Tithe map*

DESCRIPTION *Building shown on Llangiwig Tithe map*

CONDITION

CONDITION: Destroyed DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*

CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03352w NAME *PEN-Y-WAUN* **NGR** *SN72551038* **COMMUNITY** *Cwmllynfell*
TYPE *Post-Medieval, Building, RANK: 1*
SUMMARY *Building shown on Llangiwig Tithe map*

DESCRIPTION *Building shown on Llangiwig Tithe map*

CONDITION

CONDITION: Not known DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*

CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03353w NAME *TYN-Y-COEDCAE* **NGR** *SN72111008* **COMMUNITY** *Cwmllynfell*

TYPE *Post-Medieval, Building, RANK: 1*
SUMMARY *Building shown on Llangiwg Tithe map*

DESCRIPTION *Building shown on Llangiwg Tithe map*

CONDITION
CONDITION: Destroyed DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*
CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03365w **NAME** *Quarry* **NGR** SN71831080 **COMMUNITY** *Gwaun-cae-gurwen*
TYPE *Post-Medieval, Quarry, RANK: 1*
SUMMARY *Quarry shown on 1st edition OS map*

DESCRIPTION *Quarry shown on 1st edition OS map 1998 UPLANDS SURVEY*

CONDITION
CONDITION: Not known DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*
CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03368w **NAME** *Pen-cae-du Colliery* **NGR** SN73601050 **COMMUNITY** *Cwmllynfell*
TYPE *Post-Medieval, Colliery, RANK: 1*
SUMMARY *On 1st edition OS map. A series of individual shallow excavations in a linear curve between Bryn Melyn and Pen-cae-du. Photographed during fieldwork.*

DESCRIPTION *On 1st edition OS map. A series of individual shallow excavations in a linear curve between Bryn Melyn and Pen-cae-du. Photographed during fieldwork.*

CONDITION
CONDITION: Not known DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*
CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03391w **NAME** *Mynydd Uchaf Boundary Stone 12* **NGR** SN72061037 **COMMUNITY** *Gwaun-cae-gurwen*
TYPE *Post-Medieval, Standing stone, RANK: 1*
SUMMARY *Boundary stone*

DESCRIPTION *Boundary stone*

CONDITION
CONDITION: Intact DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS *None recorded*
CROSS REFERENCES *Associated with 052-070, Associated with 074-077*

SOURCES

Uplands survey project 1998

PRN 03392w **NAME** Mynydd Uchaf Boundary Stone 13 **NGR** SN72161048 **COMMUNITY** Gwaun-cae-gurwen

TYPE Post-Medieval, Standing stone, **RANK:** 1

SUMMARY Boundary stone

DESCRIPTION Boundary stone

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077

SOURCES

Uplands survey project 1998

PRN 03393w **NAME** Mynydd Uchaf Boundary Stone 14 **NGR** SN72241056 **COMMUNITY** Gwaun-cae-gurwen

TYPE Post-Medieval, Standing stone, **RANK:** 1

SUMMARY Boundary stone

DESCRIPTION Boundary stone

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077

SOURCES

Uplands survey project 1998

PRN 03394w **NAME** Mynydd Uchaf Boundary Stone 1 **NGR** SN72461069 **COMMUNITY** Gwaun-cae-gurwen

TYPE Post-Medieval, Standing stone, **RANK:** 1

SUMMARY Boundary stone

DESCRIPTION Boundary stone

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077

SOURCES

Uplands survey project 1998

PRN 03395w **NAME** Mynydd Uchaf Boundary Stone 2 **NGR** SN72611074 **COMMUNITY** Gwaun-cae-gurwen

TYPE Post-Medieval, Standing stone, **RANK:** 1

SUMMARY Boundary stone

DESCRIPTION Boundary stone

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077

SOURCES

Uplands survey project 1998

PRN 03396w **NAME** Mynydd Uchaf Boundary Stone 3 **NGR** SN72801081 **COMMUNITY** Gwaun-cae-gurwen
TYPE Post-Medieval, Standing stone, **RANK:** 1
SUMMARY Boundary stone

DESCRIPTION Boundary stone

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077

SOURCES

Uplands survey project 1998

PRN 03397w **NAME** Mynydd Uchaf Boundary Stone 4 **NGR** SN73161091 **COMMUNITY** Cwmllynfell
TYPE Post-Medieval, Standing stone, **RANK:** 1
SUMMARY Boundary stone

DESCRIPTION Boundary stone

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077 GGATE004837

SOURCES

Uplands survey project 1998

PRN 03398w **NAME** Mynydd Uchaf Boundary Stone 5 **NGR** SN73451098 **COMMUNITY** Cwmllynfell
TYPE Post-Medieval, Standing stone, **RANK:** 1
SUMMARY Boundary stone photographed during fieldwork

DESCRIPTION Boundary stone photographed during fieldwork

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077

SOURCES

Uplands survey project 1998

PRN 03399w **NAME** Boundary stone **NGR** SN73611094 **COMMUNITY** Cwmllynfell
TYPE Post-Medieval, Standing stone, **RANK:** 1
SUMMARY Boundary stone

DESCRIPTION Boundary stone 1998 UPLANDS SURVEY

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077

SOURCES

Uplands survey project 1998

PRN 03405w NAME BRYN-MELYN NGR SN73671033 COMMUNITY Cwmllynfell
TYPE Post-Medieval, Building, RANK: 1
SUMMARY On 1st edition OS

DESCRIPTION On 1st edition OS

CONDITION

CONDITION: Destroyed **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03406w NAME PENWAUN-UCHAF NGR SN72811077 COMMUNITY Cwmllynfell
TYPE Post-Medieval, Building, RANK: 1
SUMMARY Former farmstead

DESCRIPTION Visited during fieldwork; in very poor condition Appears as Pen-y-waun-uchaf on 1st edition OS map (1878) Remains of a stone-built farmhouse with gable-end chimneys with stone outbuildings both attached and detached to the west, and brick and concrete buildings to the east which are probably stores and pigsties. Associated enclosed yards and fields lie to the south of the main farmhouse (Poucher 2013) Upper portion of northern gable wall of main farmhouse noted to have been reduced for safety reasons (Poucher 2017)

CONDITION

CONDITION: DAMAGED **DESCRIPTION:** Described as 'ruined' following site visit, photographic survey shows standing walls and features remaining (Pouchd 2013) **RELATED EVENT:** E005919 **RECORDED:** 2013
CONDITION: DAMAGED **DESCRIPTION:** Described as largely unchanged since 2013 survey, except for a reduction of the northern gable wall for safety reasons (Pouchd 20137) **RELATED EVENT:** E005920 **RECORDED:** 2017
CONDITION: Destroyed **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998
CONDITION: INTACT **DESCRIPTION:** Appears on 1st edition OS map 1878 as Pen-y-waun-uchaf **RELATED EVENT:** - **RECORDED:** 1878

STATUS None recorded

CROSS REFERENCES - - GGATE005919, GGATE005920

SOURCES

Report (digital) Poucher, P. 2013 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Topographic & Photographic Survey Report 3529
Report (digital) Poucher, P. 2017 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Archaeological Watching Brief 3530
Uplands survey project 1998

PRN 03408w NAME Boundary stone NGR SN71911023 COMMUNITY Gwaun-cae-gurwen
TYPE Post-Medieval, Standing stone, RANK: 1
SUMMARY Boundary stone visited during fieldwork. Co-located with cairn PRN474w

DESCRIPTION Boundary stone visited during fieldwork. Co-located with cairn PRN474w 1998 UPLANDS SURVEY

CONDITION

CONDITION: Intact **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077, Associated with 474W

SOURCES

Uplands survey project 1998

PRN 03409w NAME Mynydd Uchaf Boundary Stone 17 NGR SN72321062 COMMUNITY Gwaun-cae-gurwen
TYPE POST MEDIEVAL, BOUNDARY STONE, RANK: -

Post-Medieval, Standing stone, RANK: 1

SUMMARY Boundary stone visited during fieldwork. Associated cairn (PRN476w) not evident.

DESCRIPTION Boundary stone visited during fieldwork. Associated cairn (PRN476w) not evident. Flat-sided 0.6m wide vertical stone slab with 0.65m exposed. 'CnG' engraved on northern face. One of a series of boundary markers with identical engravings in the upland area of Mynydd Uchaf and Mynydd y Gwrhyd. (Poucher 2017)

CONDITION

CONDITION: Intact DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

CONDITION: INTACT DESCRIPTION: Condition noted during watching brief of nearby trackway improvements (Poucher 2017) RELATED EVENT: E005920 RECORDED: 2016

STATUS None recorded

CROSS REFERENCES Associated with 052-070, Associated with 074-077, Associated with 08425w, Associated with 476W GGATE005920

SOURCES

Report (digital) Poucher, P. 2017 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Archaeological Watching Brief 3530

Uplands survey project 1998

PRN 03434w **NAME** Penlle'r Fedwen Boundary Cairn **NGR** SN7269210804 **COMMUNITY** Gwaun-cae-gurwen

TYPE Post-Medieval, Boundary cairn, RANK: 1

SUMMARY High pointed mound composed of sandstone blocks and slabs, mostly <0.2m across. Mound is largely grass-grown. Does not look at all similar to any of the prehistoric cairns in this area and seems likely to be a post-medieval boundary or clearance cairn

DESCRIPTION High pointed mound composed of sandstone blocks and slabs, mostly <0.2m across. Mound is largely grass-grown. Does not look at all similar to any of the prehistoric cairns in this area and seems likely to be a post-medieval boundary or clearance cairn (there is a deserted farmhouse within about 50m). 4.6m; c1.0m high GGAT 72 Prehistoric Funerary and Ritual Sites survey 2001. Probable boundary cairn, 4.5m diameter, c.1m high. Photographed. Surveyed and described as a post medieval clearance cairn (Pouchesr 2013)

CONDITION

CONDITION: Near intact DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

CONDITION: NEAR INTACT DESCRIPTION: Surveyed (Poucher 2013) RELATED EVENT: E005919 RECORDED:

STATUS None recorded

CROSS REFERENCES - - GGATE005919

SOURCES

Report (digital) Poucher, P. 2013 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Topographic & Photographic Survey Report 3529

Uplands survey project 1998

PRN 03435w **NAME** Quarry south of Pen-how **NGR** SN7224710491 **COMMUNITY** Gwaun-cae-gurwen

TYPE Post-Medieval, Quarry, RANK: 1

SUMMARY Area of ?quarrying. Irregular area c.50m across

DESCRIPTION Area of ?quarrying. Irregular area c.50m across Surveyed and described as an area of irregular ground, possibly associated with recent coal mining activity in the area (Poucher 2013)

CONDITION

CONDITION: DAMAGED DESCRIPTION: Surveyed and described as an area of irregular ground (Poucher 2013)

RELATED EVENT: E005919 RECORDED: 2013

CONDITION: Not known DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS None recorded

CROSS REFERENCES - - GGATE005919

SOURCES

Report (digital) Poucher, P. 2013 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Topographic & Photographic Survey Report 3529

Uplands survey project 1998

PRN 03436w **NAME** Cairn south of Pen-how **NGR** SN7209410411 **COMMUNITY** Gwaun-cae-gurwen
TYPE Post-Medieval, Cairn, **RANK:** 1
SUMMARY A duplicate of 1476w

DESCRIPTION A duplicate of 1476w

CONDITION

CONDITION: Damaged **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 1476w

SOURCES

Uplands survey project 1998

PRN 03438w **NAME** Mound **NGR** SN7180110590 **COMMUNITY** Gwaun-cae-gurwen
TYPE Post-Medieval, Spoil heap, **RANK:** 1
SUMMARY Small, grassed over mound. Possible a cairn but more likely a spoil heap from quarrying (106). 6.3m diameter; c.1m high, on a slight slope. Photographed.

DESCRIPTION Small, grassed over mound. Possible a cairn but more likely a spoil heap from quarrying (106). 6.3m diameter; c.1m high, on a slight slope. Photographed. 1998 UPLANDS SURVEY

CONDITION

CONDITION: Not known **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 106

SOURCES

Uplands survey project 1998

PRN 03439w **NAME** Mynydd Uchaf quarry pits **NGR** SN7194010697 **COMMUNITY** Gwaun-cae-gurwen
TYPE Post-Medieval, Quarry, **RANK:** 1
SUMMARY East end of line of quarrying pits, extending to c.10m south of 105.

DESCRIPTION East end of line of quarrying pits, extending to c.10m south of 105.

CONDITION

CONDITION: Not known **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 105

SOURCES

Uplands survey project 1998

PRN 03440w **NAME** Cairn west of Pen-how **NGR** SN7197910724 **COMMUNITY** Gwaun-cae-gurwen
TYPE Post-Medieval, Cairn, **RANK:** 1
SUMMARY Probable clearance/boundary cairn. Grassed over. 5.8m diameter; c.1.2m high. On a slope. Photographed.

DESCRIPTION Probable clearance/boundary cairn. Grassed over. 5.8m diameter; c.1.2m high. On a slope. Photographed.

CONDITION

CONDITION: Damaged **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 03441w **NAME** Natural feature **NGR** SN7210210783 **COMMUNITY** Gwaun-cae-gurwen

TYPE Unknown, Natural feature, **RANK:** 1

SUMMARY Recorded as a possible robbed cairn in the 1998 Uplands survey. This area of boulders appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72

DESCRIPTION Recorded as a possible robbed cairn in the 1998 Uplands survey. This area of boulders appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72 (1998) Area of boulders may be the remains of a robbed cairn. Sketch planned and photographed (Source 01).

CONDITION

CONDITION: Not applicable **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 3441w-3444w

SOURCES

Uplands survey project 1998

PRN 03442w **NAME** Natural feature **NGR** SN7212210819 **COMMUNITY** Gwaun-cae-gurwen

TYPE Unknown, Natural feature, **RANK:** 1

SUMMARY Recorded as a possible robbed cairn in the 1998 Uplands survey. This area of boulders appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72

DESCRIPTION Recorded as a possible robbed cairn in the 1998 Uplands survey. This area of boulders appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72 (1998) Area of boulders may be the remains of a robbed cairn. Sketch planned and photographed (Source 01).

CONDITION

CONDITION: Not applicable **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 108w-111w

SOURCES

Uplands survey project 1998

PRN 03443w **NAME** Natural feature **NGR** SN7211810751 **COMMUNITY** Gwaun-cae-gurwen

TYPE Unknown, Natural feature, **RANK:** 1

SUMMARY This was an area of boulders thought possibly to be the remains of a robbed cairn. It appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72

DESCRIPTION This was an area of boulders thought possibly to be the remains of a robbed cairn. It appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72 Area of boulders may be the remains of a robbed cairn. Sketch planned and photographed.

CONDITION

CONDITION: Not applicable **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 1998

STATUS None recorded

CROSS REFERENCES Associated with 108w-111w

SOURCES

Uplands survey project 1998

PRN 03444w **NAME** Natural feature **NGR** SN7212110712 **COMMUNITY** Gwaun-cae-gurwen

TYPE Unknown, Natural feature, **RANK:** 1

SUMMARY Recorded as a possible robbed cairn in the 1998 Uplands survey. This area of boulders appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72

DESCRIPTION Recorded as a possible robbed cairn in the 1998 Uplands survey. This area of boulders appears completely natural; there is no sign of an artificially constructed cairn. GGAT 72 (1998) Area of boulders may be the remains of a robbed cairn. Sketch planned and photographed (Source 01).

CONDITION

CONDITION: Not applicable DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS None recorded

CROSS REFERENCES Associated with 108w-111w

SOURCES

Uplands survey project 1998

PRN 03446w NAME Mynydd Uchaf Quarry NGR SN7218210728 COMMUNITY Gwaun-cae-gurwen
TYPE Post-Medieval, Quarry, RANK: 1
SUMMARY Quarry pits c.25m across

DESCRIPTION Quarry pits c.25m across

CONDITION

CONDITION: Not known DESCRIPTION: - RELATED EVENT: - RECORDED: 1998

STATUS None recorded

CROSS REFERENCES - -

SOURCES

Uplands survey project 1998

PRN 05189w NAME Mynydd Uchaf Adit 2 NGR SN7344511125 COMMUNITY Gwaun-cae-gurwen
TYPE POST MEDIEVAL, ADIT, RANK: 0
SUMMARY Site of a blocked post medieval adit.

DESCRIPTION A blocked post medieval adit was noted at this location during a field visit for E004837. No further information is known about the site.

CONDITION

CONDITION: NEAR DESTROYED DESCRIPTION: RELATED EVENT: RECORDED: 2003

STATUS None recorded

CROSS REFERENCES - - GGATE004837

SOURCES

Report Pearson, A. & Sherman, A. 2003 Awel Aman Tawe Community Windfarm, Gwaun-Cae-Gurwen, Neath Port Talbot: Archaeological desk-based assessment and historic landscape study 1300 203/02

PRN 05191w NAME Mynydd Uchaf Adit 3 NGR SN7300910815 COMMUNITY Cwmllynfell
TYPE POST MEDIEVAL, ADIT, RANK: -
SUMMARY A blocked post-medieval adit with a trackway at Mynydd Uchaf.

DESCRIPTION A blocked post-medieval adit with a trackway, possibly for a tram, extending to the west for a distance of 20m, seen during field visit carried out on 14/03/03. No further information available (Pearson & Sherman 2003).

CONDITION

CONDITION: NEAR DESTROYED DESCRIPTION: - RELATED EVENT: - RECORDED: 2003

STATUS None recorded

CROSS REFERENCES - - GGATE004837

SOURCES

Report Pearson, A. & Sherman, A. 2003 Awel Aman Tawe Community Windfarm, Gwaun-Cae-Gurwen, Neath Port

Talbot: Archaeological desk-based assessment and historic landscape study 1300 203/02
Report Sherman, A. 2003 Awel Aman Tawe Windfarm: Interim archaeological assessment 1416 203/06

PRN 05192w NAME Penlle'r Fedwen Quarry **NGR** SN7295810673 **COMMUNITY** Cwmllynfell
TYPE POST MEDIEVAL, QUARRY, **RANK:** -
SUMMARY A large post-medieval quarry at Penlle'r Fedwren.

DESCRIPTION A large post-medieval quarry extending to the SW seen during field visit carried out on 14/03/03. No further information available (Pearson & Sherman 2003).

CONDITION

CONDITION: NEAR INTACT **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 2003

STATUS None recorded

CROSS REFERENCES - - GGATE004837

SOURCES

Report Pearson, A. & Sherman, A. 2003 Awel Aman Tawe Community Windfarm, Gwaun-Cae-Gurwen, Neath Port
Talbot: Archaeological desk-based assessment and historic landscape study 1300 203/02
Report Sherman, A. 2003 Awel Aman Tawe Windfarm: Interim archaeological assessment 1416 203/06

PRN 05194w NAME Penlle'r Fedwen Earthworks **NGR** SN7311210617 **COMMUNITY** Cwmllynfell
TYPE POST MEDIEVAL, EARTHWORK, **RANK:** -
SUMMARY A series of ridges located at the east of Penlle'r Fedwren Quarry.

DESCRIPTION A series of c15-20 ridges were identified during field visit carried out on 14/03/03 50m to the east of Penlle'r Fedwen Quarry (05192w). The features were located on a north facing slope and comprised small banks 0.20-0.30m high running down the side of the valley to its boggy bottom. The banks were composed of soil containing frequent small pieces of grit. The features may represent the remains of ridge and furrow or lazy bed cultivation, possibly associated with the nearby farmstead of Penwaun-Uchaf (03406w) (Pearson & Sherman 2003).

CONDITION

CONDITION: NEAR DESTROYED **DESCRIPTION:** - **RELATED EVENT:** - **RECORDED:** 2003

STATUS None recorded

CROSS REFERENCES - - GGATE004837

SOURCES

Report Pearson, A. & Sherman, A. 2003 Awel Aman Tawe Community Windfarm, Gwaun-Cae-Gurwen, Neath Port
Talbot: Archaeological desk-based assessment and historic landscape study 1300 203/02
Report Sherman, A. 2003 Awel Aman Tawe Windfarm: Interim archaeological assessment 1416 203/06

PRN 05953w NAME Bryn Melyn Farmstead **NGR** SN7338710474 **COMMUNITY** Cwmllynfell
TYPE Unknown, farmstead, **RANK:** -

SUMMARY Feature was a rectangular stock compound or crude building. Feature now exists as two remaining banks aligned northwest to southeast.

DESCRIPTION Feature was a rectangular stock compound or crude building. Feature now exists as two remaining banks aligned northwest to southeast. No other remaining diagnostic features. Feature is just about visible on aerial photographs. Earthworks measuring 20m by 10m associated with/part of farmstead settlement marked on 1st edition OS map. The 'L' shaped earthworks are visible on APs and are marked on modern landline maps. From descriptions and photographs it is thought these are remains of post medieval stone walling associated.

CONDITION

CONDITION: DESCRIPTION: - **RELATED EVENT:** - **RECORDED:**

STATUS None recorded

CROSS REFERENCES - -

SOURCES

PRN 07662w NAME *Old coal levels* **NGR - COMMUNITY -**
TYPE , , **RANK:** -
SUMMARY -

DESCRIPTION -

CONDITION
CONDITION: *DESCRIPTION:* - *RELATED EVENT:* - *RECORDED:*

STATUS *None recorded*
CROSS REFERENCES - -

SOURCES
Map Ordnance Survey 1st Edition OS map 6"

PRN 08424w NAME *Circular stone feature* **NGR SN7203110242 COMMUNITY** *Cwmllynfell*
TYPE , , **RANK:** -
SUMMARY *Seven unworked natural boulders circa 0.5m x 0.5m in size in a semi-circle 7m in diameter.*

DESCRIPTION *Seven unworked natural boulders circa 0.5m x 0.5m in size in a semi-circle 7m in diameter, possibly archaeological in nature given other nearby cairns, had become visible when vegetation was trimmed back and were noted during a watching brief nearby. (Poucher 2017)*

CONDITION
CONDITION: *DESCRIPTION:* - *RELATED EVENT:* - *RECORDED:*

STATUS *None recorded*
CROSS REFERENCES - - *GGATE005920*

SOURCES
Report (digital) Poucher, P. 2017 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Archaeological Watching Brief 3530

PRN 08425w NAME *Mynydd Uchaf Boundary Stone* **NGR SN7238710526 COMMUNITY** *Cwmllynfell*
TYPE *POST MEDIEVAL, BOUNDARY STONE*, **RANK:** -
SUMMARY *0.4m x 0.27m x 0.2m rectangular flat-sided stone aligned with a series of other similarly sized boulders*

DESCRIPTION *0.4m x 0.27m x 0.2m rectangular flat-sided stone aligned with a series of other similarly sized boulders including 03409w to the north (Poucher 2017)*

CONDITION
CONDITION: *INTACT DESCRIPTION:* *Noted during watching brief of nearby trackway (Poucher 2017)* **RELATED EVENT:** *E005920* **RECORDED:** *2016*

STATUS *None recorded*
CROSS REFERENCES *Associated with 03409w GGATE005920*

SOURCES
Report (digital) Poucher, P. 2017 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Archaeological Watching Brief 3530

PRN 08426w NAME *Mynydd Uchaf Cairn* **NGR SN7231110577 COMMUNITY** *Gwaun-cae-gurwen*
TYPE *UNKNOWN, CAIRN*, **RANK:** -
SUMMARY *Possible robbed-out cairn at least 0.2 m high, 6m wide E-W and 5m wide N-S*

DESCRIPTION *Scatter of unworked stone, possibly a robbed-out cairn at least 0.2 m high, 6m wide E-W and 5m wide N-S (Poucher 2017)*

CONDITION
CONDITION: *DAMAGED DESCRIPTION:* *Noted during watching brief of nearby trackway, now visible due to vegetation clearance (Poucher 2017)* **RELATED EVENT:** *E005920* **RECORDED:** *2016*

STATUS *None recorded*

CROSS REFERENCES - - GGATE005920

SOURCES

Report (digital) Poucher, P. 2017 Mynydd y Gwrhyd Community Wind Farm, Pontardawe Archaeological Watching Brief 3530

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Archaeological data, from the Regional Historic Environment Record, supplied by The Glamorgan-Gwent Archaeological Trust in partnership with Local Authorities, Cadw and the partners of ENDEX GGAT, 2010.

Archaeology *Wales*

APPENDIX II: Designated Archaeological Sites

Scheduled Ancient Monuments within 5km

Reference No.	Name	Type	Period	Eastings	Northings
CM332	Bancbryn post-medieval llost farmstead	Farmstead	Post-Medieval/Modern	268272	210574
CM333	Bancbryn cairn cemetery	Round cairn	Prehistoric	268679	210207
CM334	Bancbryn platform cairn	Platform Cairn	Prehistoric	268947	209988
CM335	Bancbryn cairn cemetery [east]	Round cairn	Prehistoric	269208	209915
GM396	Canal Aqueduct over the River Twrch, Ystalyfera	Aqueduct	Post-Medieval/Modern	277277	209241
GM397	Remains of Lock and Dry Dock at Pantyffynnon	Lock	Post-Medieval/Modern	275824	207382
GM453	Crimea Colliery & Canal Quay	Coal Mine	Post-Medieval/Modern	275707	207281
GM612	Mynydd y Garth Cairn	Round cairn	Prehistoric	271009	207676

Listed Buildings within 5km

Reference No.	Name	Grade	Eastings	Northings
11202	Cwm Du Outfall and overflow sluice on Swansea Canal	II	274150	205805
11203	Nant Du Aqueduct on Swansea Canal	II	274126	205768
11204	Ynysmeudwy Uchaf Overbridge on Swansea Canal	II	274063	205713
11212	Slag wall at W end of Glanyravon	II	276709	208294
15831	Henllys Vale Colliery Chimney	II	276219	213717
15832	Henllys Vale Colliery Limekilns	II	276255	213763
19222	Christ Church	II	268882	213452
19223	Monument to Mollie Davies at Christ Church	II	268874	213463
19225	The Vicarage	II	268854	213468
19226	Nos 205 (Jims Barber Shop) and 207	II	268453	213215
23081	Saron Old Chapel	II	271271	205951
23086	Bethel Independent Chapel	II	277029	209932
23087	Wern Independent Chapel	II	276626	208748
23088	Capel Y Tabernacl	II*	270450	210816
23090	Front wall, railings and gates to Capel Y Tabernacl	II	270436	210819
25953	Canal Aqueduct over Afon Twrch, including weir	II*	277270	209240
26818	Furnace bank at former Amman Iron Works	II	271501	213929
26819	Brynamman War Memorial	II	271273	213801
26820	Gwaun-Cae-Gurwen War Memorial	II	270215	212178
26821	Milestone opposite Banwen Place	II	270952	213575
80809	Canal Aqueduct over Afon Twrch, including weir	II*	277270	209240
80810	Canal Overbridge at Cwm-tawe-isaf	II	274830	206413



Photo 1: Viewpoint at the northern end, and highest point, within the proposed development area. Looking north towards the summit of Penlle'rfedwen, with the base of the wind turbine on the right.



Photo 2: As above, looking northeast with the wind turbine on the left, and the remains of Penwaun-uchaf (PRN 3406w) in the centre.



Photo 3: As above, looking east with the 2nd wind turbine in the centre, and Penwaun-uchaf on the left.



Photo 4: As above, looking southeast with Penlle'r Fedwen Quarry (PRN 5192w) and Penwaun Uchaf coal workings (NPRN 418114) on the far hillslope.



Photo 5: As above, looking south over the proposed development site and down the Egel valley. The proposed development site occupies the rough ground in the foreground and middle distance.



Photo 6: As above, looking southwest across the proposed development south and along the ridgeline of Mynydd Uchaf and Mynydd y Garth. The green grass in the foreground covers earthworks from the wind turbine development.



Photo 7: As above, looking west over previous wind turbine development, including the substation and access track.



Photo 8: Looking south down the line of the western site boundary with the Egel Valley and Cefn Gwrhyd in the background.



Photo 9: Looking north along part of the western site boundary not topped by post-and-wire fencing, showing the embanked field boundaries, likely derived as upcast from the adjacent drainage ditch to the left.



Photo 10: General view looking south across the proposed development area, showing the internal field boundary.



Photo 11: Looking northeast at the remains of Penwaun-uchaf farmstead (PRN 3406w) to the northeast of the proposed development area.



Photo 12: Looking southwest from the edge of Penwaun-uchaf farmstead (PRN 3406w) over the proposed development area. The existing wind turbine is visible on the right.



Photo 13: Looking southwest at the remains of Pen-y-waun farmstead (PRN 3352w).



Photo 14: Looking southwest from the edge of the proposed development area, showing the remains of Pen-y-waun farmstead (PRN 3352w) on the right.



Photo 15: Looking southeast from the access track over the proposed development area with Penlle'r Fedwen Quarry (PRN 5192w) and Penwaun Uchaf coal workings (NPRN 418114) beyond.



Photo 16: Looking northeast from within the proposed development area towards the existing wind farm development.

APPENDIX 5-1: Vegetation Survey Data

d = dominant

a = abundant

f = frequent

o = occasional

r = rare

l = locally (used as prefix to d, a & f)

p = planted

* = Bryophyte (moss or liverwort)

[01] track & hardstanding (Lstn chippings)

* Bicoloured Bryum	<i>Bryum dichotomum</i>	o
* Common Cord-moss	<i>Funaria hygrometrica</i>	o
Lesser Bird's-claw Beard-moss		
* moss	<i>Barbula convoluta var. convoluta</i>	o
* Redshank	<i>Ceratodon purpureus</i>	o
* Silver-moss	<i>Bryum argenteum</i>	o
Annual Meadow-grass	<i>Poa annua</i>	lf
Broad-leaved Dock	<i>Rumex obtusifolius</i>	r
Colt's-foot	<i>Tussilago farfara</i>	r
Common Bent	<i>Agrostis capillaris</i>	o

Common Chickweed	<i>Stellaria media</i>	r
Common Mouse-ear	<i>Cerastium fontanum</i>	o
Common Nettle	<i>Urtica dioica</i>	r
Common Sorrel	<i>Rumex acetosa</i>	r
Creeping Bent	<i>Agrostis stolonifera</i>	lf
Creeping Buttercup	<i>Ranunculus repens</i>	r
Dandelion	<i>Taraxacum agg.</i>	r
Equal-leaved Knotgrass	<i>Polygonum arenastrum</i>	o
Feverfew	<i>Tanacetum parthenium</i>	r
Great Willowherb	<i>Epilobium hirsutum</i>	r
Greater Plantain	<i>Plantago major</i>	r
Hairy Bitter-cress	<i>Cardamine hirsuta</i>	r
Heath Bedstraw	<i>Galium saxatile</i>	r
Herb-Robert	<i>Geranium robertianum</i>	r
Marsh Cudweed	<i>Gnaphalium uliginosum</i>	o
Northern Yellow-cress	<i>Rorippa islandica</i>	r
Pineappleweed	<i>Matricaria discoidea</i>	r
Prickly Sow-thistle	<i>Sonchus asper</i>	r
Procumbent Pearlwort	<i>Sagina procumbens</i>	lf
Red Goosefoot	<i>Chenopodium rubrum</i>	r

Redshank	<i>Persicaria maculosa</i>	r
Remote Sedge	<i>Carex remota</i>	r
Scarlet Pimpernel	<i>Anagallis arvensis</i>	r
Scentless Mayweed	<i>Tripleurospermum inodorum</i>	r
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	r
Smooth Sow-thistle	<i>Sonchus oleraceus</i>	r
Sticky Groundsel	<i>Senecio viscosus</i>	o
Sticky Mouse-ear	<i>Cerastium glomeratum</i>	r
Thyme-leaved Speedwell	<i>Veronica serpyllifolia</i>	o
Toad Rush	<i>Juncus bufonius</i>	lf
Weld	<i>Reseda luteola</i>	r
White Clover	<i>Trifolium repens</i>	o
Yarrow	<i>Achillea millefolium</i>	r
Yorkshire-fog	<i>Holcus lanatus</i>	o

[02] disturbed edges of track

Annual Meadow-grass	<i>Poa annua</i>	la
Colt's-foot	<i>Tussilago farfara</i>	r
Common Chickweed	<i>Stellaria media</i>	o
Common Nettle	<i>Urtica dioica</i>	o
Creeping Bent	<i>Agrostis stolonifera</i>	lf

Creeping Thistle	<i>Cirsium arvense</i>	r
Curled Dock	<i>Rumex crispus</i>	o
Foxglove	<i>Digitalis purpurea</i>	r
Greater Plantain	<i>Plantago major</i>	f
Hairy Bitter-cress	<i>Cardamine hirsuta</i>	r
Lesser Burdock	<i>Arctium minus</i>	r
Lesser Spearwort	<i>Ranunculus flammula</i>	o
Marsh Thistle	<i>Cirsium palustre</i>	lf
Meadow Buttercup	<i>Ranunculus acris</i>	r
Rusty Willow	<i>Salix cinerea subsp. oleifolia</i>	r
Soft-rush	<i>Juncus effusus</i>	o
Spear Thistle	<i>Cirsium vulgare</i>	lf
Water-pepper	<i>Persicaria hydropiper</i>	r
White Clover	<i>Trifolium repens</i>	o
Yorkshire-fog	<i>Holcus lanatus</i>	lf

[03] reseeded mound around turbine footprint

* Redshank	<i>Ceratodon purpureus</i>	o
Broad-leaved Dock	<i>Rumex obtusifolius</i>	o
Common Bent	<i>Agrostis capillaris</i>	o
Common Mouse-ear	<i>Cerastium fontanum</i>	r

Common Nettle	<i>Urtica dioica</i>	o
Common Sorrel	<i>Rumex acetosa</i>	o
Creeping Bent	<i>Agrostis stolonifera</i>	lf
Creeping Buttercup	<i>Ranunculus repens</i>	f
Creeping Thistle	<i>Cirsium arvense</i>	r
Crested Dog's-tail	<i>Cynosurus cristatus</i>	o
Curled Dock	<i>Rumex crispus</i>	o
Dandelion	<i>Taraxacum agg.</i>	o
Foxglove	<i>Digitalis purpurea</i>	o
Greater Plantain	<i>Plantago major</i>	o
Green-ribbed Sedge	<i>Carex binervis</i>	o
Lesser Burdock	<i>Arctium minus</i>	r
Lesser Spearwort	<i>Ranunculus flammula</i>	o
Marsh Cudweed	<i>Gnaphalium uliginosum</i>	r
Marsh Thistle	<i>Cirsium palustre</i>	f
Marsh-bedstraw	<i>Galium palustre</i>	r
Meadow Buttercup	<i>Ranunculus acris</i>	o
Procumbent Pearlwort	<i>Sagina procumbens</i>	o
Soft-rush	<i>Juncus effusus</i>	lf
Spear Thistle	<i>Cirsium vulgare</i>	lf

Thyme-leaved Speedwell	<i>Veronica serpyllifolia</i>	o
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Yorkshire-fog	<i>Holcus lanatus</i>	a
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breeze blocks

* Common Feather-moss	<i>Kindbergia praelonga</i>	p
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* Intermediate Screw-moss	<i>Syntrichia montana</i>	p
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* Pointed Spear-moss	<i>Calliergonella cuspidata</i>	p
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* Rough-stalked Feather-moss	<i>Brachythecium rutabulum</i>	p
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* Sessile Grimmia	<i>Schistidium apocarpum</i>	p
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* Thickpoint Grimmia	<i>Schistidium crassipilum</i>	p
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* Wall Screw-moss	<i>Tortula muralis</i>	p
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[04] ditch (cleared earlier in year)

* Aloe Haircap	<i>Pogonatum aloides</i>	o
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* Bog Groove-moss	<i>Aulacomnium palustre</i>	o
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* Common Haircap	<i>Polytrichum commune var. commune</i>	o
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* Common Tamarisk-moss	<i>Thuidium tamariscinum</i>	r
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* Flat-topped Bog-moss	<i>Sphagnum fallax</i>	o
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* Fountain Apple-moss	<i>Philonotis fontana</i>	o
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* Fountain Smoothcap	<i>Atrichum crispum</i>	o
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* Fringed Bog-moss	<i>Sphagnum fimbriatum</i>	f
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* Heath Star Moss	<i>Campylopus introflexus</i>	r
* Lesser Cow-horn Bog-moss	<i>Sphagnum inundatum</i>	o
* Lustrous Bog-moss	<i>Sphagnum subnitens</i>	o
* Nees' Pellia	<i>Pellia neesiana</i>	o
* Overleaf Pellia	<i>Pellia epiphylla</i>	o
* Pale Glauous Thread-moss	<i>Pohlia wahlenbergii</i>	o
* Pointed Spear-moss	<i>Calliergonella cuspidata</i>	lf
* Pointed Spear-moss	<i>Calliergonella cuspidata</i>	o
* Silky Forklet-moss	<i>Dicranella heteromalla</i>	lf
* Urn Haircap	<i>Pogonatum urnigerum</i>	o
Bulbous Rush	<i>Juncus bulbosus</i>	o
Carnation Sedge	<i>Carex panicea</i>	o
Common Ragwort	<i>Senecio jacobaea</i>	r
Common Sorrel	<i>Rumex acetosa</i>	o
Common Yellow-sedge	<i>Carex demissa</i>	o
Creeping Forget-me-not	<i>Myosotis secunda</i>	r
Cuckooflower	<i>Cardamine pratensis</i>	r
Greater Bird's-foot-trefoil	<i>Lotus pedunculatus</i>	r
Hard-fern	<i>Blechnum spicant</i>	r
hybrid cinquefoil	<i>Potentilla x mixta sens. lat.</i>	r

Jointed Rush	<i>Juncus articulatus</i>	lf
Lady-fern	<i>Athyrium filix-femina</i>	o
Lesser Spearwort	<i>Ranunculus flammula</i>	f
Marsh Thistle	<i>Cirsium palustre</i>	lf
Marsh Violet	<i>Viola palustris</i>	r
Marsh-bedstraw	<i>Galium palustre</i>	lf
Meadow Buttercup	<i>Ranunculus acris</i>	r
Oval Sedge	<i>Carex leporina</i>	r
Purple Moor-grass	<i>Molinia caerulea</i>	la
Ragged-Robin	<i>Silene flos-cuculi</i>	r
Sharp-flowered Rush	<i>Juncus acutiflorus</i>	lf
Sneezewort	<i>Achillea ptarmica</i>	o
Soft-rush	<i>Juncus effusus</i>	f
Star Sedge	<i>Carex echinata</i>	o
Tormentil	<i>Potentilla erecta</i>	o
Velvet Bent	<i>Agrostis canina</i>	f
Whorled Caraway	<i>Carum verticillatum</i>	r
Yorkshire-fog	<i>Holcus lanatus</i>	lf

fauna

Common Lizard	<i>Zootoca vivipara</i>	1
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Red Kite	<i>Milvus milvus</i>	1
Common Frog	<i>Rana temporaria</i>	3
a moth	<i>Agriphila straminella</i>	3
a psyllid	<i>Livia juncorum</i>	1
Field Vole	<i>Microtus agrestis</i>	1

[05] transitional marshy grassland / mire

* Bog Groove-moss	<i>Aulacomnium palustre</i>	lf
* Common Haircap	<i>Polytrichum commune var. commune</i>	f
* Cow-horn Bog-moss	<i>Sphagnum denticulatum</i>	o
* Lesser Cow-horn Bog-moss	<i>Sphagnum inundatum</i>	lf
* Lustrous Bog-moss	<i>Sphagnum subnitens</i>	f
Carnation Sedge	<i>Carex panicea</i>	f
Common Bent	<i>Agrostis capillaris</i>	lf
Common Sedge	<i>Carex nigra</i>	o
Common Yellow-sedge	<i>Carex demissa</i>	o
Compact Rush	<i>Juncus conglomeratus</i>	lf
Crested Dog's-tail	<i>Cynosurus cristatus</i>	r
Dandelion	<i>Taraxacum agg.</i>	r
Heath Rush	<i>Juncus squarrosus</i>	f
J. conglomeratus x effusus	<i>Juncus x kern-reichgeltii</i>	o

Lousewort	<i>Pedicularis sylvatica</i>	r
Marsh Thistle	<i>Cirsium palustre</i>	o
Marsh-bedstraw	<i>Galium palustre</i>	o
Mat-grass	<i>Nardus stricta</i>	lf
Purple Moor-grass	<i>Molinia caerulea</i>	f
Red Fescue	<i>Festuca rubra</i>	o
Sharp-flowered Rush	<i>Juncus acutiflorus</i>	la
Sheep's-fescue	<i>Festuca ovina</i>	o
Soft-rush	<i>Juncus effusus</i>	la
Star Sedge	<i>Carex echinata</i>	o
Velvet Bent	<i>Agrostis canina</i>	f
Whorled Caraway	<i>Carum verticillatum</i>	lf
Yorkshire-fog	<i>Holcus lanatus</i>	o

[06] Molinia mire

* Bifid Crestwort	<i>Lophocolea bidentata</i>	o
* Common Feather-moss	<i>Kindbergia praelonga</i>	o
* Common Tamarisk-moss	<i>Thuidium tamariscinum</i>	o
* Pointed Spear-moss	<i>Calliergonella cuspidata</i>	o
Bog Pimpernel	<i>Anagallis tenella</i>	o
Carnation Sedge	<i>Carex panicea</i>	lf

Common Sorrel	<i>Rumex acetosa</i>	o
Common Yellow-sedge	<i>Carex demissa</i>	o
Flea Sedge	<i>Carex pulicaris</i>	o
Heath Rush	<i>Juncus squarrosus</i>	lf
Lesser Spearwort	<i>Ranunculus flammula</i>	o
Male-fern	<i>Dryopteris filix-mas</i>	r
Marsh Thistle	<i>Cirsium palustre</i>	f
Marsh Violet	<i>Viola palustris</i>	o
Marsh Willowherb	<i>Epilobium palustre</i>	r
Marsh-bedstraw	<i>Galium palustre</i>	lf
Mat-grass	<i>Nardus stricta</i>	lf
Meadow Buttercup	<i>Ranunculus acris</i>	r
Purple Moor-grass	<i>Molinia caerulea</i>	a
Sharp-flowered Rush	<i>Juncus acutiflorus</i>	lf
Tormentil	<i>Potentilla erecta</i>	o
Velvet Bent	<i>Agrostis canina</i>	f
Whorled Caraway	<i>Carum verticillatum</i>	o
Yorkshire-fog	<i>Holcus lanatus</i>	o

[07] ditch

* Blunt-leaved Bog-moss	<i>Sphagnum palustre</i>	la
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* Crenulated Flapwort	<i>Solenostoma gracillimum</i>	o
* Flat-topped Bog-moss	<i>Sphagnum fallax</i>	lf
* Fringed Bog-moss	<i>Sphagnum fimbriatum</i>	lf
* Ladder Flapwort	<i>Nardia scalaris</i>	o
* White Earwort	<i>Diplophyllum albicans</i>	o
Bogbean	<i>Menyanthes trifoliata</i>	ld
Cross-leaved Heath	<i>Erica tetralix</i>	o
Heather	<i>Calluna vulgaris</i>	lf
Lemon-scented Fern	<i>Oreopteris limbosperma</i>	f
Mat-grass	<i>Nardus stricta</i>	lf

[08] M6 mire

* Common Haircap	<i>Polytrichum commune var. commune</i>	la
* Papillose Bog-moss	<i>Sphagnum papillosum</i>	la
Marsh-bedstraw	<i>Galium palustre</i>	lf
Purple Moor-grass	<i>Molinia caerulea</i>	la
Soft-rush	<i>Juncus effusus</i>	f
Star Sedge	<i>Carex echinata</i>	o

[09] M6 mire transition

* Blunt-leaved Bog-moss	<i>Sphagnum palustre var. palustre</i>	f
* Bog Groove-moss	<i>Aulacomnium palustre</i>	lf

* Papillose Bog-moss	<i>Sphagnum papillosum</i>	o
* Springy Turf-moss	<i>Rhytidiadelphus squarrosus</i>	o
Common Sedge	<i>Carex nigra</i>	o
Common Valerian	<i>Valeriana officinalis</i>	o
Common Yellow-sedge	<i>Carex demissa</i>	o
Foxglove	<i>Digitalis purpurea</i>	If
Lesser Spearwort	<i>Ranunculus flammula</i>	If
Marsh-bedstraw	<i>Galium palustre</i>	f
Purple Moor-grass	<i>Molinia caerulea</i>	If
Soft-rush	<i>Juncus effusus</i>	ld
Star Sedge	<i>Carex echinata</i>	o
Whorled Caraway	<i>Carum verticillatum</i>	o

[10] lower stream

Bracken	<i>Pteridium aquilinum</i>	ld
Male-fern	<i>Dryopteris filix-mas</i>	f
Purple Moor-grass	<i>Molinia caerulea</i>	ld
Rusty Willow	<i>Salix cinerea subsp. oleifolia</i>	r
Wavy Hair-grass	<i>Deschampsia flexuosa</i>	f
Western Gorse	<i>Ulex gallii</i>	If

[11] flushed AG

* Juniper Haircap	<i>Polytrichum juniperinum</i>	o
* Lustrous Bog-moss	<i>Sphagnum subnitens</i>	o
* Springy Turf-moss	<i>Rhytidiadelphus squarrosus</i>	f
Common Bent	<i>Agrostis capillaris</i>	f
Field Wood-rush	<i>Luzula campestris</i>	o
Foxglove	<i>Digitalis purpurea</i>	o
Heath Bedstraw	<i>Galium saxatile</i>	lf
Heather	<i>Calluna vulgaris</i>	r
Mat-grass	<i>Nardus stricta</i>	f
Sheep's-fescue	<i>Festuca ovina</i>	lf
Soft-rush	<i>Juncus effusus</i>	la
Tormentil	<i>Potentilla erecta</i>	o
Wavy Hair-grass	<i>Deschampsia flexuosa</i>	lf
Western Gorse	<i>Ulex gallii</i>	o

[12] rush-pasture

* Bog Groove-moss	<i>Aulacomnium palustre</i>	lf
* Pointed Spear-moss	<i>Calliergonella cuspidata</i>	la
* Tree-moss	<i>Climacium dendroides</i>	o
f Meadow Waxcap	<i>Hygrocybe pratensis</i> var. <i>pratensis</i>	p
Carnation Sedge	<i>Carex panicea</i>	lf

Creeping Buttercup	<i>Ranunculus repens</i>	o
Crested Dog's-tail	<i>Cynosurus cristatus</i>	o
Dandelion	<i>Taraxacum agg.</i>	lf
Lesser Spearwort	<i>Ranunculus flammula</i>	o
Marsh Thistle	<i>Cirsium palustre</i>	o
Marsh-bedstraw	<i>Galium palustre</i>	o
Mat-grass	<i>Nardus stricta</i>	lf
Soft-rush	<i>Juncus effusus</i>	d
Star Sedge	<i>Carex echinata</i>	r
Sweet Vernal-grass	<i>Anthoxanthum odoratum</i>	lf
Thyme-leaved Speedwell	<i>Veronica serpyllifolia</i>	o
Velvet Bent	<i>Agrostis canina</i>	f
Whorled Caraway	<i>Carum verticillatum</i>	r
Yorkshire-fog	<i>Holcus lanatus</i>	la

[13] scrub

Rusty Willow	<i>Salix cinerea subsp. oleifolia</i>	r
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[14] rush-pasture

* Pointed Spear-moss	<i>Calliergonella cuspidata</i>	f
* Springy Turf-moss	<i>Rhytidiadelphus squarrosus</i>	la
f Field Mushroom	<i>Agaricus campestris</i>	p

Autumn Hawkbit	<i>Scorzoneroides autumnalis</i>	r
Common Bent	<i>Agrostis capillaris</i>	f
Common Bird's-foot-trefoil	<i>Lotus corniculatus</i>	lf
Common Sedge	<i>Carex nigra</i>	o
Creeping Bent	<i>Agrostis stolonifera</i>	lf
Creeping Buttercup	<i>Ranunculus repens</i>	lf
Marsh Foxtail	<i>Alopecurus geniculatus</i>	r
Marsh Thistle	<i>Cirsium palustre</i>	lf
Meadow Buttercup	<i>Ranunculus acris</i>	o
Sweet Vernal-grass	<i>Anthoxanthum odoratum</i>	lf
Tormentil	<i>Potentilla erecta</i>	o
Velvet Bent	<i>Agrostis canina</i>	f
White Clover	<i>Trifolium repens</i>	o
Whorled Caraway	<i>Carum verticillatum</i>	r
Yorkshire-fog	<i>Holcus lanatus</i>	f
* Common Pincushion	<i>Dicranoweisia cirrata</i>	o
[15] hedgebank		
* Bank Haircap	<i>Polytrichastrum formosum</i>	lf
	<i>Hypnum cupressiforme</i>	var.
* Cypress-leaved Plait-moss	<i>cupressiforme</i>	o

* Juniper Haircap	<i>Polytrichum juniperinum</i>	o
* Redshank	<i>Ceratodon purpureus</i>	o
* Springy Turf-moss	<i>Rhytidiadelphus squarrosus</i>	If
li a lichen	<i>Peltigera lactucifolia</i>	o
Common Bent	<i>Agrostis capillaris</i>	a
Common Sorrel	<i>Rumex acetosa</i>	o
Hawthorn	<i>Crataegus monogyna</i>	r
Heath Bedstraw	<i>Galium saxatile</i>	If
Mat-grass	<i>Nardus stricta</i>	o
Sheep's Sorrel	<i>Rumex acetosella</i>	If
Sheep's-fescue	<i>Festuca ovina</i>	If
Yorkshire-fog	<i>Holcus lanatus</i>	If

1.1.1

APPENDIX 5-2: Photographs

Substation and access gates



Turbine base and gravel area



View of the site before mowing, looking from turbine to south west



Eastern field looking south east – sensitive habitat



Middle of southern field looking west before mowing



Earth bank on western boundary



Pond in south western corner



Pond on boundary with adjacent land



Ditch from top of the Site running between fields



Ditch in the middle of the fields (blue line)



View of solar farm site after mowing



View from east showing mowed area



View looking east



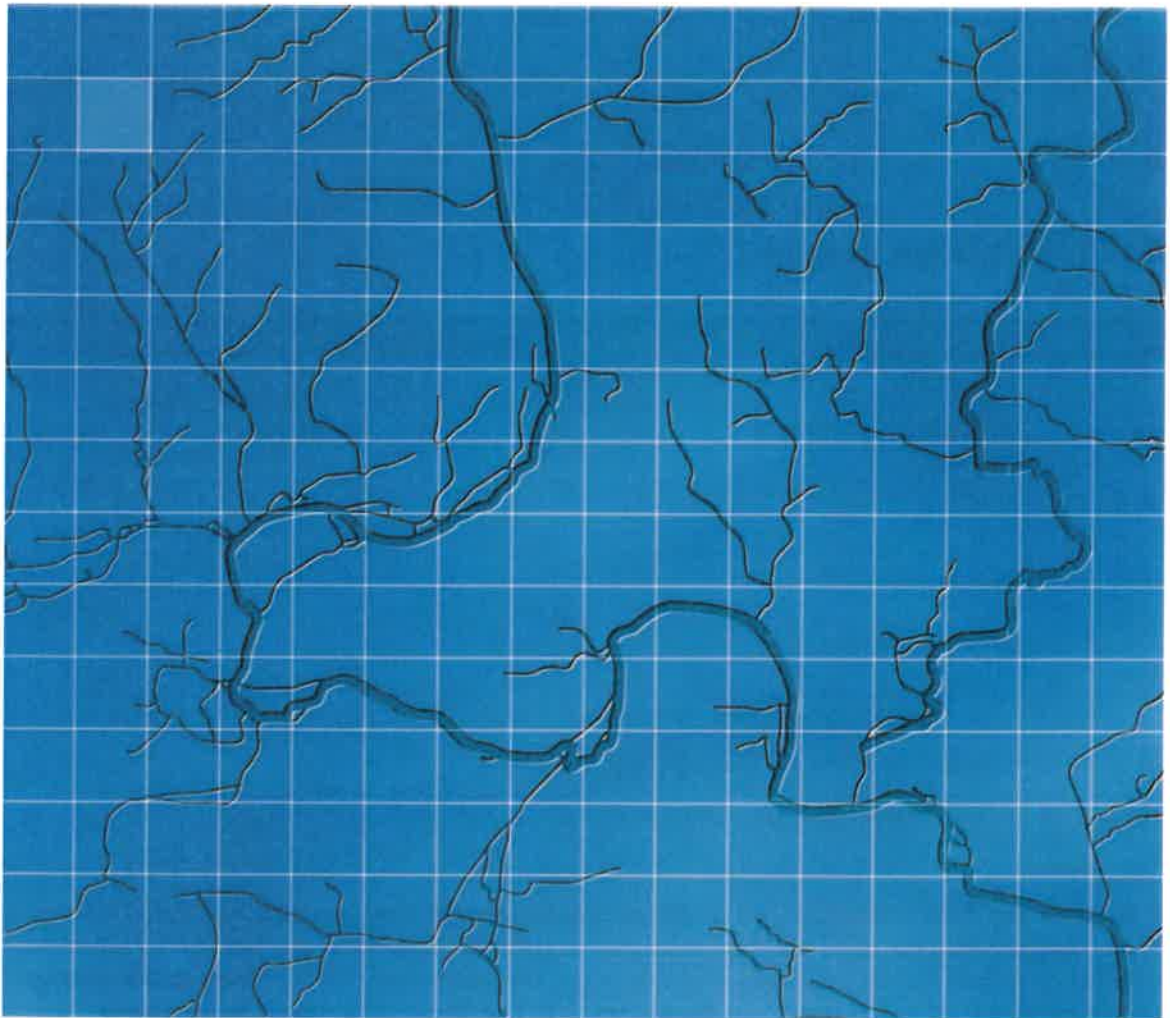
View looking north



Dulas

October 2018

Mynydd Y Gwrhyd Solar Farm Drainage Strategy



WHS

Dulas

Mynydd Y Gwrhyd Solar Farm Drainage Strategy

Document issue details

WHS1626

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1	12/10/2018	Draft	Jessica Pearce (Consultant)	Jude Jeans (Technical Director)
2	19/10/2018	Final	Jessica Pearce (Consultant)	Jude Jeans (Technical Director)

For and on behalf of Wallingford HydroSolutions Ltd.

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Appendix A- Greenfield Runoff Estimation

Appendix B- Long Term Storage/ Swale Calculation

Appendix C- Drainage Strategy Drawing

1 Introduction

1.1 Scope

Wallingford HydroSolutions Ltd has been commissioned by Dulas to complete an outline drainage strategy for an Awel Aman Tawe proposed solar farm located near to an existing wind farm site at Mynydd y Gwrhyd NGR: SN 7268 1057. This document forms an appendix to the hydrology and hydrogeology chapter of the Environmental Report for the proposed development.

The hydrology and hydrogeology chapter of the Environmental Report requires an assessment of the surface water runoff emanating from the proposed development to ensure that this can be sustainably managed, demonstrating minimal off-site impacts. In summary, this report will:

- Provide the site details.
- Summarise flood risk to the development site.
- Provide an outline drainage strategy suitable for sustainably managing surface water at the site.

1.2 Sources of Data

- Natural Resources Wales online flood pluvial and fluvial flood maps¹.
- The CIRIA SuDS manual².
- Site plans provided by Dulas and proposed layout CAD drawing provided by Dulas³.

¹ NRW Online flood maps, Accessed via: <https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en>

² The SuDS Manual vC753, CIRIA, 2015

³ Awel Aman Tawe Phase 2, E05419- Preliminary Site Layout Plan, Dulas, 2018

2 Site details

2.1 Location

The site is located adjacent to the existing Awel Aman Tawe wind farm in Mynydd y Gwrhyd, 7 miles north of Pontardawe in South Wales and approximately 1 mile south of the Celtic Energy east pit near the town of Taigrwaith at NGR: SN 7268 1057. Access to the site will be via the existing road to the north of the proposed development which currently services the wind farm.

The site is surrounded by a series of small ditches which join to form the River Egel approximately 150m to the south of the site boundary. The drainage ditches run to the east and west of the site boundary. The site location is shown in Figure 1.

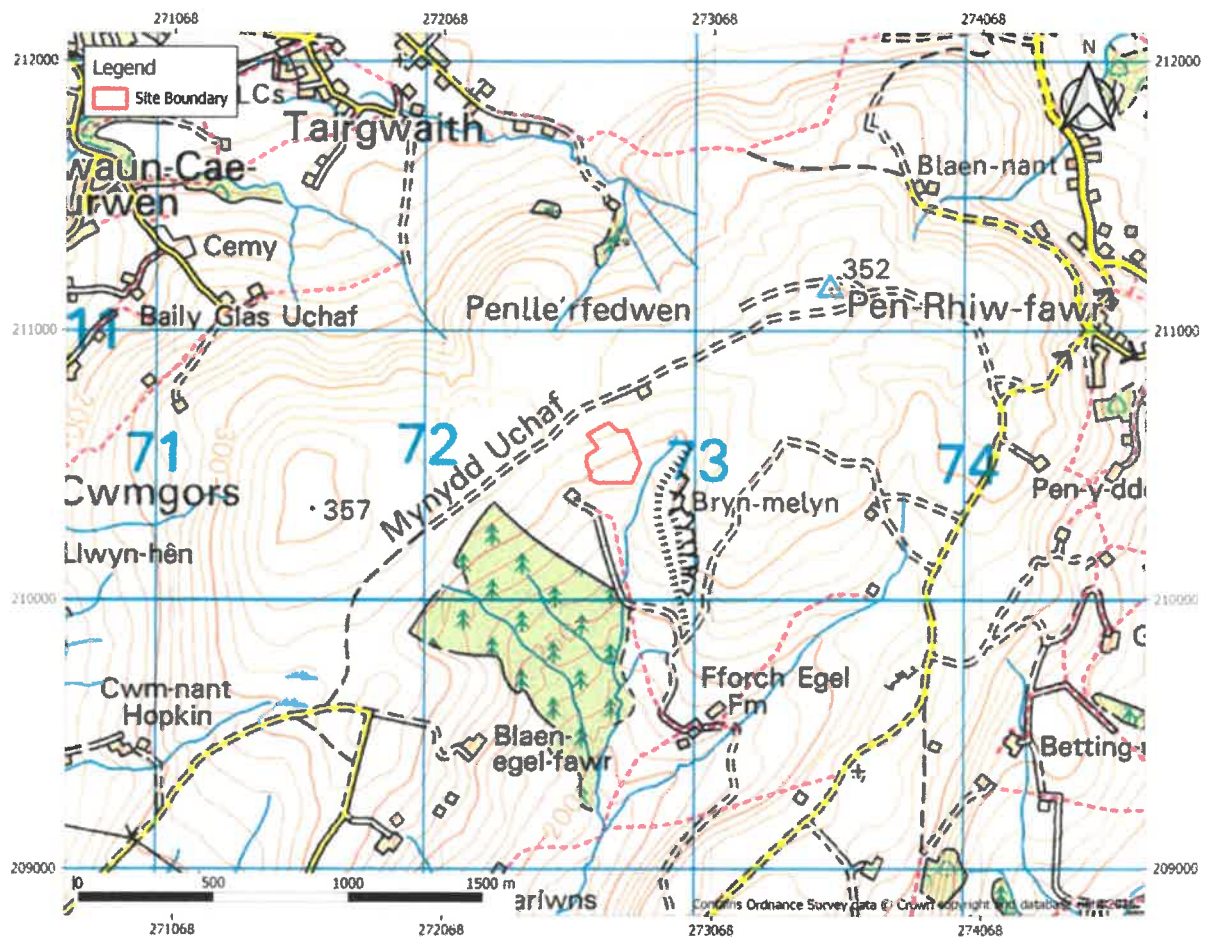


Figure 1 - Site location

2.2 Topography and Existing Drainage

Ground levels at the site range from 315m AOD along the north of the site boundary to 291m AOD at the south of the site. The site slopes in a southerly direction towards the River Egel which begins approximately 150m to the south of the site boundary, therefore the site is expected to drain in a southerly direction as per the topographic fall. There is an existing drainage ditch which runs approximately 50m to the east of the site in a southerly direction, another runs approximately 45m to the west and a third originates around 25m south of the southern part of the site boundary. The existing ditches drain into, and form the source of, the River Egel. The site topography and flow direction arrows are shown in Figure 2.

No other hydrological features have been identified within the site boundary. However, there is a small pond seen to the south west of the site approximately 20m from the site boundary.

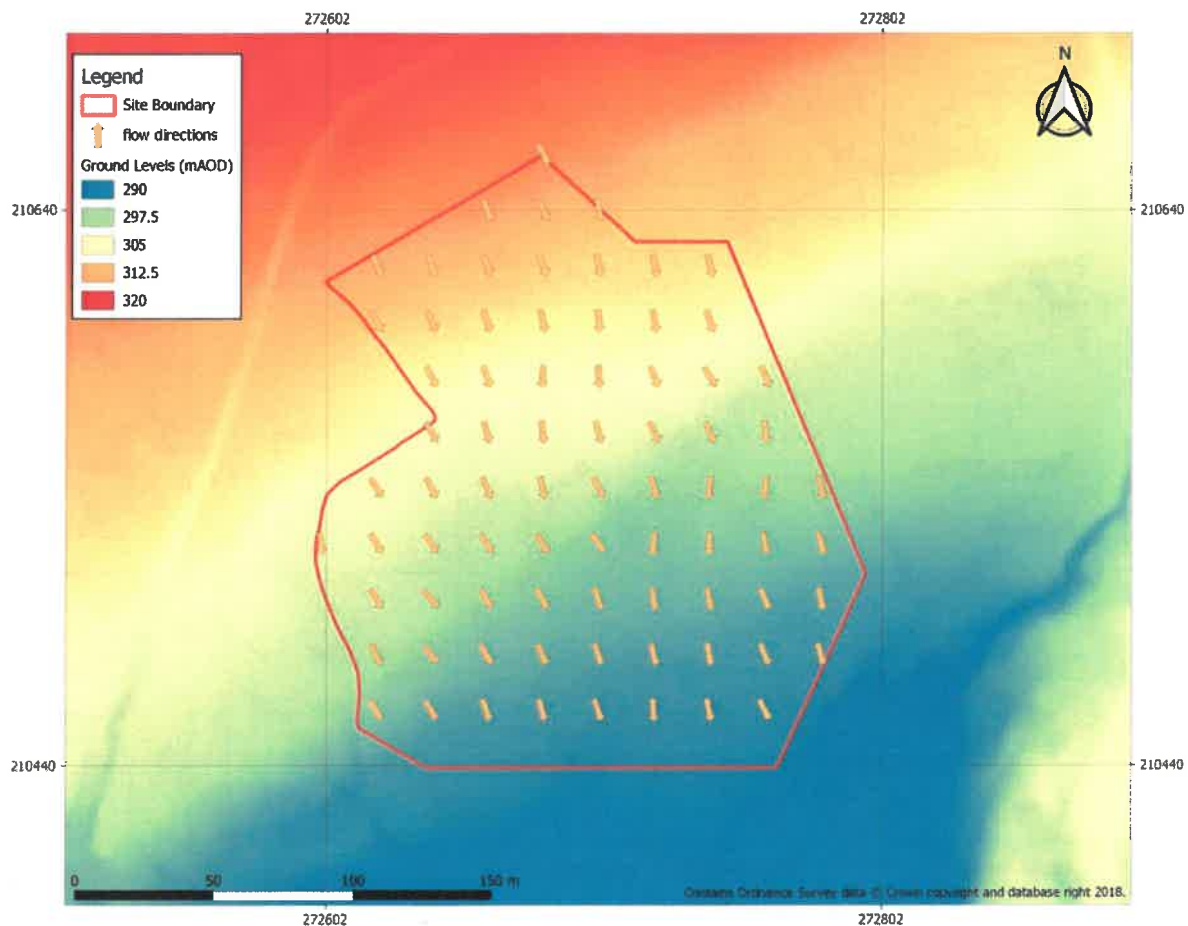


Figure 2 - Site topography

2.3 Proposed Development

The intended use of the development is for a solar farm. Within the site boundary, there will also be allocation for a battery storage plant and substation. There will also be a temporary compound during construction. A detailed site plan is available as Figure 1-2 in the planning maps. The total area of the site has been measured as 3.16 ha, with a total area of the panels measured as 1.16 ha as per the site layout drawing³ presented in Figure 1-2.

3 Flood Risk

3.1 Fluvial Flood Risk

A review of the Natural Resources Wales (NRW) online fluvial mapping has identified that the site lies completely within Flood Zone 1 and is therefore not a risk of fluvial flooding for all events up to and including the 0.1% AEP event.

3.2 Surface Water Flood Risk

The NRW surface water flood map indicates that the site is not at risk of surface water flooding for all events up to and including the 0.1% AEP event. There are areas of surface water flood risk to the east, south and west of the site all confined within the existing drainage network. There is a small area of low surface water flood risk (at risk between the 0.1% and 1% AEP events) to the south west of the site boundary, this is confined to an existing pond. The surface water flood risk is shown in Figure 3.

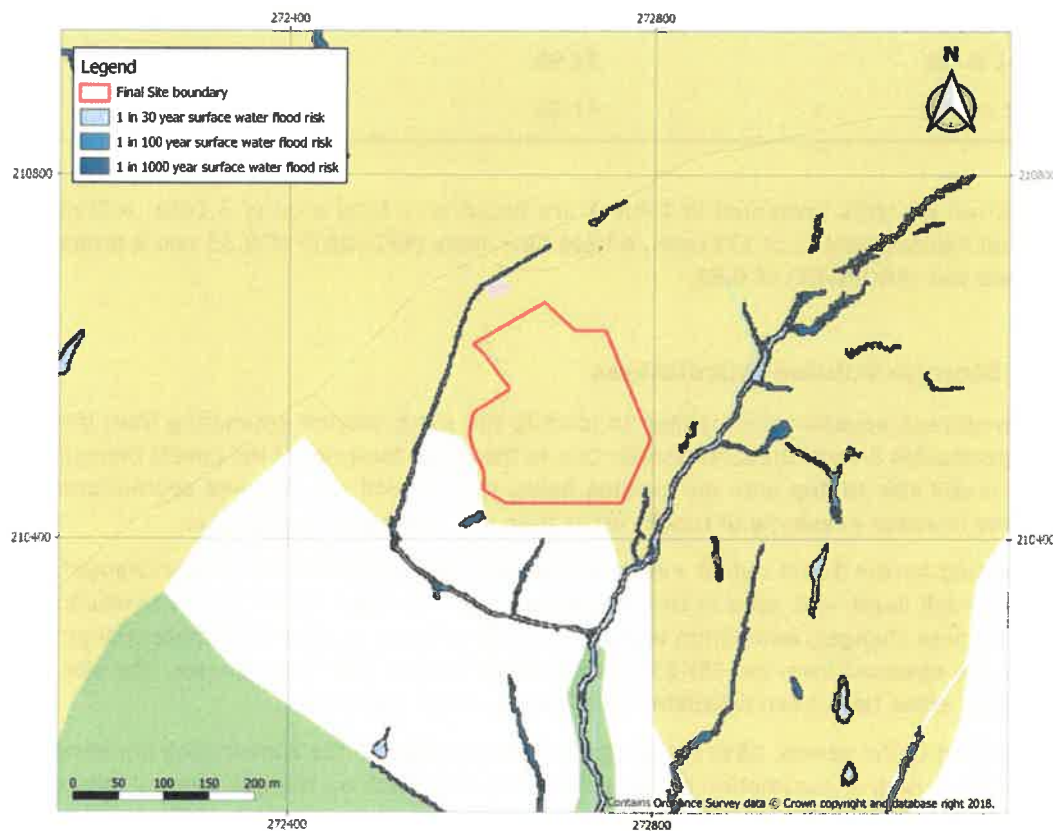


Figure 3- Surface water flood risk

4 Hydrology Assessment

4.1 Greenfield Runoff Calculations

The greenfield runoff calculations were completed using ReFH2, which is the current recommended method outlined within the CIRIS SuDS manual. Existing runoff rates have been estimated using an area of 50ha before being linearly scaled based on the estimated area of the site.

Table 1 presents the greenfield runoff rates as the unit per hectare, in addition to the total rate over the 3.16ha site. The calculations are available in Appendix A.

Table 1 - Greenfield runoff rates

Return Period	Greenfield runoff rate (l/s/ha)	Greenfield runoff rate (l/s)
1 in 1	14.73	46.56
1 in 30	32.98	104.23
1 in 100	41.28	130.43

The greenfield run off rates presented in Table 1 are based on a total area of 3.16ha, a Standard Average Annual Rainfall (SAAR) of 1771mm, a base flow index (BFIHOST) of 0.35 and a proportion of time soils are wet (PROPWET) of 0.62.

4.2 Long Term Storage Volume Calculations

The long term storage equation was applied to identify the extra volume emanating from the site due to the impermeable area of the solar panels. Due to the minor footprint of the panels themselves, i.e. rainwater is still able to drip onto the existing fields, this method was deemed appropriate as it accounts for the increase in volume of runoff rather than the increase in runoff rate.

This was calculated for the 100yr rainfall event, including a 30% allowance for climate change⁴. The 100 year 6hr rainfall depth was used in the calculation, this was taken as 75.31mm (excluding an allowance for climate change), and 98mm incorporating an addition of 30% for climate change. The rainfall depth was obtained from the FEH13⁵ rainfall model via the FEH Web Service. The site area and impermeable areas have been calculated from the proposed site layout.

Due to the footprint of the panels, 25% of their total area was used for the contributing impermeable area. This is a conservative assumption based upon current research on the hydrological impacts of solar arrays⁶. It provides an allowance for the arrays to contribute to increased runoff volume during the construction and operational phases of the project.

⁴ Adapting to Climate Change, Welsh Government. December 2017. Available: <https://gov.wales/topics/environmentcountryside/epq/flooding/nationalstrategy/guidance/climateguide/?lang=en>

⁵ FEH13 rainfall FEH Web Service <https://fehweb.ceh.ac.uk/GB/map>

⁶ Cook L.M. and McCuen R.H (2013) Hydrologic response of Solar Farms. Journal of Hydrologic Engineering 18: pp 536-541

The access track has not been included in the impermeable area calculations, as it is advised that the access track would be laid with permeable gravels.

A summary of the permeable and impermeable area for the site is presented in Table 2 and the long-term storage equation is presented as Equation 1.

Table 2- Area summary

Infrastructure	Area (ha)
Site area	3.16
Panels	1.16

$$Vol = 98 \times 3.2 \times 10 \left[\frac{9.2}{100} (1 \times 0.8) + \left(1 - \frac{9.2}{100} \right) (1 \times 0.53) - 0.53 \right]$$

Equation 1 - Example of long term storage equation

5 Drainage Strategy

An existing drain has been identified running through the centre of the site boundary in a south easterly direction, it is assumed that the solar panels will not impact upon the functioning of this drain.

A total additional runoff volume of 77m³ has been calculated due to the impermeable area of 0.29ha calculated for the proposed solar farm. To address this increase in volume, it is proposed to implement a vegetated swale as a means of sustainably managing the additional volume of runoff as a result of the proposed development. The swale is suggested to be located to span the length of the southern edge of the site boundary. This can be viewed in the drainage strategy drawing in Appendix C.

A swale length of 80m is considered appropriate to capture runoff originating from the site. The width of the swale has been calculated as 0.50m, with a side slope of 1 in 3 and depth of 0.50m. This provides a total cross section area of 1.00m². A typical cross section of the swale is shown below, followed by a figure showing the proposed swale geometry (also available as Appendix B). It is proposed that filter drains are installed along the south eastern and south western boundaries to route additional runoff into the swale. Due to the steep gradient along these boundaries, around 10%, it is proposed to utilize a stepped filter drain connected by stone weirs in order to route water into the swale along the southern boundary. The weirs will act as small control devices, and the steps will ensure that storage is maintained, rather than encouraging increasing flow rates in a southerly direction. Weir steps should be located where required to ensure a minimal gradient of 1 in 200 is achieved as recommended by the CIRIA SuDS Manual².

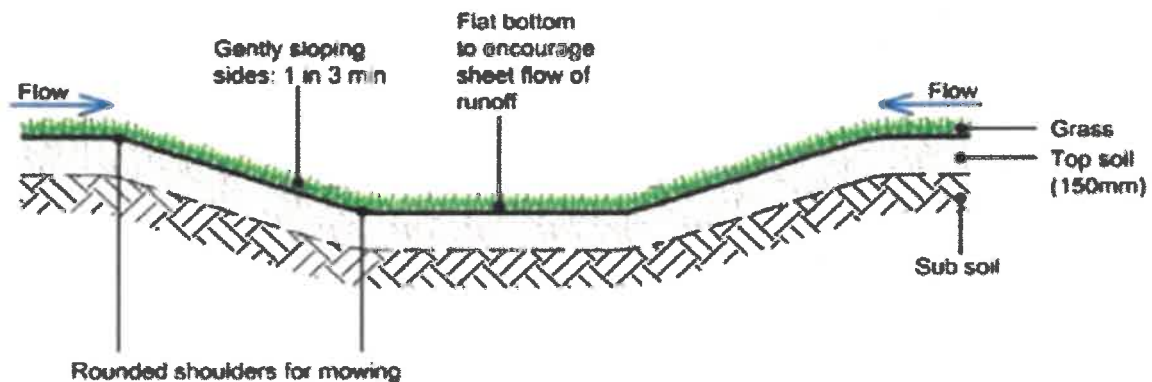


Figure 4 - Typical swale cross section

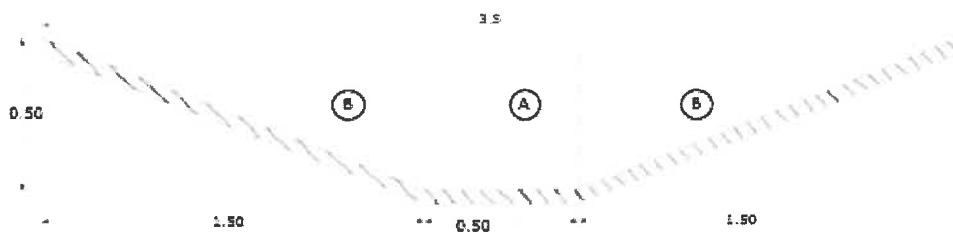


Figure 5 - Outline swale geometry

The swale will provide a safeguard to manage the expected increase in runoff volume during both the construction and operational phases of the project. The swale has been designed in accordance with the CIRIA SuDS manual² using the long term storage equation, which specifically addresses the additional runoff caused by a development. It is recommended however that detailed ground investigation is carried out during the detailed design stage to establish infiltration rates at the site. These can be used to update the equation and may reduce the volume of storage required.

At detailed design stage, it is recommended that 3m easements are provided surrounding the swale and filter drain in line with the SuDS manual².

6 Conclusions and Recommendations

This drainage strategy has provided an appropriate method of managing additional runoff volume caused by the proposed solar farm. The outline swale and filter drains have been designed in accordance with the SuDS manual² and are a widely used method of managing runoff volume across the solar industry. There is also scope to refine the runoff volume at detailed design stage via detailed ground investigation to determine potential infiltration rates at the site.

Although the risk of runoff volumes increasing to this extent is low, it is advised that a conservative approach to flood risk is adopted to minimise the impacts on the hydrological regime downstream of the site. Therefore, it is recommended that any vegetation removal during the construction phase is replaced on site as soon as possible to promote natural infiltration, in line with the literature surrounding solar farm hydrology⁶.

The site has been treated as a single drainage zone in terms of runoff volume and sustainable drainage due to the simple drainage route of water through the site to the south. It is proposed to utilize a stepped filter drain along the south eastern and south western boundaries of the site and a swale along the southern site boundary to capture surface water volumes. It has therefore been demonstrated that surface water at the site can be managed by adopting a sustainable and conservative approach.

Appendix A- Greenfield Runoff Estimation

<div>WHS</div> <div>Greenfield Runoff Estimate</div> <div>Calculation Sheet</div>	Site Name	Mynydd Y Gwrhyd Solar Farm
	Site Location	Mynydd Y Gwrhyd
	X (Eastings)	272680
	Y (Nothings)	210570
	Engineer	Jess Pearce
	Checked by	Brett Park
	Reference	WHS1626
	Revision	1
	Date	19-Sep-18

	Manual User Value	From ReFH Report
Total Area (km2)	0.0316	0.03
Total Area (ha)	3.16	3.16
Existing developed area (ha)	0	0
Development area (ha)		
Is the catchment greenfield (no present development)	no	

Relevant Catchment descriptors	SAAR (mm)	1771
	BFIHOST	0.35
	PROPWET	0.62
	FARL	1

ReFH Parameters:

Estimated Parameters	Rainfall Used	0
	Tp	1
	CMAX	240.6
	BL	24.24 [19.66]
	BR	1.01
Duration		02:42:00

Growth Curves and Discharge rates	Comparison of QMED value (m3/s)	ReFH Statistical method (catchment descriptors) IH124 (if applicable)	QMED Value (m3/s)
			0.052228389
			0.104572502
			0.007608748

$$QMED = 8.3062 AREA^{0.8510} 0.1536 \left(\frac{1000}{SAAR} \right) FARL^{3.4451} 0.0460^{BFIHOST^2}$$

	Event	Q/Qmed	Q (m ³ /s)	Q (l/s)	Q (l/s/ha)	IH124 Ql/s)
	Q1		0.04656	46.557	14.73	0.00
Q	Q2	1.00	0.05223	52.228	16.53	0.00
Y	Q5	1.35	0.07036	70.356	22.26	
AG	Q10	1.59	0.08327	83.267	26.35	
AO	Q30	2.00	0.10423	104.225	32.98	16.55
AW	Q50	2.20	0.11471	114.710	36.30	
BE	Q75	2.37	0.12364	123.643	39.13	
BM	Q100	2.50	0.13043	130.432	41.28	0.00
BU	Q200	2.85	0.14892	148.915	47.13	
CC	Q1000	4.18	0.21850	218.501	69.15	

Appendix B- Long Term Storage/ Swale Calculation

Site Name	Mynydd Y Gwrhyd
Site Location	Mynydd Y Gwrhyd
X (Eastings)	272706
Y (Nothings)	210546
Engineer	Jess Pearce
Checked by	Brett Park
Reference	WHS1626
Revision	1
Date	19-Sep-18

Extra Run-off Volume Calculation Sheet - Zone A

Extra Run-off Equation

"The long term storage equation specifically addresses the additional volume run-off caused by a development." The SuDS Manual (CIRIA C753, 2015)

EQ 24.10 Estimating the extra runoff volume from a development site compared to the greenfield equivalent

$$Vol_{xs} = RD \times A \times 10 \left[\frac{PIMP}{100} (\alpha \cdot 0.8) + \left(1 - \frac{PIMP}{100} \right) (\beta \cdot SPR) - SPR \right]$$

where:

- Vol_{xs} = extra runoff volume of development runoff over greenfield runoff (m^3)
- RD = rainfall depth for the 1:100 year, 6 hour event (mm)
- $PIMP$ = impermeable area as a percentage of the total area
- A = area of the site, in hectares (ha)
- SPR = SPR index for the SOIL or HOST class (specified as a decimal proportion; this specifies the proportion of runoff from pervious surfaces (if SPRHOST values are used, then the minimum value should be set to 0.1)
- α = proportion of paved area draining to the network (values 0–1) with 80% assumed runoff
- β = proportion of the pervious area draining to the network or directly to the river (values from 0 to 1)

If the paved area is assumed to drain to the network, and all the permeable areas are landscaped so that they do not enter the drainage system or river, Equation 1 simplifies to:

$$Vol_{xs} = RD \times A \times 10 \left(0.8 \frac{PIMP}{100} - SPR \right)$$

However, where all the permeable areas are assumed to continue to drain to the river or network as well as all paved areas, Equation 2 becomes:

$$Vol_{xs} = RD \times A \times 10 \left(0.8 - SPR \right) \frac{PIMP}{100}$$

Design Variables

Rainfall Depth (100yr, 6hr Event)
Rainfall Depth (100yr, 6hr Event +30% for Climate Change)
Total Area (A)
Impermeable Area
PIMP
Alpha
Beta
SPR

75.31	mm
98	mm
3.2	ha
0.3	ha
9.2	%
1	
1	
0.53	

Extra Run-off Volume

$$Vol = 98 \times 3.2 \times 10 \left[\frac{9.2}{100} (1 \times 0.8) + \left(1 - \frac{9.2}{100} \right) (1 \times 0.53) - 0.53 \right]$$

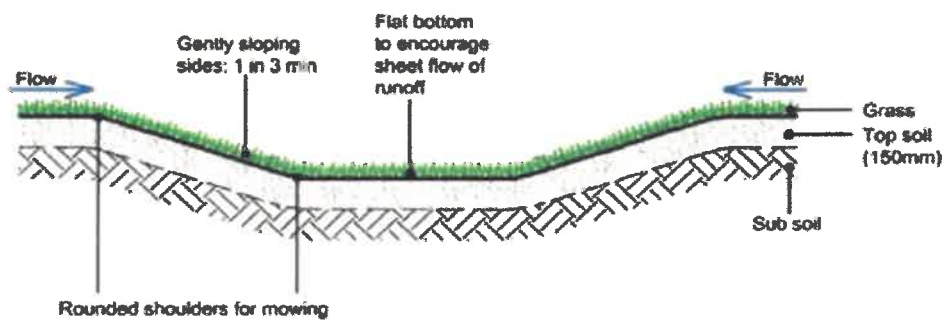
$$Vol = 77m^3$$

$$Vol_{xs} = 77 \text{ m}^3$$

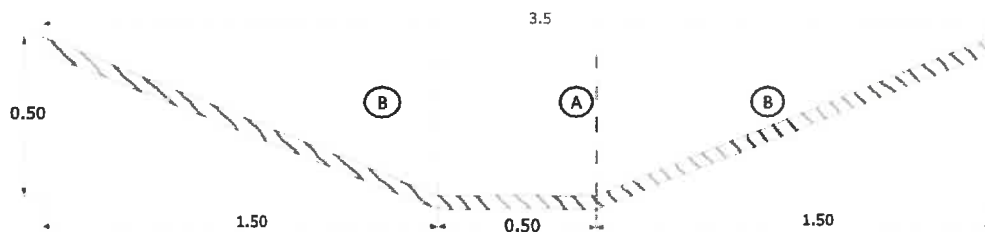
Site Name	Mynydd Y Gwrhyd
Site Location	Mynydd Y Gwrhyd
X (Easting)	272706
Y (Nothings)	210546
Engineer	Jess Pearce
Checked by	Brett Park
Reference	WH51626
Revision	1
Date	19-Sep-18

Outline Swale Design Calculation Sheet - Zone A

General Cross Section

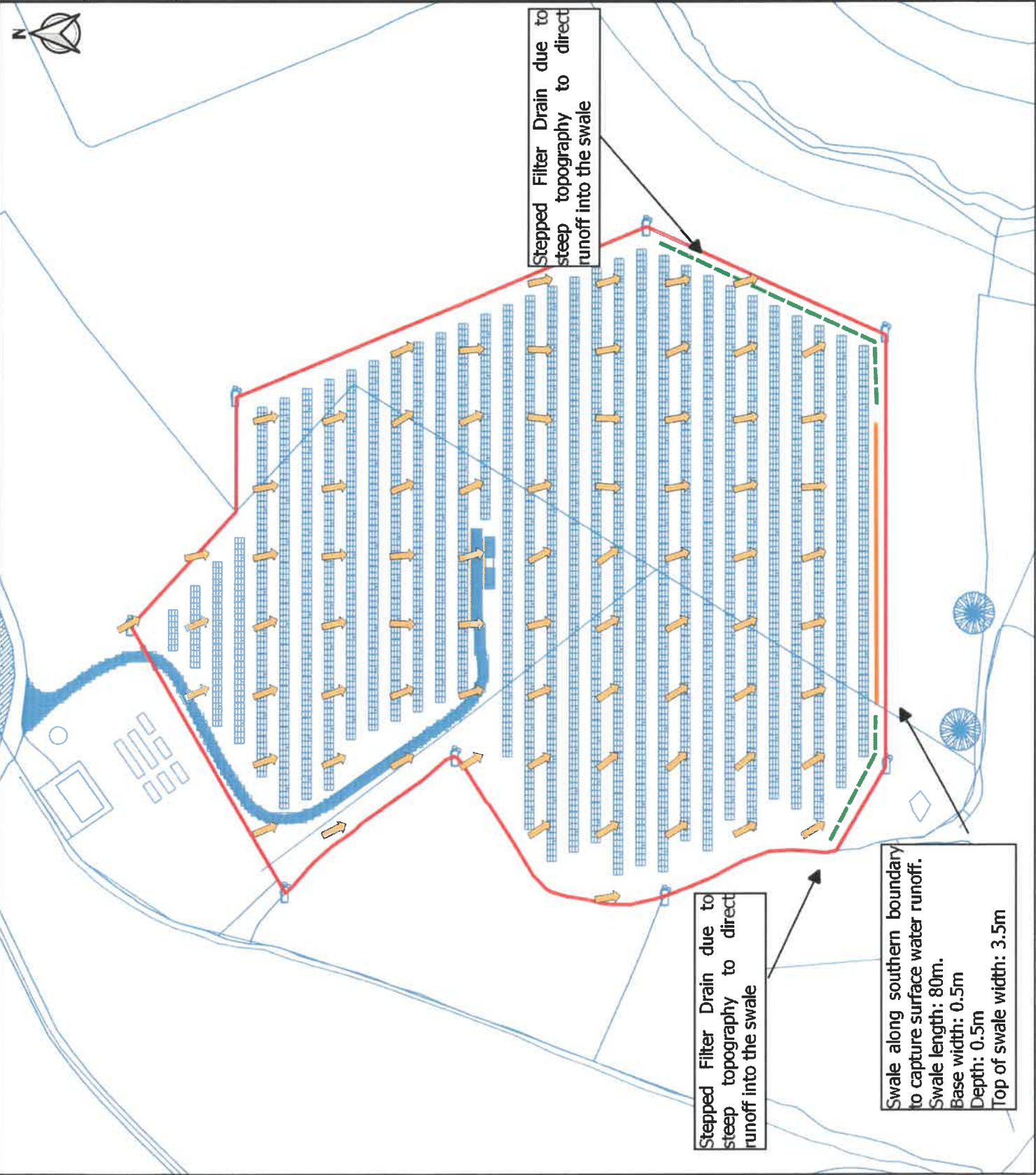


Proposed Dimensions

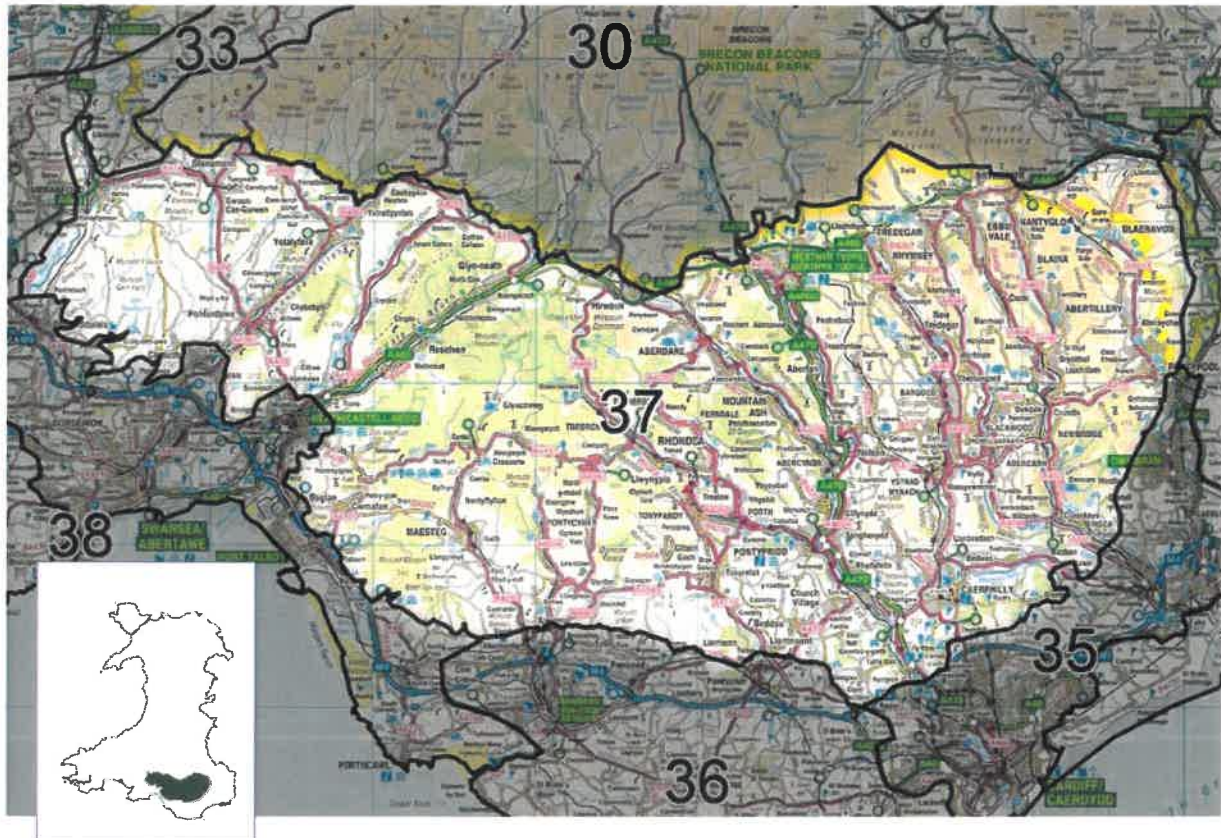


Slope	S =	1 : 3
Area A	b =	0.50 m
	h =	0.50 m
	A = b x h =	0.25 m ²
Area B	b =	1.50 m
	h =	0.50 m
	A = 0.5 x b x h =	0.38 m ²
Total Area	A + 2b	1.00 m ²

Appendix C- Drainage Strategy Drawing



Appendix 4-1 – Landscape Character Assessment Extracts



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Cymoedd y De – disgrifiad cryno

Mae llawer o gymoedd dwfn, trefoledig yn brathu i fynydd-dir eang. Ynghyd â'r etifeddiaeth ddiwydiannol, a hunaniaeth bendant ei phobl, mae ardal Cymoedd y De wedi esgor ar rai o ddelweddau cenedlaethol mwyaf adnabyddus ac eiconig Cymru.

Mae datblygiad strimynnog yn llenwi llawer o waelodion a llethrau isaf y cymoedd. Ochr yn ochr â'u cymeriad trefol a diwydiannol, ceir dir bryniog dramatig, gyda llethrau serth, gweunydd agored neu goedwigoedd. Mae rhwydweithiau o reilffyrdd a ffyrdd yn cydgysylltu pentrefi'r cymoedd. Mae natur y tir yn cyfyngu ar dramwyo rhwng y naill gwm a'r llall, ac nid oes ond ychydig fylchau uchel rhyngddynt. Mae trrw a phrysurdeb llawer o gymoedd yn gwrthgyferbynnu â chymeriad cymharol anghysbell a gwyllt y llwyfandiroedd uchel cyfagos.

Darparodd daeareg a dyddodion mwynol yr ardal yr adnoddau a sbardunodd ymlediad cyflym datblygu diwydiannol yn y 19eg ganrif. O fedru cludo ar reilffyrdd, creodd y diwydiannau glo, dur a haearn newydd seilwaith eang o adeiladau mawrion, ffwrneisiau, tyrau, simneiau, traphontydd, tomennydd gwastraff a lefelydd. Canlyniad cartrefu'r gweithwyr yw'r rhesi hirion ac eiconig o dai teras sy'n canlyn ochrau'r brynau: ac yn sgîl y gweithwyr, daeth capeli, siopau, ysgolion a chyfleusterau eraill, gan greu cymunedau newydd, trefol eu natur. Canlyniad arall bywyd yno, a'r amgylchedd garw, fu delwedd cymdeithas wydn, radicalaidd ei gwleidyddiaeth, a hoffai chwarae rygbi.

Canlyniad dirywiad diwydiannol ddiwedd yr 20fed ganrif fu cau, symud ymaith, gadael neu ailddatblygu llawer o safleoedd diwydiannol blaenorol. Mae'r newidiadau hyn yn parhau heddiw, fel y mae'r newidiadau cymdeithasol canlyniadol ym mywyd a hunaniaeth y cymunedau. Gwelir yr ardal, bellach, yn rhan o "ranbarth dinas" ehangach a chynyddol ôl-ddiwydiannol, y fwyaf yng Nghymru. Mae delwedd eiconig newydd yn aneglur, ar brydiau, ond y mae gweithgareddau wedi'u seilio ar yr etifeddiaeth, mewn amgylchedd tynerach a gwyrddach, yn dechrau dod i'r amlwg fel rhan o hyn.

Summary Description

Many deep, urbanised valleys dissect an extensive upland area. Combined with industrial heritage and the distinct identity of its people, the South Wales Valleys provide some of Wales' most widely known and iconic national images.

Extensive ribbon development fills many valley bottoms and lower slopes. Their urban and industrial character is juxtaposed with dramatic upland settings with steep hillsides, open moors or forests. Networks of railways and roads connect valley settlements. Topography constrains passage between valleys, and there are only a limited number of high passes between valleys. The noise and business of many valleys contrast with the relatively remote and wild qualities of adjacent hill plateaux.

Underlying geology and mineral deposits provided the resources that fuelled a rapid spread of industrial development in the C19th. Once rail transport became possible, new coal, steel and iron industries created an extensive infrastructure of large buildings, furnaces, towers, chimneys, viaducts, spoil heaps and levels. Housing for workers resulted in the extensive and iconic rows of terraced houses that run along hillsides. Their needs in turn brought chapels, shops, schools and other facilities to create new settlements with an urban character. The way of life and harsh environment resulted in the image of a tough, rugby playing and radically minded society. But the decline of industries in the late C20th resulted in the closure, removal, abandonment or redevelopment of many former industrial sites. These changes continue today, as do the consequential social changes to the way of life and community identity. The area is now seen as part of a wider, increasingly post-industrial, 'city region', the largest in Wales. A new iconic image is at times unclear, but heritage-based activities set within a softer, greener environment are emerging as part of this.

While greenness is returning to some former industrial landscapes many of the new woodlands are coniferous. Waterways are slowly welcoming back fish, and mammals such as otters. The importance of wildlife conservation being undertaken hand-in-hand with economic regeneration is being recognised as one of the keys to the sustained revitalisation of this most iconic Welsh 'bro', in the Heads of the Valleys and Valleys Regional Park initiatives.

Key Characteristics

Extensive Upland plateaux – typically wild and windswept, often with unenclosed tracts, running roughly north-south as ‘fingers’ parallel between intervening deep valleys.

Numerous steep-sided valleys - typically aligned in parallel, flowing in southerly directions, shaped by southward flowing glaciers, leaving behind distinctive corrie ('cwm') and crag features. Major rivers include the Tawe, Taff and Rhymney.

Ribbon urban and industrial areas in valleys – in places extending up valley sides and to valley heads. The area is sometimes regarded as being part of a ‘city region’. Middle and eastern valleys tend to be the most heavily and continuously developed, e.g Rhondda Valley. The uplands by comparison have little or no settlement.

Extensive remains of heavy industry – with a mix of derelict, preserved and largely redeveloped areas, notably for coal mining. Preserved as heritage (World heritage Site) at Blaenafon this typically includes old railway alignments, buildings and former tips.

Contrast of urban valley activity next to quiet uplands – e.g. busy roads, new developments, traffic noise, night lighting, verses the adjacent wilder, remoter, quieter uplands.

Large blocks of coniferous plantation and deciduous woodland fringes – covering many steep hillsides and hilltops, most notably in the middle to western portion of the area, providing a softer contemporary landscape where there was once industry.

Heather, rough grassland and steep bracken slopes – dominate many plateaux and are grazed mainly by sheep. Much is common land.

Improved pastures on some lower valley sides - grazed by sheep and some dairy cattle.

Field boundaries - dry stone walls mark the boundary of common land while fields on lower slopes are bounded by dense hawthorn hedges, interspersed with swathes of broadleaved woodland.

Transport routes restricted to valleys – the intervening topography makes valley to valley travel difficult, except at heads and bottoms of valleys. Occasionally there are roads that climb steeply over passes with dramatic views and ‘hair pin’ bends.

Iconic cultural identity – many popular images of a tough, rugby-playing, religious, radically-minded society still remain associated with the South Wales Valleys, however today’s post-industrial, internet-connected reality is somewhat different.

Visual and Sensory profile

The South Wales Valleys is one of Wales’ more widely known iconic images, combining the wilder and often inclement upland setting with the heavily industrialised and busy valleys. Active mines and industry are now generally an image of the past, however the legacy remains extensively apparent today and together with the steep topography of the valley sides, has a defining influence on landscape character. Levels and old railway alignments, the generally reclaimed but sometimes still perceptible physical footprints of mine spoil heaps, the often intensively urbanised valley floors with old industrial buildings, and lower valley sides with their distinctive long rows of workers terraces, retain the traditional image.

Yet today a new image is gradually but fundamentally changing the old one. Modern road improvements and bypasses bristle with street lighting, spreading the urban influence beyond the old settlement envelopes and altering the character experienced when travelling. In many valleys the legacy of slow travel through the ribbon development continues today, but in some places and notably along the A470 north-south corridor and along the A465 “Heads of the Valleys” east-west corridor road, travel is now much quicker.

For those with cars, the area has become far more easily accessed and the once very separate valleys are now just a few minutes drive apart. The orientation of valleys and the remaining legacy of railways and roads focus travel towards Wales's two largest cities, Cardiff and Swansea, which lie in neighbouring areas to the south, offering the combination of upland valley living and city working. The noise of industry and railways has typically changed to that of road traffic. Many former brownfield sites have been redesigned and redeveloped for new housing, industry and retail. These modern features of the mid and late C20th provide an entirely contemporary character, tending not to style their architecture or pattern of urban design using the traditions established in the C19th. The results tend to lack local distinctiveness, however a 'Valleys' sense of place still remains strong because of the enduring historic and dramatic upland landscape setting.

It is a landscape of contrasts. The valleys contain the extensive ribbon development, which snakes along the valley floors and lower valley sides, and sometimes with settlements precariously extending over intervening slopes and spurs. The windswept upland plateaux that separate the valleys could not be more different. Devoid of settlement, the uplands engender a strong sense of openness and remoteness, although in places compromised by proximity to industry and people, for example reclaimed spoil heaps, fly tipping, abandoned cars, 'horsiculture' and associated ramshackle sheds or allotments, pressure of people accessing the area for recreation in an unmanaged way, and occasional pylon lines, telecommunications masts and occasional wind turbine developments. But the open plateaux afford extensive views across the valleys, southwards to the Severn Estuary and northwards to the Brecon Beacons. At times, views from plateau to plateau conceal the intervening valleys and thus visually connect more with the wider uplands of Wales.

The middle to western valleys are dominated by the extensive coniferous plantations whereas the eastern valleys, although generally smaller, are more intimate. On many valley sides, there are distinctive 'ffridd' and 'rhos pasture' mosaics of small fields, hedgerows, boundary walls, wet flushes and marshland, interspersed with small stands of trees, copses and woodlands. It is the vestige of the former agricultural landscape that once dominated before the expansion of coal mining and the iron industries. The far western valleys, (those west of the Neath Valley) have slightly gentler intervening hills and long, unfenced lanes use the ridges as convenient routes. This affects experience of the area too, as ridgeline routes are uncommon elsewhere.

Many former spoil tips have been reclaimed, with varying degrees of integration into the intrinsic natural topography and upland setting. In some areas much new tree planting results in a landscape today that is much softer and more enclosed than that depicted in historic images. Individual valleys differ markedly in appearance: Neath and Dulais are green and broad by comparison with the cramped settlements of the Swansea and the two Rhonddas; Afan is steep and mountainous, covered in conifers, while the Taff and Ebbw Vales are convoluted in both terrain and settlement.



The new landscape: Trefforest Industrial Estate, occupying the flat land in the valley bottom, and anchored into its setting by maturing woodlands and thick hedgerows. © Luke Maggs



Blaengwynfi, with traditional hillside terraces and new forestry on mountain sides. © Luke Maggs



Urban terraced settlement along valleys and valley sides, with many houses having been individually modified with render, new windows or roofs, extensions and colour. © LUC



Ebbw Vale from the western side of the valley. Contrast of urban, ex-industrial valleys undergoing transition, with the enduring open moors on the adjacent hills. © LUC



From Mynydd Machen, looking towards a prominent hilltop spoil tip. Most spoil tips have been removed, regraded or planted over with trees. © LUC



Heavy industries that once dominated the South Wales Valleys are largely gone, however their iconic remains are now the cultural heritage that informs today's character. Here we see the remains of Ynyscedwyn Ironworks at Ystradgynlais. © Luke Maggs



Pen Pych table top. There may be industrial remains and urban settlement about, but the dramatic topography, open moors and steep wooded valley sides provide many of the kinds of appealing scenic qualities that are more widely known in upland landscapes elsewhere in Wales. © Luke Maggs



Gelli Gaer Common, one of the long, open roads that run along the gentler plateau tops of the area west of the Neath Valley. © Richard Kelly



Terraced houses and old spoil heaps amidst the upland landscape: the traditional image as now preserved at Blaenavon (World Heritage Site). © John Briggs



From near the adjacent Brecon Beacons, looking down one of the upland plateaux that separate the industrialised valleys. Nantyglo is in the valley to the left, Ebbw Vale is in the valley to the right. © John Briggs



Brynmawr, one of the 'heads of the Valleys' settlements, with much C20th housing estate expansion. © John Briggs

Geological Landscape influences

The South Wales Valleys incorporates a large part of the southern-most uplands in Wales and is framed by the Brecon Beacons and Black Mountains to the north and the lowland vale landscapes to the south, east and west. The deeply incised valleys are a distinctive feature of the landscape. In the eastern sector the area is drained by a series of south and south-eastward flowing rivers including the Ebbw, Sirhowy, Rhymney and Taff, whilst the central region about the Rhondda is drained by the Rhondda Fawr and Rhondda Fach which are confluent with the Taff at Pontypridd. In contrast, drainage in the west is dominated by south-westward flowing rivers, including the Tawe, Neath and Afan. Ground elevations in the upland areas are highly variable, but in the north-east reach up to 581m on Coity Mountain and 574m on Cefn Coch. Farther west the ground reaches a maximum altitude of 600m on Garn Fach and 568m on Werfa at the head of the Ogmore Valley.

The bedrock geology is dominated by a thick sequence of Carboniferous sedimentary rocks. They are preserved in and around the South Wales Coalfield Basin, a structurally complex, WNW-trending trough-shaped structure that extends westwards into Pembrokeshire. The Lower Carboniferous sequence is dominated by a variety of marine,

limestone-dominated formations, together with some mudstones and ironstones, which form a narrow belt around the basin between Thornhill, Rudry, Risca and Pontypool, and north of Merthyr Tydfil, where the strata dip gently towards the south. There is a succeeding Upper Carboniferous sequence including sandstones, and marine mudstones and a succeeding 'Westphalian' sequence dominated by sandstones including the Pennant sandstones. The lower part of the succession forms the South Wales Coal Measures Group, and is dominated by mudstones, siltstones and coals arranged in repeating units.

The gently southward-dipping Pennant sandstones form an erosion-resistant cap to the upland plateaux of the South Wales Valleys, as well as a spectacular escarpment along their northern limit. Within the syncline are numerous minor folds, including the Pontypridd and Maesteg anticlines. Two of the most distinctive structures of the coalfield are the Neath and Swansea Valley disturbances which comprise NE-striking zones of folded and faulted strata that trend into the area from Devonian outcrops to the north and east. Both structures have a strong topographical expression, controlling the course of both the Neath and Swansea valleys, and are believed to root into major fractures in the underlying basement. The coalfield is also transected by a dense network of steep, dominantly NNW-striking cross-faults that frequently caused major problems during the extraction of coal. Some of these faults have a strong topographical influence as, for example, in the case of the Merthyr Church Fault, which controls the orientation of the Afon Taf Fawr in the vicinity of Merthyr Tydfil.

The area has been shaped by glaciation, where ice that accumulated in the Brecon Beacons and adjacent high ground spread southwards through the Pennant Sandstone escarpment and entered the coalfield, where glaciers incised deep U-shaped valleys. This southward advance was locally impeded by topography. For example, when the ice-sheet met the escarpment at Craig-y-Llyn (SN 910 039) it broke into two major lobes, one advancing south into the coalfield through the Cynon and Taff valleys, and the other west-south-west down the Neath Valley. Recessional halt moraines were formed on the valley floors as the ice melted. For example, in the Neath Valley at Tonnau and Cline, an impounded glacial lake stretched up the valley to Cwmgwrach. Throughout the area the principal glacial deposit is till (boulder clay) and most till occurs in the northern parts of the valleys, where it can reach a thickness of up to 30m. It passes down valley into outwash sands and gravels, which formed through the action of melt waters and created important landscape components of some valleys. A good example of a kame terrace is developed in the Afan Valley at Pontrhydyfen. Between about 13,000 and 11,500 years ago, small glaciers re-occupied the upland cirques along the north-facing Pennant Sandstone escarpment. These glaciers formed concentric ridges of moraine, often backed by marshy hollows and small lakes, as in the case of Llyn Fawr and Llyn Fach beneath Craig y Llyn.

Glacial deposits left on the valley floors have been progressively re-worked and re-deposited as alluvial silts and sands. River terraces occur intermittently, for example along the Taf Fawr, Mellte, Neath and Tawe, whilst alluvial fans have formed where steeply graded tributaries enter the more gently graded main valleys. Landslips form an important component of the landscape throughout the coalfield and occur on the glacially over-steepened flanks of the valleys where thick Pennant sandstones overlie weak and impermeable mudstones and rock masses were subject to failure and collapse. Whilst most mass movement took place during deglaciation, when the support of glacier ice was removed, some major landslips are recent, for example that at Bournville (SO 207 068) was initiated in 1893 and at East Pentwyn (SO 206 075) in 1954.

Landscape Habitats influences

The Valleys are characterised by upland areas incised by a number of valleys, with contrasting habitat to match. The bedrock geology has given rise to a variety of soil types. Basinal and blanket peats developed throughout the South Wales Valleys and provide an important record of post-glacial vegetation and climatic conditions. Loamy soils with a wet peaty surface characterise the sandstone uplands; well drained loamy soils are found on valley sides; while coarse loams subject to seasonal waterlogging are located on lower slopes and on valley floors.

Each valley has both unique and common features, such as broadly southerly flowing rivers fed by a myriad of smaller, faster flowing tributaries from the surrounding uplands. On the lower slopes of the valleys livestock-grazed, improved grassland bounded by hawthorn rich hedgerows is prevalent, together with linear stands of deciduous woodland – some of considerable ecological value, for example, Cwm Du Woods in the Llynfi Valley and Merddog Woods in the Ebbw Valley, which are SSSIs.

Further up the valley slopes, “fridd” habitat occurs, in which there is a distinctive mosaic of rough grazed fields, bracken, rhos pasture, scattered scrub and small pockets of woodland characterising the transition between the lower slopes and upland areas and important for a considerable number of species. At the tops of the valley slopes there is a gradation to more upland habitats, such as moorland with acid grassland and heath. There is also some contrast along the length of the valleys with their more southerly ends being more lowland in character and the heads of the valleys to the north displaying glacial features such as cirques (cymoedd) and crags, which support valuable communities. Particularly important examples are found in the Rhondda, for example, the rare arctic-alpine habitats at Craig-y-Llyn SSSI.

In between the valleys, areas of extensive plateaux are dominated by moorland vegetation of heather, blanket bog and acidic grassland formed on the wet peaty surface that overlies the generally loamy soils in the area. These moorland areas are largely grassy in nature and are generally grazed by sheep. Large areas of heath-dominated moorland are relatively scarce, but one such area of particular ecological value is The Bloreng, a mountain near Blaenafon.

Also present within the open moorland and hillsides are considerable blocks of coniferous plantation, particularly noticeable and extensive in the uplands to the north of Bridgend and Port Talbot, often of lower ecological importance and much has been planted in the C20th, some over reclaimed industrial workings.

Along the southern edge of the area, the land is lower lying with less steep and deep valleys, with the areas between the valleys being largely dominated by improved grassland. Deciduous woodland areas scattered throughout the area provide some ecological interest, as do the hedgerows that bound the fields. The two most notable woodland areas are associated with the more lowland valley slopes, being the oak woodlands at Park Mill and the beech woodlands just north of Cardiff, both of which are SAC and SSSIs. Some areas of semi-improved and marshy grassland are also present between the valleys, some of which are of considerable ecological value, most notably Llantrisant Common and Aberbargoed Grasslands

Historic Landscape influences

The Valleys reflect their coal mining and iron extraction and smelting heritage. The iron industry provided the spur for the rapid industrialisation of the whole area from c.1800. The foundation for all of this is the particular geology and land-form that provided all the materials needed for iron making in relatively accessible form. The linked exploitation of these materials and the transport systems leading to and from major works structures shaped the industrial landscape.

Long rows of former 19th century miners' terraces of stone, brick and coloured render are particularly distinctive, extending in some areas up very steep slopes and seen against a backdrop of bracken or conifers higher up the valley sides. Although the terraced house is identified as the most distinctive ingredient of settlement, in practice there is considerable variety in settlement type, including informal 'squatter' developments, planned company settlements, expanded early nuclei (Pontypool) and the developed industrial town built by many agencies but acquiring a coherent social landscape nonetheless (Blaenavon). Settlements developed either directly associated with particular industrial enterprises, or as service towns for a wider hinterland (Pontypridd). These varied histories contribute to considerable variety in present character both between and within valleys.

An often overlooked feature of the enormous manpower and economic energy of 200 years of toil are the canals dug to carry iron ore and coal from inland workings. The most prominent in terms of survival and landscape influence in this area are the Glamorgan from Merthyr to Cardiff, the Neath and Tennant Canals and that in the Swansea Valley.

Blaenavon is designated as a World Heritage Site as being one of the best surviving examples in the region of a valley head industrial community, with features from the C18th iron industry as well as the extensive coal mining activity that took place in the 19th century.

The upland plateaux are largely free from modern development aside from minor roads which cross the open commons. As a result, archaeological evidence of ancient human occupation and activity is often well preserved. Notable examples are Gelli-gaer Common near Ystrad Mynach, and Margam Mountain. The former area contains a rich diversity of archaeological sites, including Bronze Age burial and ritual monuments, a Roman road and military installations, and Capel Gwladys – an early church site. Later features include Mediaeval deserted settlements, an earthwork castle (Twyn Castle), field systems and platform houses. Margam Mountain stands above the east-west Roman road, and is distinguished by not only possessing extensive prehistoric and Mediaeval archaeological remains over a very large area of high hillside and moorland, but also as having been grazing land for the livestock of Margam Abbey.

Cultural Landscape influences

The Valleys, are internationally recognised for the rich industrial heritage of the C19th. Massive development followed the discovery of steam coal in 1855. This stimulated a so-called 'coal rush' which, for example, turned the Rhondda into the most productive coal mining area in Britain. The population exploded from a sparse agrarian society into a teeming mass of immigrant workers from rural areas, from Ireland, West Wales, Somerset, Gwynedd and the Midlands. From under 1000 in 1851, the population rose to nearly

163,000 by 1921, occupying an almost continuous conurbation for miles – albeit with jealously guarded identities in individually named settlements.

Elsewhere, every valley from the eastern Lwyd and Ebbw Vale to the far west Gwendraeth there sprang up the characteristic images of rows of terraced company houses. The iconic headframes and coal mine winding gear, public buildings, chapels and Working Men's Institutes and other infrastructure, all squeezed into the previously rural landscape of the valleys to house the massive in-migration of workers. This continued through the C20th with extensive post-war council housing estates, and latterly private estates. The Valleys and their Working Men's Institutes produced many radical, self-educated politicians, for example Aneurin Bevan, visionary founder of the National Health Service, and Neil Kinnock of Islwyn. Their radicalism was largely founded on the appalling conditions they had to work and live in.

But the industrial decline of the 1980s, the loss of 'macho' employment, and the psychological devastation of the failure of the year-long Miners' Strike in 1984 have, for many, led to cultural changes that previously would have been hard to imagine by their once-proud communities. The Strike was followed by wholesale unemployment, and although regenerative efforts continue to abound, not all are successful, and not all touch all the people. The iconic coal tips have been systematically flattened following the tragedy of Aberfan, and the once ever-present pithead winding gears have mostly gone. Those that survive best tend to form features of tourist sites, notably with Blaenavon regenerating itself as a World Heritage Site. Despite efforts to find new uses for old buildings, some of which are architecturally magnificent, the majority continue to decay. The same applies to the proliferation of multi-denominational chapels, and the Institutes, originally the social and educational as well as spiritual heart of Valleys communities.

Regeneration and more recent estates, along with new small and large-scale commercial and industrial development tend to be linked to the modern road network. Although there is still an extensive passenger railway branch line network, with plans to improve, regeneration tends to be based around car use and opportunities for much longer distance travel than traditionally. The employment opportunities elsewhere, notably in Cardiff, result in crowded trains and commuting residents clogging up M4 interchanges twice each day.

In recent years, telecommunication masts, pylons and wind turbines have appeared across the plateaux in an upland landscape otherwise devoid of development. A remarkable feature in what are recognized as deprived communities, is the incidence of satellite dishes on the roof tops and gable ends of individual dwellings in workers' terraced housing. A prominent but temporary regeneration event was the Ebbw Vale National Garden Festival in 1992, one of a series across Britain. The site has now become a popular retail centre and in recent times. The derelict Ebbw Vale Steelworks was demolished in late 2005 for the development of socially and economically mixed housing and infrastructure. The Cynon Valley is notable for the plan to create a long, linear riverside park, while much of the historic heart of Merthyr Tydfil has been lost to residential estates of non-vernacular design and materials. Similarly, vacant lots in the linear conurbations of the Ogwr and Rhondda valleys have now been transformed into low-cost housing estates for those who descend the valley roads to the ribbon-development of business and light industrial parks situated close to junctions on the M4. In the mid-west, the dead-end, and once economically and administratively important, valley of Glyncoed is enjoying an economic renaissance as a leisure destination for mountain biking and fishing, with a newly built visitor centre and 'extreme' trails.

The linking of these new ventures with the rich synthesis of history and culture that permeates the area's landscapes and the promotion of much that remains untouched and attractive, is an important aspect in the regeneration this large and remarkable area.



Blaenavon, traditional terraces. © John Briggs

NEATH PORT TALBOT LANDMAP LANDSCAPE ASSESSMENT

Final Report

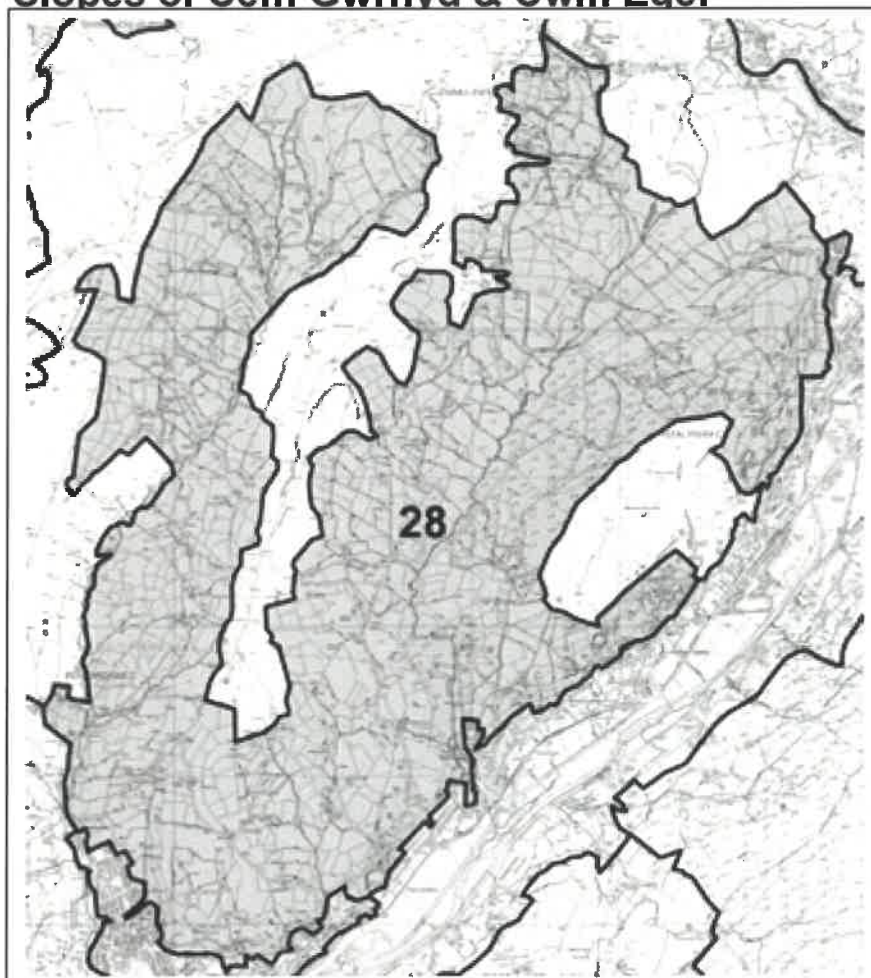
**Neath Port Talbot County Borough Council
Countryside Council for Wales**

December 2004



CHARACTER AREA 28

Slopes of Cefn Gwrhyd & Cwm Egel



Location, Context and Physical Characteristics



This area constitutes the rolling upland valleys of River Egel, Cwm Du and northern Swansea valley sides which range from approx 250m AOD below Mynydd Allt y Grug, to approx 100m AOD at Pontardawe.

The underlying geology is of South dipping sandstone in South Wales pennant formation (lower pennant measures), dissected by the Upper Clydach valley, Egel valley and Cwm Du valley; these steep valley slopes are covered with boulder clay at their lower extremes.

Visual and Sensory Characteristics

The landcover is predominantly grazed pasture with deciduous tree cover a significant element especially along riparian corridors. Many hedges are outgrown throughout the lower ground, leaving trees with fences as definitions of the field pattern. Walls are present on higher ground and these are also generally in poor state of disrepair. In the lower, more settled areas, there is a scattering of farmsteads and around these boundaries are generally more intensively maintained.

There are two large, regular blocks of coniferous plantation, which create a contrast to the grain of the landscape. On higher ground encroachment of bracken has occurred adding to an impression of reduced management. There are a number of disused mines and quarry workings scattered through this landscape, creating locally both disruption and visual interest. There is only one minor road which

passes through the area and numerous others that terminate at farmsteads. This restricted access provides a sense of remoteness to a settled and tranquil landscape.

Vegetation and Habitat Characteristics

The area is dominated by a landscape characterised as an extensive areas of rural semi-upland, which mostly conforms to the current concept of 'ffridd habitat' and mainly comprising rhos pastures. The area contains SSSI designated Gwrhyd Meadows, an extensive area of wet pasture and meadow with a Good range of flora and fauna including include marsh fritillary and small pearl-bordered fritillary.

In the lower reaches of the area the valleys a more varied character prevails as the valleys meet the Upper Clydach River. The valley of Cwm Du contains a major semi-upland wooded stream valley habitat, containing ancient semi-natural woodland on steep valley sides and dissected by small streams. At Frondeg adjacent to Rhyd-y-fro the neutral grassland, fen-meadow and related habitats present have been designates SSSI.

To the west the upland river corridor of the Afon Egel enclosed by narrow valley contains extensive and relatively undisturbed mire habitats on the valley floor. These areas probably support otters.

To the east Coed Cwm Du is designated SSSI. This valley runs in to the Swansea Valley, its course, lined predominantly with oak woodland, which contains the rare Royal fern plus other woodland wildflower including wood sorrel.

The woodland of Fforch Egel and Coedcae Mawr, areas of extensive conifer plantation, may contain many remnants of other habitats, especially acid grasslands, heathlands, rhos pastures and small areas of broadleaved woodland. This habitat favours birds such as crossbills.

Historic Characteristics and Cultural Associations

Although much of the landscape in general is characterised, by drystone walls dating from the mid-18th century, earlier interventions are evident. The church at Llangiwig, radically altered in 1812, is medieval as is much of the fieldscape which surrounds it. Industry is limited to isolated, disused pits and levels; these are predominantly close to the open moorland and common land which fringes the area.

The uplands of Mynydd y Garth, which surround this enclosed land, have been described as one of the three significantly important funerary and ritual landscapes in Glamorgan. It is therefore unsurprising that Bronze Age monuments, in the form of standing stones and cairns, find their way into these rural valleys.

Key Characteristics

- Rolling upland valleys ranging from approx 250m AOD to approx 100m AOD.
- Grazed pasture with significant deciduous tree cover.
- Hedgerows are the dominate field boundaries on the lower ground, with stone walls at higher elevations.
- Tracks and single, minor roads provide access to a scattering of farmsteads.
- Extensive areas of SSSI at Gwrhyd Meadows and Coed Cwm Du.
- Two large, regular blocks of coniferous plantation have strong visual impact.
- Scattering of disused mines and quarry workings.
- Remote yet settled and tranquil landscape.

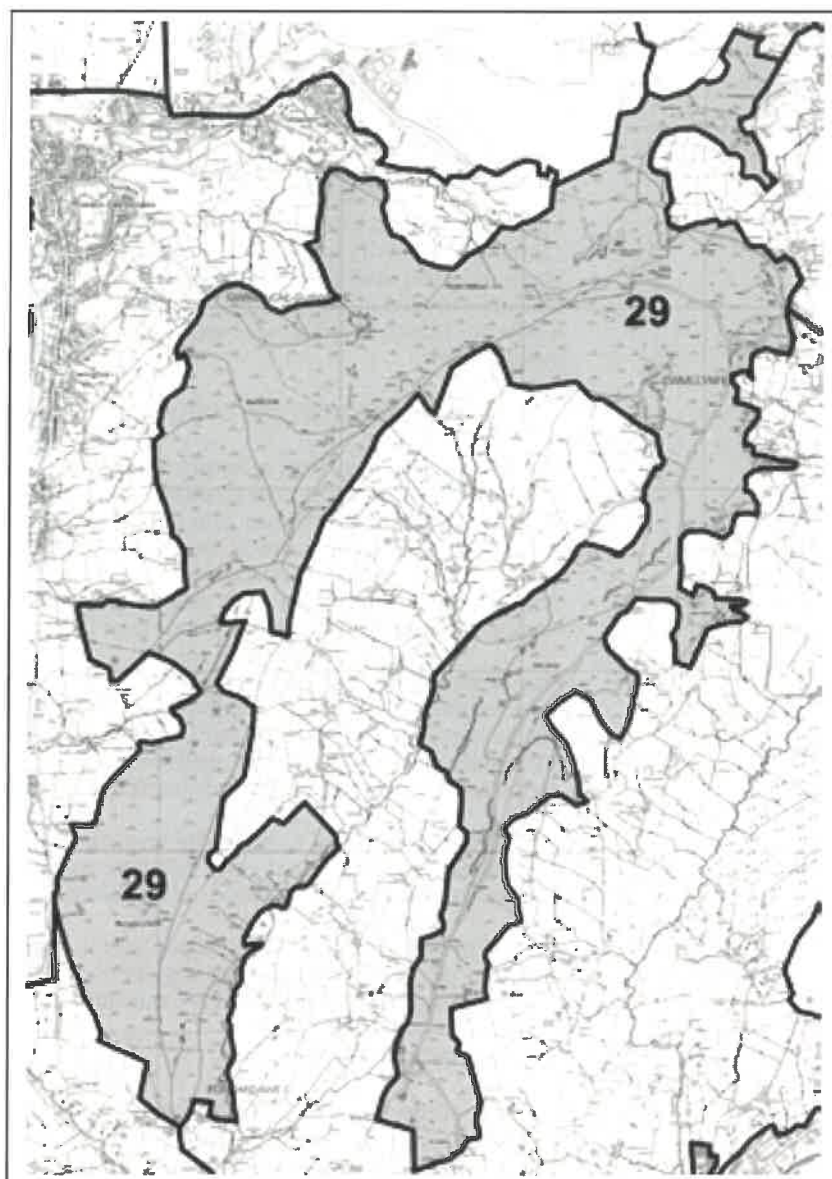
Evaluation

No	Character Area	Visual and Sensory Aspect Areas	Geological Landscape Aspect Areas	Landscape Habitats Aspect Areas	Historic Landscape Aspect Areas	Cultural Landscape Aspect Areas
28	Slopes of Cefn Gwrhyd &	67 - h	9 - m 10 - h	06 - h 08 - h 13 - h	41	44 - h

	<u>Cwm Egel</u>			91 - m 92 - m		
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CHARACTER AREA 29

Mynydd Uchaf, Mynydd Garth, Cefn Gwrhyd



Location, Context and Physical Characteristics

This is an area of open upland common on a plateau ranging from 357m AOD at Mynydd Uchaf to approx 150m AOD by River Egel, which takes in the high ground between Twrch valley and Cwm Gors. The underlying geology is of South dipping sandstone in South Wales pennant formation (Lower Pennant Measures) with underlying mudstone of Productive Coal formation.



Visual and Sensory Characteristics

This Common land is consistently covered in rough grasses, which are managed by sheep grazing. Occasional areas of exposed rock and cairns, break the simplicity of the cover and are notable landscape features. The mountain fence is a remnant drystone wall reinforced by post and wire fencing.

The area contains no settlements and only minor roads and tracks, which enhances a sense of remoteness. The exposed, open and simple character of the common contrasts with the settled nature of the surrounding valleys. This open and elevated landscape facilitates vast panoramic views to the surrounding landscape which can be enjoyed from the rights of ways and roads.

This landscape runs down into Cwm Aman and Cwm Gors creating an open an often exposed nature to the edges of the settlements, and providing a definite visual link in to the broader landscape.

Vegetation and Habitat Characteristics

This area is dominated by peat-based vegetation, which comprises of mixtures of dwarf shrub heath, mire communities, flushes and acid grasslands, interspersed with other features and habitats such as scrub, streams, bare peat and rock outcrops. It contains wet and dry heath, both recognised as being of international significance. These including Cefn Gwrhyd Rhdyfro a biological SSSI upland heath containing upland heathland including quaking bog and . These habitats facilitates a wide number of plants, invertebrates and bird species including skylark, wheatear, meadow pipit.

Historic Characteristics and Cultural Associations

The character area exhibits a density of primarily Bronze Age activity which has been highlighted as one of the three most important and significant funerary and ritual landscapes in Glamorgan. Survival of these funerary and ritual monuments, such as Bronze Age cairns and at least one Neolithic tomb is excellent. These monuments tend to be found located on elevated hillslopes and ridge crests, but not summits, with commanding views down into valleys or adjacent to water courses, a reoccurring theme in the funerary and ritual landscape of South Wales.

Post-medieval boundary stones are frequent features of this upland environment as are sheepfolds indicating the importance of animal husbandry during this period. The landscape of the adjacent farmland is characterised by boundaries of dry stonewalls; disused quarries are scattered across the lower elevations and almost certainly were exploited in the construction of these field boundaries.

This character area is of considerable importance for its density of prehistoric monuments, the presence of early industrial and agricultural activities, and for their setting in a relatively undisturbed upland landscape.

The Gwrhyd Welsh Independent Chapel built in 1856 was located in this exposed site due to its centrality for rural chapel-goers from the surrounding farmsteads. Today it acts as a significant local landmark and cultural feature.

Key Characteristics

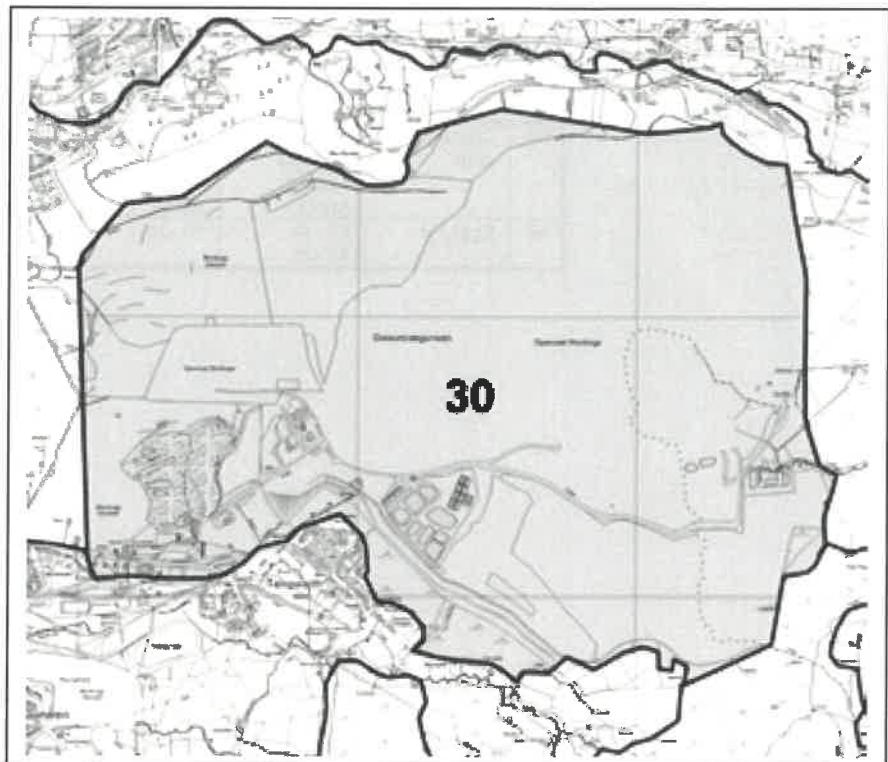
- Open upland common land ranging from approx 150m to 357m AOD.
- Simple sheep grazed landcover.
- Visual link from surrounding valleys.
- Mountain fence is predominantly broken drystone wall reinforced with post and rail fence.
- One of the three most important and significant funerary and ritual landscapes in Glamorgan.
- SSSI upland heath habitats.
- Gwrhyd Chapel.

Evaluation

No	Character area	Visual and Sensory Aspect Areas	Geological Landscape Aspect Areas	Landscape Habitats Aspect Areas	Historic Landscape Aspect Areas	Cultural Landscape Aspect Areas
29	<u>Mynydd Uchaf,</u> <u>Mynydd Garth, Cefn Gwrhyd</u>	39 - h	10 - h	3 - h 8 - h	29 64	44 - h

CHARACTER AREA 30

East Pit



Location, Context and Physical Characteristics

The East Pit opencast workings is located in the north west of the County Borough. It is defined by the extent of the working.



Visual and Sensory Characteristics

This expanse of disturbed/reclaimed land and opencast coal workings, have been screened by the construction of landforms clad, with decorative planting although, scrub and rough grasses are developing over time. The perimeter treatment and lack of public access prevents views into the site, yet auxiliary buildings, security fencing, roads and rail lines are significantly dominant features at the periphery of the area.

The area is generally a detractor with in the landscape, its character being linked to the immensity of landform and continuity of boundary treatment, which provides only minimal sense of place.

Vegetation and Habitat Characteristics

The area represents a large dormant opencast mine, with adjacent areas of mine spoil, with remnants of extant habitats present in the area, which have gradually been lost to mining.

Historic Characteristics and Cultural Associations

Opencast workings have limited the survival of archaeological sites, Bryn-Llefrith post-medieval farmstead, immediately to the west of the eastern boundary, no longer exists; although some stonewalls and hedges belonging to the farmstead have survived. Other surviving sites include the remains of a colliery shown on the 1st edition OS (1885) located to the far north. A suggested recumbent standing stone belonging to the Bronze Age survives on moorland to the west, indicating a possible prehistoric presence.

Key Characteristics

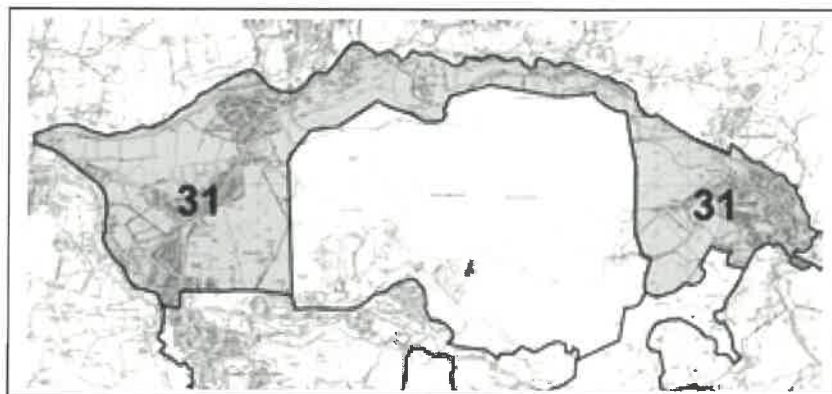
- Extensive opencast mining.
- Remnants of Habitats and Archaeological site persist.
- Screening mounds with decorative planting.

Evaluation

No	Character area	Visual and Sensory Aspect Areas	Geological Landscape Aspect Areas	Landscape Habitats Aspect Areas	Historic Landscape Aspect Areas	Cultural Landscape Aspect Areas
30	<u>East Pit</u>	23 - m 43 - m	13 - m	1 - l	53	43 - h

CHARACTER AREA 31

Cwm Aman



Location, Context and Physical Characteristics



This area of open upland valley is located to the north west of the County Borough, adjacent to the boundary. It takes in both the Cwm Aman and the disrupted landscape at the head of Cwm Twrch and ranges between 100m AOD to approx 200m AOD. The underlying geology is gently south dipping South Wales pennant formation, Hughes Beds sandstones.

Visual and Sensory Characteristics

The ground cover of the area is predominantly grazed pasture with increasing coverage of coarse grasses. There is significant riparian vegetation along watercourses especially to west, which adds a sense of enclosure, as do overgrown hedges which dominate where field boundaries are present.

The settlements of Lower Brynamman and Cwmllynfell are situated to the west and east of the area respectively, fringing the East Pit works. The core of Lower Brynamman settlements is difficult to define having a limited number of commercial enterprises. Although Cwmllynfell has a loose, scattered appearance its core is defined by the visually and socially dominant, landmark structures, the Chapel, new community hall and art gallery.

To the east of the area there is significant disturbance, where reclaimed land is evident in the valley bottom. Generally much of the area appears to be suffering from reduced management input, engendering a character of degraded upland grazing.

Vegetation and Habitat Characteristics

A rural semi-upland character prevails at higher reaches of the valley, this constitutes part of a more extensive area, which continues to the south. This landscape conforms to the current concept of 'ffridd habitats' and mainly comprises rhes pastures. It contains numerous BAP habitats including purple moor grass & rush pasture and upland heath. The latter habitat type is generally considered of international importance holding significant upland plant species. These habitats support a wide range of rhes pasture plants, associated invertebrates and the barn owl (LBAP).

Along the northern fringe of the area, a minor upland river dominates the character, however this has little direct impact on the character area.

Historic Characteristics

The industrial character of this landscape is evident in the disused mineral tramroads, levels and quarries throughout. Roger Hopkins leased some 700 acres

(280 ha) of coal at Gwaun cae Gurwen in 1837 and the following year made a start on the construction of a railway from his colliery (at Tairgwaith) to the Swansea Canal at Pontardawe. Only the first mile was completed before Hopkins realised that the Llanelli Railway would better serve his interests, then in the process of building a line up the Amman Valley.

Although much of the industry within the wider landscape was abandoned during the last century, and the landscape has largely reverted to its former rural character, infringement from East Pit works has produced a much more modern character.

Cultural Associations

The overriding cultural distinctiveness of this area is the presence of the enormous acreage of opencast mining that has encroached nearer to the local communities, and that (according to local people) is blighting their environment and the value of their houses. A social phenomenon is the conflict between wishing to earn a decent living close to home while still enjoying the environment.

The area has a high percentage of Welsh speakers at 70%.

Key Characteristics

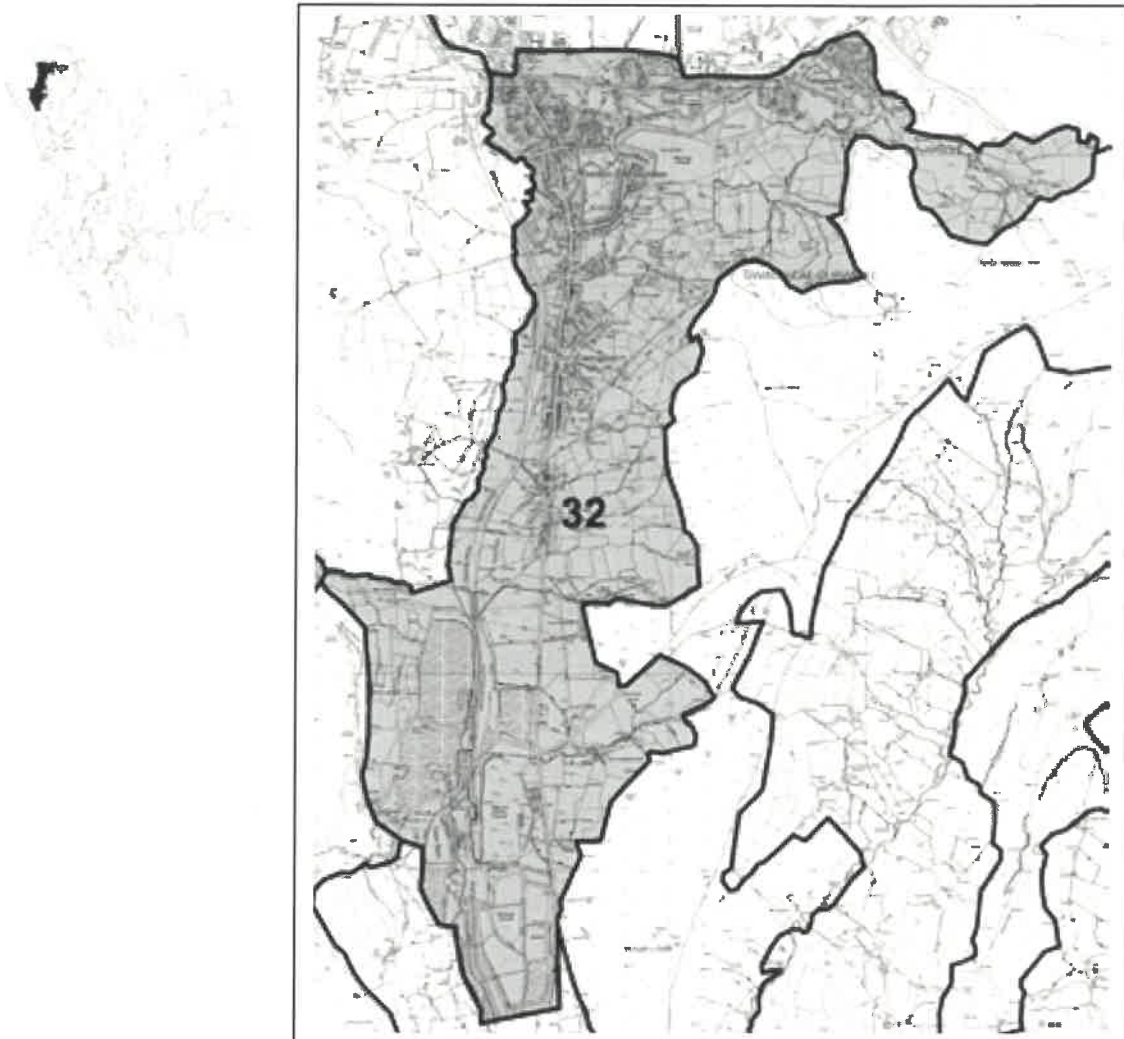
- Open upland valley ranging from 100m AOD to approx 200m AOD
- Predominantly grazed pasture with increasing coverage of coarse grasses.
- Fields enclosed primarily by overgrown hedges.
- Disturbance from opencast reclaimed evident infringement of East Pit works.
- High percentage of Welsh speakers.
- The Character of the Settlements of Lower Brynamman and Cwmllynfell is typical of forming mining villages.

Evaluation

No	Character area	Visual and Sensory Aspect Areas	Geological Landscape Aspect Areas	Landscape Habitats Aspect Areas	Historic Landscape Aspect Areas	Cultural Landscape Aspect Areas
40	Cwm Aman	33 - l 41 - l	13 - m	02 - m 13 - h 76 - l	29 41 53	43 - h

CHARACTER AREA 32

Cwm Gors / Gwaun Cae Gurwen / Abernant



Location, Context and Physical Characteristics

This upland valley lies in the north west of the County Borough. It is defined to the east by the open common land of Mynydd Uchaf/Mynydd y Garth and to the west by the County Borough boundary. It ranges from an elevation of approx 250m AOD above East Pit to 150m AOD in the lower valley.



The valley cuts through an underlying geology is of south dipping sandstone of South Wales pennant formation (Lower Pennant Measures) which underlies mudstone dominated Productive Coal formation. There is significant disruption through mining within the valley, and landslips are evident on the valley slopes.

Visual and Sensory Characteristics

The valley is predominantly grazed, with the presence of invasive bracken, scrub and coarse grasses signifying reduced management input, enclosed by outgrown hedges. Deciduous woodland is a dominant landscape element along riparian corridors and on the lower reaches of the valley sides. There are extensive areas of disturbance on the valley floor with old workings, landfill and commercial developments all acting as localised detractors.

The settlement of Cwmgors stretch along the A474, Tairgwaith lies on the fringe of the opencast works, while sitting between the two Gwaun Cae Gurwen is more nucleated in character. The cores of these settlements are difficult to define and have a limited number of commercial enterprises and with newer residential areas extending around the core. The few original buildings are a mix of stone, brick and render with slate roofs while newer buildings tend to be render and pebbledash.

Views are generally contained within the valley, by both the topography and tree cover, the latter of which screens developments. Yet from adjacent high ground the detracts are highly visible.

Vegetation and Habitat Characteristics

A rural semi-upland character prevails at higher reaches of the valley, this constitutes part of a more extensive area, which continues to the south. This landscape conforms to the current concept of 'ffridd habitats' and mainly comprises rhos pastures. It contains numerous BAP habitats including purple moor grass & rush pasture and upland heath. The latter habitat type generally being considered of international importance. These habitats support a wide range of rhos pasture plants, associated invertebrates and the barn owl (LBAP).

Running through the valley is the river corridor. This contains extensive areas of broadleaved woodland, including oakwood (BAP habitat) on some of the steep valley sections, areas of marshy neutral habitats (e.g. rush-pastures etc) along the watercourse and on drier areas, acid grasslands.

The southern extent of the area is dominated by an area of disturbed industrial development on former mine workings and spoil. Although this disturbance has deleterious impact on habitats, it has also resulted in the creation of secondary habitats, which are themselves of value. Many plant species, including a number of orchid species, are now to be found on old spoil sites, often in large numbers.

Historic Characteristics

Disused mineral tramroads, levels and quarries characterise the north around Gwaun cae Gurwen and Cwmllynfell. Roger Hopkins leased some 700 acres (280 ha) of coal at Gwaun cae Gurwen in 1837 and the following year made a start on the construction of a railway from his colliery (at Tairgwaith) to the Swansea Canal at Pontardawe. Only the first mile was completed before Hopkins realised that the Llanelli Railway would better serve his interests, then in the process of building a line up the Amman Valley. Work on the canal-linked railway was abandoned and Hopkins extended the Llanelli line to his colliery in 1840 (Hughes and Reynolds 1989, 38). Much of the industry was abandoned during the last century, the and significant areas reverted to its former rural character.

Cultural Associations

To the north of Gwaun Cae Gurwen, the overriding cultural distinctiveness is the presence of the enormous acreage of opencast mining that has encroached nearer to the local communities, and that (according to local people) is blighting their environment and the value of their houses. A social phenomenon is the conflict between wishing to earn a decent living close to home while still enjoying a decent environment.

The settlement of Tairgwaith also possesses evidence of how mining communities entertained themselves, with the trotting track on the edge of the moor, run as a business.

The community has a strong spirit of enterprise, focused through the efforts of Amman Valley Enterprises resource centre at Gwaun cae Gurwen. The area has a high percentage of Welsh speakers at 70%.

Key Characteristics

- Upland valley ranging from 250m AOD to 150m AOD.
- Predominantly grazed, with invasive bracken, scrub and coarse grasses.
- River corridor runs through the valley with significant riparian vegetation.

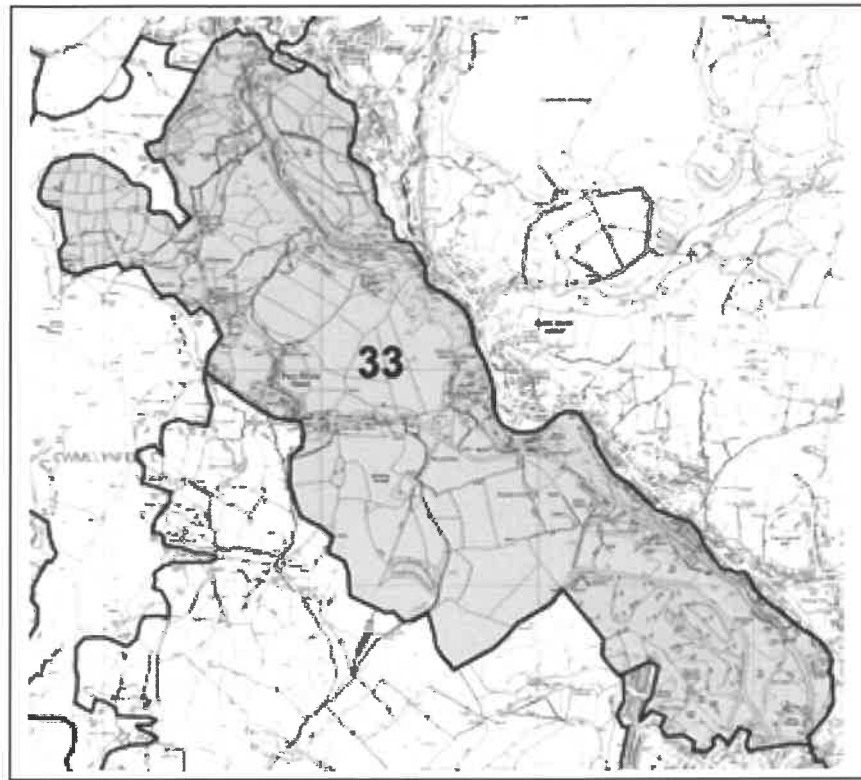
- High percentage of Welsh speakers.
- Disused mineral tramroads, levels and quarries and former colliery.
- Settlements of Gwaun Cae Gurwen and Cwmgors stretch along the A474 .

Evaluation

No	Character area	Visual and Sensory Aspect Areas	Geological Landscape Aspect Areas	Landscape Habitats Aspect Areas	Historic Landscape Aspect Areas	Cultural Landscape Aspect Areas
32	Cwm Gors	33 - m 42 - m	10 - h 13 - m	07 09 13 76	41	43 - h 44 - h

CHARACTER AREA 33

Cwm Twrch



Location, Context and Physical Characteristics

This area lies to the north of the County Borough and covers the south eastern face of the upland valley. It is bounded to the north by the County Borough boundary, which for much of its length follows the Afon Llynfell. It ranges from approx 280m AOD to approx 100m AOD on a geology of gently south dipping South Wales pennant formation, Hughes Beds sandstones.

Visual and Sensory Characteristics

The valley consists predominantly of enclosed upland grazing. The fields are contained by overgrown hedges, with heavy deciduous tree cover being a significant element, especially on the lower slopes and in the base of the valley. Old mine works through the area, has produced pockets of localised disturbance in the area.

The bottom within the county borough is relatively sparsely populated, with dwellings mainly focused towards the Swansea Valley.

Views within the character area are confined by the built form, topography and substantial tree cover, these elements also produce a sheltered and settled feel contrasting with the surrounding areas.

Vegetation and Habitat Characteristics

The character of the lower slopes and base of the valley are represented by a small upland river corridor, valley sides flanked by broadleaved woodland, which include areas of ancient woodland small. Interspersed are areas of neutral grassland probably trending towards rush pasture and localised areas of scrub and old mine spoil. It is suspected that Otters inhabit this environment

A rural semi-upland character prevails at higher reaches of the valley. This habitat part of a more extensive area which continues to the south, conforms to the current

concept of 'ffridd habitats' and mainly comprises rhos pastures. The area contains a good range of rhos pasture plants as well as the barn owl (LBAP)

Historic Characteristics and Cultural Associations

The character area lies below to Mynydd y Gwrhyd, described as one of the three significantly important funerary and ritual landscapes in Glamorgan, it is therefore unsurprising that Bronze Age monuments, in the form of standing stones and cairns are evident.

Yet the character area itself is linked to more recent developments with disused mineral tramroads, Levels and quarries dominating. Much of the industry was abandoned during the last century and largely the area has reverted to its former rural character.

Key Characteristics

- Upland valley ranging from approx 280m AOD to approx 100m AOD.
- Enclosed upland grazing, bounded by outgrown hedges.
- Significant deciduous cover through lower reaches contain views.
- Small settlements and dwellings line the A4068.
- Pockets of localised disturbance created by disused mine works.

Evaluation

No	Character area	Visual and Sensory Aspect Areas	Geological Landscape Aspect Areas	Landscape Habitats Aspect Areas	Historic Landscape Aspect Areas	Cultural Landscape Aspect Areas
33	Cwm Twrch	44 - m	13 - m	04 13	41	43 44

Appendix 4-2 – Viewpoint Analysis

Table 1: Viewpoint Locations

Vp no	Location	Easting	Northing	Elevation (approx.)	Distance to solar arrays	Bearing to site (approx.)	Planning Authority	Landscape Character Unit	Landscape Designations	Recreational and Transport Routes	Visual receptors
1	Track by Pen y Waun	272670	210110	262m AOD	0.3km	N	Neath Port Talbot	LCA 28 – Slopes of Cefn Gwrhyd & Cwm Egel	SLA	Representative of nearby footpath	A few residents, Walkers
2	Mynydd Uchaf	272165	210400	321m AOD	0.5km	E	Neath Port Talbot	LCA 29 – Mynydd Uchaf, Mynydd Garth & Cefn Gwrhyd	SLA	Common Land	Walkers
3	Footpath SW of Fforch Egel Farm	272720	209320	206m AOD	1.1km	N	Neath Port Talbot	LCA 28 – Slopes of Cefn Gwrhyd & Cwm Egel	SLA	Footpath	Walkers
4	Footpath across Cefn Gwrhyd	273100	209215	236m AOD	1.3km	N	Neath Port Talbot	LCA 29 – Mynydd Uchaf, Mynydd Garth & Cefn Gwrhyd	SLA	Footpath	Walkers
5	Local road on Cefn Gwrhyd	273030	208775	294m AOD	1.7km	N	Neath Port Talbot	LCA 29 – Mynydd Uchaf, Mynydd Garth & Cefn Gwrhyd	SLA	Local road	Motorists

Prediction Methodology

1. The following viewpoint analysis has identified the visual receptor sensitivity and landscape sensitivity at each viewpoint location and combined these with the predicted magnitude of change in the view in order to determine the overall impact and whether or not this would be a significant change in the view for each visual receptor type and landscape character unit at each location.
2. The term 'significant' has been used within this assessment and in this context refers to effects which are material to the determination of the application. However, it must be reiterated that this is a sub EIA application.
3. All visual receptors are people and are assumed to be equally sensitive to change. However, the location and activities of visual receptors influence the way in which they currently experience the landscape and views, the extent to which views of the surrounding landscape may contribute to their existing visual amenity, the value they place on these views and their susceptibility to changes in these views. Accordingly, at any one location there may be different levels of sensitivity for the different receptor groups, the sensitivity may vary depending on the direction of the view, and any one receptor group may be accorded different levels of sensitivity at different locations.
4. Receptor susceptibility levels of susceptible, moderate susceptibility and slight susceptibility are used taking into account the following factors:
 - Receptor location, occupation or activity,
 - Movement of receptor and duration and frequency of view experienced,
 - Focus of attention and interest.
5. The judgement of value is based on a five point scale – National value, County/Borough/District value, Community value, private value, unvalued. The value attached to a location or to a particular view at a location can influence the purpose and expectation of receptors at the location and the judgement of value takes into account:
 - Recognised value – for example by the presence of planning designations or designated heritage assets,
 - Indicators of value – to individuals, communities and society generally, such as the popularity of a location.
6. Visual receptor sensitivity is determined in terms of the sensitivity of each location for each receptor type (rather than the sensitivity of the receptors *per se*), using a five point relative scale – high, high/medium, medium, medium/low or low.
7. The assessment of landscape sensitivity for each landscape unit is judged through a five point scale –high, high/medium, medium, medium/low or low sensitivity.
8. The magnitude of the change in the views from the five viewpoints has been assessed using a five point scale – very substantial, substantial, moderate, slight and negligible. This magnitude of change scale is a relative scale and is not an absolute scale. It is based on the assessor's interpretation of largely quantifiable parameters, including:
 - Distance and direction of the viewpoint from the development.
 - Extent of the development visible from the viewpoint.
 - Field of view occupied by the development (horizontal and vertical angles of view) and proportion of view (as a percentage of the panorama).
 - Context of the view and degree of contrast with the existing landscape and built elements (background, form, composition, pattern, scale and mass, line, movement, colour, texture, etc).

- Scale of change with respect to the loss or addition of features in the view. For the addition of built form, this includes the relative scale of the development and whether the development would be overwhelming, overbearing, dominant, prominent, visible, noticeable, discernible or barely discernible.
 - Duration and nature of the effect, e.g. direct/ indirect, secondary, cumulative, temporary/ permanent, short term/ long term, intermittent/ continuous, reversible/ irreversible, etc (as related to the nature of the development).
9. The sensitivity and magnitude of change have then been combined as per the matrix in **Table 2** below. Overall effects of major/moderate and above are considered significant and are shaded grey in **Table 2** below. Overall effects of moderate+ or lower changes are unlikely to result in significant changes to views or landscape character.

Table 2 – Assessment of Overall Impact and Significance

LOCATION SENSITIVITY	Very Substantial	Substantial	Moderate	Slight	Negligible
High	Major	Major/moderate+	Maj/ mod	Moderate+	Moderate
High/medium	Major/moderate+	Major/moderate	Moderate+	Moderate	Moderate/ minor+
Medium	Major/moderate	Moderate+	Moderate	Moderate/ minor+	Moderate/ minor
Medium/low	Moderate+	Moderate	Moderate/ minor+	Moderate/ minor	Minor+
Low	Moderate	Moderate/ minor+	Moderate/ minor	Minor+	Minor

Viewpoint Analysis

10. The findings of the viewpoint analysis are provided in **Table 3** below. The findings take into account the screening effects of intervening topography, existing vegetation and built form and assume excellent visibility conditions. The assessment measures the change that would be brought about to the baseline environment from the introduction of the proposed development and separates the magnitude of change and resulting effects into effects at the end of the construction period and then effects five years post construction - taking into account the additional screening effects of the planting proposed as part of the application. This assessment is based on a timeframe approximately five years post construction in order to assume the growth of the proposed planting to a height of approximately up to 2.5-3m.
11. This analysis was undertaken in the field in August 2018. It is illustrated by the images in **Viewpoints 1 to 5** in the A3 Photomontage Booklet which show the existing and predicted views (post construction) in the direction of the proposed development from each of these locations.
12. These viewpoint illustrations are printed at A3 and guidance is contained on each sheet as to the appropriate viewing distances in order for the scale of the elements in the images to match those in the field when viewed from these viewpoint locations. The details of the camera type and the camera lens are also included within the photomontage booklet.
13. In addition, **Figures 4.5 – 4.7** illustrate the panoramic views from each of the five viewpoints at A3 size. These views are provided for illustrative purposes and are not produced at a set viewing distance. However, they provide information on the context for each view and are labelled with further pertinent information.

Table 3: Viewpoint Analysis

Vp 1: Track by Pen y Waun					
Distance from proposed development	NGR	Elevation (mAOD)	Landscape designation	Recreational area or route	Existing View
0.3km	272670 210110	262mAOD	SLA	Footpath	<p>Post and wire fencing bounds the track, with deciduous woodland visible to the east. The footpath runs just east of the viewpoint but has no visible markings on the ground. The residential property at Pen y Waun can be seen in the far right of the view. Forestry in the left of the view has been felled.</p> <p>The landform rises to the north where the substation and one of the two wind turbines of Mynydd y Gwrhyd Wind Farm are clearly visible on the skyline.</p>
Assessment of Effects on Landscape Character					
LCA	Sensitivity	Magnitude	Predicted effects	Assessment	
LCA 28 – Slopes of Cefn Gwrhyd & Cwm Egel	High/medium	End of construction:		A locally designated landscape identified to have a high/medium sensitivity to change. At the end of the construction period, the solar panels and associated elements would be partially visible above existing vegetation (intervening trees) and would be seen in association with existing built development.	
		Slight adverse	Moderate adverse	This would result in a slight adverse magnitude of change and a moderate adverse effect on landscape character at this location. This indicates no significant effect on landscape character at this viewpoint.	
		5 years post construction:		Five years post construction, once the proposed planting has grown to up to 2.5-3m in height, the solar panels and associated elements would be only partially discernible from this location, largely screened from view.	
		Negligible adverse	Moderate/minor+ adverse	This would result in a negligible adverse magnitude of change and a moderate/minor+ adverse effect on landscape character at this location. This indicates no significant effect on landscape character at this viewpoint.	

Assessment of Effects on Views				
Receptor	Sensitivity	Magnitude	Predicted effects	Assessment
A few residents	High	End of construction:		<p>A private residential view which a few residential receptors may gain from various parts of their property, including garden areas (once property is fully constructed). Views in other directions would also be available, particularly to west and south, where landform slopes away. Views to north are partially contained by nearby woodland and currently look onto Mynydd y Gwrhyd Wind Farm. High sensitivity to changes in the view.</p> <p>From ground floor level, at the end of the construction period, the solar panels and associated elements would be partially visible above existing vegetation (intervening trees) and would be seen in association with existing built development as illustrated by the photomontage view. The solar farm would occupy a small proportion of overall views. This would result in a slight magnitude of change and a moderate+ effect on the visual amenity of residents. This indicates no significant effect on the visual amenity of receptors at this viewpoint.</p>
		Slight	Moderate+	
		5 years post construction:		
Walkers	High/ medium	Negligible	Moderate	<p>Five years post construction, once the proposed planting has grown to up to 2.5-3m in height, the solar panels and associated elements would be only partially discernible from this location, almost entirely screened from view.</p> <p>From ground floor level, at the end of the construction period, the solar panels and associated elements would barely visible above intervening vegetation and would occupy a small proportion of overall views. This would result in a negligible magnitude of change and a moderate effect on the visual amenity of residents. This indicates no significant effect on the visual amenity of receptors at this viewpoint.</p>
		End of construction:		
		Slight	Moderate	
Walkers	High/ medium	End of construction:		<p>A local footpath along which receptors would be moving slowly, with views towards the north limited by rising land, but open views available to the south and west, with a high/medium sensitivity to changes in the view.</p> <p>At the end of the construction period, the solar panels and associated elements would be partially visible above existing vegetation (intervening trees) and would be seen in association with existing built development as illustrated by the photomontage view. The solar farm would occupy a small proportion of overall views. This would result in a slight magnitude of change and a moderate effect on the visual amenity of walkers. This indicates no significant effect on the visual amenity of receptors at this viewpoint.</p>
		Slight	Moderate	
		5 years post construction:		

Vp 2: Mynydd Uchaf					
Distance from proposed development	NGR	Elevation (mAOD)	Landscape designation	Recreational area or route	Existing View
0.5km	272165 210400	321mAOD	SLA	Common Land and Access Land	An elevated viewpoint with open, panoramic and long distance views to the east and south. Views consist mainly of interlocking high land, smooth skylines with coniferous forestry and a number of wind farms in the near, middle and far distance. This viewpoint is representative of views for users of the common land and access land across Mynydd Uchaf.
Assessment of Effects on Landscape Character					
LCA	Sensitivity	Magnitude	Predicted effects	Assessment	
LCA 29 – Mynydd Uchaf, Mynydd Garth & Cefn Gwrhyd	High/medium	End of construction:		A locally designated landscape identified to have a high/medium sensitivity to change. At the end of the construction period, a small proportion of the solar panels and associated elements would be partially discernible in the context of existing built form as illustrated by the photomontage view. The majority of the solar farm would be screened by intervening topography.	
		Negligible adverse	Moderate/minor+ adverse	This would result in a negligible adverse magnitude of change and a moderate/minor+ adverse effect on landscape character at this location. This indicates no significant effect on landscape character at this viewpoint.	
		5 years post construction:		The proposed planting would be located on the lower slopes, south of the proposal and	

			Negligible adverse	Moderate/ minor+ adverse	so would be entirely screened from this location. Therefore, any impacts on landscape character would remain the same as set out above.
Assessment of Effects on Views					
Receptor	Sensitivity	Magnitude	Predicted effects	Assessment	
Walkers	High/ medium	End of construction:		A local common land area across which walkers would be moving slowly, could use the route frequently, with views generally open to the east and south, with a high/medium sensitivity to changes in the view. At the end of the construction period, a small proportion of the solar panels and associated elements would be partially discernible in the context of existing built form and as part of panoramic views. The majority of the solar farm would be screened by intervening topography. The solar farm would occupy an extremely limited proportion of views to the east. This would result in a negligible magnitude of change and a moderate/minor+ effect on the visual amenity of receptors on this common land. This indicates no significant effect on the visual amenity of receptors at this viewpoint.	
		Negligible	Moderate/ minor+		
		5 years post construction:			
		Negligible	Moderate/ minor+	The proposed planting would be located on the lower slopes, south of the proposal and so would be entirely screened from this location. Therefore, any impacts on visual amenity would remain the same as set out above.	

Vp 3: Footpath southwest of Fforch Egel Farm						
Distance from proposed development	NGR	Elevation (mAOD)	Landscape designation	Recreational area or route	Existing View	
1.1km	272720 209320	206mAOD	SLA	Local footpath	Located within a pasture field, looking north across the surrounding landscape. Views from the footpath are generally quite contained due to the high levels of mature vegetation within the valley landscape.	
Assessment of Effects on Landscape Character						
LCA	Sensitivity	Magnitude	Predicted effects	Assessment		
LCA 28 – Slopes of Cefn Gwrhyd & Cwm Egel	High/ medium	End of construction:		A locally designated landscape identified to have a high/medium sensitivity to change. At the end of the construction period, the solar panels and associated elements would be entirely screened behind existing vegetation as illustrated by the photomontage view. This would result in no adverse magnitude of change and no adverse effect on landscape character at this location.		
		None	None			
		5 years post construction:				
		None	None			
Assessment of Effects on Views						
Receptor	Sensitivity	Magnitude	Predicted effects	Assessment		
Walkers	High/ medium	End of construction:		A local footpath along which walkers would be moving slowly, could use the route frequently, with views generally limited by surrounding mature vegetation, with a		

		None	None	<p>high/medium sensitivity to changes in the view.</p> <p>At the end of the construction period, the solar panels and associated elements would be entirely screened behind existing vegetation as illustrated by the photomontage view. This would result in no magnitude of change and no effect on the visual amenity of receptors on this footpath. This indicates no significant effect on the visual amenity of receptors at this viewpoint.</p>	
		5 years post construction:			
		None	None		
		<p>A local footpath along which walkers would be moving slowly, could use the route frequently, with views generally limited by surrounding mature vegetation, with a high/medium sensitivity to changes in the view.</p> <p>Five years post construction, the solar panels and associated elements would be entirely screened behind existing vegetation as illustrated by the photomontage view. This would result in no magnitude of change and no effect on the visual amenity of receptors on this footpath. This indicates no significant effect on the visual amenity of receptors at this viewpoint.</p>			

Vp 4: Footpath across Cefn Gwrhyd

Distance from proposed development	NGR	Elevation (mAOD)	Landscape designation	Recreational area or route	Existing View
1.3km	273100 209215	236mAOD	SLA	Local footpath	Located on a local footpath with open views across the valley. Existing wind farm, other single turbines and disused pit are all visible as part of the varied valley landscape.
Assessment of Effects on Landscape Character					
LCA	Sensitivity			Magnitude	Assessment
LCA 29 – Mynydd Uchaf, Mynydd	High/			End of construction:	A locally designated landscape identified as having a high/ medium sensitivity to change.

Garth & Cefn Gwrhyd	medium	Negligible adverse	Moderate/ minor+ adverse	<p>At the end of the construction period, the solar panels and associated elements would be discernible in the context of the existing wind farm, substation and disused pit as a low level development of limited extent, partially screened by existing vegetation. This would result in a negligible adverse magnitude of change and a moderate/ minor+ adverse effect on landscape character at this location. This indicates no significant effect on landscape character at this viewpoint.</p> <p>A locally designated landscape identified as having a high/medium sensitivity to change. Five years post construction, once proposed planting south of the solar farm has grown to up to 2.5-3m in height, given the slope of the landform of the site, the solar panels and associated elements would be discernible from this location, seen in the context of the existing wind farm, substation and disused pit as a low level development of limited extent, partially screened by existing vegetation.</p> <p>This would result in a negligible adverse magnitude of change and a moderate/ minor+ adverse effect on landscape character at this location. This indicates no significant effect on landscape character at this viewpoint.</p>
Assessment of Effects on Views				
Receptor	Sensitivity	Magnitude	Predicted effects	Assessment
Walkers	High/ medium	End of construction:	Moderate/ minor +	A local footpath along which walkers would be moving slowly, could use the route frequently, with views generally limited by surrounding mature vegetation, with a high/medium sensitivity to changes in the view.
		Negligible		At the end of the construction period, the solar panels and associated elements would be visible in the distance as part of wide views, seen in the context of the existing wind farm, substation and disused pit as a low level development of limited extent, partially screened by existing vegetation. The solar farm would occupy a very limited proportion of views to the north. This would result in a negligible magnitude of change and a moderate/minor+ effect on the visual amenity of walkers. This indicates no significant effect on the visual amenity of receptors at this viewpoint.
		5 years post construction:		A local footpath along which walkers would be moving slowly, could use the route frequently, with views generally limited by surrounding mature vegetation, with a

		Negligible	Moderate/ minor +	<p>high/medium sensitivity to changes in the view.</p> <p>Five years post construction, proposed planting south of the solar farm has grown to up to 2.5-3m in height, given the slope of the landform of the site, the solar panels and associated elements would be discernible from this location, seen in the context of the existing wind farm, substation and disused pit as a low level development of limited extent, partially screened by existing vegetation.</p> <p>This would result in a negligible magnitude of change and a moderate/minor+ effect on the visual amenity of walkers at this location. This indicates no significant effect on the visual amenity of receptors at this viewpoint.</p>
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Vp 5: Local road on Cefn Gwrhyd						
Distance from proposed development	NGR	Elevation (mAOD)	Landscape designation	Recreational area or route	Existing View	
1.7km	273030 208775	294mAOD	SLA	Local road.	View from the most elevated part of the local road, looking north over the valley landscape. This is an open view across the valley where Mynydd y Gwrhyd Wind Farm, Mynydd y Betws Wind Farm, a few single turbines, pylons and the disused pit are all clearly visible man made features in this landscape.	
Assessment of Effects on Landscape Character						
LCA	Sensitivity	Magnitude	Predicted effects	Assessment		
LCA 29 – Mynydd Uchaf, Mynydd Garth & Cefn Gwrhyd	High/medium	End of construction:		A locally designated landscape identified to have a <i>high/medium sensitivity</i> to change. At the end of the construction period, the solar panels and associated elements would be visible on the valley slope, seen in the context of existing built form. This would result in a <i>slight adverse magnitude of change</i> and a <i>moderate adverse effect</i> on landscape character at this location. This indicates <i>no significant effect</i> on landscape character at this viewpoint.		
		Slight adverse	Moderate adverse			
		5 years post construction:				
		Slight adverse	Moderate adverse			
Assessment of Effects on Views						
Receptor	Sensitivity	Magnitude	Predicted effects	Assessment		
Motorists	Medium	End of construction:		A local road along which receptors would be moving slowly to steadily, could use the route frequently, with views generally open across the valley, where their focus would		

		Slight	Moderate/ minor+	be on the road as well as on views, with a medium sensitivity to changes in the view. At the end of the construction period, the solar panels and associated elements would be visible as part of wide views and seen in the context of existing built form. This would result in a slight magnitude of change and a moderate/minor+ effect on the visual amenity of motorists and their passengers where views are available. This indicates no significant effect on the visual amenity of receptors at this viewpoint.
		5 years post construction:		A local road along which receptors would be moving slowly to steadily, could use the route frequently, with views generally open across the valley, where their focus would be on the road as well as on views, with a medium sensitivity to changes in the view. Five years post construction, once proposed planting south of the solar farm has grown to up to 2.5-3m in height, visibility of the solar panels and associated elements would be slightly softened on the southern boundary, but would remain visible. This would result in a slight magnitude of change and a moderate/minor+ effect on the visual amenity of motorists and their passengers where views are available. This indicates no significant effect on the visual amenity of receptors at this viewpoint.
		Slight	Moderate/ minor+	