iv. *If intervisible with existing renewable energy developments, would not result in an unacceptable level of visual impact; and*

v. *Is justified, where necessary, in terms of national energy policies or local and regional energy requirements; and*

vi. *Is accompanied by adequate information to indicate the extent of the possible environmental effects and how they can be satisfactorily contained.*

Policy C5 - Development in the open countryside:

*In the open countryside development will not be permitted except where:*

i. *It is essential for the rural economy or rural employment; or*

ii. *It can be demonstrated to meet the overriding social or economic needs of the local community; or*

v. *It is essential for communications, telecommunications and other forms of utility service provision, renewable energy generation or minerals extraction.*

vii. *The land is of poor agricultural, conservation or ecological value and the development does not adversely affect the viability of an established farm unit.*

### Upper Afan Valley District Plan 1982

The Upper Afan Valley District Plan was prepared jointly by Afan Borough Council and West Glamorgan County Council and adopted in 1982. The preparation of the plan was directed towards producing policies and proposals which are broadly aimed at solving the problems and satisfying the needs of the communities within the Upper Afan Valley. The content of the plan adopts a proactive approach to development within identified areas without including restraint policies for the open countryside. This the only formally adopted plan for this area.

Within the plan there are no allocations or designations specifically relevant to the Ffynnon Oer wind farm site. There are also no policies relevant to renewable energy sources or development.

### Cwmafan, Bryn, Goytre Valley and Rural Margam Local Plan

The Cwmafan, Bryn, Goytre Valley and Rural Margam Local Plan was prepared by Port Talbot Borough Council and adopted in July 1990. The plan provides coverage between the urban area of Port Talbot to the south and upper Afan Valley in the North.

The objectives of the plan are to encourage the economic and social development, identify suitable sites for the areas development needs, conserve and enhance the environment, encourage a high standard of design and to resist development that would have a significant adverse effect upon amenities. There are no policies relevant to the development of renewable energy generation.

### Port Talbot Local Plan - Approved for Development Control Purposes

The Port Talbot Local Plan was prepared by Port Talbot Borough Council to cover the period 1996-2006. In light of the future need to prepare Unitary Development Plans Port Talbot Borough Council did not continue with the preparation of the plan beyond the draft deposit

stage. As such this plan has not be formally adopted. The content of the plan was however approved for development control purposes and as such its content is materially relevant to development proposals within the Port Talbot area.

Policies considered relevant to the determination of the application for the development of a wind farm are indicated below:

E13 - *Low quality agricultural land will be protected where it supports a great diversity of wildlife and as such is of significant conservation value.*

Part of the proposed wind farm at Ffynonn Oer is within an area identified as being of Special Landscape Character within the Port Talbot Local Plan. Although the plan has not been formally adopted this designation is a material consideration.

E18 - *it is the policy of the Council that those areas listed below as designated landscape protection areas planning consent for development will only be granted where it can be clearly demonstrated that there is no detrimental effect on the environment ecology and landscape of the area but rather seeks to enhance those qualities.*

*a) Afan Forest Park and its environs including the upland areas around Aber / Blaengwynfi and Glyncorrwg;*

*b) Margam Park environs including the Goytre and Cwmwernderi Valley;*

c) *the immediate upland areas overlooking Port Talbot, Baglan and Cwmafan.*

E27 - Renewable Energy

*It is the policy of the Council that in considering any application for renewable energy installations, the following criteria will be applied to the assessment:*

*a) land-use and landscape issues:*

- *the siting and design of the proposal in relation to the nature, character and scale of the areas landscape;*
- *the visual effect, including the case of wind-turbines arising from shadow flicker and reflected light on the landscape both over the long and short distances;*
- *the likely cumulative effects on the landscape of the area and on nearby communities taking account of other existing and proposed developments in this area;*
- *the extent of damage to or interference with or improvement to and enhancement of other existing or proposed land uses or amenities;*
- *the existing nature and condition of the proposed site and the extent and nature of any improvements that will result from the operations.*

*b) Amenity*

- *The acceptability of the impact upon neighbouring communities of the operations, structures and associated works, particularly that relating to the level of noise arising from the proposal;*

- *The consequences of the level and duration of traffic movements likely to be generated by the proposal during the construction, operation and decommissioning;*
- *The extent of electromagnetic interference with established and proposed telecommunications facilities.*

*c) Conservation*

- *The effect on the nature conservation interests of the site and adjoining areas, both over long and short distances, paying particular regard to areas designated for nature conservation purposes;*
- *The effects on agricultural and fishery interests;*
- *The effects on sites of archaeological interest;*
- *The impact on the quality and quantity of water resources.*

*d) Other considerations*

- *The contribution that the proposal is likely to make to national and regional energy requirements including where appropriate consideration of alternative sources of supply and alternative technologies.*
- *The contribution the proposal will make to meeting national targets for reducing pollution and emissions,*
- *The duration of the operations, restoration and aftercare works,*
- *The economic contribution of the proposal including the employment opportunities likely to be created.*

## Borough of Neath Local Plan

The Borough of Neath Local Plan was adopted in 1994. In general it has a number of policies which serve to protect sensitive environments from inappropriate development.

With regard to site specific issues the Local Plan identifies the existence of Scheduled Ancient Monuments. Policy E64 Archaeology states that:

> *Developments which would have a detrimental effect on scheduled ancient monuments or their settings will not be permitted.*
>
> *Where appropriate, an archaeological investigation will be required in order to assist the consideration of a planning application.*
>
> *Where development is permitted, the Borough Council will, where appropriate, seek to ensure that the design pays due regard to the archaeological feature, and that it is recorded prior to development taking place.*

The Ffynnon Oer site is within an area of Open Countryside. Within the plan there is a general presumption against development within the open countryside unless, as indicated in policy E55 it is:

- *Essential to the rural economy;*
- *Provide an acceptable use and adaptation of an existing building; or*
- *Are essential for communitcations; or*
- *Are acceptable in terms of a policy for in the development plan.*

The plan does include a policy for development which is necessary within the open countryside which includes mitigation features. Policy E56 indicates that development should be located and designed in a manner which:

- *Minimises the effect on the landscape, ecology and archaeology of the area;*
- *Ensures that new buildings structures and engineering works are of a design, scale and materials appropriate to the locality;*
- *Includes a landscaping scheme using suitable indigenous plants;*
- *Minimises any loss of efficiency of agricultural or forestry units.*

Part of the Ffynnon Oer site has been subject to landslip and past mining activity. Policy E76 - unstable land is considered appropriate:

> *Where development is proposed on land which is likely to be unstable or potentially unstable, the applicant should demonstrate that the land is stable or that any potential instability can be reasonably overcome.*

### Neath Port Talbot Unitary Development Plan - Pre Deposit Consultation 2000.

In response to the Local Government (Wales) Act 1994, local authorities are required to prepare Unitary Development Plans to replace the existing Structure, Local and District Plans. It is anticipated that the Neath Port Talbot UDP will be placed on deposit in Autumn 2002. The emphasis of the plan which will cover the period until 2014 is to move towards more sustainable forms of development by focusing new development within the main settlements of Neath, Port Talbot and Pontardawe. Promote integrated transport, support existing communities, encourage new forms of energy production and defend the countryside against unnecessary and inappropriate development.

Within the consultation draft a proposed policy for renewable energy is included.

> *"the development of renewable sources of energy will be favourably considered provided they would not create unacceptable adverse impact (re policy 1)."*

The consultation draft indicates that the area already contributes significantly to national energy needs through coal extraction. The County Borough Council will place considerable weight on ensuring that any proposals do not create unacceptable impacts upon communities and the landscape or wildlife.

### Brecon Beacons National Park Local Plan

The Brecon Beacons National Park Local Plan was adopted in 1999 and covers the period 1996-2006. At present the National Park Authority is preparing the Unitary Development Plan currently on deposit. The policy context of the BBLP has been included since the designation

arises from the national importance of its natural beauty, one of the statutory basis of the National Park is to

- *Conserve and enhance the natural beauty, wildlife and cultural heritage of the park.* (Environment Act 1995 S.61)

In light of this careful control needs to exercised over development which would be conspicuous from within the Park. The NPA is consulted by neighbouring authorities on applications likely to affect the Park, in responding, the NPA will try to ensure that the integrity of the Park is not compromised, the visual amenity of the residents and visitors are not spoilt.

With regard to energy generation the local plan identifies that there is a pressure to develop wind farms and hydro-electric schemes in areas with similar topography to the Park. Although the concept of renewable energy sources is supported their development is not considered appropriate within the National Park. As such Policy PU3 is of interest:

> *"a proposal for any form of power generation, which is not considered a major development, but whose main purpose is to supply electricity to the national grid, will only be permitted where it can be demonstrated that the proposal, including all ancillary developments, will conform to other policies in the Local Plan and will not cause unacceptable harm to:*
>
> - *The qualities or which the NP was designated, including its visual appearance, wildlife, habitats, archaeology, historic landscapes and qualities of remoteness;*
> - *The enjoyment by the public of the Parks special qualities;*
> - *The amenity of residents.*

### Emerging Brecon Beacons Unitary Development Plan

Within the consultation draft version of the UDP (March 2002) reference is made to the development of renewable energy developments which reflects that of the existing local plan. The emphasis of the consultation UDP is upon support for the concept but recognition that major development within the National Park would not be appropriate.

### Ogwr Borough Local Plan

The Ogwr Local Plan was adopted in 1995 and covers the period 1991-2006. The aims of the Ogwr Local Plan are to accommodate population growth within undue harm to the rural and urban environments, meet the Boroughs Housing Needs, make provision for employment, satisfy vehicular and pedestrian movement, develop the Boroughs role in retailing and leisure, balance the need for development with the need to maintain the quality of the environment and make optimum use of the scare resources of finance and land.

The following policies are of relevance to the proposal:

Policy U5 Renewable Energy

> *Proposals for renewable energy facilities and ancillary structures will be permitted where the development complies with all of the following criteria:*

- *The development does not adversely affect not (sic) visually impinge upon the following areas:*
- *The Glamorgan Heritage Coast;*
- *The Kenfig National Nature Reserve.*
- *The development would not adversely affect, nor visually detract from, the amenity of a conservation area or a listed building;*
- *The development would be sympathetically assimilated into the environment in terms of its siting, scale, design, landscaping, and noise nuisance; and*
- *The development would be safely accessed from the public highway network to permit regular maintenance without detriment to either on-or-off site landscape features or local amenity.*

That part of Bridgend closest to the proposed wind farm is designated as Strategic Coalfield Plateau. Policy EV8 seeks to restrict development that would adversely affect, or visually impinge upon the strategic coalfield plateau the associated valley sides or its setting.

### Emerging Bridgend Unitary Development Plan

The emerging Bridgend UDP which is currently at the Deposit stage will replace the current Ogwr Local Plan. Although not adopted there are a number of policies relevant and of interest to the proposed wind farm.

Policy U2 - Exploiting renewable energy sources in principle

*Development for the exploitation of renewable energy sources and associated facilities which will:*

- *Adversely affect acknowledged environmental interests or visually impinge upon the natural beauty of the Glamorgan Coast, the Kenfig Candidate Special Area of Conservation, or any designated historic landscape, park and garden, and their settings;*
- *Adversely affect any SSSI;*
- *Adversely affect, or visually impinge upon any conservation area, ancient monument or listed building and/or their settings; or*
- *Have an unacceptable 'cumulative' physical, environmental and/or visual impact on 'special landscape areas' and the sub-regional or local landscape or seascape;*

*Will not be permitted.*

Policy U3 which provides detailed considerations to be assessed in exploiting energy sources is also of significance.

*Detailed proposals for the exploitation of renewable energy sources and their associated facilities which do not conflict with policy U2, will be favoured provided that:*

- Their impact on the local environment (including biodiversity) can be reduced and/or mitigated to acceptable levels;
- *They will not visually impinge to an unacceptable degree upon any 'special landscape area', the coastal zone and its setting, or other local landscape of the County Borough;*
- *The availability of identified mineral resources or reserves will not be sterilised;*
- *Appropriate arrangements have been made for the satisfactory preservation and/or recording of features of local archaeological, architectural or historic interest;*
- *They will not detrimentally affect local amenity by reason of noise emission, visual dominance, shadow flicker, reflected light, the emission of smoke, fumes, harmful gases, dust, nor otherwise cause pollution to the local environment;*
- *They will not lead to electromagnetic disturbance to existing transmitting and receiving systems (which includes navigation and emergency services), thereby prejudicing public safety; and*
- *Proper provision has been made (if necessary, by the conclusion of appropriate planning obligations/agreements with the council), for the removal of all infrastructure from, and reinstatement of the site following termination of use.*

### Mid Glamorgan Structure Plan

The replacement Structure Plan for Mid Glamorgan was adopted in 1999 and covers the period 1991-2006. The objectives of the structure plan are to conserve and enhance the environment, facilitate urban renewal, afford protection to major natural resources, encourage use of public transport and reducing the need to travel.

The Structure Plan includes a brief section on renewable energy indicating broadly areas technically suitable for wind power (i.e. wind speeds over 7.5 m/s). There are two policies of specific interest;

Policy U1 - Renewable Energy Policy - Other Renewable Energy Facilities.

> *The development of renewable energy facilities, including those for wind power, will not be permitted where such development would result in unacceptable levels of damage or disturbance to sites and their settings recognised as having national or international nature conservation, archaeological, architectural or historic importance.*

Policy U2

> *Proposals for the development of renewable energy facilities and associated development, including those for wind power, in areas other than those referred to in U1, will be permitted where:*
>
> - *The proposal can be located to reduce damage or disturbance to the environment to acceptable levels, particularly the level of visual intrusion likely to result from the proposal taking into account the cumulative effects arising from other existing and approved schemes in the area;*

- *Conflicts with surrounding land uses can be reduced to acceptable levels, particularly where the amenity of residential areas in the locality is likely to be affected adversely;*
- *Provisions for the reinstatement of the site when it ceases to operate are considered adequate;*
- *The availability of identified mineral resources or reserves is not sterilised.*

### Rhondda Local Plan

The Rhondda Local Plan which includes waste policies was adopted in 1998 and covers the period 1991-2006. The general strategy of the local plan is to maintain a substantial valley community in Rhondda, maintain a net migration balance, develop land use planning policies which reflect the principle of sustainable development and balance the need for future employment needs of the locality and for the needs of industry and commerce. The local plan also has a specific policy for wind energy.

Policy PU10 Wind Energy

*Proposals for wind turbines within Rhondda will be permitted where the development complies with the following criteria:*

- *The development will not result in an unacceptable intrusion upon the intrinsic landscape quality of the area;*
- *Vehicular access for the construction of the turbines can be provided without danger to highway safety and without significant or permanent damage to the environment;*
- *The development will not have an unacceptable detrimental effect on any scheduled ancient monument, National Nature Reserve, SSSI or any other areas of recognised at a national, regional or local level as of nature conservation, scientific, archaeological interest, strategic landscape areas, or local landscape areas;*
- *The development will not unacceptably harm the amenities of neighbouring occupiers by virtue of its visual dominance, noise emission, shadow flicker or reflected light;*
- *Any proposals to minimise impact recommended in an environmental impact assessment have been included in the scheme.*

### Cynon Valley Local Plan

The Draft Version of the Cynon Valley Local Plan with proposed responses to the inspectors report outlines its strategy of securing economic regeneration of the Cynon Valley by providing opportunities for new investment through the allocation of land and the control of new development, having regard to the protection and enhancement of the built and natural environment.

The Cynon Valley local plan has a broad generic policy relating to various forms of renewable energy generation. The Councils policy ENV25 was replaced in light of the Inspectors report to

*Proposals for renewable energy schemes will be permitted where:*

- *The cumulative effect of renewable energy schemes would not harm the landscape; and*
- *The proposal is accompanied by measures to reduce the impact of ancillary development, such as new roads, tracks, fencing buildings and grid connections.*

# Appendix B
# Cultural Heritage Features Identified Within Study Area

5 Pages

Entec

Table B1 Features of cultural heritage within the 500 m study area[16]

| Entec No | GSMR/ NMRW No and Status | Grid Ref. | Name: Description | Distance from Application Area |
|---|---|---|---|---|
| 1* | 00875w/ 95177<br>**SAM GM367** | SN837001 | Melin Court Camp: Roman marching camp, approximately square, with sides varying in length from 203m to 239m, located astride the natural route followed by the trackway known as Cefn Ffordd. Only about three-fifths of the perimeter defence can be traced. Condition unknown. (Survey by RCAHMW,1974) | >500 m |
| 7* | 01086w/ 94699, 34099, 34100 | SN825018 | Melin Court Iron Works: Buildings and blast furnace -pMed | >500 m |
| 8* | 11789 | SN82630170 | Independent Chapel, identified from documentary sources | >500 m |
| 9* | 01713w/ 18813 | SN83100127 | Glyngwilym Uchaf: House -pMed | >500 m |
| 10* | 80588 | SN82870104 | Garth Merthyr Colliery: Disused coalmine, from documentary sources -pMed | >500 m |
| 11* | 00562w<br>**SAM GM385** | SN82320075 | Cairn, near destroyed -BA. See also **12** | >500 m |
| 12* | 00563w<br>**SAM GM385** | SN82390074 | Cairn, damaged -BA See also **11** | >500 m |
| 13* | 00565w | SN82990065 | Platform house, part of poss Deserted rural settlement -Med | >500 m |
| 14* | 02261w/ 301358 | SN825006 | Carn Caca Pillar Stone: Inscribed stone Stone with incised H reported by W Downing in the Henllan area in 1987 -pMed | >500 m |
| 15* | 00806w | SN826006 | Carn Caca: Inscribed stone, condition and date 'not known' | >500 m |
| 16* | 04333w | SN8270800485 | Carn Caca Trig Point: Triangulation point as noted on OS 6 inch 2nd edition 1900 map. Condition unknown -pMed | >500 m |
| 17* | 02037w/ 15255 | SN83640023 | Platform house, part of Deserted rural settlement Condition unknown -Med | >500 m |
| 18* | 00564w/ 301306<br>**SAM Gm 366** | SN83850004 | Camp 280 m S Of Melin Court Brook/ Carn Caca Hillfort: Earthwork enclosure on slope of Carn Caca -IA | >500 m |
| 19* | 01116w | SN837001[17] | Cairn: Condition unknown -BA. See also footnote. | >500 m |

[16] Refer to note in Section 8.2.2.

[17] No cairn was identified in the location of the grid reference given on GSMR records. A feature that might be consistent with a cairn was identified adjacent to the SW side of **1**, at SS 83633 99963. This feature is also covered by the scheduling of SAM Gm 366.

**Table B1 (continued) Features of cultural heritage within the 500 m study area**

| Entec No | GSMR/ NMRW No and Status | Grid Ref. | Name: Description | Distance from Application Area |
|---|---|---|---|---|
| 20 | 80567 | SS84209993 | Cefn-Mawr Colliery: Disused coalmine, identified from documentary sources -pMed | 325 m |
| 21 | 15312 | SS84109990 | N of Ffynnon Oer: House remains, 5.5 m. x 2.5 m, possibly part of a deserted settlement -Med | 350 m |
| 22 | 00690w/ 15311 | SS84059989<br>SS841099 | N of Ffynnon Oer: Platform house; part of a possible deserted rural settlement -Med<br>House remains 4.5 m. x 2.3 m (NMRW). | 350 m |
| 23 | 00691w | SS84129983 | Cairn -BA | 250 m |
| 24 | 80568 | SS84809973 | Blaen-Y-Cwm Colliery: Disused coalmine, identified from documentary sources -pMed | 250 m |
| 25 | 00374w | SS84879942 - SN91930302 | Cefn Ffordd: Former A54 roman road from Neath to Pendaren. This route, used until at least the late C18 as the ridge path between Neath and Merthyr -?Rom and later | 200 m |
| 26 | 04202w | SS8559599456 | Twyn Y Ffarwel Boundary Stone V Boundary stone as noted on OS 6 inch 1st edition 1884 map. Not located during field visit. Possibly destroyed by afforestation. -pMed | 475 m |
| 27 | 04201w | SS8558699366 | Twyn Y Ffarwel Boundary Stone Iv Boundary stone as noted on OS 6 inch 1st edition 1884 map. Not located during field visit. Possibly destroyed by afforestation. -pMed | 400 m |
| 28 | 04200w | SS8557599289 | Twyn Y Ffarwel Boundary Stone Iii Boundary stone as noted on OS 6 inch 1st edition 1884 map. Not located during field visit. Possibly destroyed by afforestation. -pMed | 375 m |
| 29 | 04199w | SS8556999226 | Twyn Y Ffarwel Boundary Stone Ii Boundary stone as noted on OS 6 inch 1st edition 1884 map. Not located during field visit. Possibly destroyed by afforestation. -pMed | 350 m |
| 30 | 04198w | SS8556499177 | Twyn Y Ffarwel Boundary Stone I Boundary stone as noted on OS 6 inch 1st edition 1884 map. Not located during field visit. Possibly destroyed by afforestation. -pMed | 350 m |
| 31 | 04043w | SS8334598748 | Waun Structure: Structure as noted on OS 6 inch 1st edition 1884 map. Not located in the field | 475 m |
| 32 | 04455w | SS8347998761 | Taren Cefn Mawr Level II: Identified on OS 2nd Ed map -pMed | 375 m |
| 33 | 04456w | SS8358498715 | Taren Cefn Mawr Level III: Identified on OS 2nd Ed map -pMed | 250 m |
| 34 | 04454w | SS8362598674 | Taren Cefn Mawr Level I: Identified on OS 2nd Ed map -pMed | 175 m |
| 35 | 04042w | SS8377298609 | Waun Level: Level as noted on OS 6 inch 1st edition 1884 map. Destroyed -pMed | 25 m |
| 36 | 04041w | SS8378098532 | Waun Tramway: Tramway as noted on OS 6 inch 1st Edition 1884 map. Destroyed -pMed | <25 m |

**Table B1 (continued) Features of cultural heritage within the 500 m study area**

| Entec No | GSMR/ NMRW No and Status | Grid Ref. | Name: Description | Distance from Application Area |
|---|---|---|---|---|
| 37 | 04451w | SS8550798843 | Blaen Cregan Level VI: Located within plantation area -pMed | 400 m |
| 38 | 04450w | SS8539598801 | Blaen Cregan Quarry I: Identified on OS 2nd Ed map, located above FE road on steep hill -pMed | 300 m |
| 39 | 04452w | SS8547798772 | Blaen Creggan Air Shaft: Identified on OS 2nd Ed map, adjacent to FE road. Has been filled in and fenced off -pMed | 375 m |
| 40 | 04207w | SS8550398758 | Blaen Cregan Colliery, Level ii: Level is adjacent to FE road and has been filled in. Brick wall survives up to 5m high marking the entrance on three sides. -pMed | 400 m |
| 41 | 04453w | SS8508598590 | Blaen Cregan Quarry II: Identified on OS 2nd Ed map, located above FE road on steep hill -pMed | 75 m |
| 42 | 04448w | SS8521098594 | Blaen Cregan Tramway: Identified on OS 2nd Ed map. Tramway now dismantled and forms part of FE road -pMed | 225 m |
| 43 | 04206w | SS8548798616 | Blaen Cregan Plaque Plaque erected in memory of a miner who was killed by a roof collapse in 1990. Plaque is adjacent to FE road. -pMed | 450 m |
| 44 | 04205w | SS8547698574 | Blaen Cregan Colliery, Level I "Coal level as noted on OS 6 inch 1st edition 1884 map. Has now been levelled by FE, during construction of road. Spoil heap still visible." -pMed | 450 m |
| 45 | 04449w | SS8504298527 | Blaen Cregan Level V: Identified on OS 2nd Ed map, on slope above old tramway -pMed | 100 m |
| 46 | 04208w | SS8498698432 | Blaen Cregan Colliery, Level Iii Level as noted during site visit. Located above old tramway on slope. -pMed | 50 m |
| 47 | 04209w | SS8493898307 | Blaen Cregan Colliery, Level Iv Level as noted during site visit. Located on slope above old tramway line. -pMed | 50 m |
| 48 | 04210w | SS8486198228 | Blaen Cregan Quarry Iii Quarry cutting as noted during site visit. Cutting is approx 20m wide and overgrown. -pMed | <25 m |
| 49 | 04515w | SS8473598162 | Bol-Las Coal Level Level as noted on OS 6 inch 2nd edition 1900 map. Located on edge of FE property. -pMed | <25 m |
| 50 | 04507w | SS8485197912 | Fforch-Las-Fach Farmstead Farmstead as noted on OS 6 inch 2nd edition 1900 map. Condition unknown -pMed | 275 m |
| 51 | 04040w | SS8357097795 | Parson's Folly Tramroad: Tramway runs through the forest E-W. 2-3m wide and up to 1 m high in places. Continues out on both sides of the FE, the whole length of the tramway was never finished -pMed | On application area boundary |
| 52 | 252 | SS84349778 | Ton Mawr: House -pMed | 150 m |
| 53 | 04508w | SS8453497763 | Ty'n-Y-Cwm Farmstead Farmstead as located on OS 6 inch 2nd edition 1900 map. Condition unknown -pMed | 225 m |

**Table B1 (continued) Features of cultural heritage within the 500 m study area**

| Entec No | GSMR/ NMRW No and Status | Grid Ref. | Name: Description | Distance from Application Area |
|---|---|---|---|---|
| 54 | 04512w | SS8444197716 | Ty'n-Y-Cwm Trial Level Ii Trial level as noted on OS 6 inch 2nd edition 1900 map. Condition unknown -pMed | 225 m |
| 55 | 04510w | SS8452597725 | Ty'n-Y-Cwm Coal Level Ii Level as noted on OS 6 inch 2nd edition 1900 map. Condition unknown -pMed | 275 m |
| 56 | 04511w | SS8448597711 | Ty'n-Y-Cwm Trial Level I Trial level as noted on OS 6 inch 2nd edition 1900 map. Condition unknown -pMed | 275 m |
| 57 | 04509w | SS8445097691 | Ty'n-Y-Cwm Coal Level I Level as noted on OS 6 inch 2nd edition 1900 map. Condition unknown -pMed | 275 m |
| 58 | 04549w | SS8447997597 | Ty'n-Y-Cwm Building Building as noted on OS 6 inch 2nd edition 1900 map. Condition unknown - pMed | 375 m |

AP: Aerial Photograph(s); BA; Bronze Age; C: Century; Ed: Edition; Rom: Roman; RB: Romano-British; Med: Medieval; OS: Ordnance Survey (map source); pMed: post Medieval;

Compass points given as N, S, E, W, etc.

* Features outside the current study area (refer to explanatory note, Section 8.2.2.)

**Table B2 Features of Cultural Heritage Interest Identified During this Assessment**

| Entec Ref. | Source/ Ref. | Grid Ref. | Name: Description | Approx Distance from Development |
|---|---|---|---|---|
| A | 1992 AP | SN 84119935 | Square feature, identified from AP; possible building. | 150 m |
| B | Site walkover | SN 8412499320 | Track of former tram way seen protruding through ground. | 100 m |
| C | AP (several) | SN 84609933 | Circular cropmark, indicative of negative feature, possibly related to mining activity. | 75 m |
| D | Site walkover | SN 8501199329 | Pile of large rounded stones on a break in slope and coinciding with a N -S aligned land drain. | 50 m |
| E | Site walkover | SN 8507399276 | Large hollow (*c.* 8 m across); possible quarry for drystone walling. | 50 m |
| F | Site walkover | SN 8485499203 | Depression, probably related to coal working | 100 m |
| G | Site walkover | SN 8467499180 | Depression, probably related to coal working | 100 m |

**Table B2 (continued) Features of Cultural Heritage Interest Identified During this Assessment**

| Entec Ref. | Source/ Ref. | Grid Ref. | Name: Description | Approx Distance from Development |
|---|---|---|---|---|
| H | Site walkover | SN 8460999142 | Depression, probably related to coal working | 75 m |
| I | Site walkover | SN 8490299058 | Triangulation Post, not shown on current OS editions -presumed pMed | 125 m |
| J | OS 2nd and later Eds | SN 84189900 | Cefn Fford: Nominal point along track, currently in use and shown on OS 2nd Ed and later maps as 'Cefn Fford' -see also **25**. | Crossed by access track |
| K | Site walkover | SN 8475898923 | Shallow hollow noted during walkover. | 75 m |
| L | Site walkover | SN 8440798801 | Depression consistent with collapsed coal measures. | 150 m |
| M | 1982 and 1992 AP | SN 84259867 | Circular cropmark, indicative of negative feature, possibly relating to mining activity. | 50 m |
| N | AP | SN 8464198637 | Low mound and associated hollow, also in vicinity of a circular cropmark noted from AP. This may be a natural feature. | 125 m |
| O | OS 2nd Ed | SN 84059858 | Quarry noted on the OS 2nd Ed, which seems otherwise to be shown as former coal working. | 100 m |
| P | Site walkover | SN 8477898549 | Hollow on south side of Cefn Mawr; may be a quarry for drystone walling. | <25 m |
| Q | Site walkover | SN 8409398370 | Earthwork cut into bottom of slope to SW of Cefn Mawr; possible mine shaft entrance. | 50 m |
| R | Site walkover/ OS eds | SN 84009804 | Nominal point along ?drainage ditch to southwest of Cefn Mawr, which is revetted on its E side by (in places) substantial drystone walling. | Crossed by access track |
| S | Site walkover | SN 84059810 | Rectangular enclosure, with clear SE entrance, measuring *c.* 16 m (N -S) by *c.* 11 m(E-W), marked by a low mound of pebble-like stones, up to 1 m wide and 0.15 m high. Date uncertain. | Possibly crossed by access track |
| T | Site walkover | SN 8390798097 | Remains of possible badly damaged cairn, marked by a tangible ring of stones -elliptical in shape. | 125 m |
| U | Site walkover | SN 8418598068 -8422997985 | Channel-like earthwork, which appears to be related to the upcast earthwork of the dismantled tram way. Also a general reference to the tramway, which runs through the SW part of the application area, linking the former Ty'n-Y-Cwm trial levels to those on Cefn Mawr, does not appear to be represented on the GSMR. | Crossed by access track |
| V | Site walkover | SS 8320000470 | **Outside the application area**: Prominent accumulation of stones on the E -facing slope of Carn Caca. Noted here as it is not recorded on other sources consulted. | See footnote[18] |

AP: Aerial Photograph(s); BA; Bronze Age; C: Century; Ed: Edition; Rom: Roman; RB: Romano-British; Med: Medieval; OS: Ordnance Survey (map source); pMed: post Medieval

[18] This feature lies *c.* 250 m from the track included as part of original proposals. This feature lies over 1.6 km from the current application area.

# Appendix D
# Noise Calculations

2 Pages

Entec

SPREADSHEET FOR NOISE PREDICTIONS JS

CLIENT: National Wind Power JOB No: 07568 DATE: 11/09/02

| Receiver location | | Plant type | Lwa dB(A) | On-time correction | Distance (m) | Distance correction | Lpa sound level | Soft ground correction | Barrier correction | Activity LAeq dB |
|---|---|---|---|---|---|---|---|---|---|---|
| Troed y Rhiew | Track Laying | 1no. Excavator | 110 | 0 | 675 | 64.6 | 45.4 | 8.5 | 0 | 36.9 |
| | between turbine | 1no. Roller | 105 | 0 | 675 | 64.6 | 40.4 | 8.5 | 0 | 31.9 |
| | 10 and 16 | 1no. Dumper | 110 | 0 | 675 | 64.6 | 45.4 | 8.5 | 0 | 36.9 |
| | Foundation at | 2no. Excavator | 110 | 0 | 675 | 64.6 | 45.4 | 8.5 | 0 | 36.9 |
| | Turbine 16 | 1no. Cement Truck | 112 | 0 | 675 | 64.6 | 47.4 | 8.5 | 0 | 38.9 |
| | Foundation at | 2no. Excavator | 110 | 0 | 1200 | 69.6 | 40.4 | 8.5 | 0 | 31.9 |
| | Turbine 11 | 1no. Cement Truck | 112 | 0 | 1200 | 69.6 | 42.4 | 8.5 | 0 | 33.9 |
| | Track Laying | 1no. Excavator | 110 | 0 | 1275 | 70.1 | 39.9 | 8.5 | 0 | 31.4 |
| | between turbine | 1no. Roller | 105 | 0 | 1275 | 70.1 | 34.9 | 8.5 | 0 | 26.4 |
| | 11 and 6 | 1no. Dumper | 110 | 0 | 1275 | 70.1 | 39.9 | 8.5 | 0 | 31.4 |
| Prossers Terrace | Track Laying | 1no. Excavator | 110 | 0 | 1800 | 73.1 | 36.9 | 8.5 | 0 | 28.4 |
| | between turbine | 1no. Roller | 105 | 0 | 1800 | 73.1 | 31.9 | 8.5 | 0 | 23.4 |
| | 10 and 16 | 1no. Dumper | 110 | 0 | 1800 | 73.1 | 36.9 | 8.5 | 0 | 28.4 |
| | Foundation at | 2no. Excavator | 110 | 0 | 1690 | 72.6 | 37.4 | 8.5 | 0 | 28.9 |
| | Turbine 16 | 1no. Cement Truck | 112 | 0 | 1690 | 72.6 | 39.4 | 8.5 | 0 | 30.9 |
| | Foundation at | 2no. Excavator | 110 | 0 | 2190 | 74.8 | 35.2 | 8.5 | 0 | 26.7 |
| | Turbine 11 | 1no. Cement Truck | 112 | 0 | 2190 | 74.8 | 37.2 | 8.5 | 0 | 28.7 |
| | Track Laying | 1no. Excavator | 110 | 0 | 2180 | 74.8 | 35.2 | 8.5 | 0 | 26.7 |
| | between turbine | 1no. Roller | 105 | 0 | 2180 | 74.8 | 30.2 | 8.5 | 0 | 21.7 |
| | 11 and 6 | 1no. Dumper | 110 | 0 | 2180 | 74.8 | 35.2 | 8.5 | 0 | 26.7 |

Ffynnon Oer Windfarm
Construction Noise Calculations

SPREADSHEET FOR NOISE PREDICTIONS

CLIENT: National Wind Power JOB No: 07568
CALCULATION OF RESULTANT LAeq dB DATE: 11/09/02

| Receiver location | Activity LAeq | LAeq/10 | 10^LAeq/10 | Sum | Resultant LAeq dB |
|---|---|---|---|---|---|
| Troed y Rhiew | 37 | 3.7 | 4913.5 | 31290.2 | **45.0** |
| | 32 | 3.2 | 1553.8 | | |
| | 37 | 3.7 | 4913.5 | | |
| | 37 | 3.7 | 4913.5 | | |
| | 39 | 3.9 | 7787.4 | | |
| | 32 | 3.2 | 1554.7 | | |
| | 34 | 3.4 | 2464.0 | | |
| | 31 | 3.1 | 1377.1 | | |
| | 26 | 2.6 | 435.5 | | |
| | 31 | 3.1 | 1377.1 | | |
| Prossers Terrace | 28 | 2.8 | 691.0 | 5924.3 | **37.7** |
| | 23 | 2.3 | 218.5 | | |
| | 28 | 2.8 | 691.0 | | |
| | 29 | 2.9 | 783.8 | | |
| | 31 | 3.1 | 1242.3 | | |
| | 27 | 2.7 | 466.8 | | |
| | 29 | 2.9 | 739.8 | | |
| | 27 | 2.7 | 471.1 | | |
| | 22 | 2.2 | 149.0 | | |
| | 27 | 2.7 | 471.1 | | |

# Appendix C
# Analysis of Landscape and Visual Impacts

30 Pages

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**Table C1 Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Public Right of Ways** | | |
| Coed Morgannwg Way<br><br>Section Four passes close to the northeast corner of the proposed site snaking its way up Blaen Cregan from the east towards the edge of Cefn Mawr at Cefen Ffordd on the northern side of the mountain, before veering northeast towards Carn Caglau. | • Views of construction vehicles on forest tracks including large vehicles<br>• Views of activity and materials in the context of an operational construction site | Predicted to sustain large scale visual impacts due to proximity of construction works. For the most part access route will follow the route of the Coed Morgannwg Way leading to potential further large scale visual impacts.<br>Existing coniferous plantation likely reduce locations where views are available of construction activities |
| St Illtyd's Walk<br><br>Running along the northern boundary of the site before descending northwestwards to Resolven | • Views of construction vehicles on forest tracks<br>• Views of activity and materials in the context of an active construction site<br>• New temporary accommodation, prefabricated hut and parking. Would be seen in the context of the operational construction site. | Construction activities will be visually obtrusive causing large scale visual changes to the composition of existing views over Blaen Creggan, especially where they break the horizon.<br>New temporary elements will intrude and foreshorten existing views. |
| Sarn Helen<br><br>The nearest section of this Roman road runs from Tonna in the Vale of Neath approximately 5 km west of the proposed site. Distant section lies within Brecon Beacons approximately 18 km northeast of site. | • Views of crane activity<br>• Views of activity and materials in context of an active construction site | From section nearest to the site predicted mid-range views of crane activity breaking the skyline and foreshortening views. Visibility would be affected by weather conditions.<br>Views from distant sections within Brecon Beacons are likely to be too distant to have any significant consequence of views and would be affected by weather conditions. |

**Table C1 (continued) Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| Ogwr Ridge Way Walk approx. 12 km south of site | • Views of crane activity | Distant too great to have any dramatic impact of views. Weather conditions permitting it could be possible to see the tops of cranes breaking through the skyline providing looking in the correct direction. |
| Celtic Trail / High Level Route 47<br><br>Follows the same route of St Illtyd's Walk along the northern boundary of the site | • Views of construction vehicles on forest tracks including large vehicles<br>• Views of activity and materials in the context of an operational construction site<br>• New temporary accommodation, prefabricated hut and parking. Would be seen in the context of the active construction site | Construction activities will be visually obtrusive causing large scale visual changes to the composition of existing views over Blaen Creggan.<br><br>New temporary elements will intrude and foreshorten existing views. |
| Bridleway and Byway on Foel Trawsnant<br><br>Approx. 4 km south of site | • Movement and activity associated with construction site<br>• Views of crane activity | Mid-range views of crane activity, however intervening coniferous plantation on the south facing aspect of Afan Valley likely to restrict views of ground level activities. |
| Footpath on Werfa<br><br>Approx. 7 km southwest of site | • Views of crane activity | Distant views of crane activity on the skyline would be dependant on clear weather conditions |
| PROW leading up to the Black Mountain in the Brecon Beacons<br><br>Approx. 17 km north-northeast of site | • Views of crane activity | Users of the public rights of way are likely to experience little visual impact of cranes breaking the skyline. Visibility of cranes would depend on clear atmospheric conditions and looking in the correct direction. |

**Table C1 (continued)** **Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Residential Communities** | | |
| Abercregan:<br>Approx. 1.5 km south of site | • Views of construction vehicles in the context of an active construction site.<br>• Views of activity and materials in context of an operational construction site<br>• Views of crane activities<br>• New temporary accommodation, prefabricated hut and parking seen in context of construction site | Orientation of the properties themselves would restrict visibility of construction activities. However from outside the properties views up the valley would be framed by the topography and coniferous plantation cover, limiting the visual impact of ground level construction activities. Visibility of cranes breaking the skyline likely to have the most impact. |
| Cymmer<br>Approx. 3 km south of site | • Views of crane activities | Mid-range views foreshortened by tall plant equipment such as cranes breaking the skyline above the village<br>Visual impacts of ground level construction activities predicted to be restricted by intervening landform and forest cover |
| Croeserw<br>Approx. 4.5 km southeast of site | • Views of construction vehicles in the context of an active construction site.<br>• Views of activity and materials in context of an operational construction site<br>• Views of crane activities | Mid-range views foreshortened by tall plant equipment such as cranes breaking the skyline above the village<br>Visual impacts of ground level construction activities predicted to be restricted by intervening landform and forest cover. |

**Table C1 (continued) Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| Proposed Afan Valley Holiday Park<br>Approx. 3.5 km south of site | • Views of construction vehicles in the context of an active construction site.<br>• Views of activity and materials in context of an operational construction site<br>• Views of crane activities | Presuming the Holiday Park has already been constructed at the time before the construction of the proposed wind farm middle distance views up the valley are likely to be restricted by the topography and surrounding coniferous plantations. |
| Properties on western side of Maesteg<br>Approx. 7.5 km south of site | • Views of crane activities | Availability of middle to long distance views of crane activity predicted to be limited by topography and built environment. Weather conditions would also affect likelihood of visibility. |
| Llangynwd<br>Approx. 10 km south of site | • Views of crane activity | Visual impacts of the construction period considered to be minimal due distance and intervening topography. |
| Properties on eastern edge of Cilfrew<br>Approx. 7 km west of site | • Views of construction vehicles in the context of an active construction site.<br>• Views of activity and materials in context of an operational construction site<br>• Views of crane activities | Intervening topography and blanket coniferous plantations of mountain tops would obscure ground level construction activities, however it is likely that cranes would be visible on the skyline in mid to long distance views. |
| Properties on northern edge of Neath<br>Approx. 11.5 km west of site | • Views of crane activities | Long distance views would be restricted by built environment. No readily available views |

**Table C1 (continued)** **Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| Properties within the northern quarter of Swansea<br><br>Approx. 18 km west of site | • Views of crane activities | As above |
| Cwmllynfell<br><br>Approx. 17 km northwest of site | • Views of crane activities | Long distant views predicted to have little visual impact. Visibility of cranes on the horizon would depend on clear atmospheric conditions and looking in the correct direction. |
| **Isolated Residential Receptors** | | |
| Bryn-caws Farm<br><br>Approx. 8 km west of site | • Views of construction vehicles in the context of an active construction site.<br>• Views of activity and materials in context of an operational construction site<br>• Views of crane activities | Mid to long distance views of ground level construction activities are likely however the scale of visual impact of these activities will be affected by the distance and the clarity of weather conditions.<br>The activities of cranes would be visually prominent on the skyline, although also affected by weather conditions |
| Hawdref-fawr<br><br>Approx. 8 km southwest of site | • Views of crane activities | Mid to long distant views predicted to have little visual impact due to the intervening landform and forest cover. Visibility of cranes on the skyline would depend on clear atmospheric conditions and looking in the correct direction. |

**Table C1 (continued) Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Public and Private Recreational Space** | | |
| Afan Argoed Country Park<br>Approx. 5 km southwest of site | • Views of crane activity on the skyline | Topography of steep sided valley covered by blanket forestry precludes possible views. |
| Neath Abbey<br>Approx. 11 km west of site | • Views of crane activity on the skyline | Views of cranes obscured by surrounding vegetation and landform. |
| **Public Rights of Way Associated with Highways** | | |
| A4107<br>Running east - west the nearest section lies approx. 3 km on the south side of the site | • Views of crane activity<br>• Views of activity and materials in context of an operational construction site | From the nearest section of road the visual impact of ground level construction activities on road users is likely to be small due to the narrow visibility gap framed by the valley topography and vegetation.<br>The height of cranes would be visually prominent on the skyline from further afield, however visibility would be affected by the atmospheric conditions. |
| A4063<br>Running south through Llynfi Valley towards Bridgend, approximately 3 km south of the site at the nearest section | • Views of constructions vehicles on public roads | Availability of close to long distance views restricted by topography and built form. |

**Table C1 (continued)** **Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| A465(T)<br><br>Running along the valley floor of the Vale of Neath in a northeast direction approx. 4 km from the site at the nearest section | • Views of crane activity | Potential for road users to gain rare glimpsed views of crane activity severely limited due to speed and direction of travel. Focus of road users visibility is directed along the valley floor. |
| A4067<br><br>Running along the valley floor of Swansea Valley in a northeast direction approx. 12 km from the site at the nearest section | • Views of crane activity | Visibility of cranes would be obscured by landform and vegetation |
| A4061<br><br>Running from Hirwaun south along Ogmor Vale to Bridgend, approx. 8.5 km west of the site at the nearest section | • Views of construction vehicles on public roads. | Around the area of Tower Colliery road users would sustain a considerable visual impacts from increase numbers of construction vehicles driving to and away from the site access route. This would include heavy goods vehicles. |
| M4<br><br>Running northwest following the coastline towards Swansea, situated approx. 12km west of the site at the nearest section | • Views of crane activity | Long distant views would have little visual impact on road users. The speed, direction of travel and the built environment reduce the opportunity for glimpsed views. |

**Table C1 (continued) Predicted Construction Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Business and Industries** | | |
| Cymmer Highways Depot<br>Approx. 2 km south of the site | • Views of construction vehicles in the context of an operational construction site.<br>• Views of activity and materials in context of an operational construction site<br>• Views of crane activities<br>• New temporary accommodation, prefabricated hut and parking seen in context of construction site | Visibility of construction activities would be framed by the topography and coniferous plantation cover limiting the visual impact of ground level construction activities. Visibility of cranes breaking the skyline likely to have the most impact on views. |
| Oil refinery, Neath<br>Approx. 13 km west of the site | • Views of crane activities | Availability of long distant views restricted by built form and clarity of weather conditions. |
| Hwdref Ganol Farm<br>Approx. 7.5 km southwest of the site | • Views of crane activities | Mid to long distant views predicted to have little visual impact due to the intervening landform and forest cover. Visibility of cranes on the skyline would depend on clear atmospheric conditions and looking in the correct direction. |

Table C2 Predicted Operation Visual Changes and Consequences

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Public Rights of Way** | | |
| Coed Morgannwg Way<br><br>Section Four passes close to the northeast corner of the proposed site snaking its way up Blaen Cregan from the east towards the edge of Cefn Mawr at Cefen Ffordd on the northern side of the mountain, before veering northeast towards Carn Caglau. | • Views of turbines<br>• Occasional views of maintenance vehicles along access route within forest | Turbines and moving blades will have a considerable visual impact on views which are not screened by existing forestry plantation. Should deforestation take place along the western boundary this would dramatically increase the area where turbines could be seen.<br>The introduction of moving turbine blades will change the visual composition of the mountain plateau.<br>Increased movement and activity within the site and along access tracks within the forest.<br>See wire frame **Figure 9.6 a** |
| St Illtyd's Walk<br><br>Running along the northern boundary of the site | • Views of turbines<br>• Views of anemometry mast<br>• Views of maintenance vehicles and new internal access road | Close distance views of all the turbines and moving blade will be the dominant focus changing the composition of existing views over Blaen Creggan.<br>See photoviewpoint **Figure 9.7 a** |
| Sarn Helen<br><br>The nearest section of this Roman road runs from Tonna in the Vale of Neath approximately 5 km west of the proposed site. Distant section lies within Brecon Beacons approximately 18 km northeast of site. | • Views of turbines | From section nearest to the site mid-range views are predicted to sustain views of a high number of turbine towers and blades breaking the skyline. Base of towers is likely to be screened by intervening forest plantation.<br>See wire frame **Figure 9.6 b**<br>Views from distant sections within the Brecon Beacons are likely to be see the wind farm as a minor element of a wider landscape composition. Visibility will also be greatly affected by the clarity of weather conditions<br>See photomontage **Figure 9.9 a - c** |

**Table C2 (continued)** **Predicted Operation Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| Ogwr Ridge Way Walk<br><br>Approx. 12 km south of site | • Views of turbines | Long Distance views of a high number of turbines likely to be seen as part of the wider landscape composition. Visibility will also be affected by the clarity of weather conditions.<br><br>See photoviewpoint **Figure 9.7 b** |
| Celtic Trail / High Level Route 47<br><br>Follows the same route of St Illtyd's Walk along the northern boundary of the site | • Views of turbines<br>• Views of anemometry mast<br>• Views of maintenance vehicles and new internal access road | Close distance views of all the turbines and moving blade will be the dominant focus changing the composition of existing views and having a high visual impact.<br><br>See photoviewpoint **Figure 9.7 a** |
| Bridleway and Byway on Foel Trawsnant<br><br>Approx. 4 km south of site | • Views of turbines<br>• Views of anemometry mast | Predicted large visual impact on users of the PROW. Prolonged views and high number of turbines and moving blades likely to be seen up the valley, although coniferous plantations will screen lower sections of turbine towers on southern end of the site.<br><br>See wire frame **Figure 9.6 c** |
| Footpath on Werfa<br><br>Approx. 7 km southwest of site | • Views of turbines | Long exposure of distant views predicted to be interrupted by presence of turbines on the skyline. Moving blades likely to be visible however, visibility of the turbines will depend on clear weather conditions.<br><br>See wire frame **Figure 9.6 d** |
| PROW leading up to the Black Mountain in the Brecon Beacons<br><br>Approx. 17 km north-northeast of site | • Views of turbines | Users of the public rights of way are likely to experience little visual impact of turbines breaking the skyline. Visibility of turbines would depend on clear atmospheric conditions and looking in the correct direction.<br><br>See photomontage **Figure 9.10 a-c** |

**Table C2 (continued) Predicted Operation Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Residential Communities** | | |
| Abercregan:<br>Approx. 1.5 km south of site | • Views of turbines | Views of turbines from inside properties of Abercregan would be restricted due to the orientation of the buildings. Outside the buildings residents looking up the valley are likely to have their views partly foreshortened by a small number of turbines framed by valley topography and forests.<br>Movement of turbine blades would be clearly visible.<br>See wire frame **Figure 9.6 e** |
| Cymmer<br>Approx. 3 km south of site | • Views of turbines | Availability of views restricted by mountainous topography.<br>See photoviewpoint **Figure 9.7 c** |
| Croeserw<br>Approx. 4.5 km southeast of site | • Views of turbines | A large number of turbines would be visible on the skyline. The height of the intervening topography and forest would reduce the visibility of the lower part of the towers however, the visible turbines would be a prominent feature of the landscape causing large scale visual impact to the residents.<br>Movement of turbine blades would be clearly visible<br>See photomontage **Figure 9.11 a-c** |
| Proposed Afan Valley Holiday Park<br>Approx. 3.5 km south of site | • Views of turbines | A number of turbines are likely to be visible, however views would be restricted by forest immediately surrounding the holiday park.<br>Where visible the turbines and their moving blades would be a prominent feature of the landscape causing large scale visual impact.<br>See photomontage **Figure 9.12 a-c** |

| | | |
|---|---|---|
| Properties on western side of Maesteg<br><br>Approx. 7.5 km south of site | • Views of turbines | Availability of middle to long distance views of turbines predicted to be limited by topography and built environment. Weather conditions would also affect visibility.<br><br>See photoviewpoint **Figure 9.7 d** |

**Table C2 (continued)** **Predicted Operation Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| Llangynwd<br>Approx. 10 km south of site | • Views of turbines | Orientation of the properties likely to restrict the visibility of turbines.<br>See photoviewpoint **Figure 9.7 e** |
| Properties on eastern edge of Cilfrew<br>Approx. 7 km west of site | • Views of turbines | Mid to long distant views of a large number of turbines predicted to be visible on the skyline and seen as a prominent element within the composition of the landscape. Visibility of the turbines would be affected by atmospheric conditions.<br>See photomontage **Figure 9.13 a-c** |
| Properties on northern edge of Neath<br>Approx. 11.5 km west of site | • Views of turbines | Availability of views containing turbines likely to be obscured by intervening vegetation and topography.<br>See wire frame **Figure 9.6 f** |
| Properties within the northern quarter of Swansea<br>Approx. 18 km west of site | • Views of turbines | Availability of long distance views restricted by built form and clarity of weather conditions. Any possibly views are of turbines are likely to be observed as a minor element of the overall landscape composition.<br>See wire frame **Figure 9.6 g** |
| Cwmllynfell<br>Approx. 17 km northwest of site | • Views of turbines | Long distance combined with intervening topography likely to prevents views of the wind farm<br>See wire frame **Figure 9.6 h** |

**Table C2 (continued) Predicted Operation Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Isolated Residential Receptors** | | |
| Bryn-Caws Farm<br>Approx. 8 km west of site | • Views of turbines | Mid to long distance views of turbines would be visually prominent upon the skyline, however the distance and the clarity of weather conditions will affect the scale of visual impact.<br>See photoviewpoint **Figure 9.7 f** |
| Hawdref Ganol Farm<br>Approx. 7.5 km southwest of the site | • Views of turbines | Mid to long distance views predicted to have little visual impact due to the intervening landform and forest cover. Visibility of turbines on the skyline would depend on clear atmospheric conditions and looking in the correct direction.<br>See wire frame **Figure 9.6 m** |
| Hawdref-fawr<br>Approx. 8 km southwest of site | • Views of turbines | Mid to long distance views of turbines predicted to largely obscured by intervening landform and vegetation. Visibility would also be affected atmospheric conditions.<br>See photomontage **Figure 9.14 a-c** |
| **Public and Private Recreational Space** | | |
| Afan Argoed Country Park<br>Approx. 5 km southwest of site | • Views of turbines | Topography of steep sided valley covered by blanket forestry precludes possible views of turbines. |
| Neath Abbey<br>Approx. 11 km west of site | • Views of turbines | Availability of views containing turbines likely to be limited by intervening built form and topography. |

**Table C2 (continued)** **Predicted Operation Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| **Public Rights of Way associated with Highways** | | |
| A4107<br><br>Running east - west the nearest section lies approx. 3 km on the south side of the site | • Views of turbines | Landform and topography would obscure any possible views of the wind farm<br>See photomontage **Figure 9.15 a-c** |
| A4063<br><br>Running south through Llynfi Valley towards Bridgend, approximately 3 km south of the site at the nearest section | • Views of turbines | Availability of close to long distance views restricted by screening provided by intervening topography and built form.<br>See wire frame **Figure 9.6 i** |
| A465(T)<br><br>Running along the valley floor of the Vale of Neath in a northeast direction approx. 4 km from the site at the nearest section | • Views of turbines | Potential for road users to gain rare glimpsed views of turbines severely limited due to speed and direction of travel. Focus of road users view is directed along the valley floor.<br>See wire frame **Figure 9.6 j** |
| A4067<br><br>Running along the valley floor of Swansea Valley in a northeast direction approx. 12 km from the site at the nearest section | • Views of turbines | Visibility of turbines screened by landform and vegetation |

**Table C2 (continued) Predicted Operation Visual Changes and Consequences**

| Receptor Type and Location | Visual Changes | Overview of Predicted Visual Consequences |
|---|---|---|
| A4061<br><br>Running along Ogmor Vale south from Rhondda to Bridgend, approx. 10 km southeast from the site at the nearest section | • Views of turbines<br>• Views of maintenance vehicles on public roads | Availability of turbines would be severely restricted by intervening topography and coniferous forest plantations.<br><br>Maintenance vehicles would have little visual impact on road users. |
| M4<br><br>Running northwest following the coastline towards Swansea, situated approx. 12km west of the site at the nearest section | • Views of turbines | Long distant views would have little visual impact on road users. The speed, direction of travel and the built environment reduce the opportunity for glimpsed views.<br><br>See wire frame **Figure 9.6 k** |
| **Business and Industries** | | |
| Cymmer Highways Depot<br><br>Approx. 2 km south of the site | • Views of turbines | Visibility of turbines would be framed by the topography and coniferous plantation cover The remaining views of turbines breaking the skyline is likely to foreshorten views and have the greatest visual impact.<br><br>See photoviewpoint **Figure 9.7 g** |
| Oil refinery, Neath<br><br>Approx. 13 km west of the site | • Views of turbines | Availability of long distance views restricted by built form and clarity of weather conditions. Any possibly views are of turbines are likely to be observed as a minor element of the overall landscape composition.<br><br>See wire frame **Figure 9.6.l** |

**Table C3 Landscape Effects and Evaluation of Significance: Construction**

| Identified Activity | Landscape Resource Impacted | Sensitivity of Resource | Type of Effect | Magnitude of Impacts | Significance | Significance Rationale |
|---|---|---|---|---|---|---|
| Movement of plant and vehicles | Landscape elements | Low | Neutral | Low | Not Significant | No direct loss of landscape resources as existing access tracks used to reach site. |
| | Landscape characteristics | High | Adverse | Medium | Minor | Tranquillity and calm are key landscape characteristics of the site which will be underlined by predicted movement. However the brevity of the construction period reduces the magnitude as does the comparative lack of open close distance views. |
| | Landscape character | Medium | Adverse | Low | Minor | The site is not distinctive within the context of the Upland Forest Plateau Moorland landscape character type and the dominant characteristics such as exposure and relative isolation will not be modified by vehicle movement. |
| Use of cranes | Landscape element | Low | Adverse | Medium | Minor | Use of crane only likely to have small scale direct impact upon the site's landscape resources |
| | Landscape characteristics | High | Adverse | High | Major | Introduces a new moving large -scale element into the landscape that is out of proportion with other elements. However tall structures such as radio masts are not uncommon within surrounding landscape |
| | Landscape character | Medium | Adverse | Medium | Minor | The presence and movement of cranes will have negative impacts upon the open characteristics of the Upland Forest Plateau Moorland that is more redolent of urban areas |
| Construction of internal site access roads | Landscape element | Low | Adverse | Medium | Minor | Forest tracks and disused tramline are common features of the site and immediate environs, however their construction will require localised loss of the existing surface vegetation and possible loss of sections of the stone wall |
| | Landscape characteristics | High | Adverse | Medium | Major | Loss of acid grassland/raised blanket bog would be localised but undermine the visual harmony of the site by partitioning it into separate parcels |

**Table C3 (continued) Landscape Effects and Evaluation of Significance: Construction**

| Identified Activity | Landscape Resource Impacted | Sensitivity of Resource | Type of Effect | Magnitude of Impacts | Significance | Significance Rationale |
|---|---|---|---|---|---|---|
| Construction of internal site access roads | Landscape character | Medium | Adverse | Low | Minor | Loss of tranquillity and calmness within landscape character area and changes to dominant textures and colours in sensitive upland landscape, however scale insufficient to undermine landscape character of the entire character area |
| Materials stockpiles | Landscape element | Low | Adverse | Medium | Minor | Minor loss of landscape elements to accommodate materials stockpiles, however brevity of construction period should minimise permanent damage to areas beneath stockpiles |
| | Landscape characteristics | High | Adverse | Medium | Major | Introduction of numerous alien elements into landscape characterised by its simplicity, unity and openness temporarily undermining these valued characteristics and introducing new, unnatural patterns and combinations of elements |
| | Landscape character | Medium | Adverse | Medium | Minor | Careful location of stockpiles in less exposed parts of the site allied with the brevity of construction should ensure that the wider landscape character area is not substantially undermined |
| On-site accommodation and contractors' offices | Landscape element | Low | Adverse | Low | Minor | Very small-scale loss of landscape elements and introduction of new temporary alien elements |
| | Landscape characteristics | High | Adverse | Low | Minor | Will help to modify existing patterns in local landscape and undermine sense of isolation and harmony |
| | Landscape character | Medium | Adverse | Low | Minor | Careful location of offices in less exposed parts of the site allied with the brevity of construction should ensure that the wider landscape character area is not substantially undermined |
| Lighting | Landscape element | Low | Not Applicable | None | None | No lighting proposed |
| | Landscape characteristics | High | Not Applicable | None | None | No lighting required |

**Table C3 (continued)** **Landscape Effects and Evaluation of Significance: Construction**

| Identified Activity | Landscape Resource Impacted | Sensitivity of Resource | Type of Effect | Magnitude of Impacts | Significance | Significance Rationale |
|---|---|---|---|---|---|---|
| Lighting | Landscape character | Medium | No Applicable | None | None | No lighting required |
| Temporary protection and security fencing | Landscape element | Low | Adverse | Low | Not Significant | No loss of existing landscape elements likely and new elements likely to be very low key e.g. chestnut pale fencing around excavations and metal pallisade around the main compound |
| | Landscape characteristics | High | Adverse | Low | Minor | Will reinforce the new patterns and spatial relationship between elements such as materials stockpiles, plant, vehicles and contractors' offices. Fences and other linear boundaries are established landscape components in open upland areas |
| | Landscape character | Medium | Adverse | Low | Not Significant | Temporary fencing etc too small-scale to have any separate adverse effects upon the wider landscape character area |
| Disposal areas for excavated material (assumed to be on-site) | Landscape element | Low | Adverse initially then neutral | Medium | Minor | Localised loss of existing landscape elements and introduction of new ones which should be contoured to be naturalistic |
| | Landscape characteristics | High | Adverse initially then neutral | Medium | Minor | Re-vegetated spoil heaps left over from past mining activities are a common features of the upland landscape. However during the construction period excavated material will be un-vegetated and therefore provide strong colour and textural contrasts with existing retained surrounding grassland and bog |
| | Landscape character | Medium | Neutral | Low | Not Significant | Once re-vegetated the excavated materials will easily assimilate into the existing landscape character area |
| **Key** | | High | Beneficial | High | Major | |
| | | Medium | Neutral | Medium | Minor | |
| | | Low | Adverse | Low | Not Significant | |
| | | | | None | | |

**Table C4 Landscape Effects and Evaluation of Significance: Operation**

| Identified Activity | Landscape Resource Impacted | Sensitivity | Type of Effect | Magnitude of Impacts | Significance | Significance Rationale |
|---|---|---|---|---|---|---|
| Operation of the turbines | Landscape element | Low | Neutral | N/A | Not Significant | The operation of the turbines will not directly impact upon any landscape element |
| | Landscape Characteristics | High | Neutral | High | Major | The 16 turbines will be the tallest elements within the landscape and will introduce a previously unknown regular, mechanised type of movement into the landscape. This new combination of elements and movement generates a series of new patterns and undermines existing tranquillity |
| | Landscape character | Medium | Neutral | High | Major | The effects upon the defined landscape upland forestry plateau landscape character area will be a combination of both adverse and beneficial. However they will not undermine the prime constituents of the defined character such as topography, settlement, vegetation patterns etc. The operation of the turbines emphasises the elevation and openness of the landscape whilst demonstrating that the landscape is essentially man-made. The new patterns of movement, light and shade and colours will be accommodated within the existing landscape character area which is capable of absorbing change |
| Land-take required for turbines and any other permanent on-site elements | Landscape element | Low | Adverse | Low | Minor | Land take does not affect any landscape elements except small areas of acid grass land and raised bog. Vegetation could be re-established up to the base of the turbine minimising loss during operation |
| | Landscape characteristics | High | Adverse | Low | Minor | The loss of 16 areas of grassland and bog to be replaced with hardstandings and turbine bases will undermine the unity of the site and introduce new colour and textural contrast, increase complexity and contrast as well as helping to introduce modern elements into what is perceived as a long-established landscape. However all impacts will be relatively small-scale within such an extensive landscape |

Table C4 (continued) Landscape Effects and Evaluation of Significance: Operation

| Identified Activity | Landscape Resource Impacted | Sensitivity | Type of Effect | Magnitude of Impacts | Significance | Significance Rationale |
|---|---|---|---|---|---|---|
| Land-take required for turbines and any other permanent on-site elements | Landscape character | Medium | Adverse | Low | Minor | Individual changes such as this comparatively small-scale permanent land-take are unlikely to be of sufficient magnitude to be of major significance in their own right: the upland landscape is relatively sensitive but has the tolerance to accommodate the impacts of the loss of 16 areas of grassland/bog, hence the effects upon the landscape character will only be minor for such individual activities, although cumulatively they have the potential to greater levels of effects |
| Operation of access route | Landscape element | Low | Neutral | Low | Minor | Forest tracks used by quarry and logging vehicles already occur within the forest and the operation of an access route would not be a new feature or entail the loss of any existing features |
| | Landscape characteristics | High | Adverse | Low | Not Significant | Very low level of predicted usage allied with high levels of tree cover result in very low potential magnitude of landscape impacts |
| | Landscape character | Medium | Neutral | Low | Not Significant | Very low level of predicted usage allied with high levels of tree cover result in no effects on a scale that could have any adverse impacts upon the wider landscape character area |
| Movement associated with on-site maintenance activities | Landscape element | Low | Neutral | None | Not Significant | No additional loss of elements from construction period and much reduced levels of movement result in very low potential landscape impacts - a couple of vehicles a day. A situation that reflects present usage by farmers and forestry vehicles |
| | Landscape characteristics | High | Neutral | None | Not Significant | Low levels of movement will not be of sufficient magnitude to generate significant landscape effects |
| | Landscape character | Medium | Neutral | Low | Minor | No effects upon wider landscape character area |

**Table C4 (continued) Landscape Effects and Evaluation of Significance: Operation**

| Identified Activity | Landscape Resource Impacted | Sensitivity | Type of Effect | Magnitude of Impacts | Significance | Significance Rationale |
|---|---|---|---|---|---|---|
| Signs and boundary treatments | Landscape element | Low | Beneficial | Low | Minor | Information signs along the surrounding footpaths and bridleways enables the wind farm and the wider landscape to be interpreted and explained increasing the understanding and enjoyment of visitors |
| | Landscape characteristics | High | Neutral | Low | Minor | Introduction of signs would too small-scale to have an effect the landscape characteristics |
| | Landscape character | Medium | Neutral | Low | Minor | Direct effects will be negligible, however a suitably designed interpretation package could have positive effect by encouraging public to appreciate the wider landscape context of the wind farm |
| Land-take associated with connection to the National Grid network south of Croeserw | Landscape element | Low | Adverse | Low | Minor | Introduction of new small-sale elements |
| | Landscape Characteristics | High | Adverse | Low | Minor | The connection can be absorbed within the existing arrangement of landscape characteristics due to existence of extensive blocks of forestry along route. Magnitude of impacts could increase if closest sections were to be clearfelled. |
| | Landscape character | Medium | Neutral | Low | Not Significant | Too small scale and unintrusive to undermine existing landsape character in which similar elements are already a periodic feature |
| **Key** | | High | Beneficial | High | Major | |
| | | Medium | Neutral | Medium | Minor | |
| | | Low | Adverse | Low | Not Significant | |
| | | | | None | | |

**Table C5 Visual Effects and Evaluation of Significance: Construction**

| Visual Receptor Viewpoints and Routes | Type of Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| **Public Rights of Way** | | | | | | |
| Coed Morgannwg Way | Adverse | Close | High | High | Major | Very close views of access road, limited views of construction from some sections |
| St Illtyd's Walk | Adverse | Close | High | High | Major | Very close clear views from northern edge of site |
| Sarn Helen | Adverse | Middle / Long | High | Medium | Minor | Distance too great to discern any activities clearly except possibly use of cranes on clear days on sections which are closer to site |
| Ogwr Ridge Way Walk | Adverse | Long | High | Low | Not significant | Distance too great to discern any activities clearly |
| Celtic Trail / High Level Route 47 | Adverse | Close | High | High | Major | Very close clear views from northern edge of site |
| Bridleway and Byway on Foel Trawsnant | Adverse | Middle | High | Medium | Minor | Limited views of activities due to distance and intervening plantations, possible views of cranes from elevated sections |
| Footpath on Werfa | Adverse | Long | High | Low | Minor | Visibility dependant on clear weather conditions only potential visible activity would be operation of cranes above the skyline |
| Footpaths leading up to the Black Mountain in the Brecon Beacons | Adverse | Long | High | None | Not significant | As above – but unlikely to be able of see cranes due to distance |
| **Residential communities** | | | | | | |
| Abercregan | Adverse | Close / Middle | High | High | Minor | Orientation of properties limits possible views filtered views may be glimpsed of crane |
| Glyncorrwg | Not Applicable | Middle | High | None | Not significant | ZVI prediction analysis indicates that no views available even of cranes due to differences in elevation and intervening topography |

**Table C5 (continued) Visual Effects and Evaluation of Significance: Construction**

| Visual Receptor Viewpoints and Routes | Type of Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| Resolven | Adverse | Middle | High | Low | Minor | No views from main areas of town, however potential for some views of cranes from the Craig Nedd area to west of River Neath |
| Melincourt | Adverse | Middle | High | Low | Minor | Potential for partial, glimpsed or filtered views from some properties away from B4434 |
| Cymmer | Adverse | Middle | High | Low | Minor | Views limited by topography and vegetation |
| Croeserw | Adverse | Middle | High | High | Major | Views of construction activities screened by topography and coniferous plantations on mountaintops. But possible views of crane movements elevated above plantations producing a stark visual contrast |
| Proposed Afan Valley Holiday Park | Adverse | Middle | High | Medium | Major | At time of writing no information available about development period of holiday park proposal. |
| Properties on western side of Maesteg | Adverse | Long | High | None | Not significant | Views limited by distance, topography and screening vegetation |
| Llangynwd | Adverse | Long | High | None | Not significant | Orientation and location of buildings and screening vegetation restricts views towards the site |
| Properties on eastern edge of Cilfrew | Adverse | Middle / Long | High | Low | Minor | Views limited by orientation of some properties, possible views of cranes on clear visibility days |
| Properties on northern edge of Neath | Adverse | Long | High | None | Not Significant | Views of construction activities would be limited due to distance. Restricted views of cranes may be possible on clear days |
| Properties within the northern quarter of Swansea | Adverse | Long | High | None | Not significant | Views limited due to distance and possible obstructions from built environment |
| Cwmllynfell | Adverse | Long | High | Low | Not significant | Distance too great to discern any activities clearly |

**Table C5 (continued) Visual Effects and Evaluation of Significance: Construction**

| Visual Receptor Viewpoints and Routes | Type of Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| **Isolated residential receptors** | | | | | | |
| Bryn-caws Farm | Adverse | Middle / Long | Medium | Medium | Minor | Distant views of activity possible on days of clear visibility |
| Hwdref Ganol Farm | Adverse | Long | Medium | Medium | Minor | Topographical differences and distance too great to discern any activities |
| Hawdref-fawr | Adverse | Middle / Long | Medium | Medium | Not significant | Distance too great to discern any activities |
| **Public and private recreational open space** | | | | | | |
| Afan Argoed Country Park | Adverse | Middle | Medium | Low | Not significant | Surrounding forest plantations and topography restrict views |
| Neath Abbey | Adverse | Long | Medium | None | Not significant | Views screened by surrounding vegetation |
| **Rights of way associated with highways** | | | | | | |
| A4107 | Adverse | Middle / Long | Low | Low | Not significant | Potential glimpsed views of crane activity above the skyline, visibility dependant on clarity of weather |
| A4063 | Adverse | Middle / Long | Low | Low | Not significant | Distance, topographical differences and built environment intervene and restrict views. |
| M4 | Adverse | Long | Low | None | Not significant | No views, distance too great |

**Table C5 (continued) Visual Effects and Evaluation of Significance: Construction**

| Visual Receptor Viewpoints and Routes | Type of Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| **Business and industry** | | | | | | |
| Cymmer Highways Depot | Adverse | Middle | Low | Medium | Minor | Filtered views up the valley |
| Oil refinery, Neath | Neutral | Long | Low | None | Not significant | Distance, topographical differences and built environment intervene views |
| **Key** | Beneficial | Long 5 km + | High | High | Major | |
| | Neutral | Middle 2-5km | Medium | Medium | Minor | |
| | Adverse | Close 0-2km | Low | Low | Not Significant | |
| | | | | None | | |

**Table C6 Visual Effects and Evaluation of Significance: Operation**

| Visual Receptor Viewpoints and Routes | Typeof Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| **Public Rights of Way** | | | | | | |
| Coed Morgannwg Way | Adverse | Close | High | High | Major | Very close views of access road. glimpsed views of turbines through forest plantation with full view on a number of turbines at junction of St Illtyd's Walk and Cefn Ffordd |
| St Illtyd's Walk | Adverse | Close | High | High | Major | Very close, full views of the wind farm from northern end of site **See Figure 9.7a** |
| Sarn Helen | Adverse | Middle / Long | High | High | Major | Turbines would be a dominant feature of the on the skyline and blade rotation would visible from sections nearer the site. From distant sections of Sarn Helen visibility would greatly be affected by clarity of atmospheric conditions. **See Figures 9.6b and 9.9a-c** |
| Ogwr Ridge Way Walk | Adverse | Long | High | Medium | Minor | Distant views of top section of turbine tower and blades affected by clarity of weather conditions. **See Figure 9.7b** |
| Celtic Trail / High Level Route 47 | Adverse | Close | High | High | Major | Very close, full views of the wind farm from northern end of site |
| Bridleway and Byway on Foel Trawsnant | Adverse | Middle | High | High | Major | Prominent views of turbine towers and blades from both PROWs. |
| Footpath on Werfa | Adverse | Long | High | High | Major | Long distant views of wind farm on the skyline affected by atmospheric conditions. |
| Footpaths leading up to the Black Mountain in the Brecon Beacons | Adverse | Long | High | Low | Minor | Long distant views of wind farm affected by clarity of weather conditions. **See Figure 9.10a-c** |

**Table C6 (Continued) Visual Effects and Evaluation of Significance: Operation**

| Visual Receptor Viewpoints and Routes | Typeof Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| **Residential communities** | | | | | | |
| Abercregan | Adverse | Close / Middle | High | High | Major | Intervening plantations and topography combined with orientation of properties limits visibility and number of turbines. Blades and top sections of towers will be clearly visible. |
| Glyncorrwg | Not Applicable | Middle | High | None | Not Significant | ZVI analysis demonstrates no views from village itself |
| Resolven | Adverse | Middle | High | Low | Minor | Limited views of some turbines from Craig Nedd area |
| Melincourt | Adverse | Middle | High | Low | Minor | Potential for partial, glimpsed or filtered views from some properties away from B4434 |
| Cymmer | Adverse | Middle | High | High | Major | Intervening topography and forestry plantations limits the number and height of turbines seen. Turbines will be a major feature of views due to distance from site. See Figure 9.7c |
| Croeserw | Adverse | Middle | High | High | Major | High numbers of turbine towers and blades clearly visible on skyline. See Figure 9.11a-c |
| Proposed Afan Valley Holiday Park | Adverse | Middle | High | Medium | Major | Glimpsed view of turbines through forestry plantation. Visibility of wind farm / turbines also dependant on amount of forest removed / retained. See Figure 9.12a-c. (Visibility shown at present time with no tree removal) |
| Properties on western side of Maesteg | Adverse | Long | High | Medium | Minor | Views restricted to properties on higher ground and orientated towards the site. Many views interrupted by built environment, topography and vegetation |
| Llangynwd | Adverse | Long | High | Medium | Minor | Orientation and location of buildings combined with screening vegetation restricts views. See Figure 9.7e |
| Properties on eastern edge of Cilfrew | Adverse | Middle / Long | High | High | Major | Visibility of a large proportion of the wind farm on the skyline. Visibility restricted by orientation of some properties and tall vegetation along the roadside obscures some views. See Figure 9.13a-c |
| Properties on northwest side of Neath | Adverse | Long | High | Low | Minor | Built environment and intervening topography and vegetation restrict distant views. Visibility also affected by atmospheric conditions |

Table C6 (continued) Visual Effects and Evaluation of Significance: Operation

| Visual Receptor Viewpoints and Routes | Typeof Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| Properties within the northern quarter of Swansea | Neutral | Long | High | Low | Not significant | As above, but increased distance from site |
| Cwmllynfell | Adverse | Long | High | Low | Minor | As above |
| **Isolated Residential Receptors** | | | | | | |
| Bryn-caws Farm | Adverse | Middle / Long | Medium | Medium | Minor | Distant views of turbine towers and blades. Majority of wind farm visible on the skyline. **See Figure 9.7f** |
| Hwdref Ganol Farm | Adverse | Long | Medium | Low | Minor | Long distances views of wind farm affected by topography, forestry plantations and atmospheric conditions |
| Hawdref-fawr | Adverse | Middle / Long | Medium | Low | Minor | Distant views of wind farm affected by clarity of weather conditions. **See Figure 9.14a-c** |
| **Public and Private Recreational Open Space** | | | | | | |
| Afan Argoed Country Park | Adverse | Middle | Medium | Low | Minor | Surrounding forest plantations and topography restrict views of wind farm |
| Neath Abbey | Neutral | Long | Medium | None | Not significant | Views screened by surrounding vegetation. |
| **Rights of Way Associated with Highways** | | | | | | |
| A4107 | Adverse | Middle / Long | Low | Medium | Minor | Long distance short-lived views of wind farm on the skyline. Visibly dependant on clarity of weather conditions. **See Figure 9.15a-c** |

**Table C6 (continued) Visual Effects and Evaluation of Significance: Operation**

| Visual Receptor Viewpoints and Routes | Typeof Effect | Distance Between Wind Farm and Receptor Viewpoint | Receptor Sensitivity | Magnitude of Effect | Significance | |
|---|---|---|---|---|---|---|
| | | | | | Level | Rationale |
| A4063 | Adverse | Middle / Long | Low | Low | Minor / Not significant | Views from distant sections restricted by topography, vegetation and built environment. Sections close to Croeserw likely to glimpse views of tower and blades of a small number of turbines |
| M4 | Adverse | Long | Low | Low | Not Significant | Very short lived views glimpsed at speed and interrupted by topography and built environment |
| **Business and Industry** | | | | | | |
| Cymmer Highways Depot | Adverse | Middle | Low | High | Minor | Clear views of tower and blades. Topography of valley limits the number of turbines visible. **See Figure 9.7g** |
| Oil refinery, Neath | Neutral | Long | Low | Low | Not significant | Distance of view and interruptions of a built environment restrict visibility of wind farm |
| **Key** | Beneficial | Close 0-2km | High | High | Major | |
| | Neutral | Middle 2-5km | Medium | Medium | Minor | |
| | Adverse | Long 5 km + | Low | Low | Not Significant | |
| | | | | None | | |

02/1322

# National Wind Power

# Proposed Wind Farm Ffynnon Oer, Neath, Port Talbot

Environmental Statement

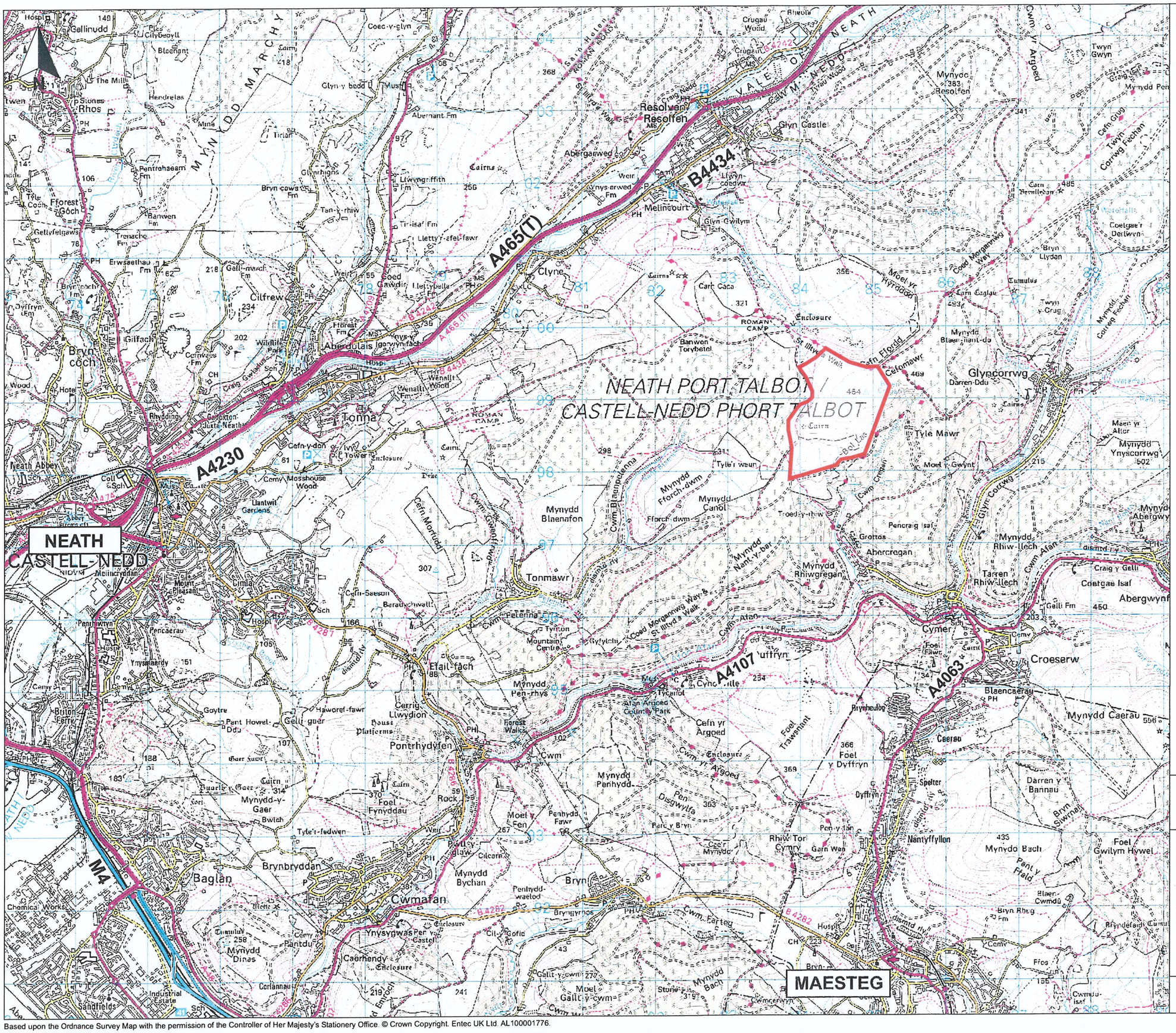
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25 October 2002

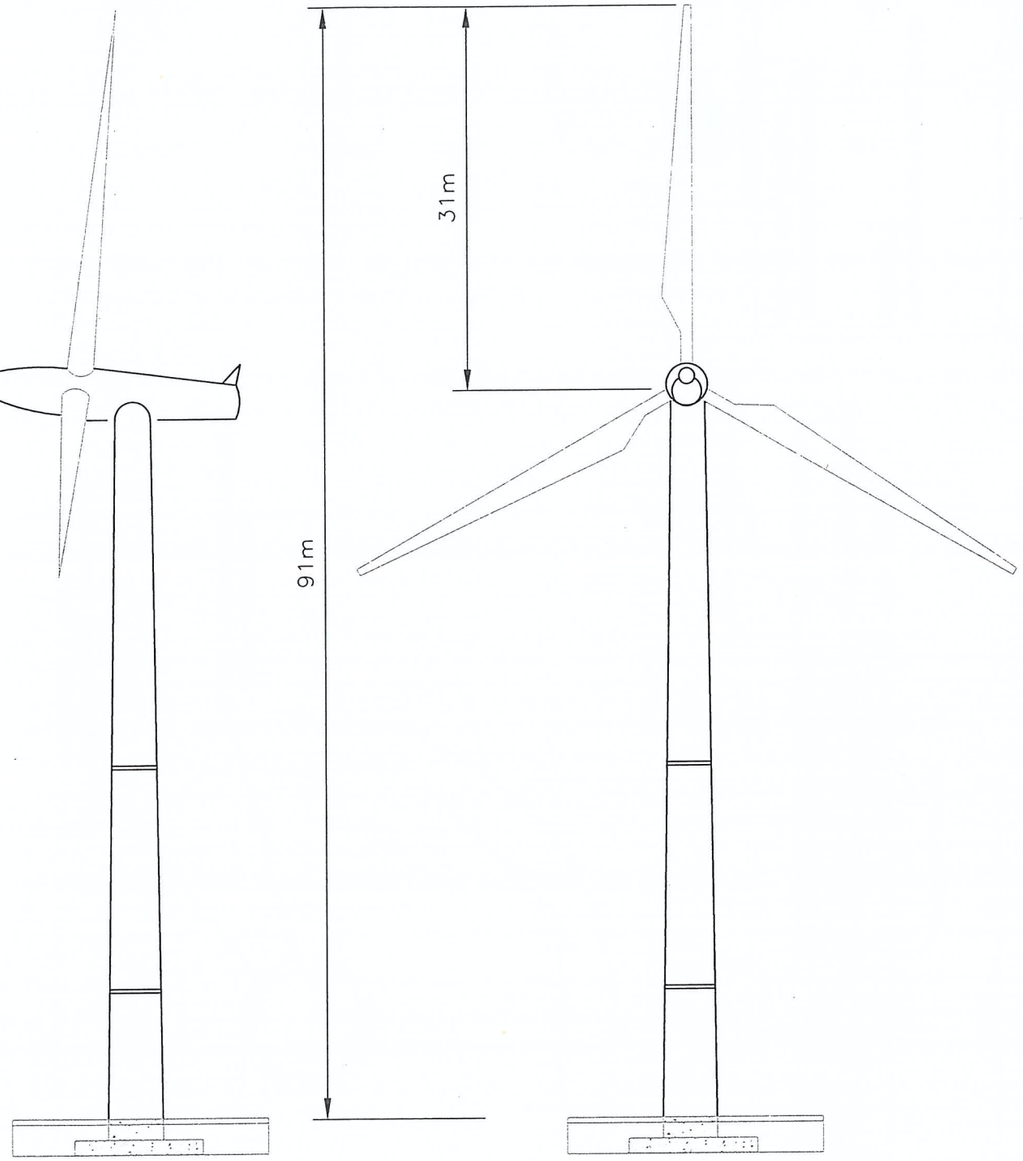
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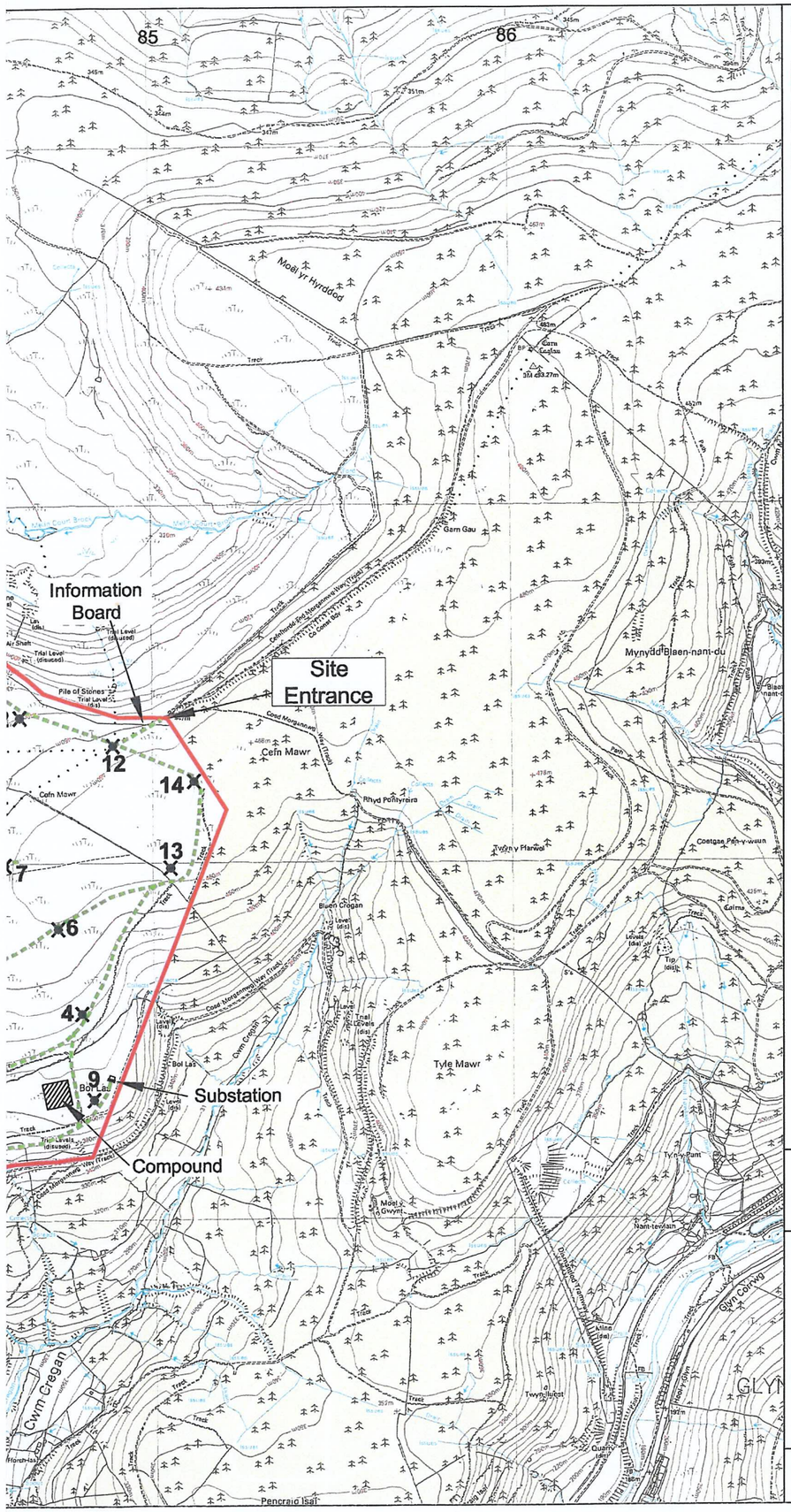

NATIONAL WIND POWER

Ffynnon Oer Windfarm
Environmental Assessment

**Figure 2.1**
**Structure of a Wind Turbine**

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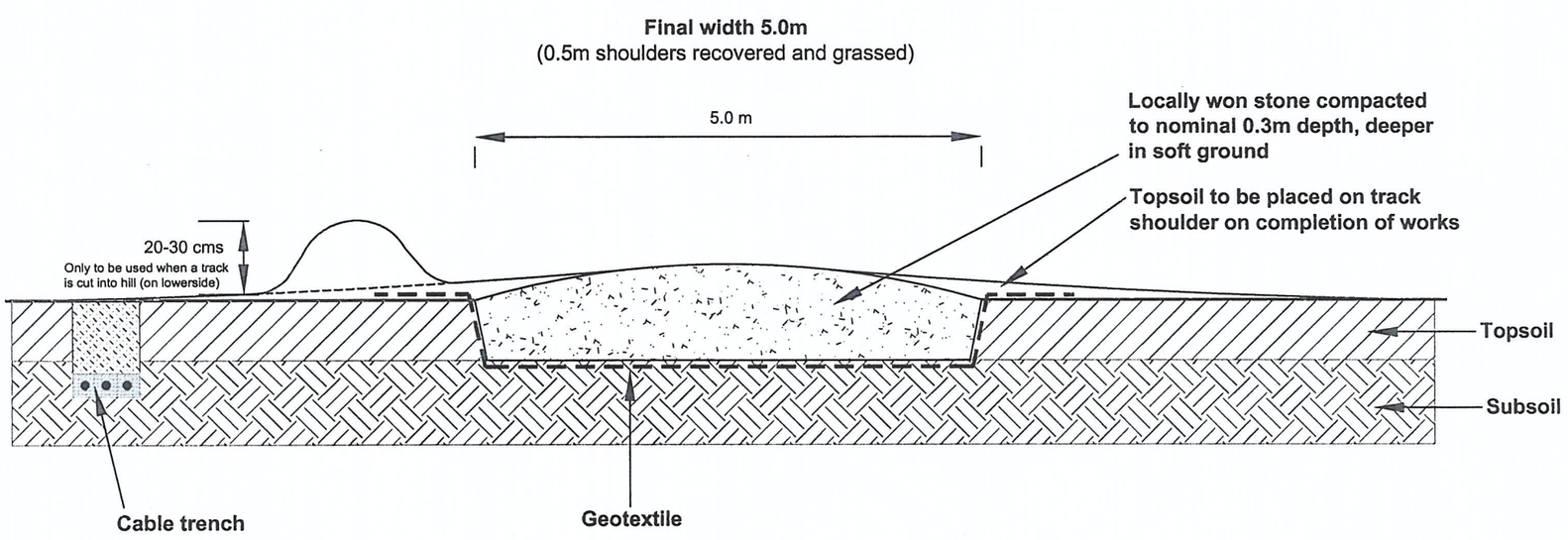

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Ffynnon Oer Windfarm
Environmental Assessment

**Figure 2.3**
**Proposed Turbine Locations and Access Tracks**

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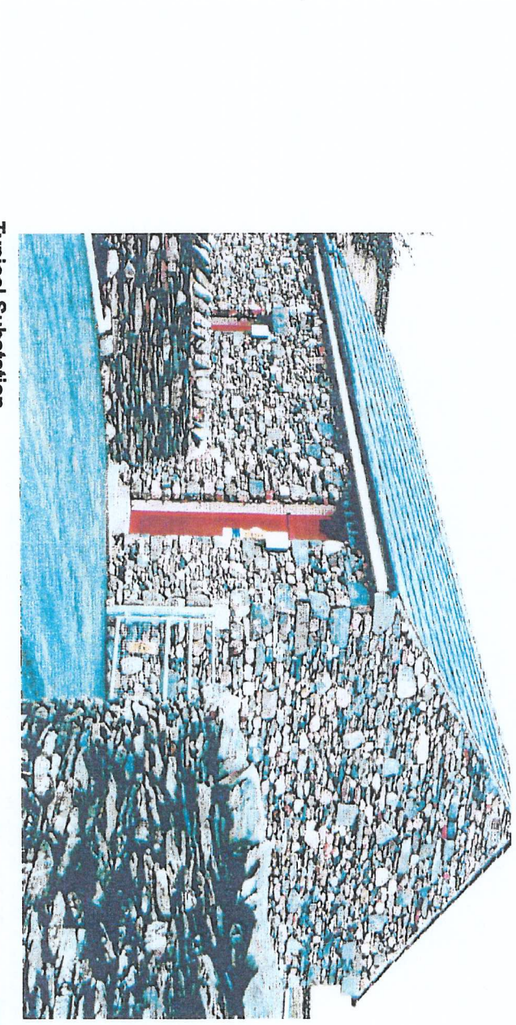

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Ffynnon Oer Windfarm
Environmental Assessment

**Figure 2.4**
**Proposed Track Formation**

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Typical Substation

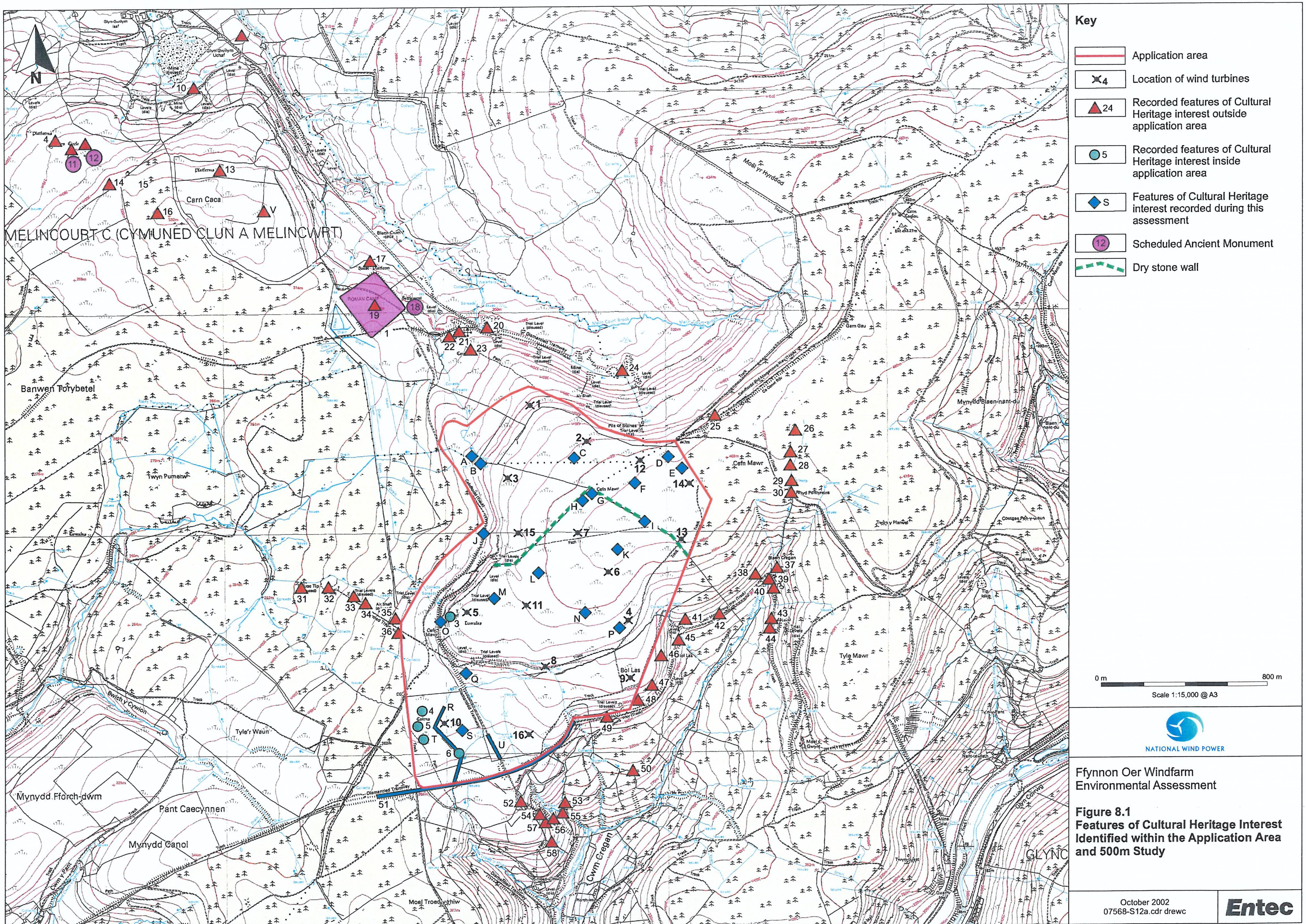
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Ffynnon Oer Windfarm
Environmental Assessment

**Figure 2.6**
**Design of a Substation**

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Environmental Assessment

**Figure 8.1**
**Features of Cultural Heritage Interest Identified within the Application Area and 500m Study**

October 2002
07568-S12a.cdr drewc

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**Key**

- Application area
- 13 - 16 Turbines visible
- 9 - 12 Turbines visible
- 5 - 8 Turbines visible
- 1 - 4 Turbines visible

0 km — 8 km

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**Figure 9.1**
**ZVI to Blade Tip**

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**Key**

- Application area
- 13 - 16 Turbines visible
- 9 - 12 Turbines visible
- 5 - 8 Turbines visible
- 1 - 4 Turbines visible

0 km 8 km

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Environmental Assessment

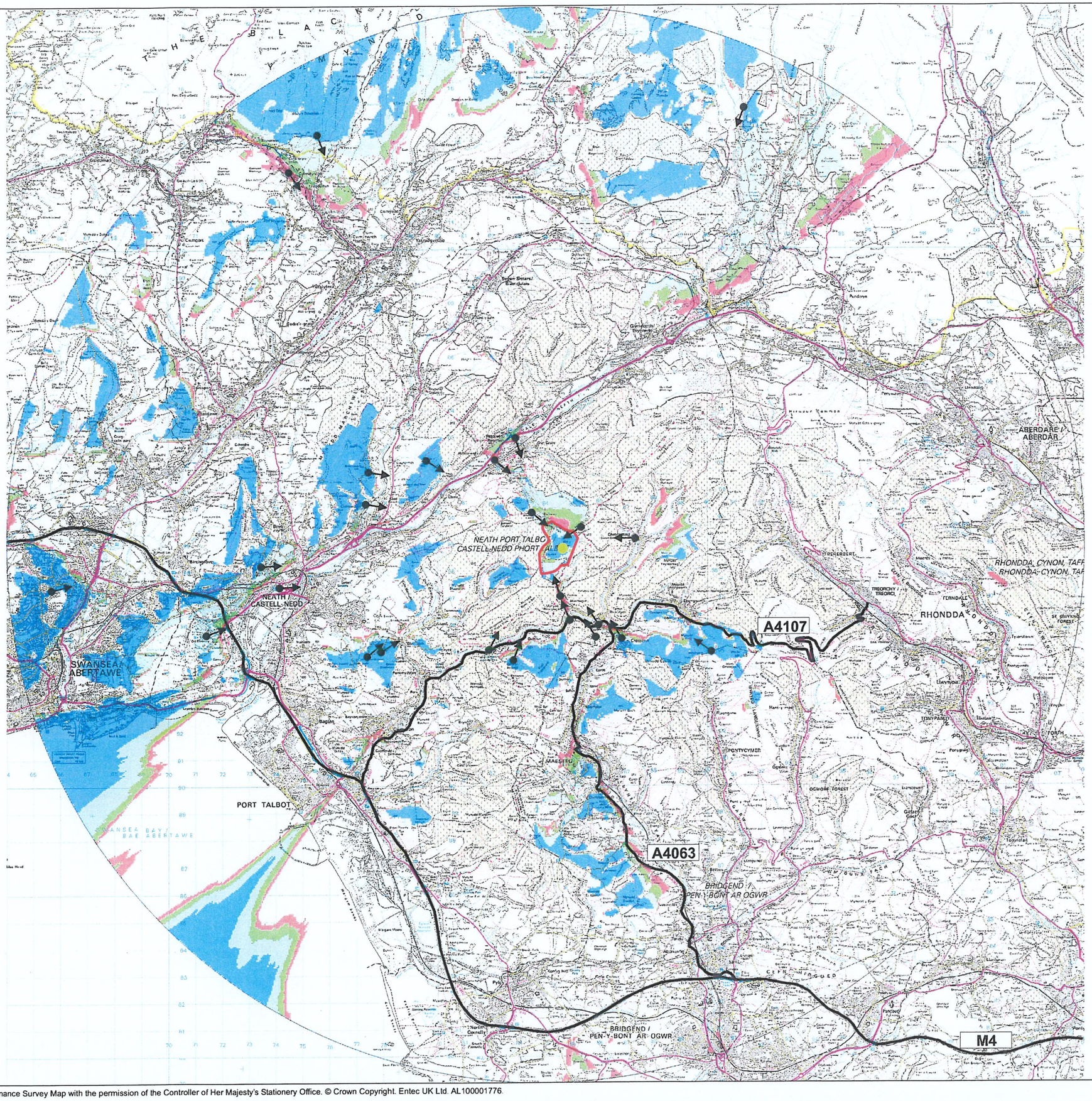
**Figure 9.1a**
**ZVI to Blade Tip - no Forestry**

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N




**Key**

- Application area
- 13 - 16 Turbines visible
- 9 - 12 Turbines visible
- 5 - 8 Turbines visible
- 1 - 4 Turbines visible
- Receptor
- Route

0 km — 8 km

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**Figure 9.2**
**ZVI and Associated Receptors**

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N

## Key

- Application area
- 36 - 47 Turbines visible
- 24 - 35 Turbines visible
- 12 - 23 Turbines visible
- 1 - 11 Turbines visible
- 1 Ffynnon Oer
- 2 Proposed Morgan/Lluest Wen Windfarms
- 3 Taff Ely

0 km 8 km

NATIONAL WIND POWER

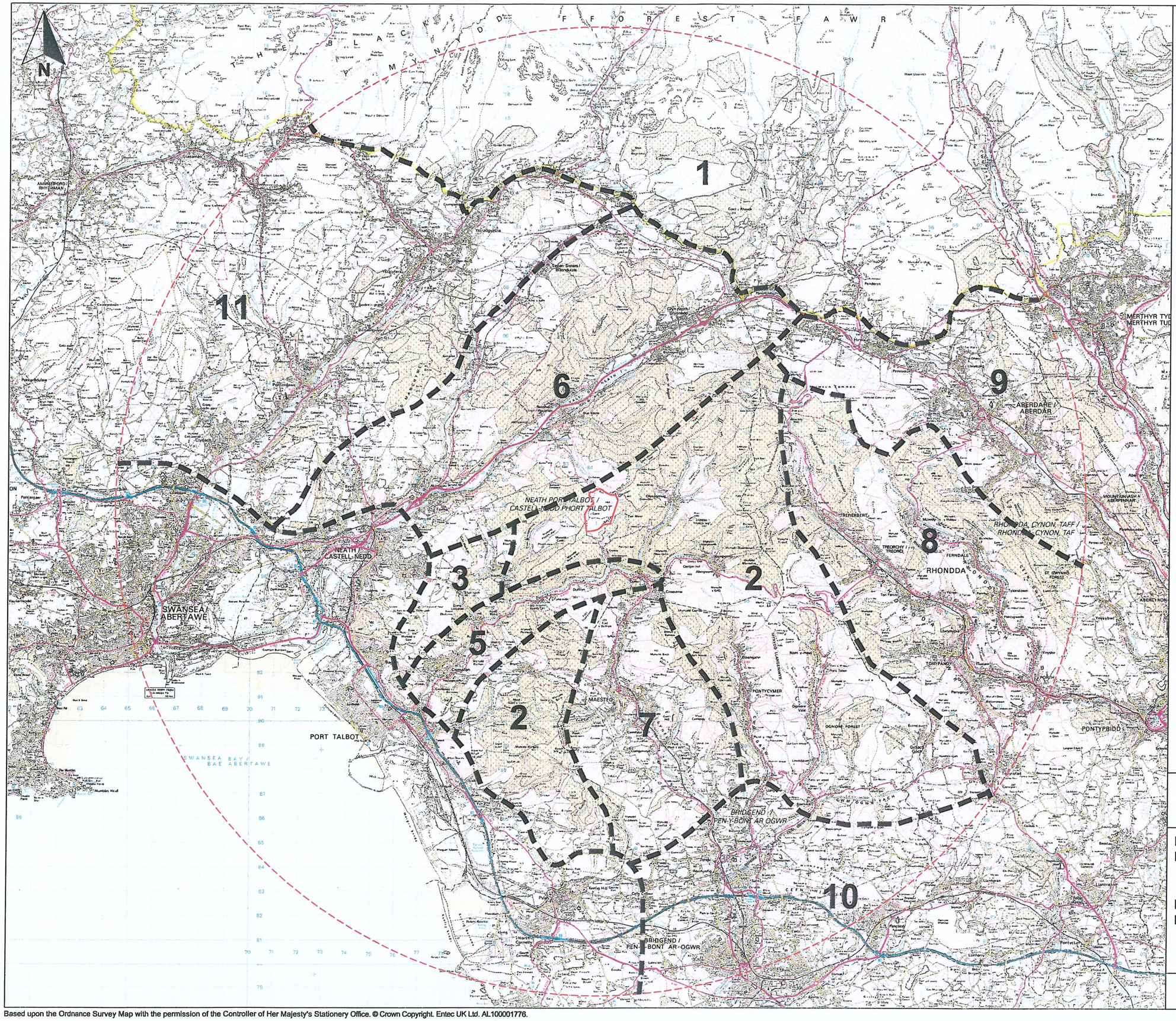
Ffynnon Oer Windfarm
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**Figure 9.3**
**Cumulative ZVI**

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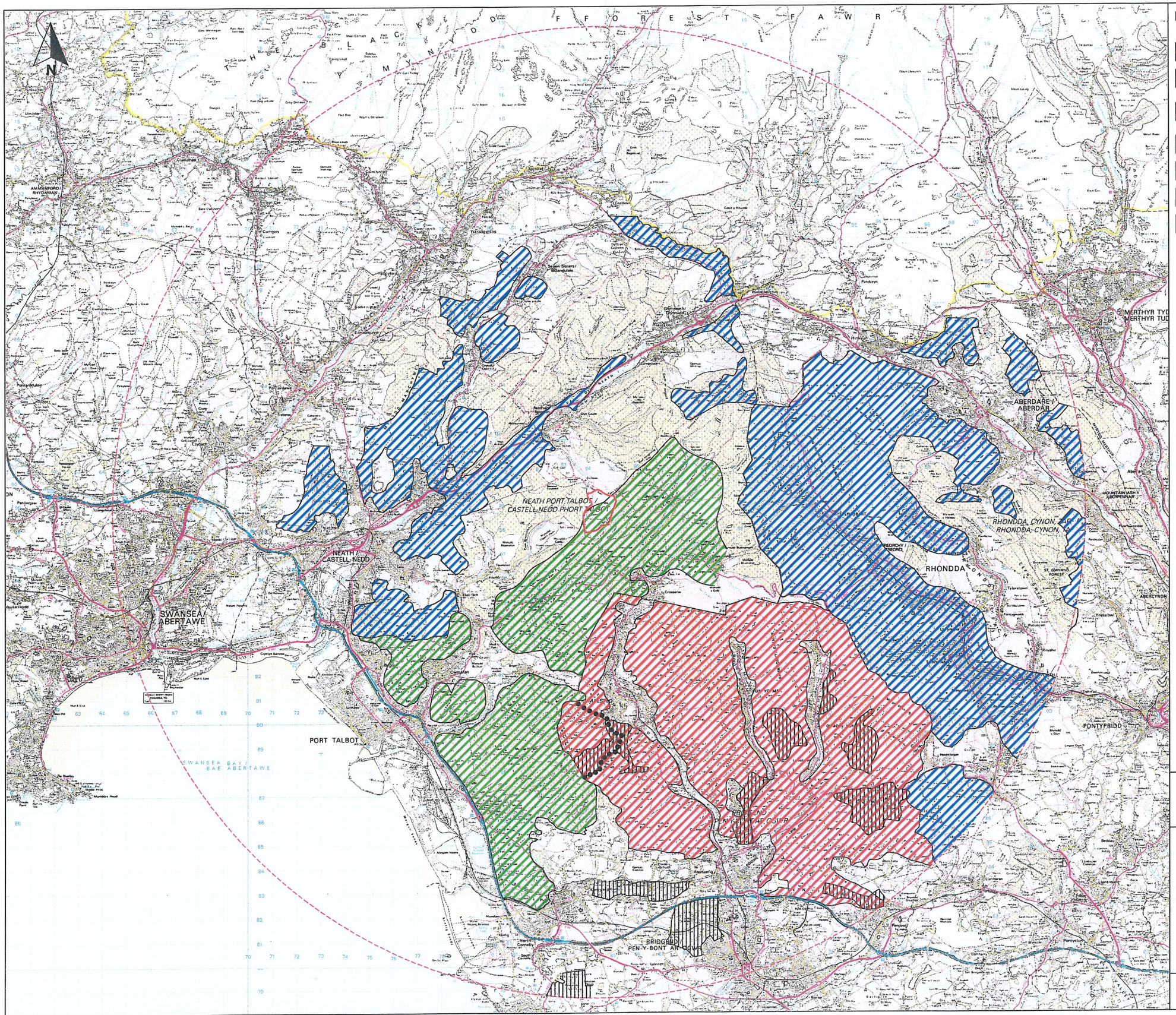
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**Figure 9.4**
**Landscape Character Areas**

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## Key

- Application area
- 20 km Study area
- Landscape protection area (unadopted)
- Strategic coalfield plateau
- Special landscape area
- Landscape conservation area
- Historic landscape

0 km 8 km

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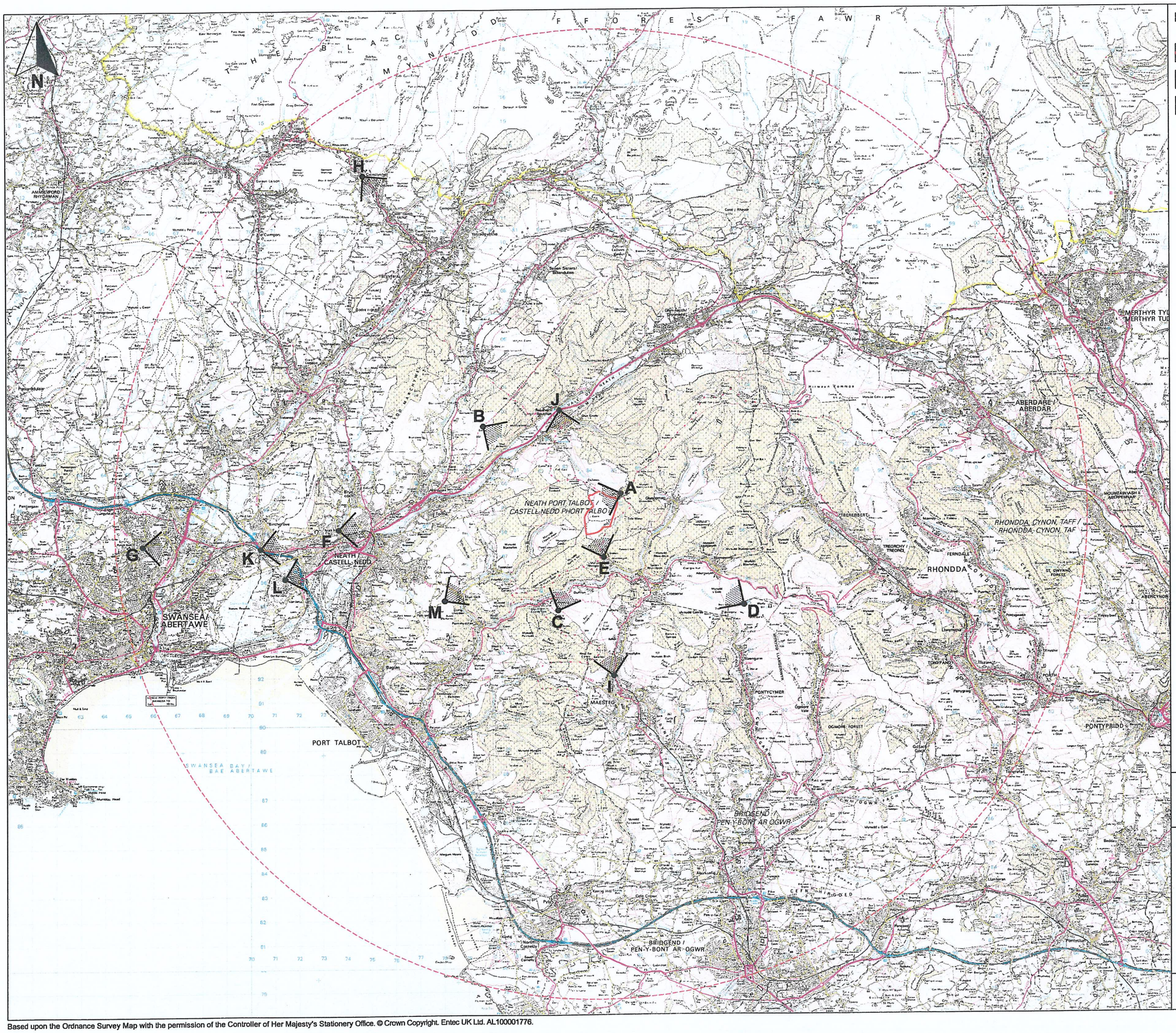
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**Figure 9.5**
**Landscape Planning Designations**

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# Ffynnon Oer Windfarm
# Environmental Assessment

**Figure 9.6**
**Wireframe Location Plan**

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Wireframe looking south-west from Coed Morgannwg Way

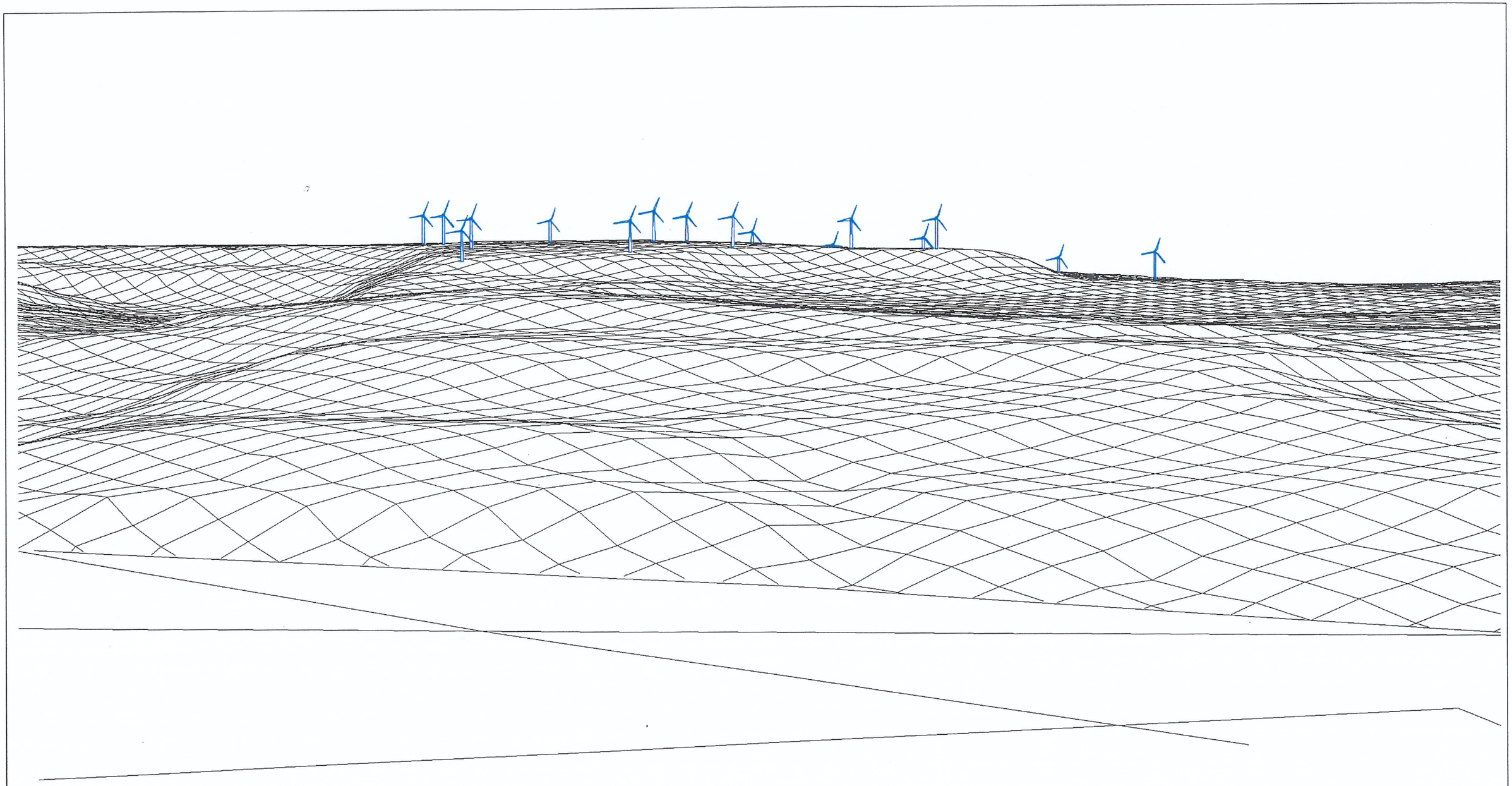
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**Figure 9.6a**
**Wireframe A**

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Wireframe looking south-east from Sarn Helen (approximately 3km north-east of Tonna)

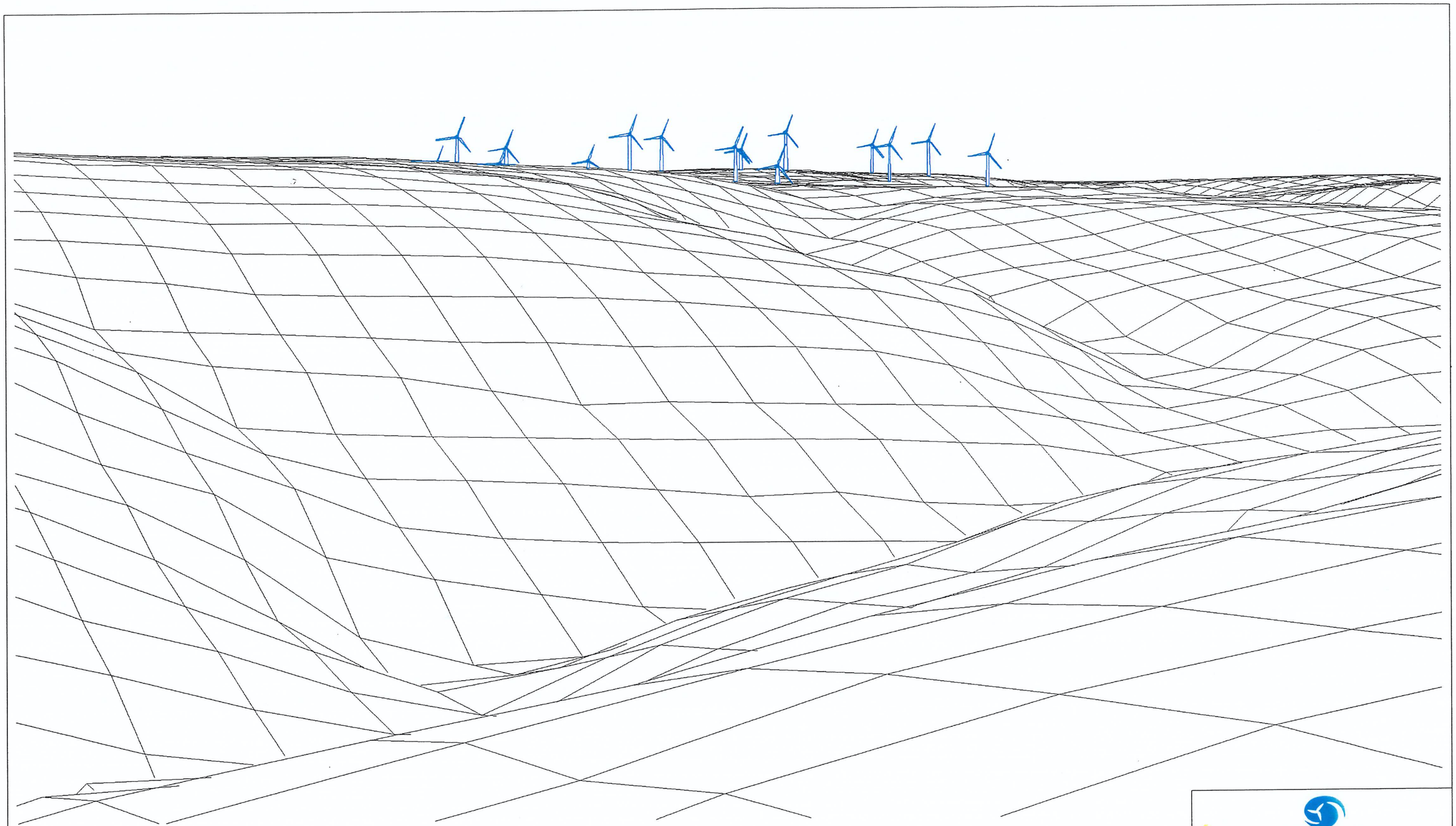
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**Figure 9.6b**
**Wireframe B**

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07568-S22.cdr parkj

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Wireframe looking north north-east from the junction of two rights of way on Foel Trawsnant

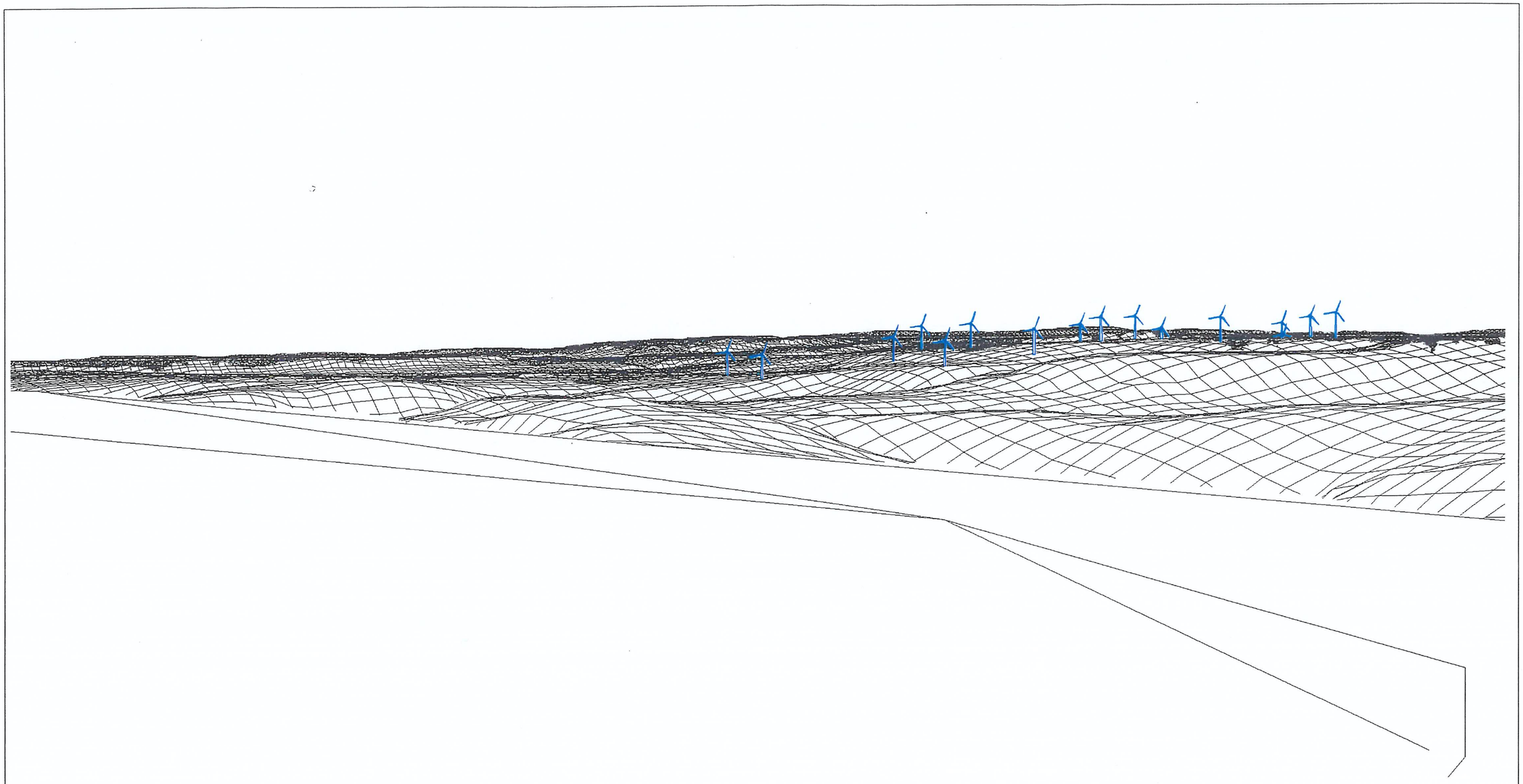
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**Figure 9.6c**
**Wireframe C**

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Wireframe looking north-west from public footpath on Wefra

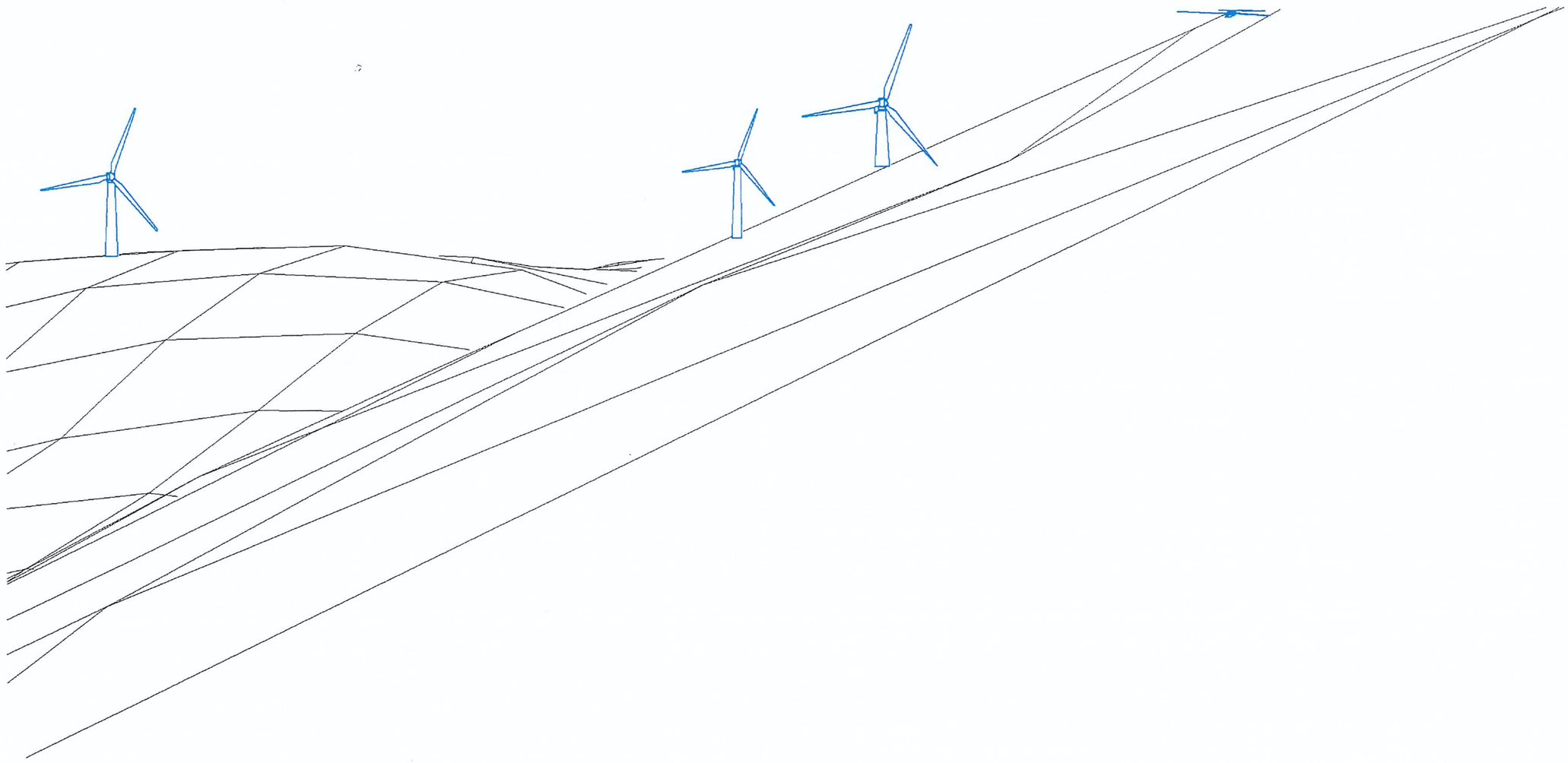
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Ffynnon Oer Windfarm
Environmental Assessment

**Figure 9.6d**
**Wireframe D**

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Wireframe view looking north from Abercregan

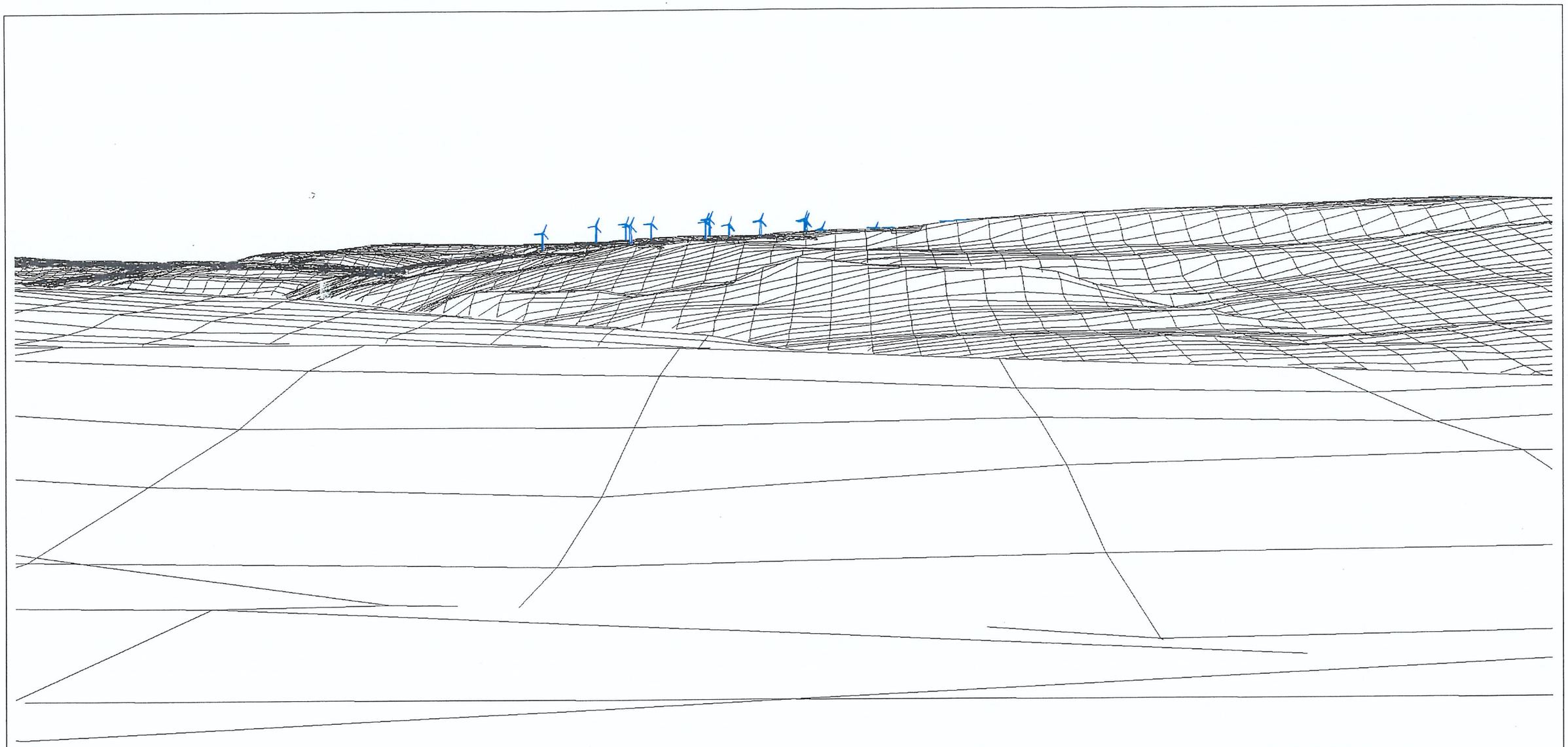
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**Figure 9.6e**
**Wireframe E**

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07568-S25.cdr parkj

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Wireframe view from northern edge of Neath looking east

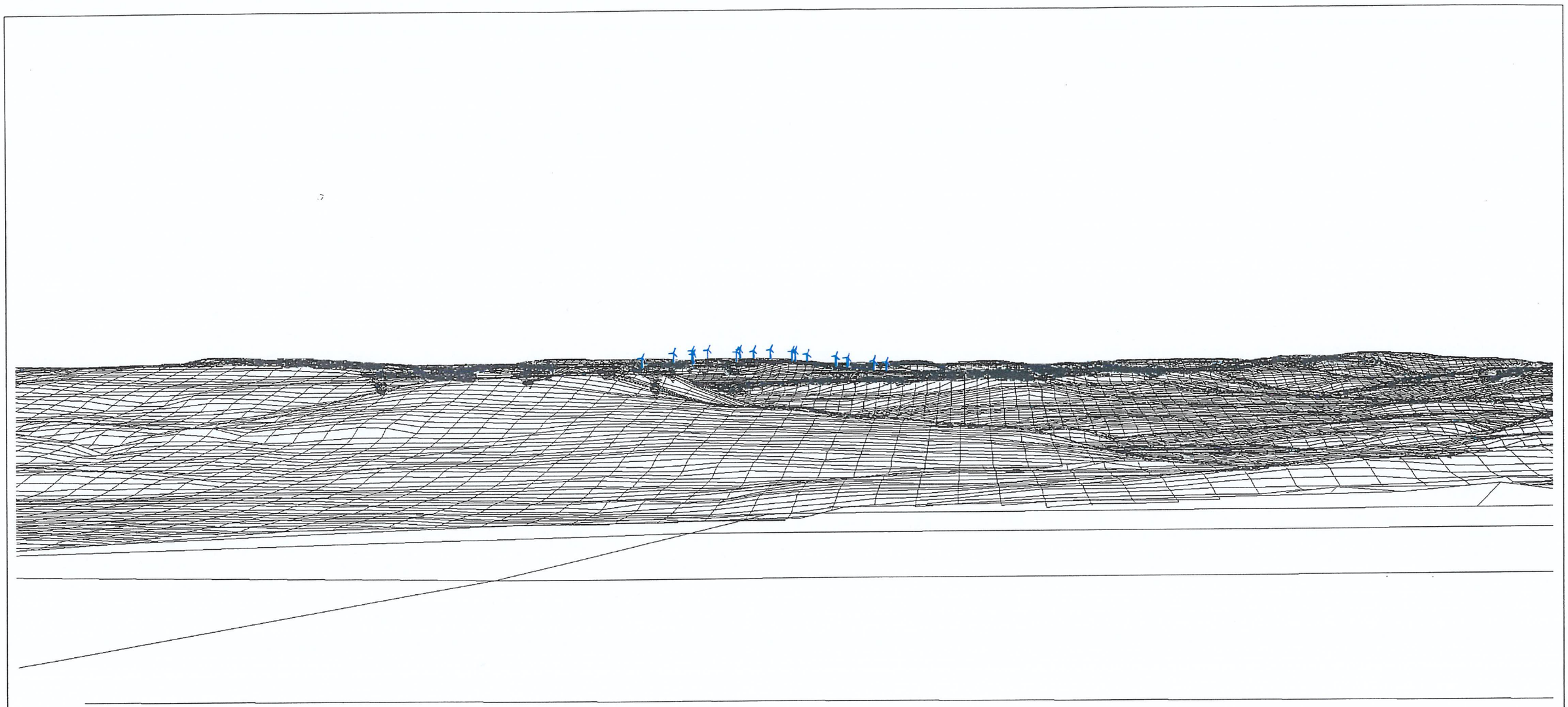
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Ffynnon Oer Windfarm
Environmental Assessment

**Figure 9.6f**
**Wireframe F**

October 2002
07568-S26.cdr parkj

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Wireframe view looking east from the northern quarter of Swansea

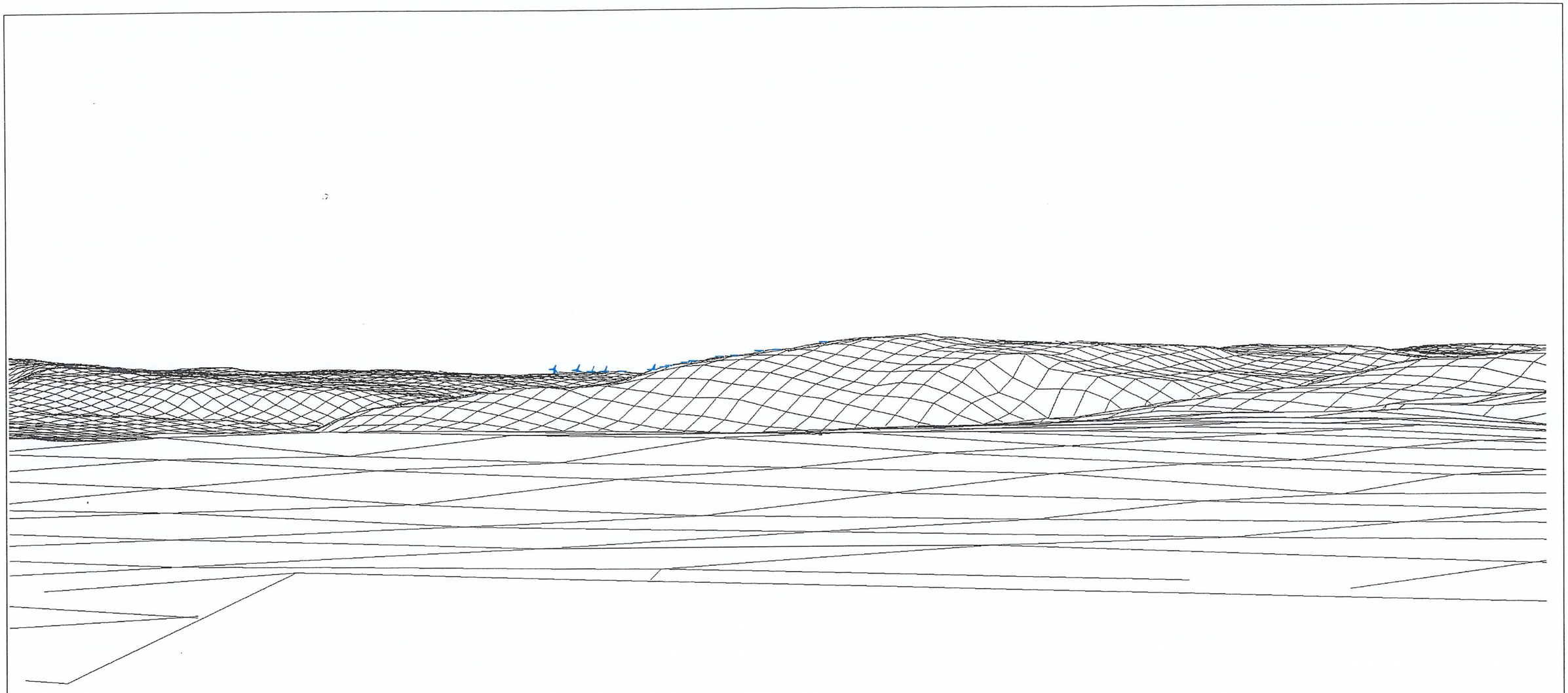
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**Figure 9.6g**
**Wireframe G**

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**Wireframe view south-east from Cwmllynfell**

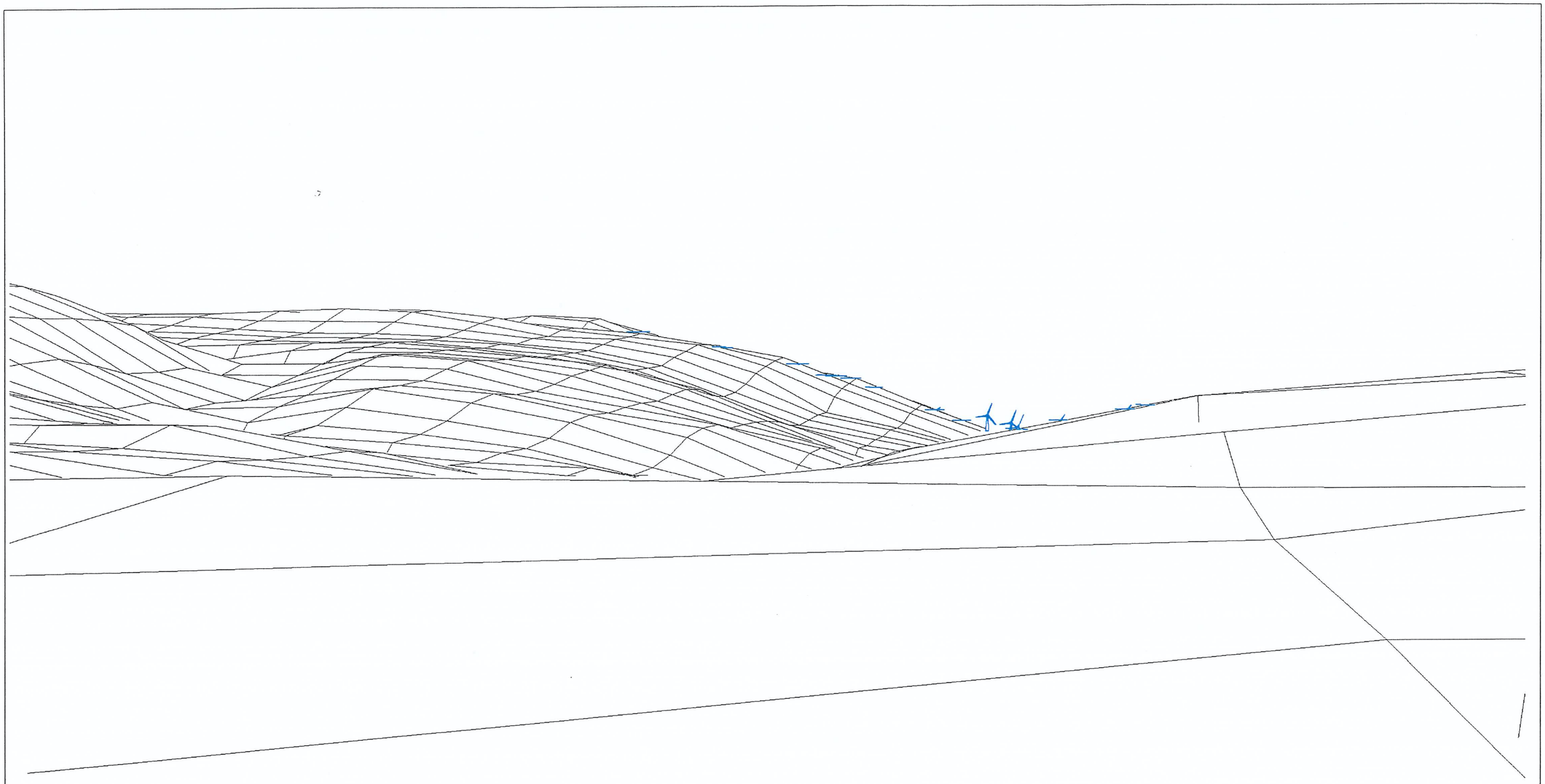
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**Figure 9.6h**
**Wireframe H**

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Wireframe view from A4063 running through Maesteg looking north

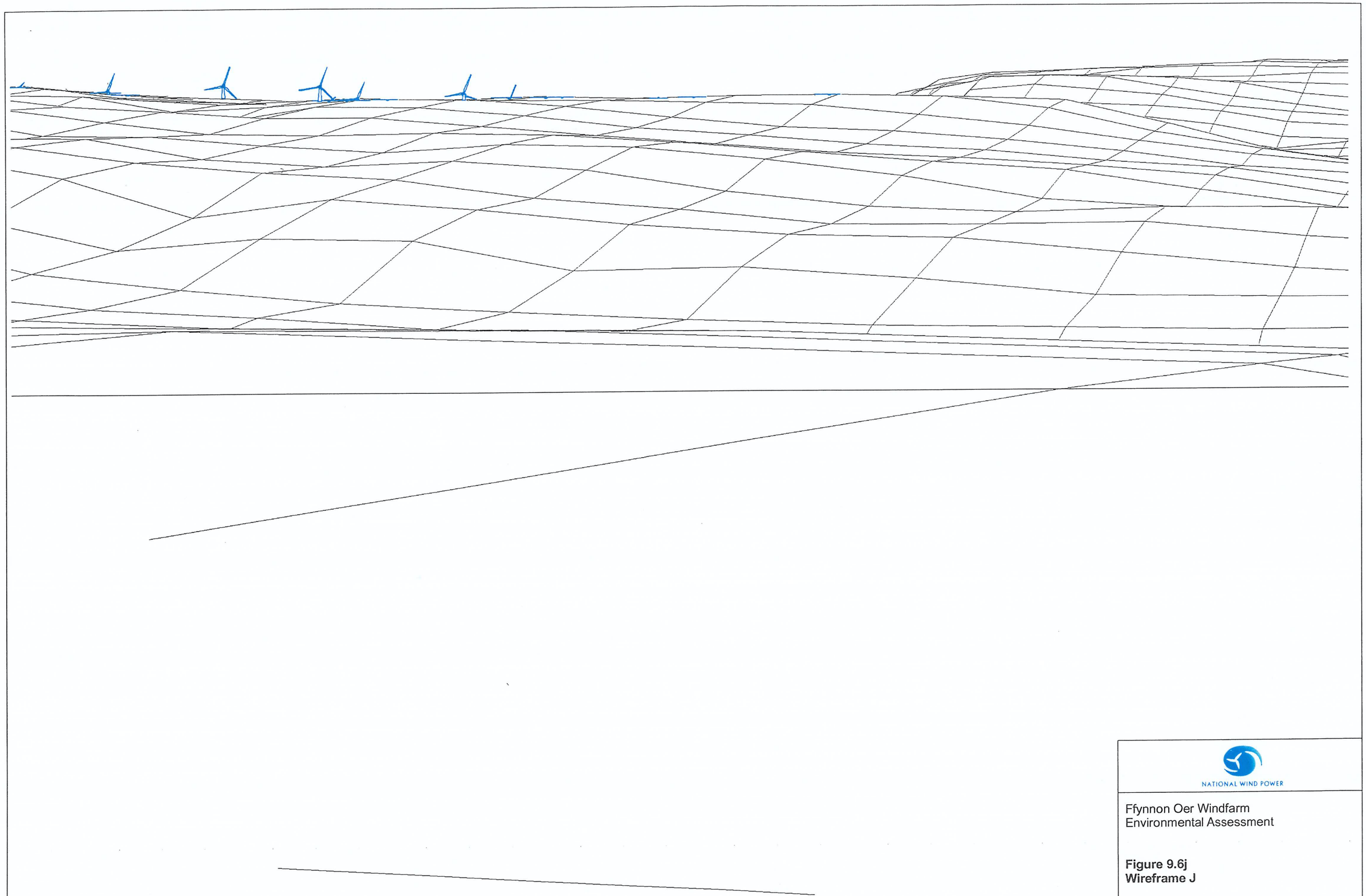
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**Figure 9.6i**
**Wireframe I**

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07568-S29.cdr parkj

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Wireframe view from A 465(T) near Resolvyn looking south south-east

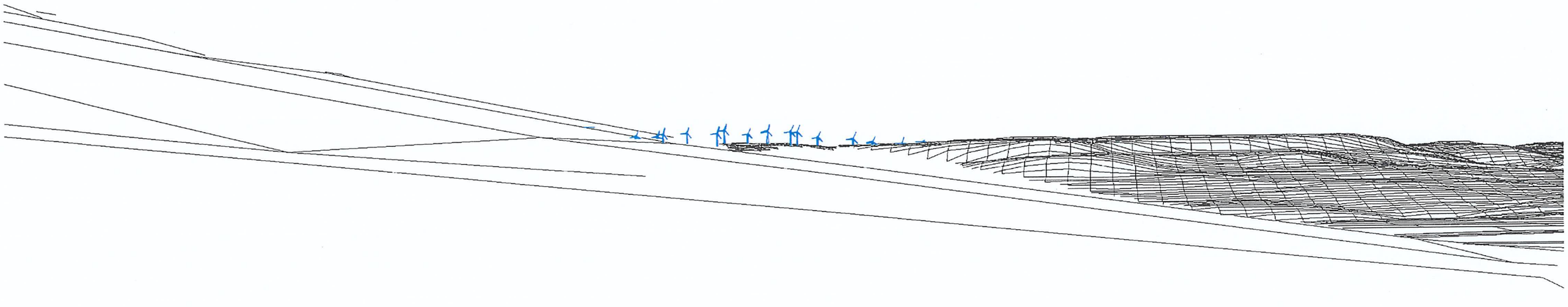
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**Figure 9.6j**
**Wireframe J**

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Wireframe view looking east from M4 near Junction 44

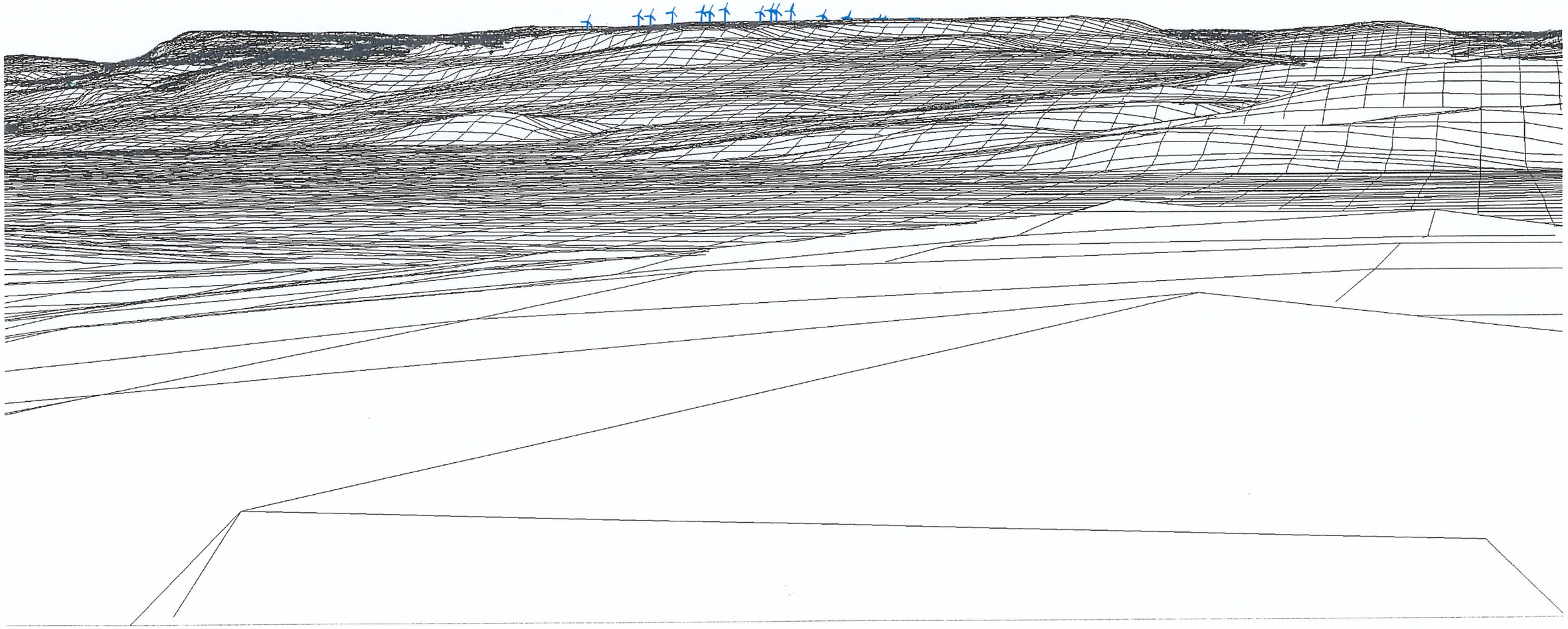
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**Figure 9.6k**
**Wireframe K**

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07568-S31.cdr parkj

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Wireframe view looking east north-east from oil refinery situated on the west coast of Neath

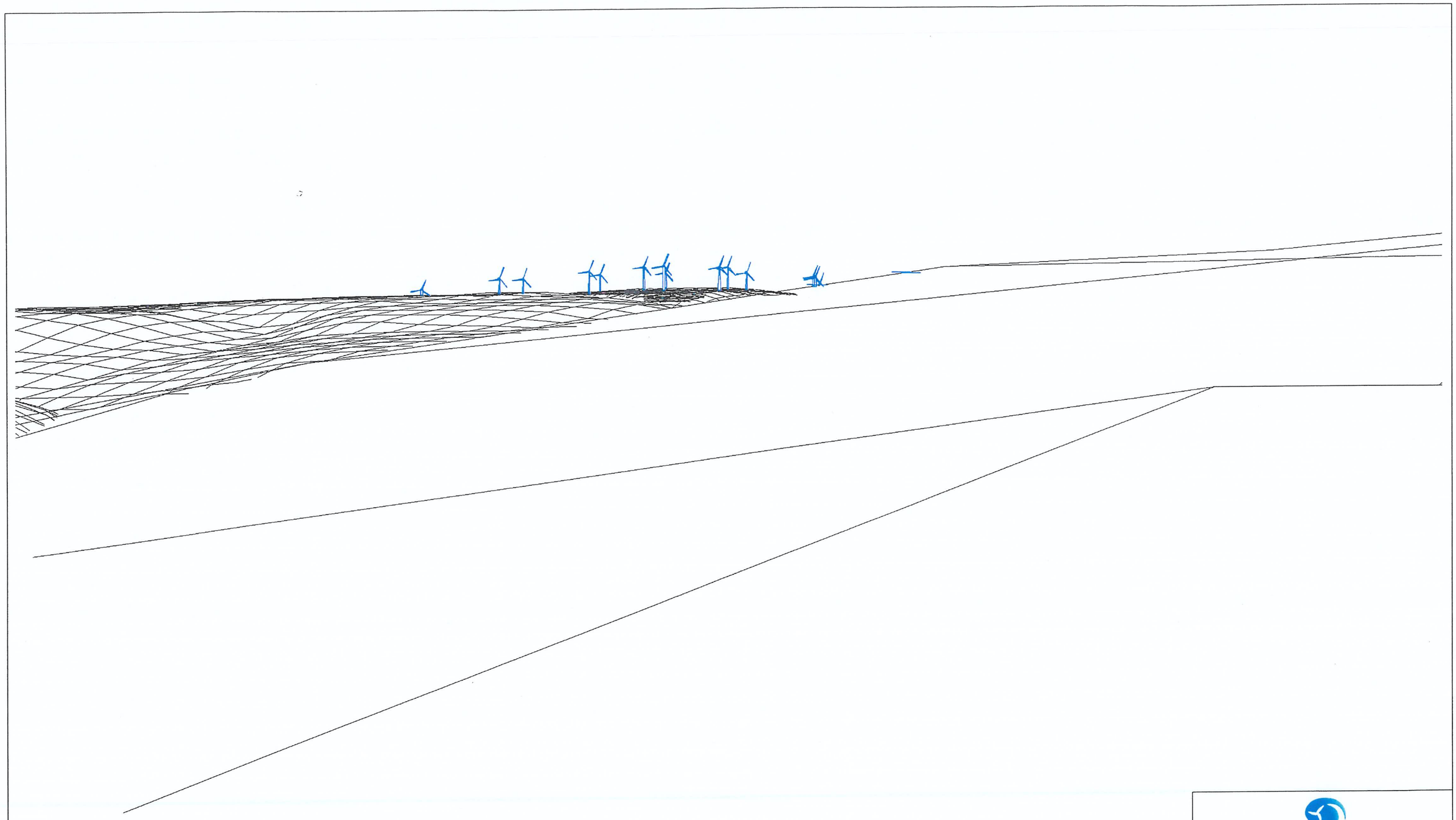
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**Figure 9.6l**
**Wireframe L**

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Wireframe view north-east from Hawdref Ganol Farm

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**Figure 9.6m**
**Wireframe M**

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## Key

- Application area
- 20 km Study area
- A — Photoviewpoint location
  - A. St Illtyd's Walk
  - B. Ogwr Ridgeway Walk
  - C. Cymmer
  - D. Maesteg
  - E. Llangynwd
  - F. Bryn-caws farm
  - G. Cymmer Highway Depot

0 km — 8 km

NATIONAL WIND POWER

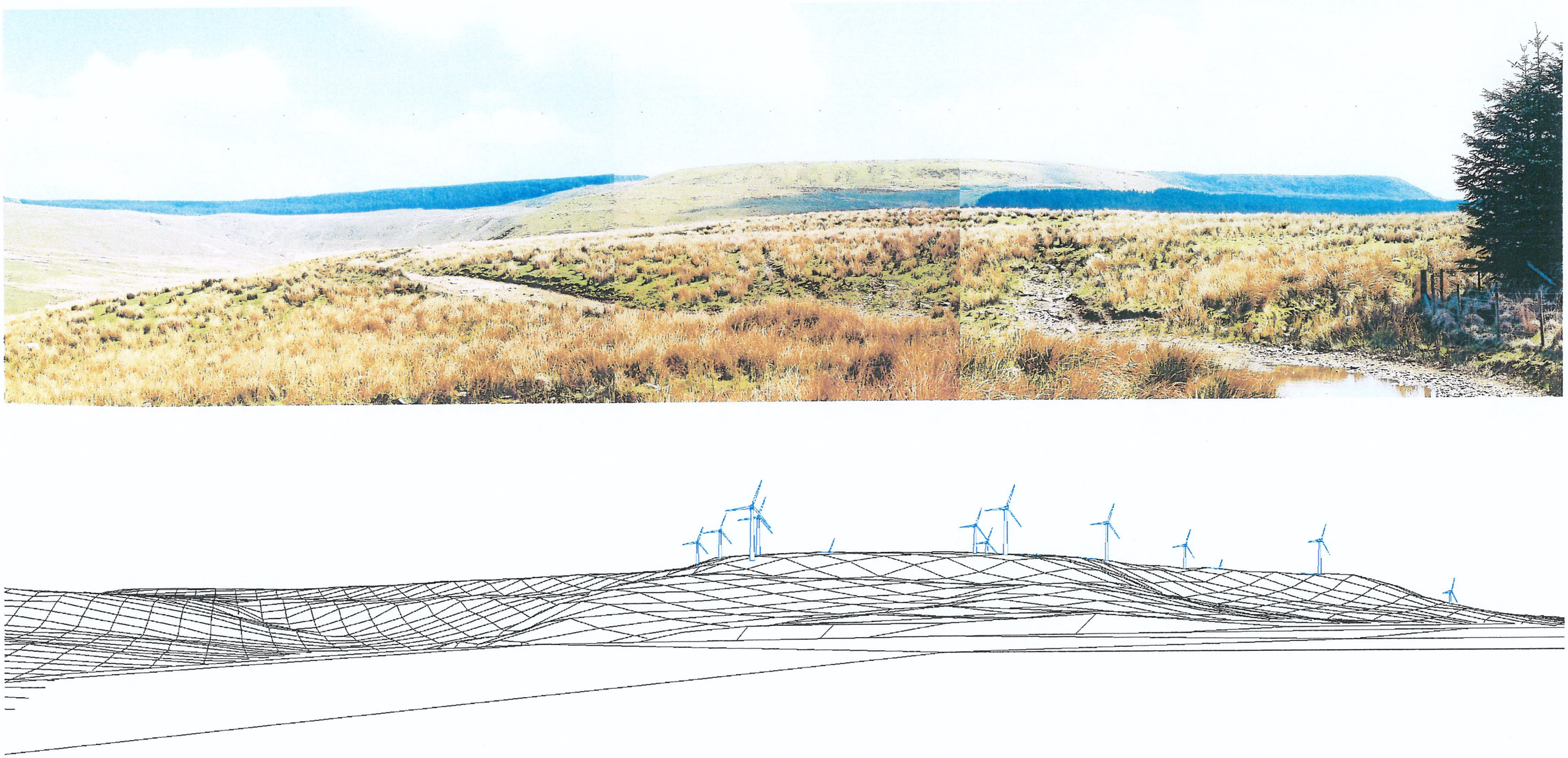
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**Figure 9.7**
**Photoviewpoint and Wireframe Location Plan**

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View south-west from St Illtyd's Walk / Celtic Trail at the corner of Pelenna Forest

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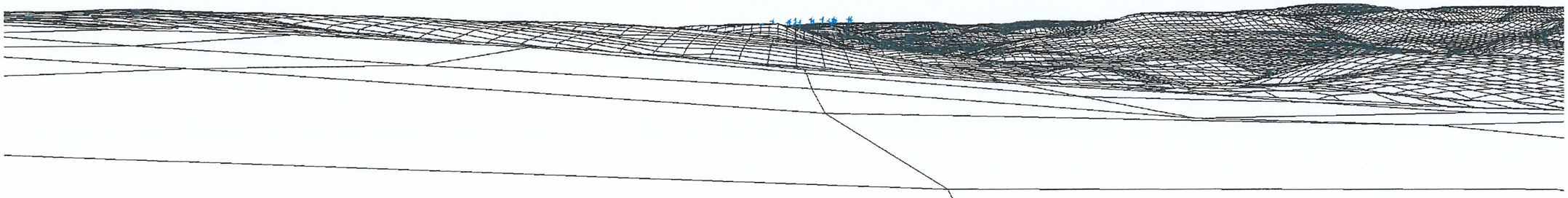
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**Figure 9.7a**
**Photoviewpoint and Wireframe A**

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View north from Ogwr Ridgeway Walk

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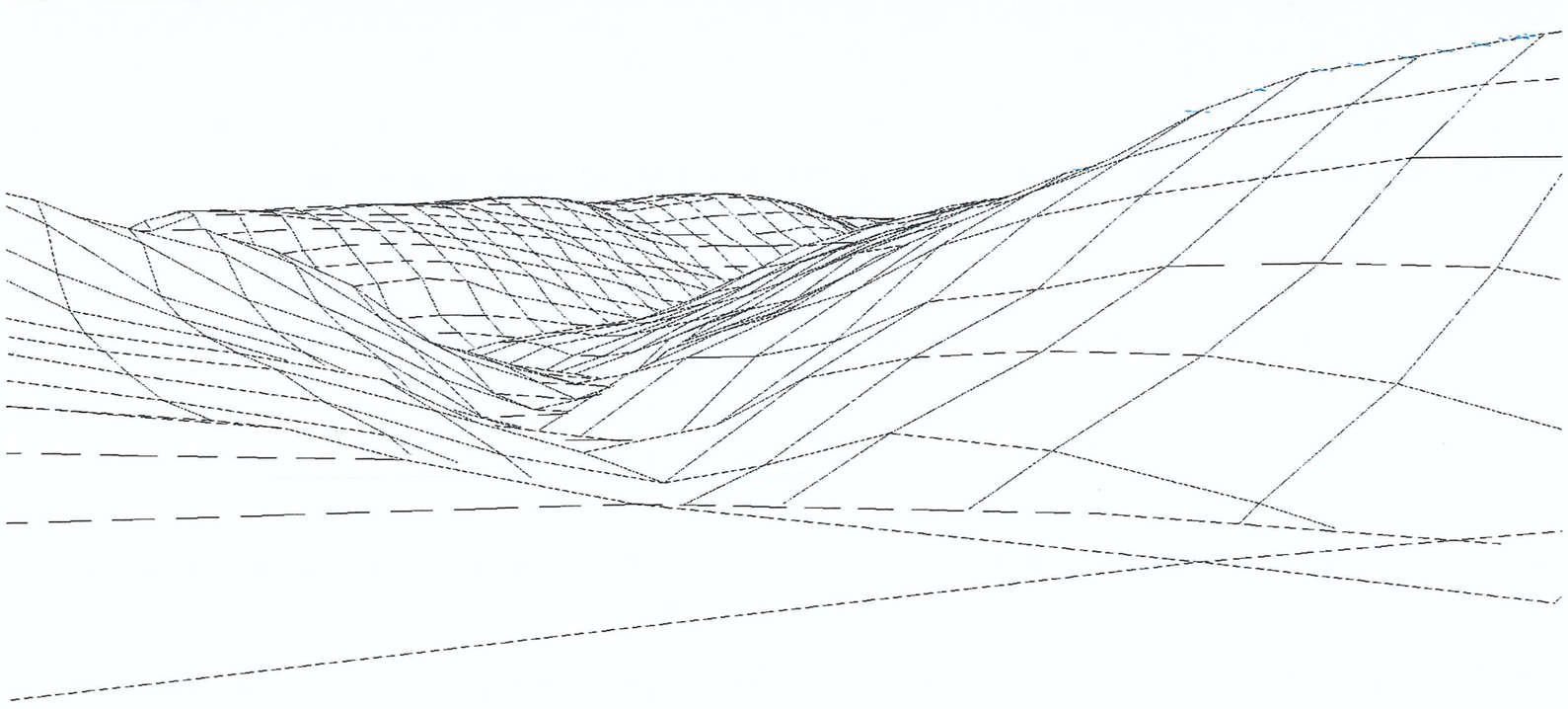
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Environmental Assessment

**Figure 9.7b**
**Photoviewpoint and Wireframe B**

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View north north-west from main road (A4107) running through Cymmer

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NATIONAL WIND POWER

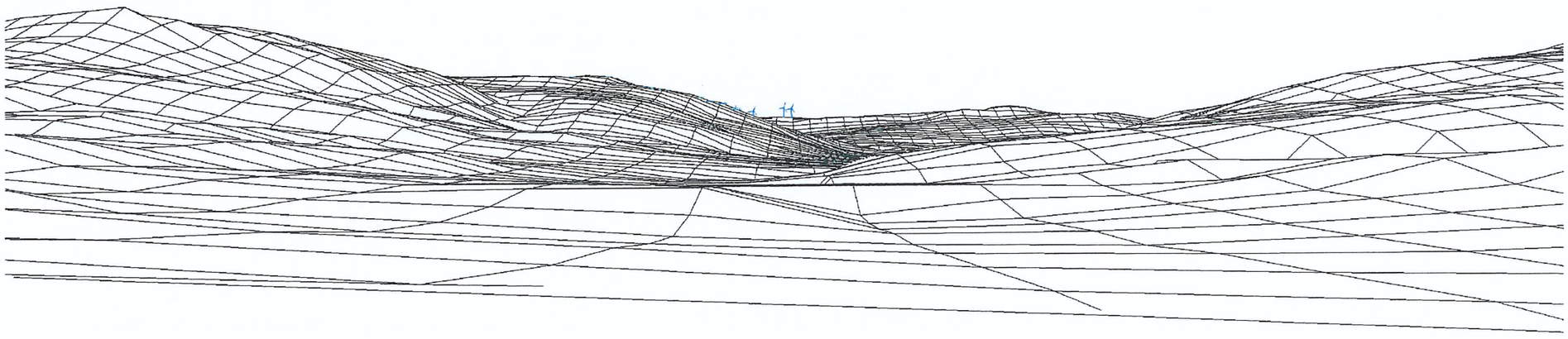
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**Figure 9.7c**
**Photoviewpoint and Wireframe C**

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07568-S37.cdr parkj

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View north from Salisbury Road situated on the western side of Maesteg

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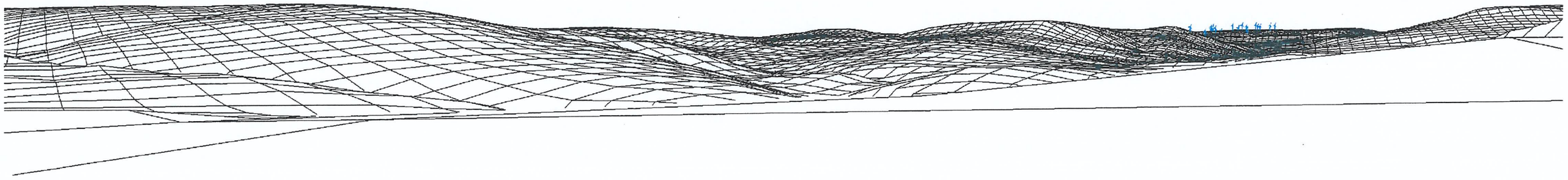
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Environmental Assessment

**Figure 9.7d**
**Photoviewpoint and Wireframe D**

October 2002
07568-S38.cdr parkj

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View north from northern edge of Llangynwd

*The photograph in this figure was taken using a 28mm lens and in some cases may be a series of photographs stitched together. Please note that the wireframe image on this page has been produced in order to fit this lens.*

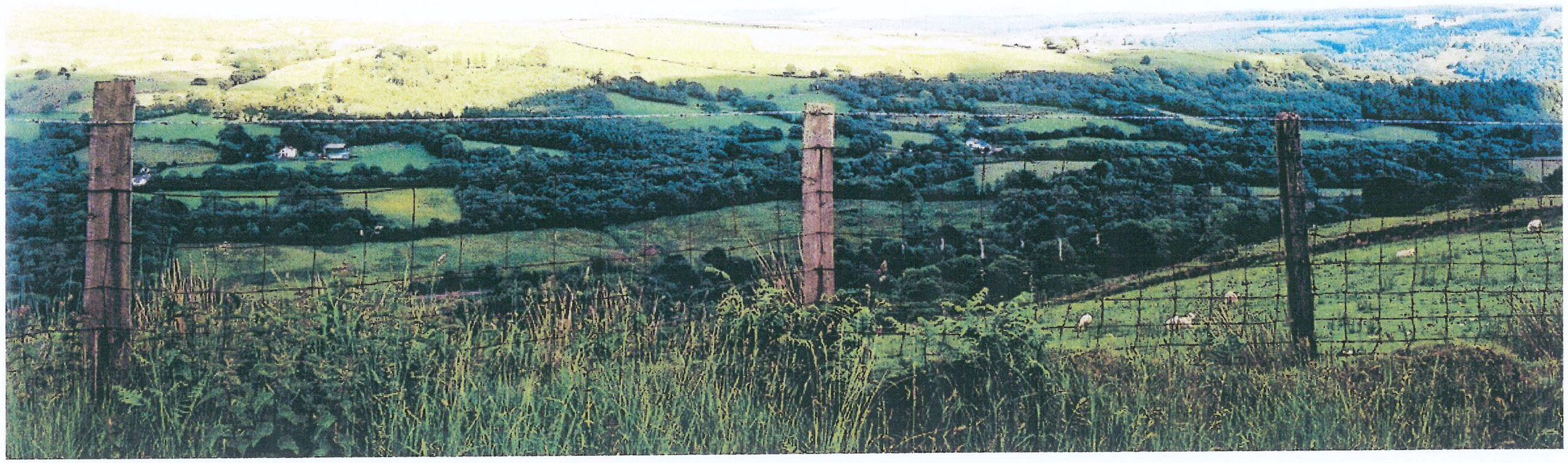
NATIONAL WIND POWER

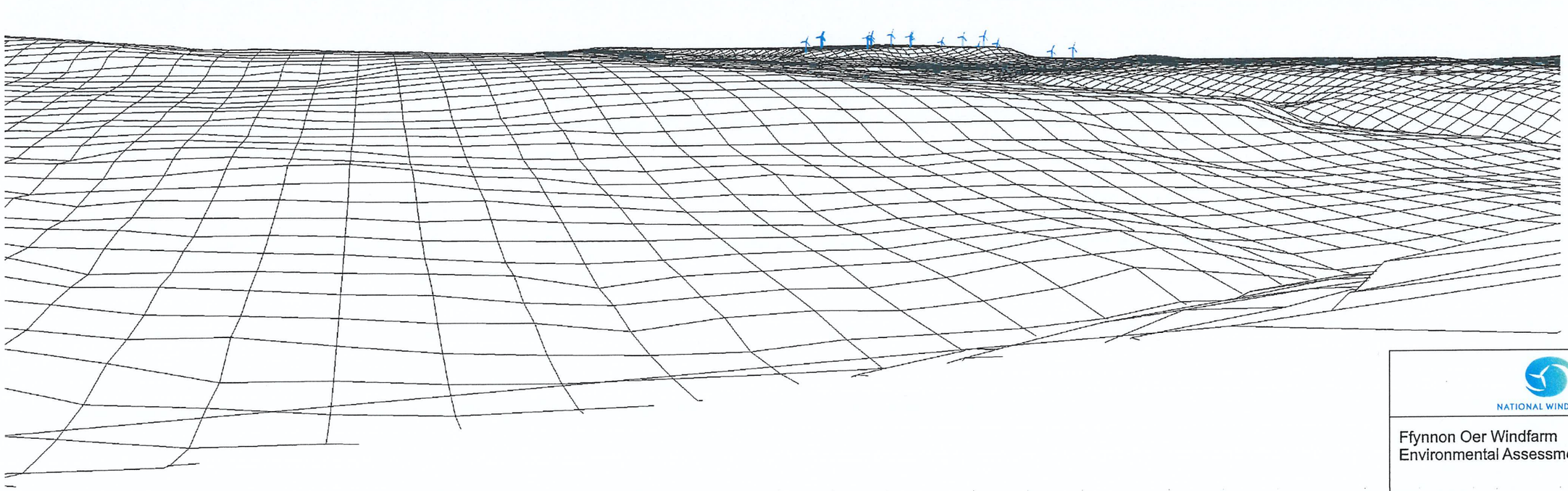
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**Figure 9.7e**
**Photoviewpoint and Wireframe E**

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View south-east from Bryn-caws Farm

*The photograph in this figure was taken using a 28mm lens and in some cases may be a series of photographs stitched together. Please note that the wireframe image on this page has been produced in order to fit this lens.*

NATIONAL WIND POWER

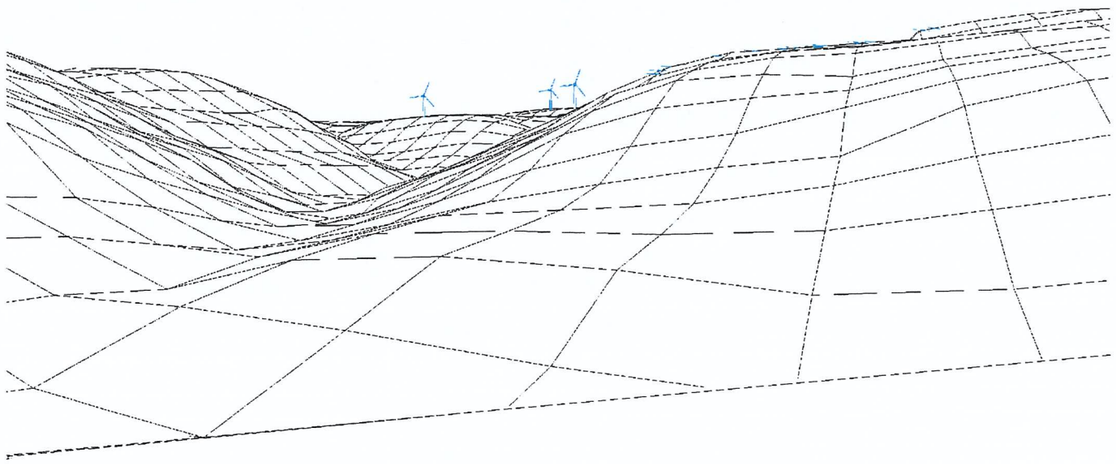
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**Figure 9.7f**
**Photoviewpoint and Wireframe F**

October 2002
07568-S40.cdr parkj

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View north from Cymmer Highway Depot

*The photograph in this figure was taken using a 28mm lens and in some cases may be a series of photographs stitched together. Please note that the wireframe image on this page has been produced in order to fit this lens.*

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**Figure 9.7g**
**Photoviewpoint and Wireframe G**

October 2002
07568-S41.cdr parkj

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## Key

- Application area
- 20 km Study area
- A — Photomontage location
  1. Sarn Helen
  2. East of Rhosaman
  3. Croeserw
  4. Proposed Afan Valley Holiday Park
  5. Cilfrew
  6. Near Hawdref-fawr
  7. A4107 running below Wefra

0 km — 8 km

NATIONAL WIND POWER

Ffynnon Oer Windfarm
Environmental Assessment

**Figure 9.8**
**Photomontage Location Plan**

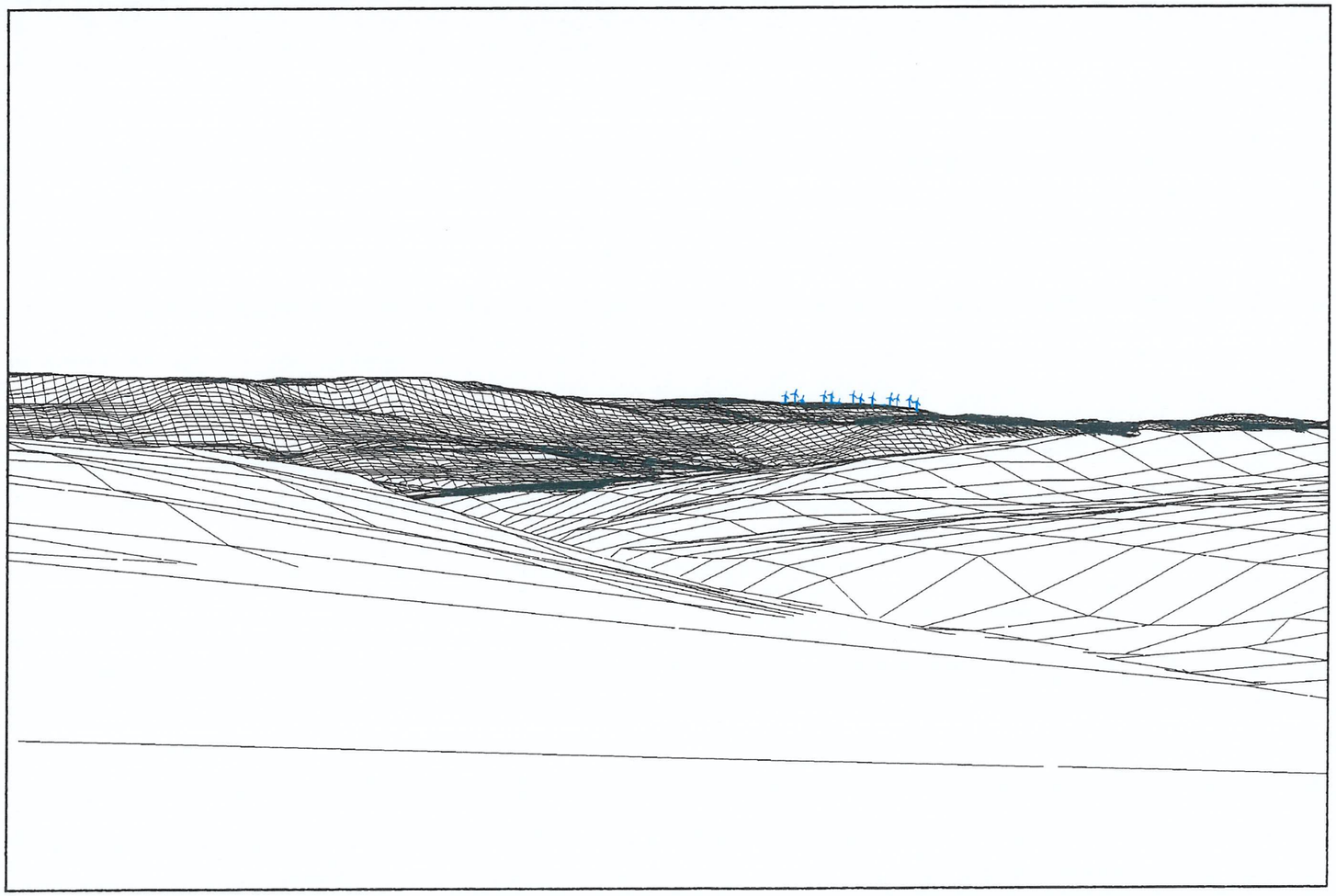
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50mm Panorama view south-west from Sarn Helen in the Brecon Beacons National Park



70mm Wireframe view south-west from Sarn Helen in the Brecon Beacons National Park

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Ffynnon Oer Windfarm
Environmental Assessment

**Figure 9.9a & b**
**Existing Viewpoint 1 and Wireframe**

October 2002
07568-S43a.cdr stept

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70mm Photomontage view from Sarn Helen looking south-west

| | |
|---|---|
| OS Grid Reference | 291545,215323 |
| Distance from Turbines | 18.2km |
| Camera Height | 1.52m Above Grade |
| Camera Lens | 70mm |
| Viewing Distance | 544mm |

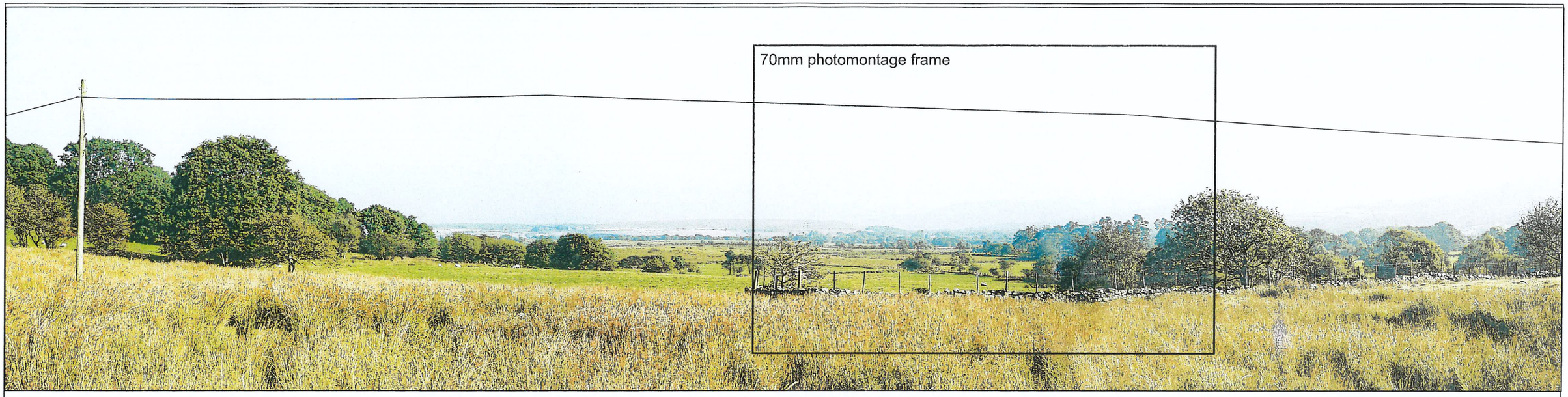
NATIONAL WIND POWER

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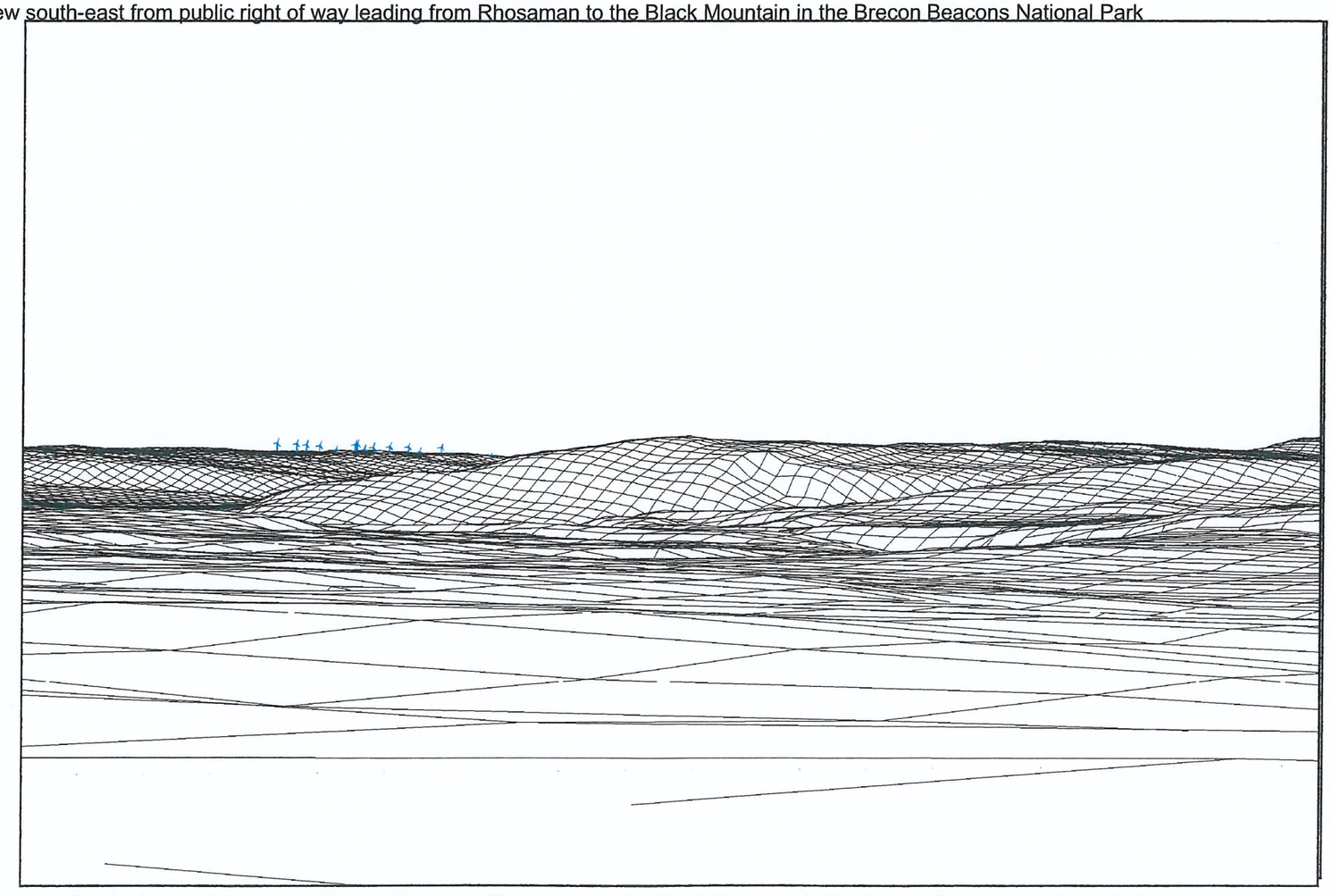
**Figure 9.9c**
**Photomontage 1**

October 2002
07568-S45a.cdr stept

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50mm Panorama view south-east from public right of way leading from Rhosaman to the Black Mountain in the Brecon Beacons National Park



70mm Wireframe view south-east from public right of way leading from Rhosaman to the Black Mountain in the Brecon Beacons National Park

NATIONAL WIND POWER

Ffynnon Oer Windfarm
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**Figure 9.10a & b**
**Existing Photoviewpoint 2 and Wireframe**

October 2002
07568-S46a.cdr stept

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70mm Photomontage view south-east from public right of way leading from Rhosaman to the Black Mountain in the Brecon Beacons

| | |
|---|---|
| OS Grid Reference | 274584,214115 |
| Distance from Turbines | 18.3km |
| Camera Height | 1.52m Above Grade |
| Camera Lens | 70mm |
| Viewing Distance | 548mm |

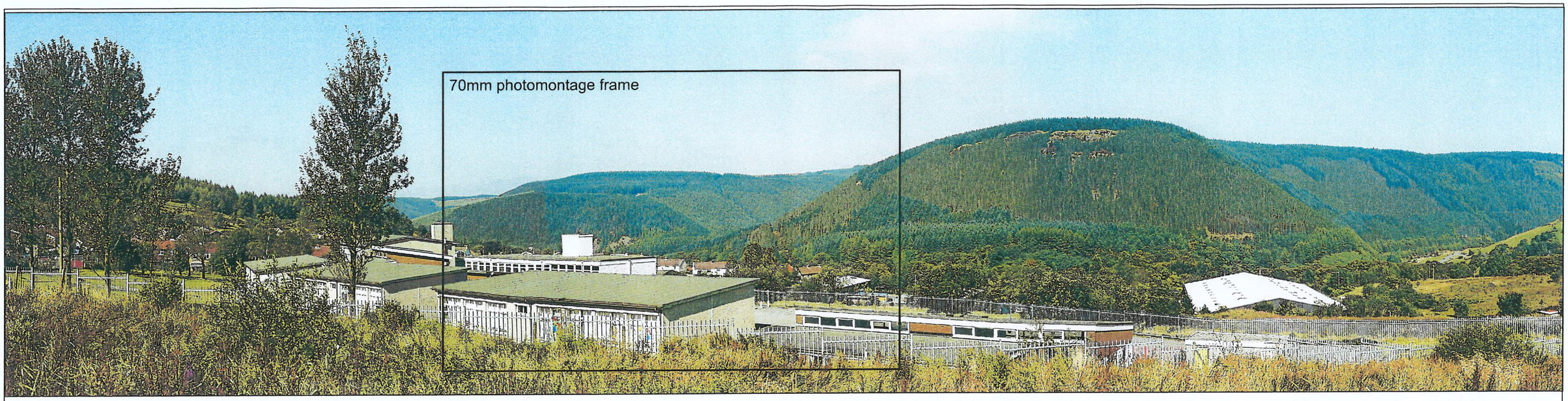
NATIONAL WIND POWER

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Environmental Assessment

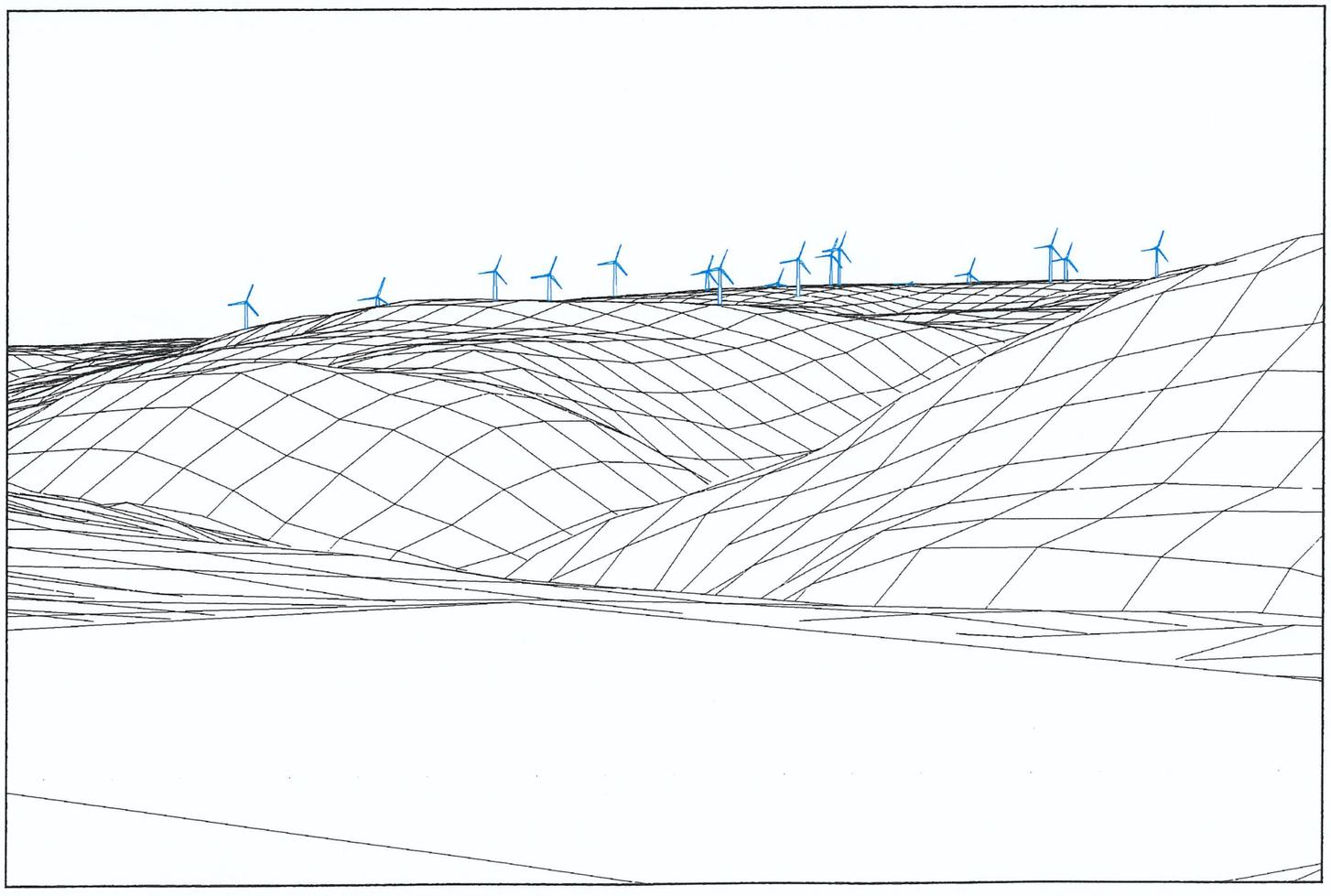
**Figure 9.10c**
**Photomontage 2**

October 2002
07568-S48a.cdr stept

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50mm Panorama view north-west from Croeserw



70mm Wireframe View north-west from Croeserw

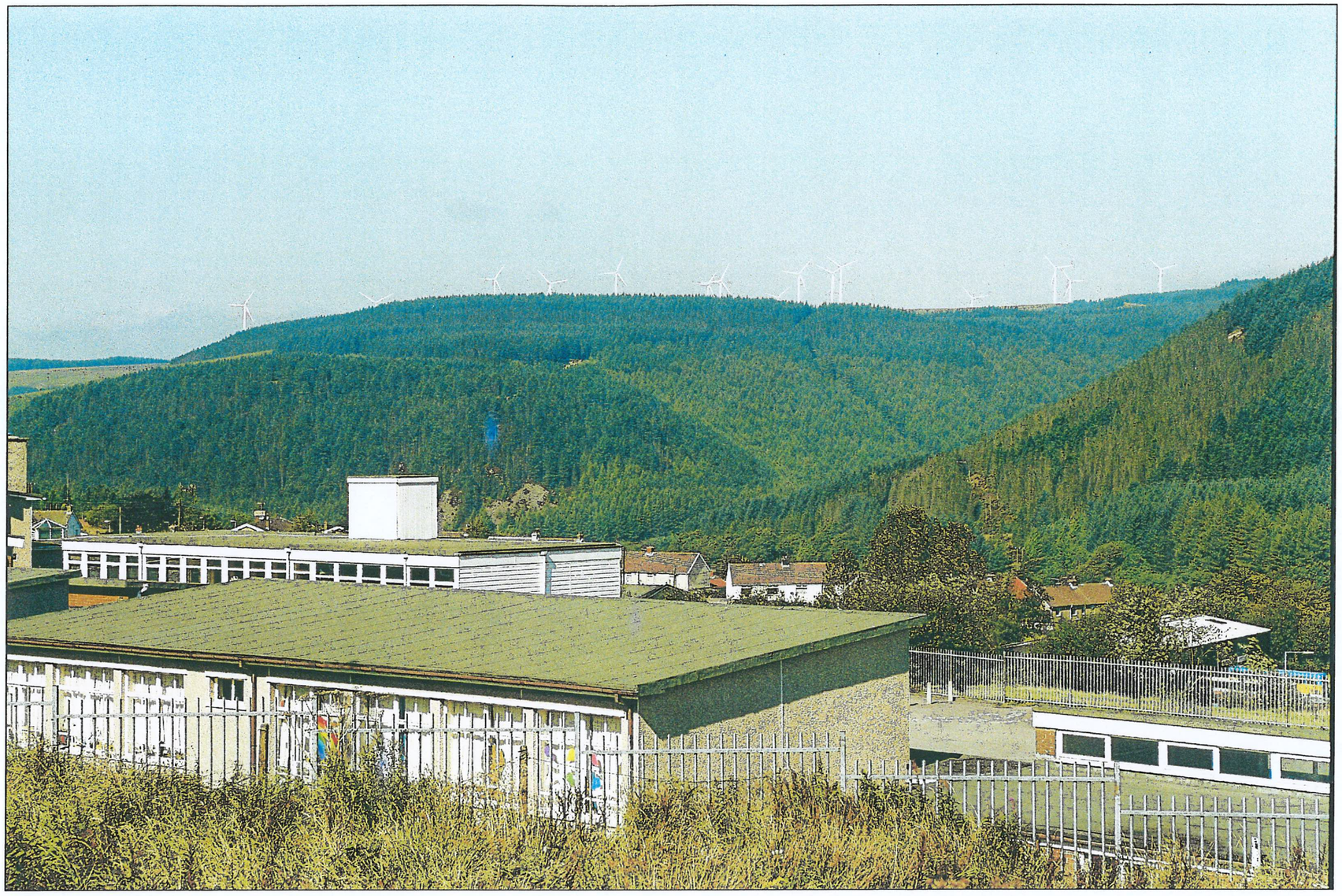
NATIONAL WIND POWER

Ffynnon Oer Windfarm
Environmental Assessment

**Figure 9.11a & b**
**Existing Photoviewpoint 3 and Wireframe**

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70mm Photomontage view north-west from Croeserw

| | |
|---|---|
| OS Grid Reference | 287165,195175 |
| Distance from Turbines | 4.4km |
| Camera Height | 1.52m Above Grade |
| Camera Lens | 70mm |
| Viewing Distance | 541mm |

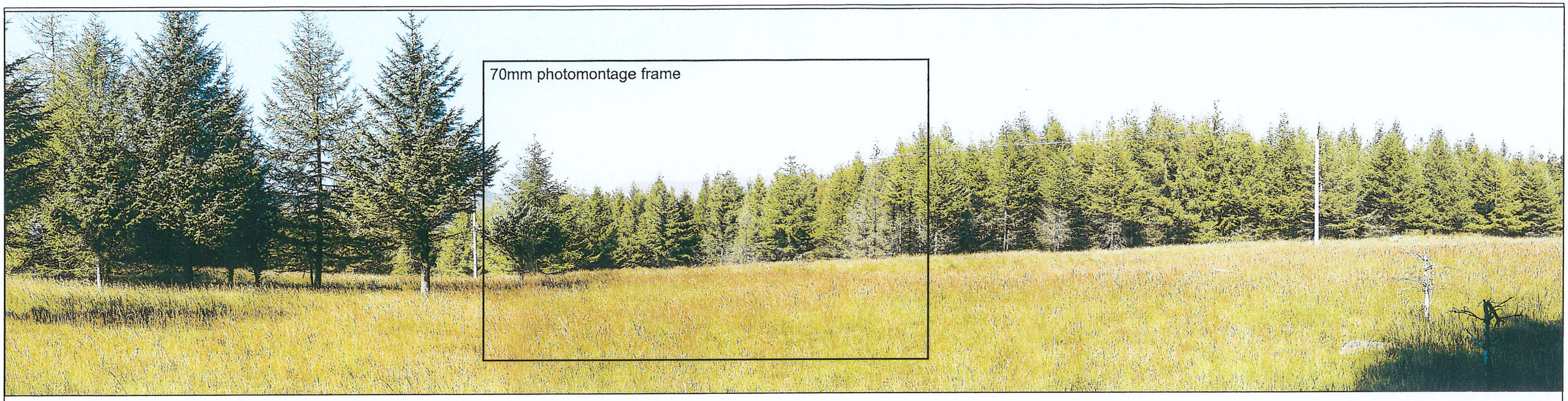
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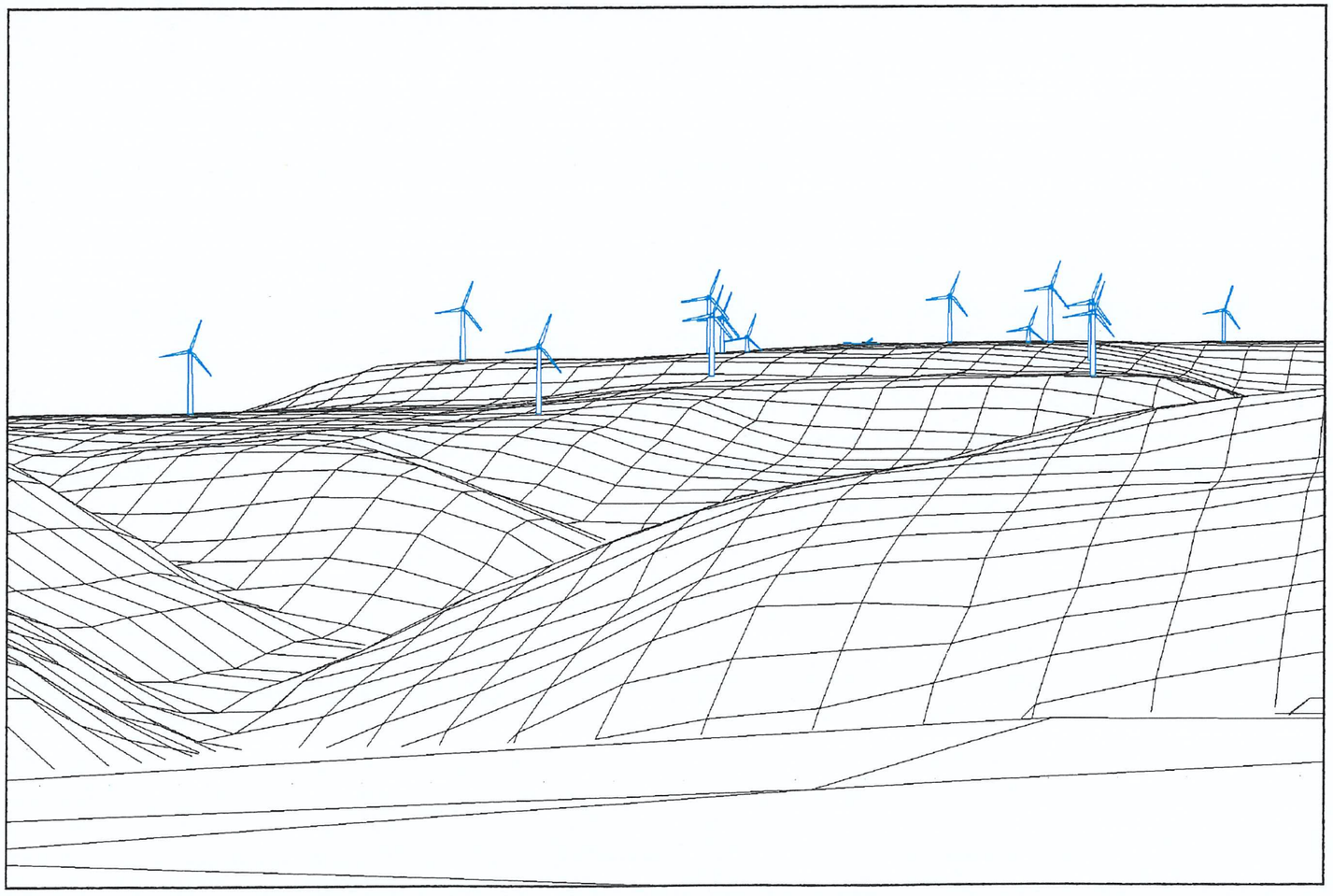
**Figure 9.11c**
**Photomontage 3**

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50mm Panorama view north from proposed Afan Valley Holiday Park



70mm Wireframe view north from proposed Afan Valley Holiday Park

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**Figure 9.12a & b**
**Existing Photoviewpoint 4 and Wireframe**

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70mm Photomontage view north from proposed Afan Valley Holiday Park

| | |
|---|---|
| OS Grid Reference | 285166,195371 |
| Distance from Turbines | 3.3km |
| Camera Height | 1.52m Above Grade |
| Camera Lens | 70mm |
| Viewing Distance | 564mm |

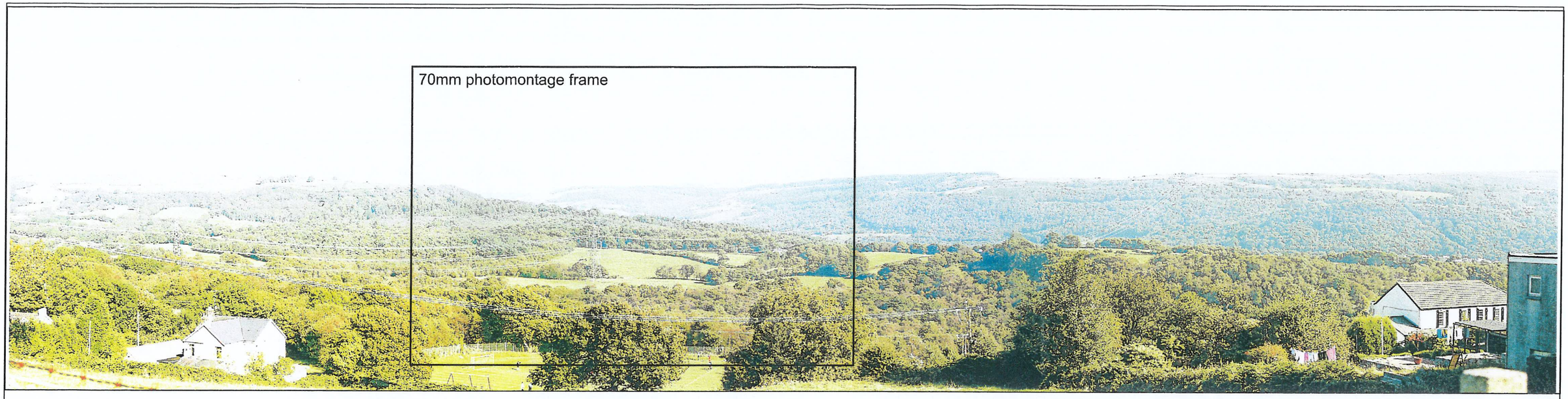
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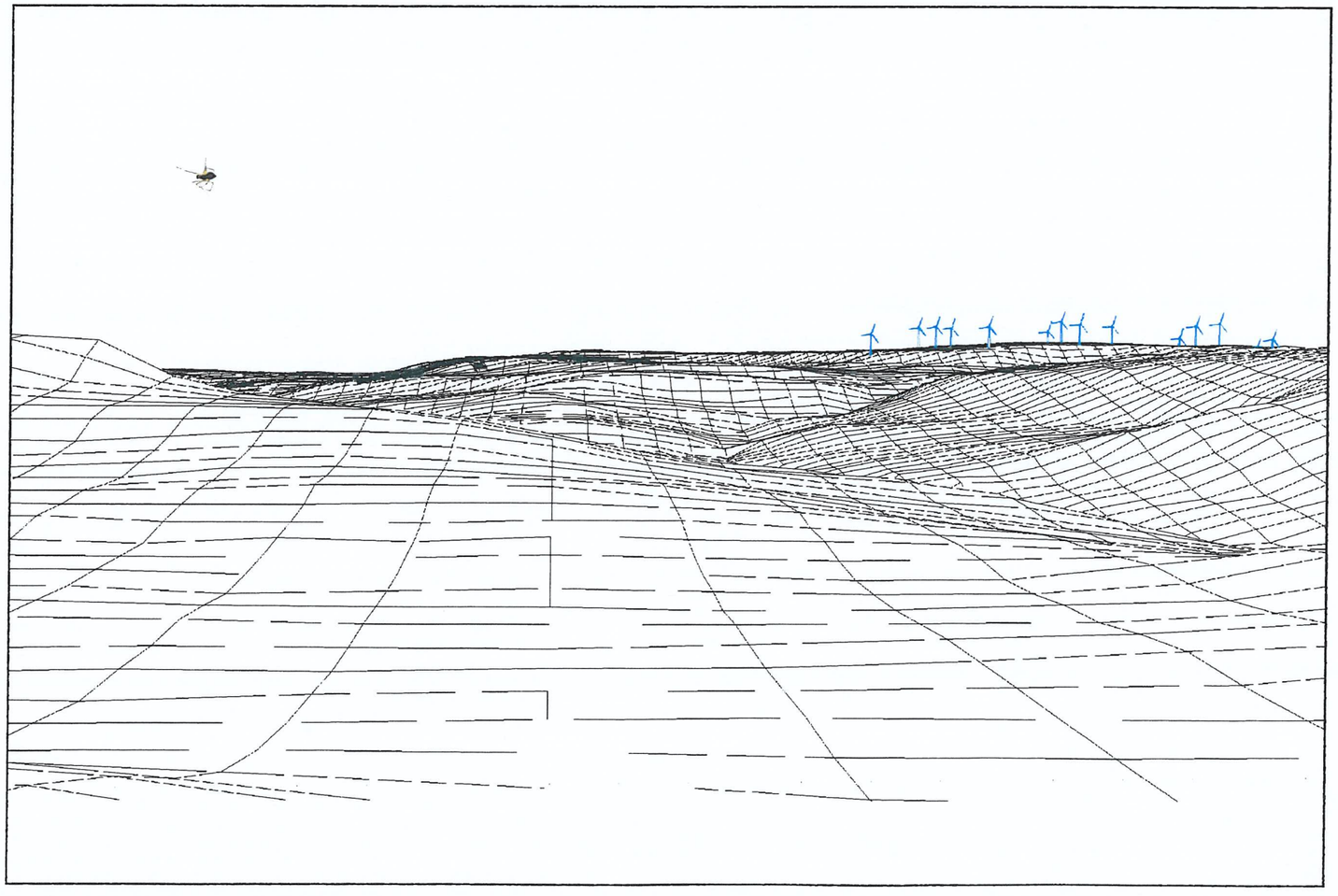
**Figure 9.12c**
**Photomontage 4**

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50mm Panorama view east south-east from eastern edge of Cilfrew



70mm Wireframe view east south-east from eastern edge of Cilfrew

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**Figure 9.13a & b**
**Existing Photoviewpoint 5 and Wireframe**

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70mm Photomontage view east south-east from eastern edge of Cilfrew

| | |
|---|---|
| OS Grid Reference | 277150,200449 |
| Distance from Turbines | 7.6km |
| Camera Height | 1.52m Above Grade |
| Camera Lens | 70mm |
| Viewing Distance | 555mm |

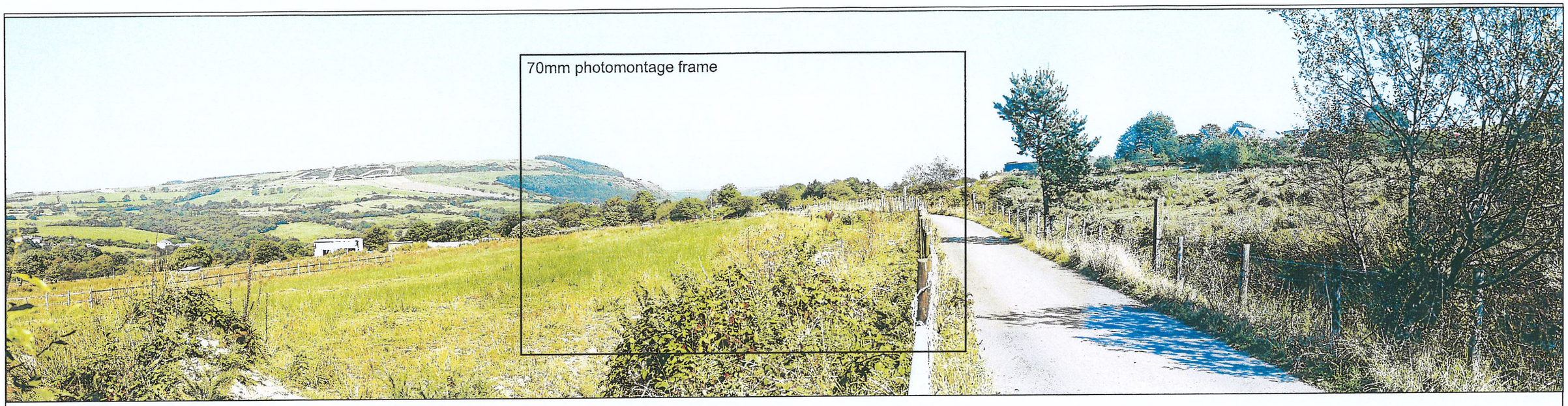
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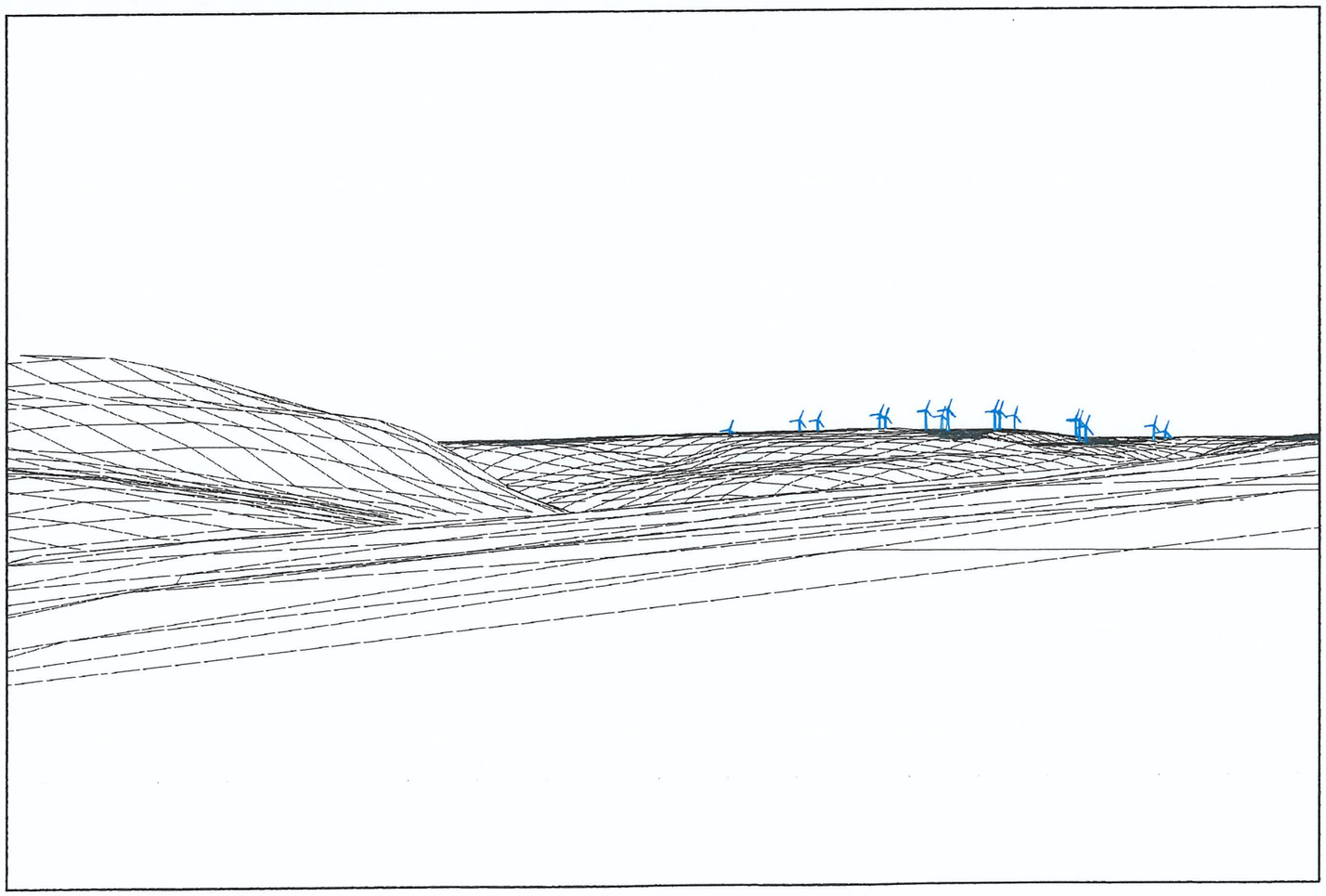
**Figure 9.13c**
**Photomontage 5**

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50mm Panorama view east north-east from road near Hawdref-fawr



70mm Wireframe view east north-east from road near Hawdref-fawr

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**Figure 9.14a & b**
**Existing Photoviewpoint 6 and Wireframe**

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70mm Photomontage view east north-east from road near Hawdref-fawr

| | |
|---|---|
| OS Grid Reference | 277757,194992 |
| Distance from Turbines | 7.1km |
| Camera Height | 1.52m Above Grade |
| Camera Lens | 70mm |
| Viewing Distance | 564mm |

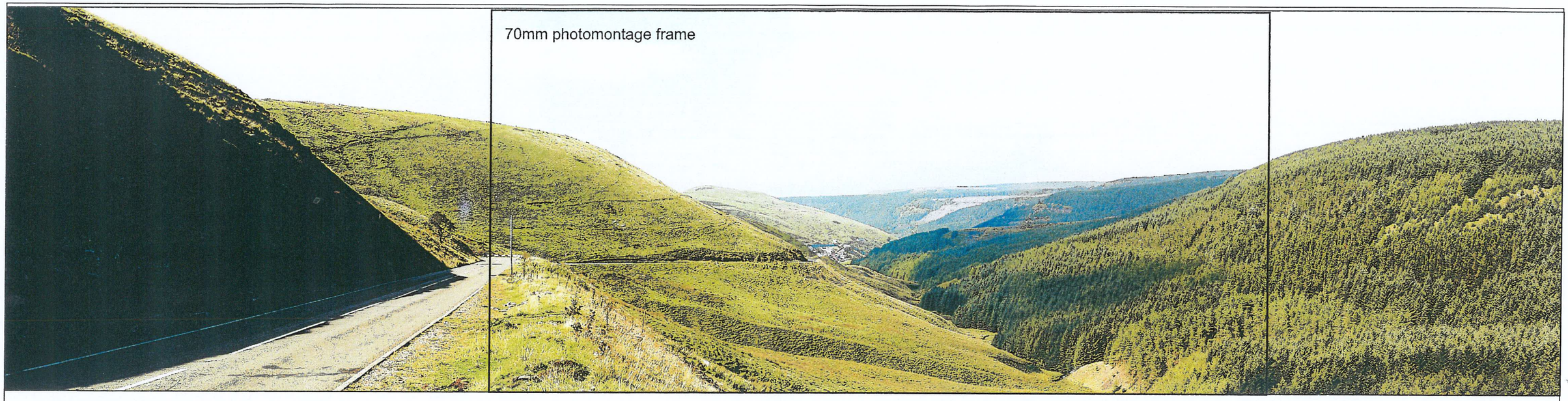
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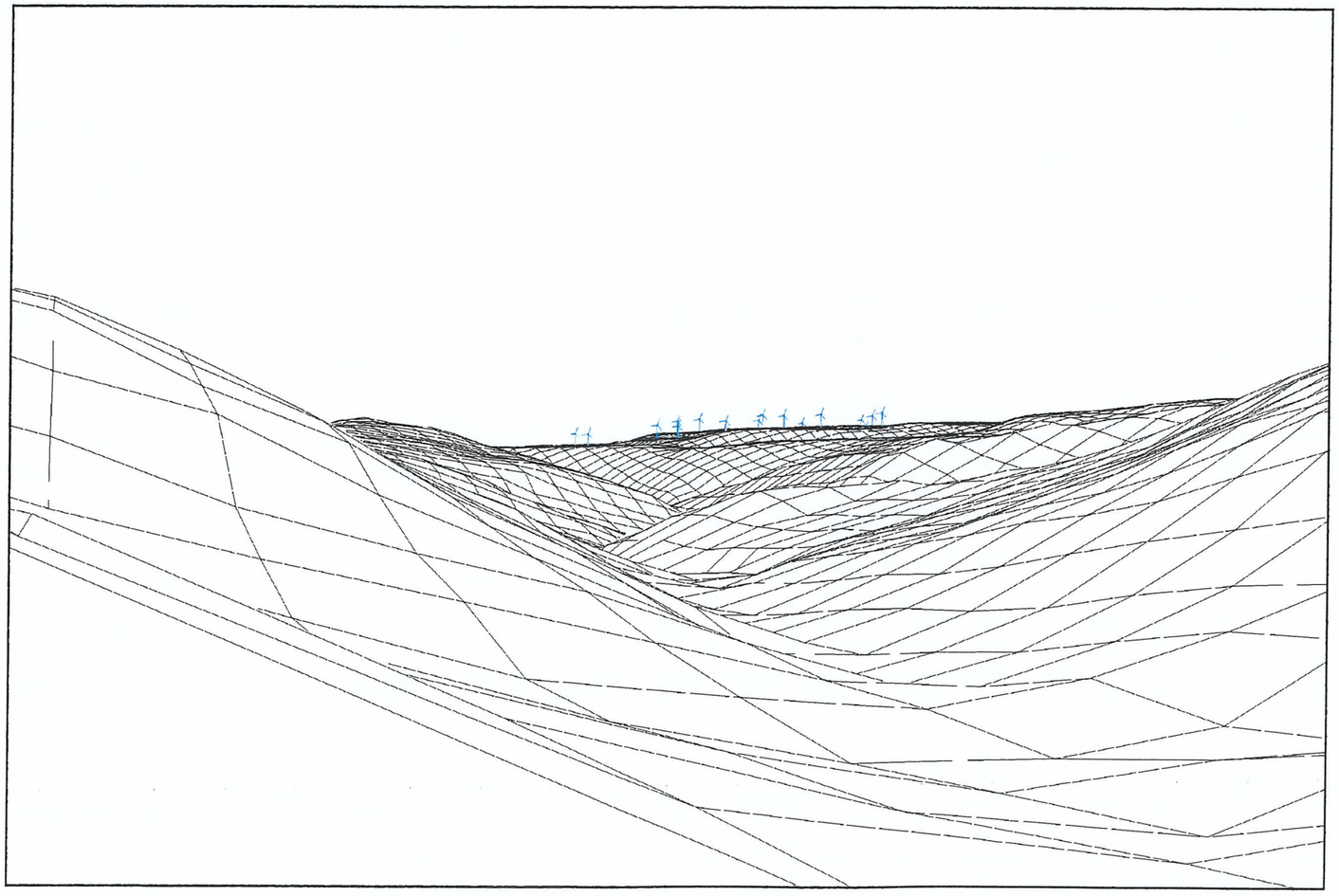
**Figure 9.14 C**
**Photomontage 6**

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50mm Panorama view north-west from A4107 running below Werfa



70mm Wireframe view north-west from A4107 running below Werfa

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**Figure 9.15a & b**
**Existing Photoviewpoint 7 and Wireframe**

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70mm Photomontage view north-west from A4107 running below Werfa

| | |
|---|---|
| OS Grid Reference | 291055,195653 |
| Distance from Turbines | 7.2km |
| Camera Height | 1.52m Above Grade |
| Camera Lens | 70mm |
| Viewing Distance | 555mm |

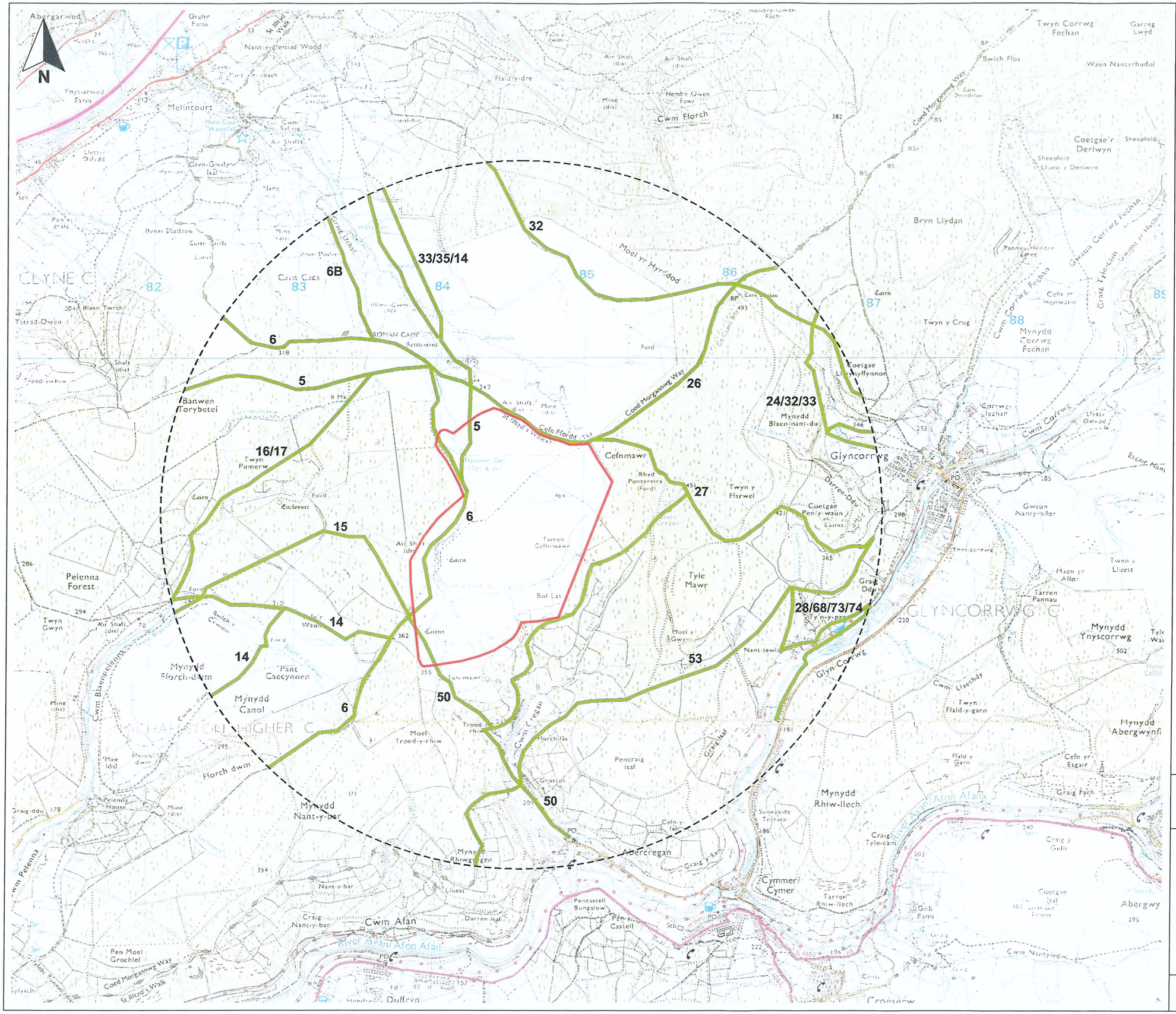
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**Figure 9.15c**
**Photomontage 7**

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**Figure 10.1**
**Public Rights of Way on Definitive Map within 2 km of Windfarm Site**

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