



LLANBRYNMAIR WIND FARM

Supplementary Environmental
Information August 2013

Volume III - Supporting Figures



VOLUME III - SUPPORTING FIGURES

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RED LINE BOUNDARY DRAWINGS





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DRAWING 1A

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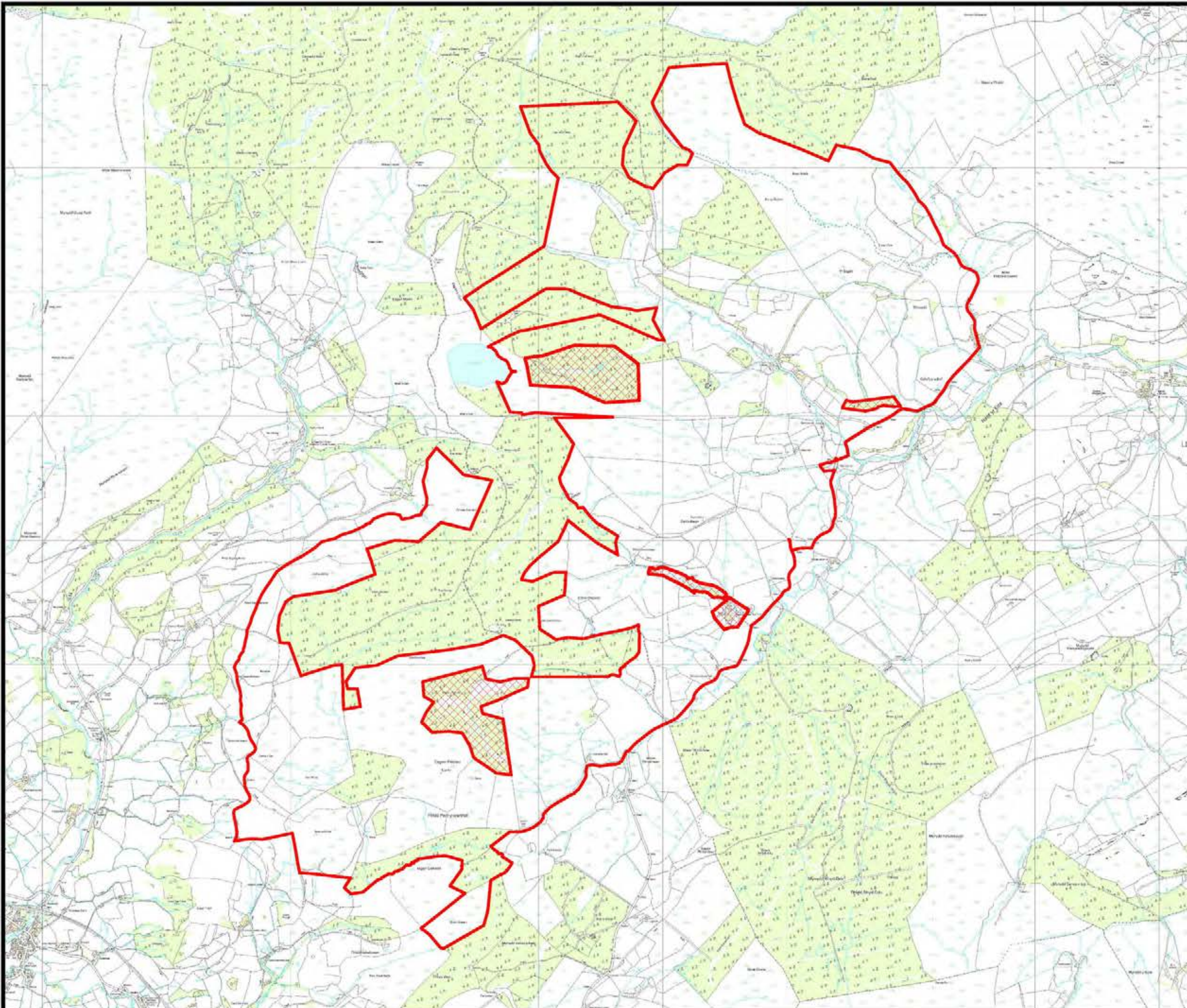
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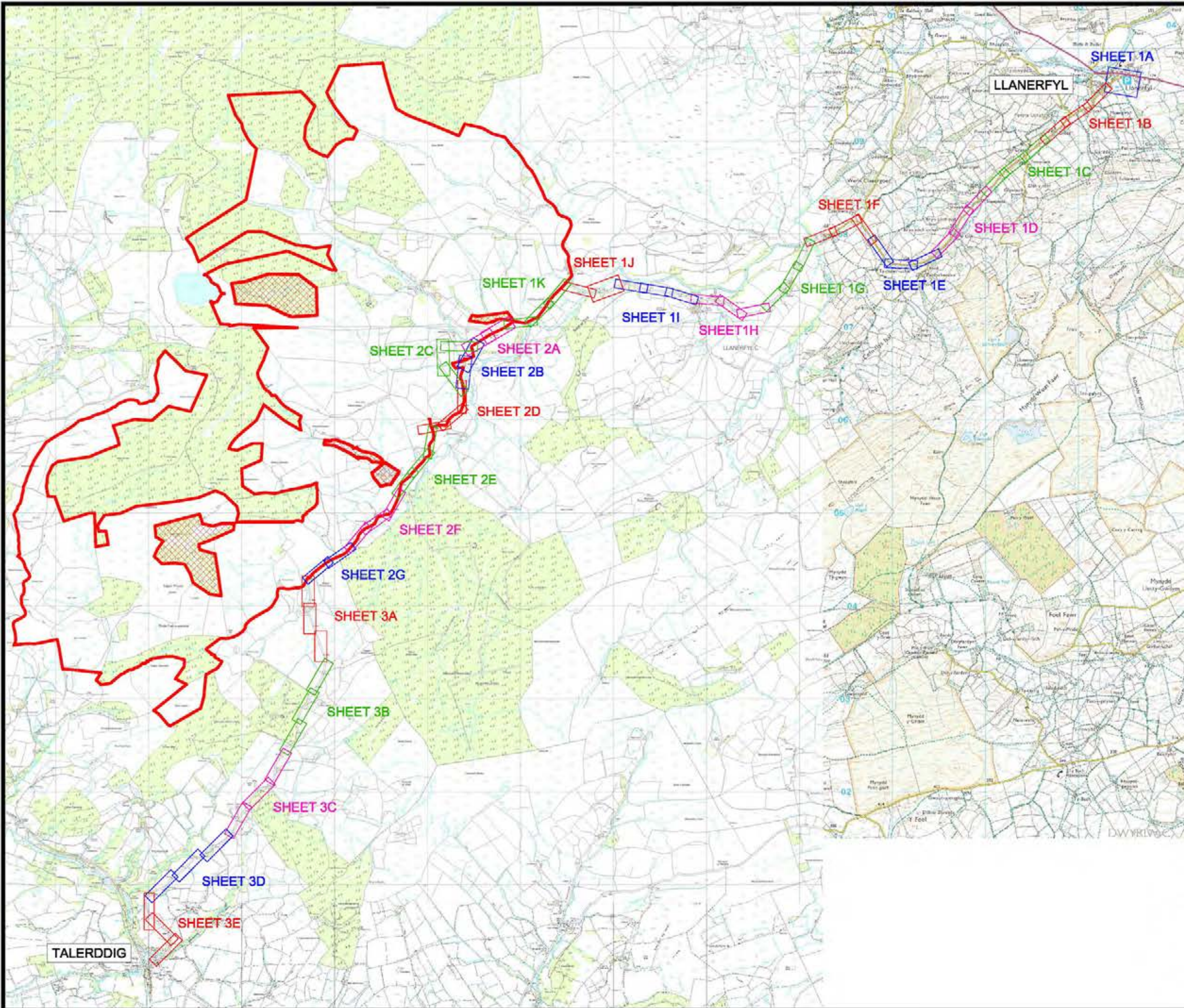
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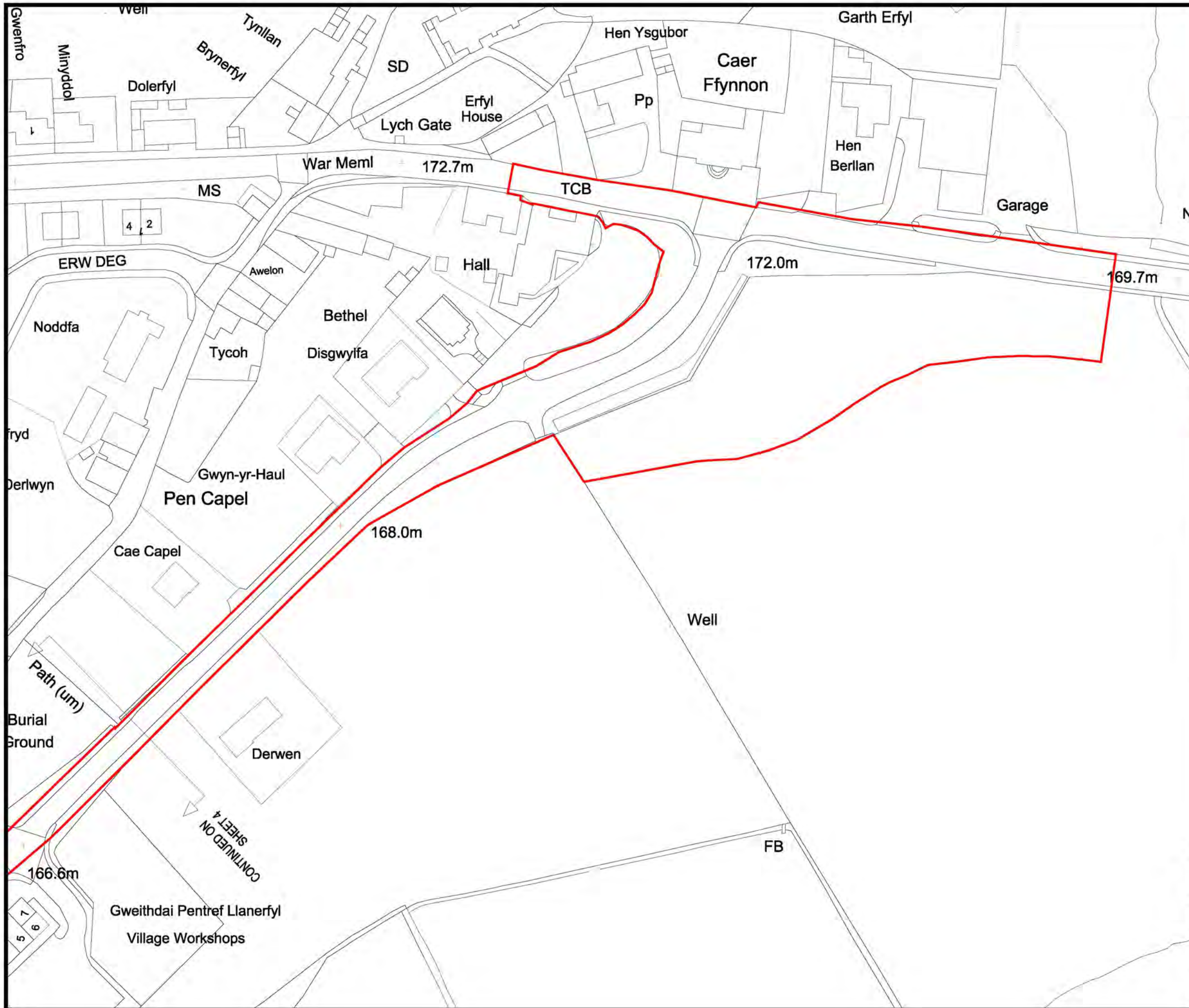
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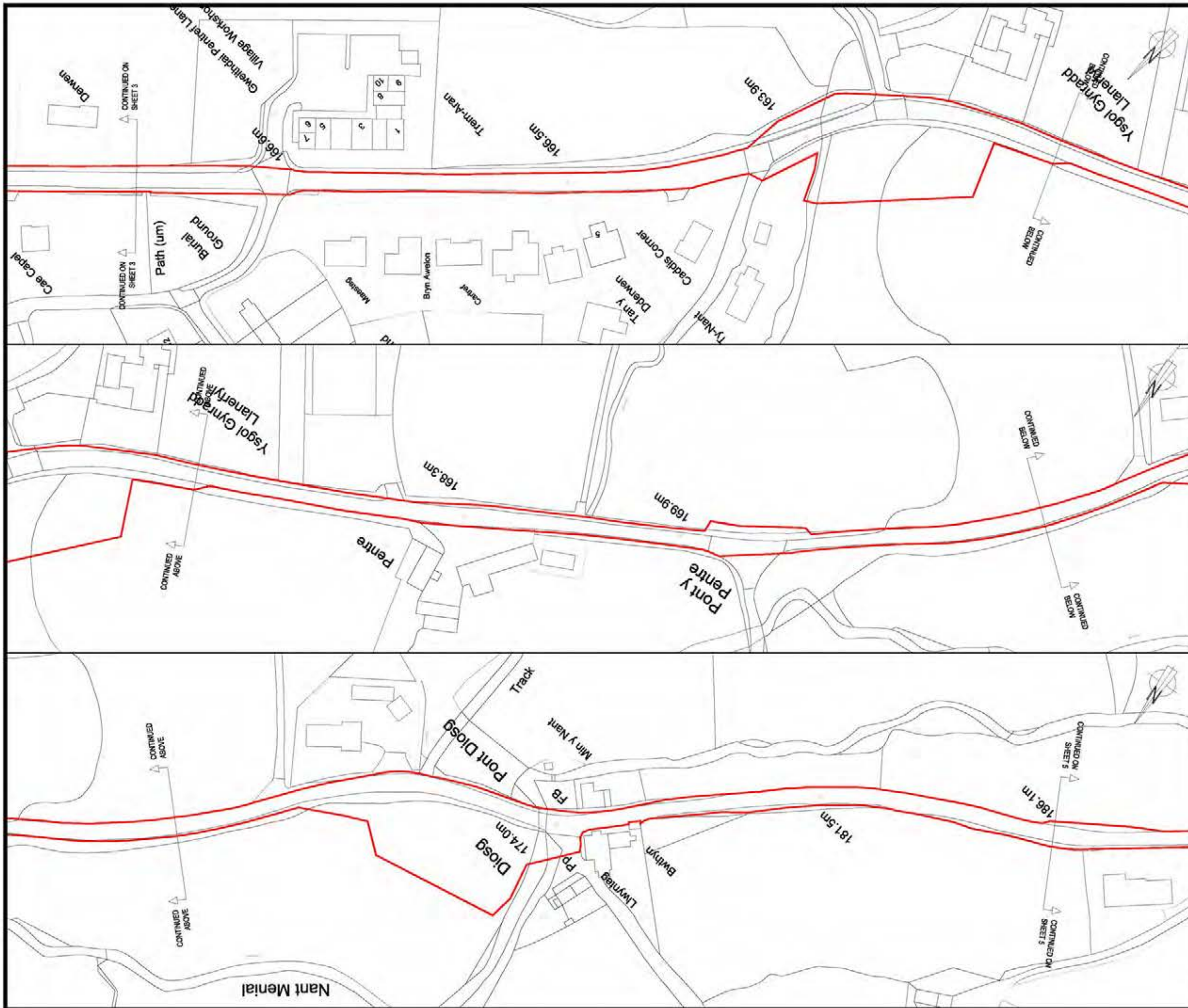
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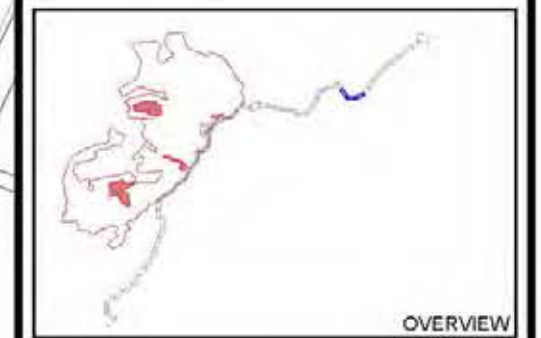
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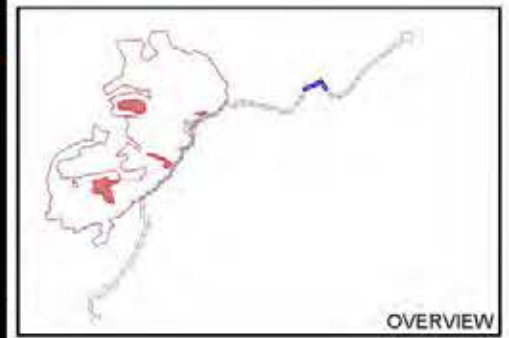
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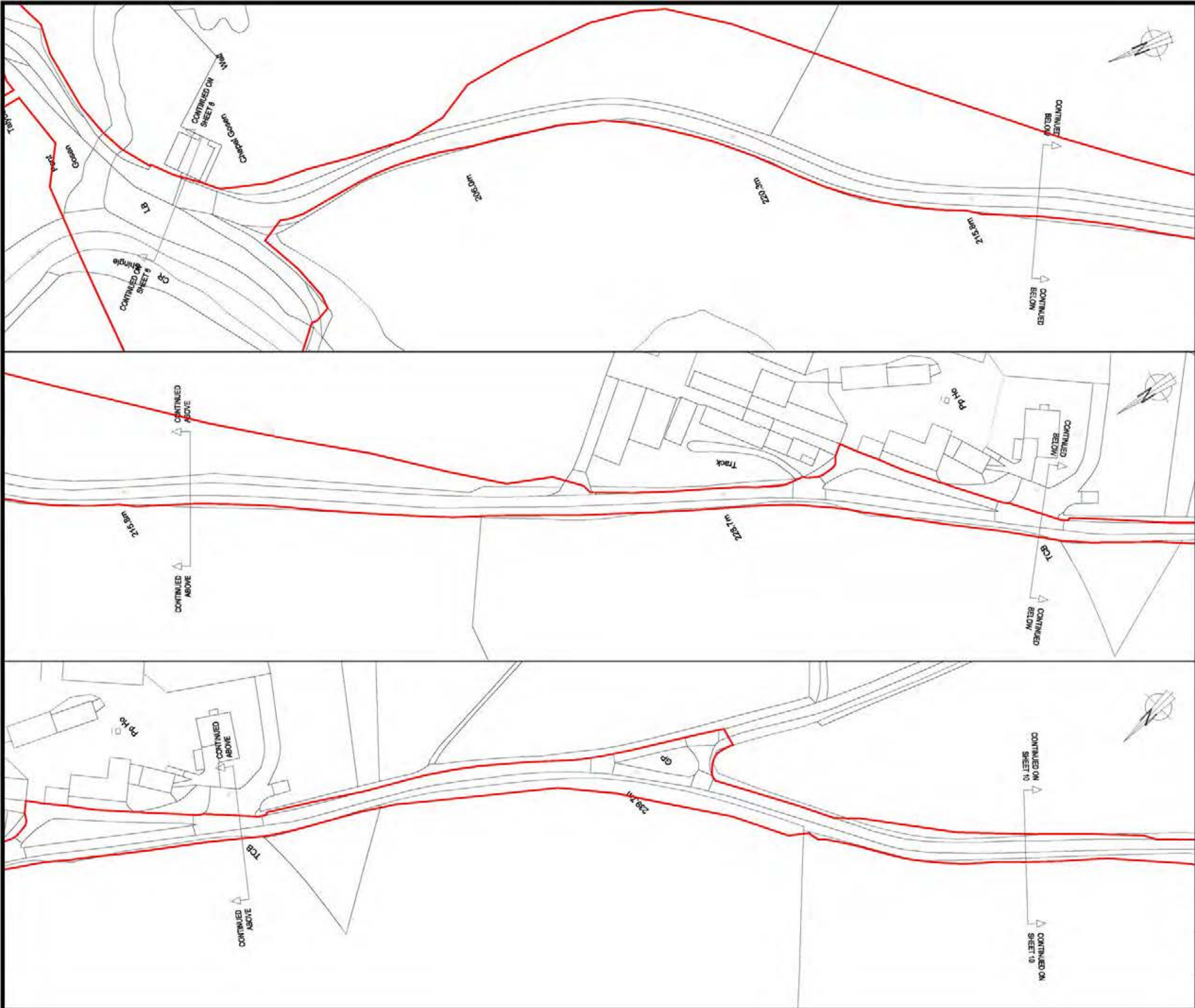
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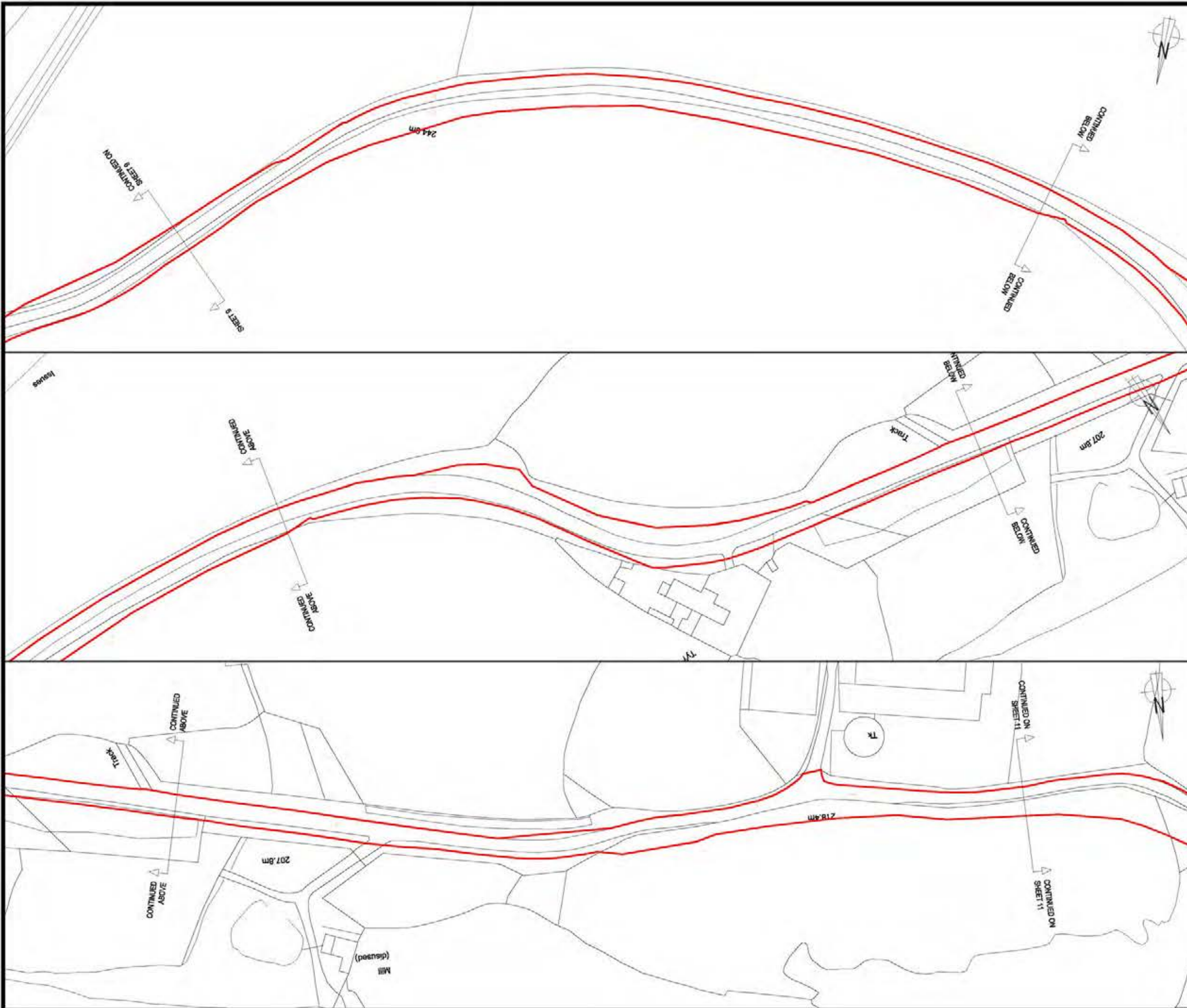
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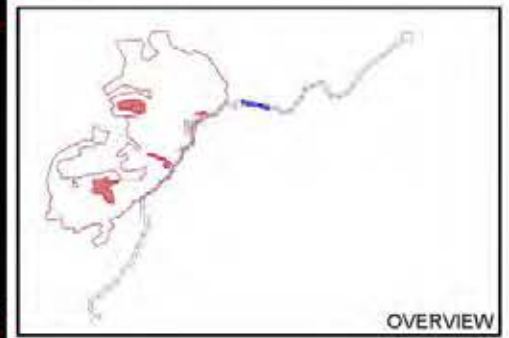
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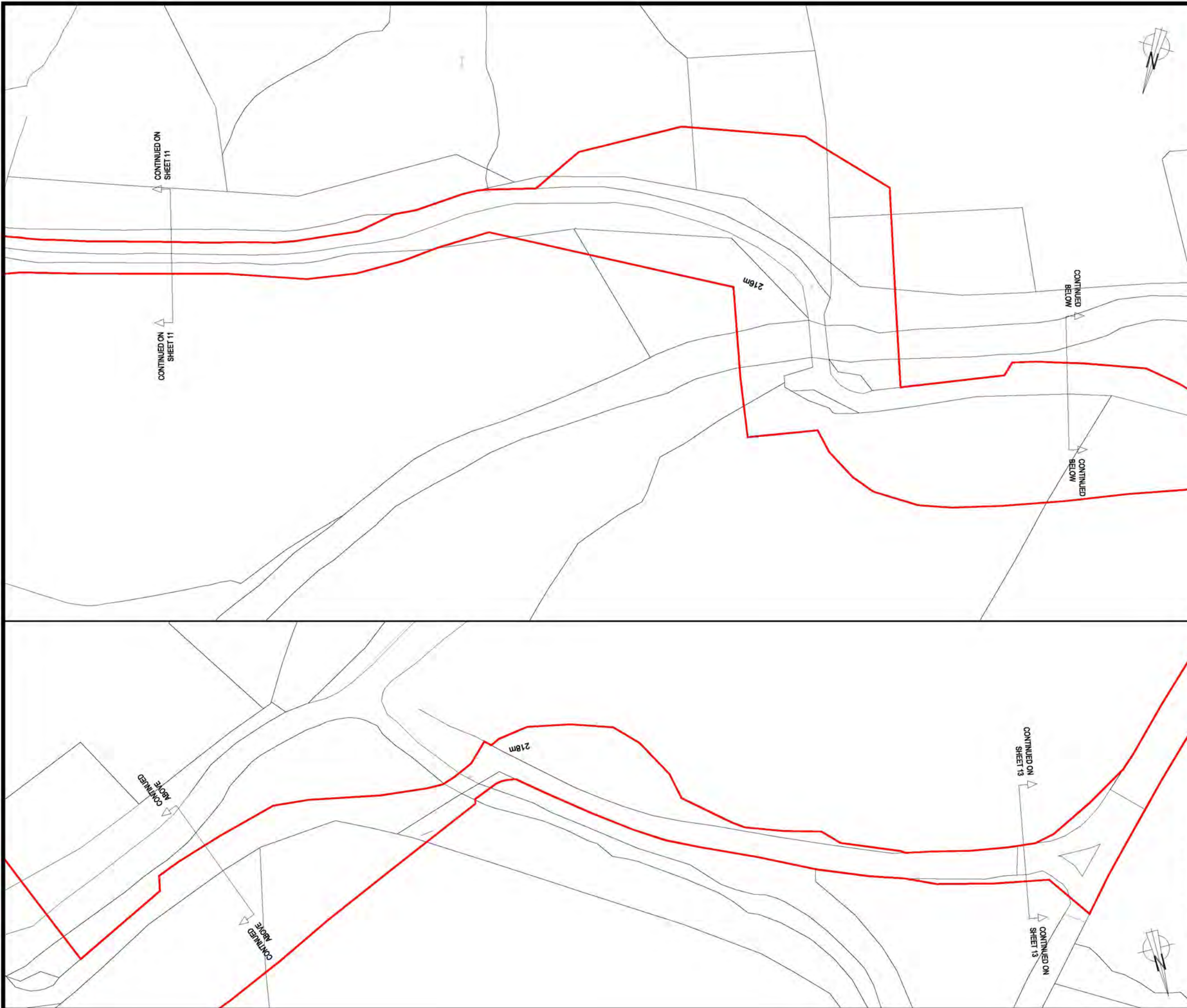
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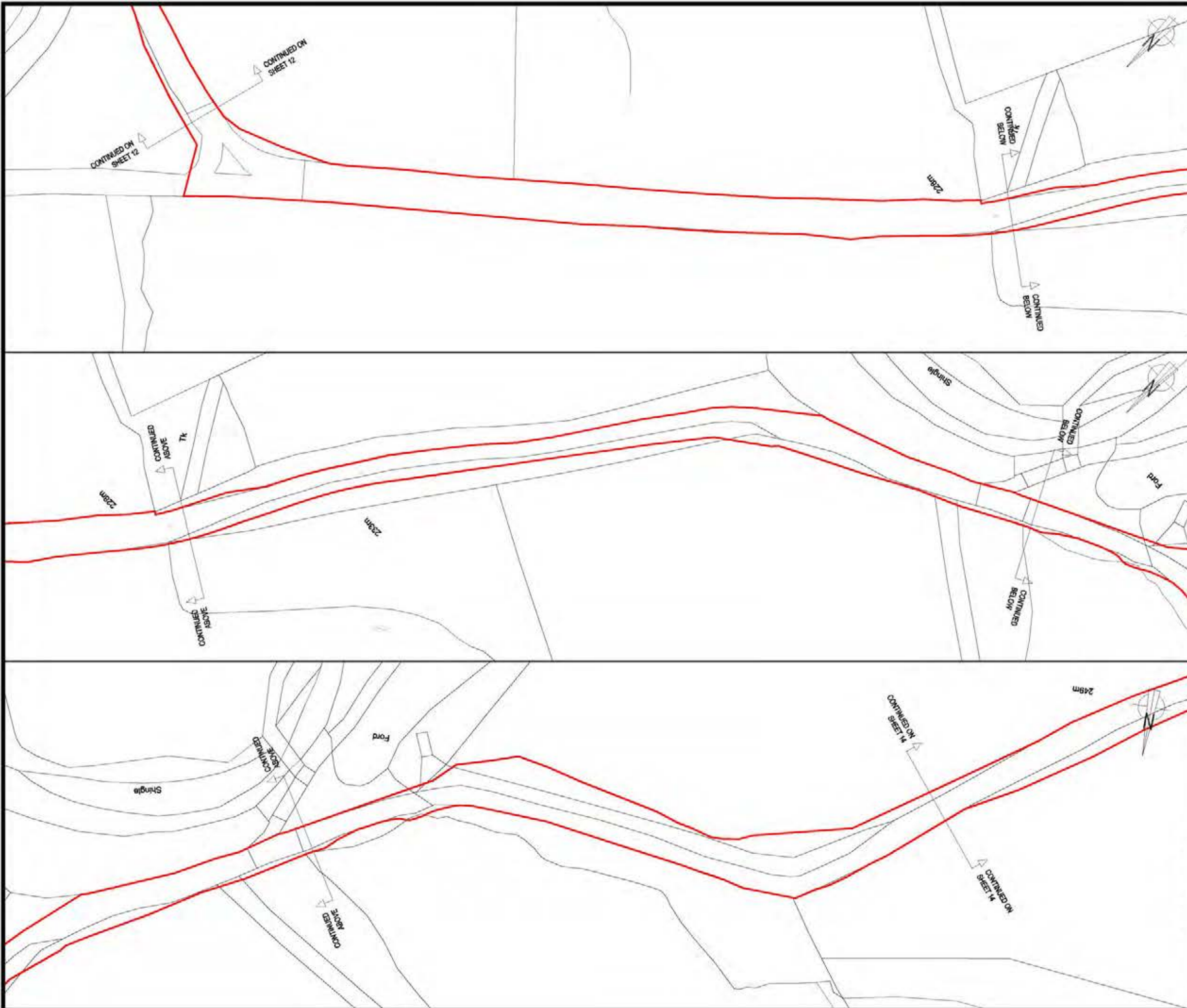
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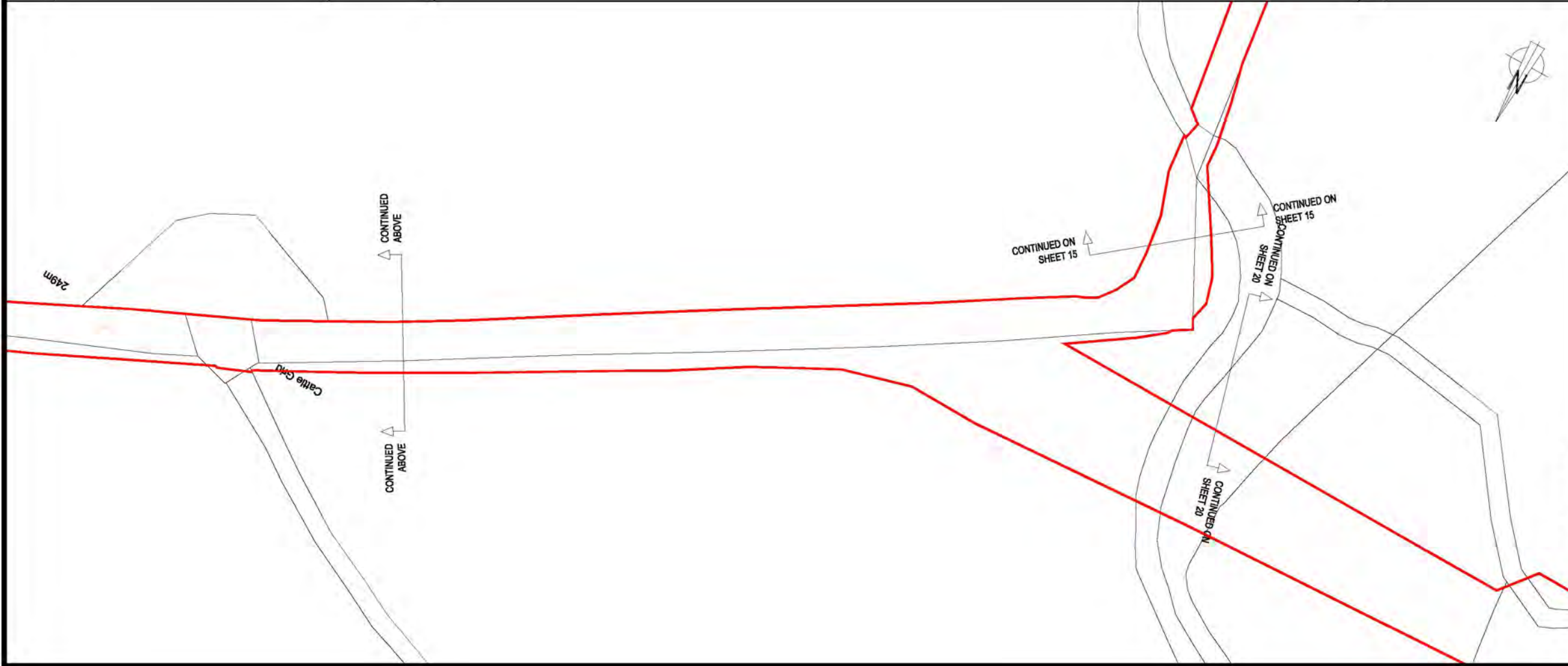
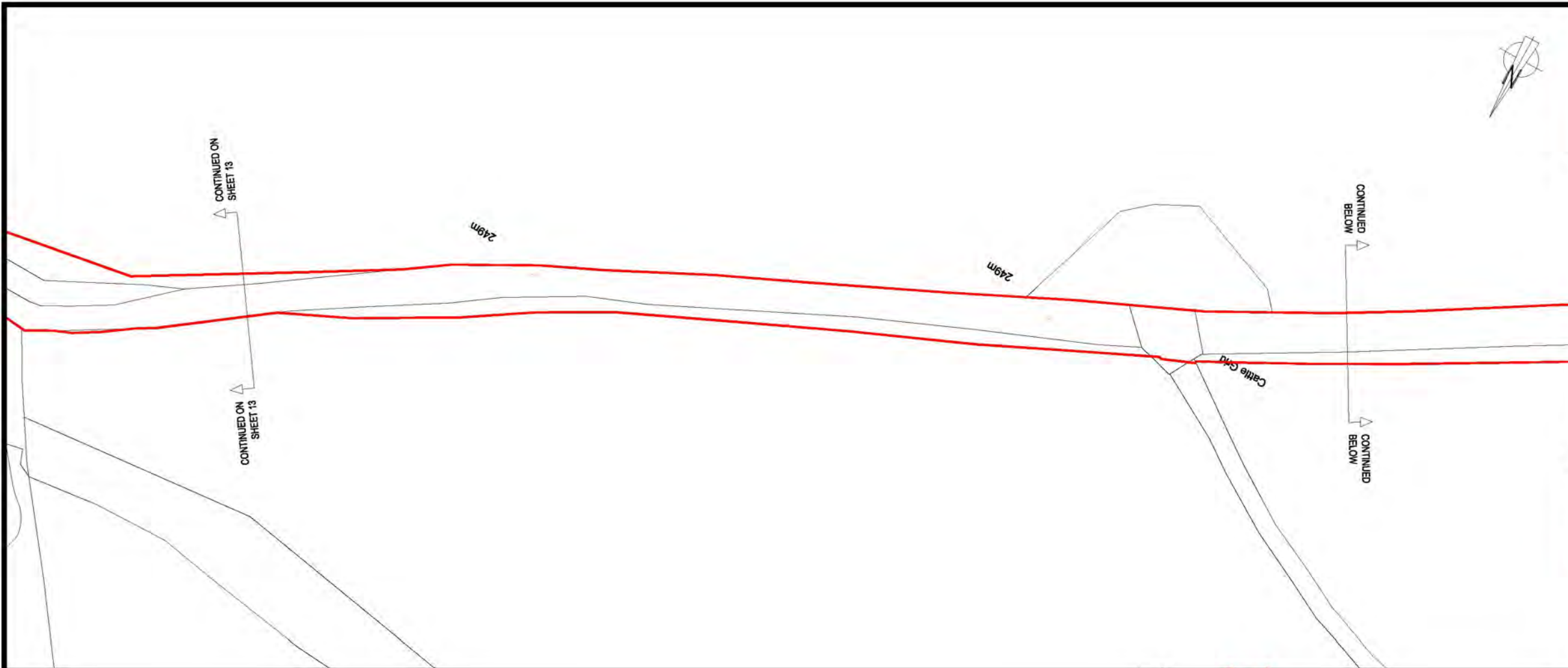
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DRAWING 1-2B

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OVERVIEW

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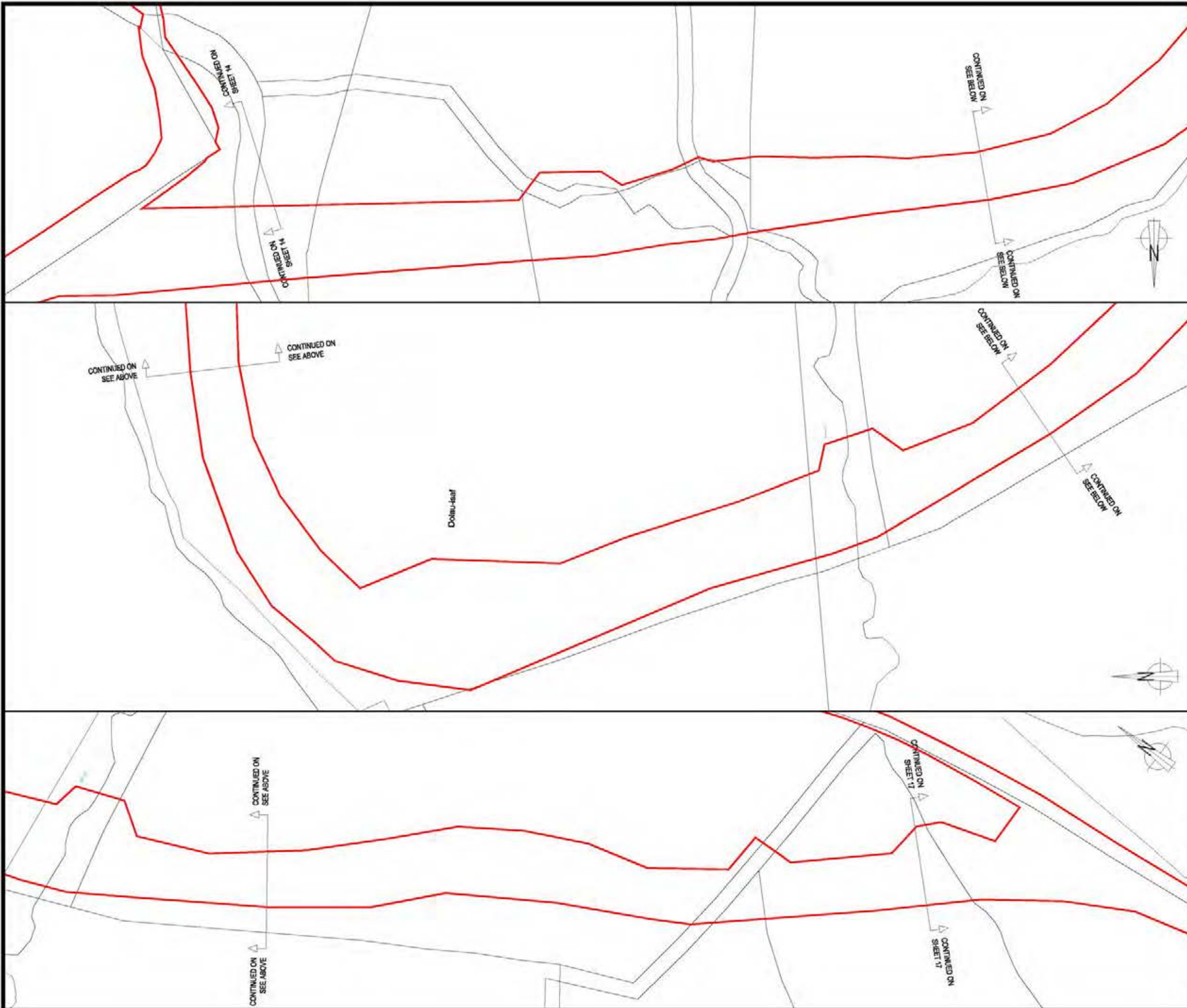
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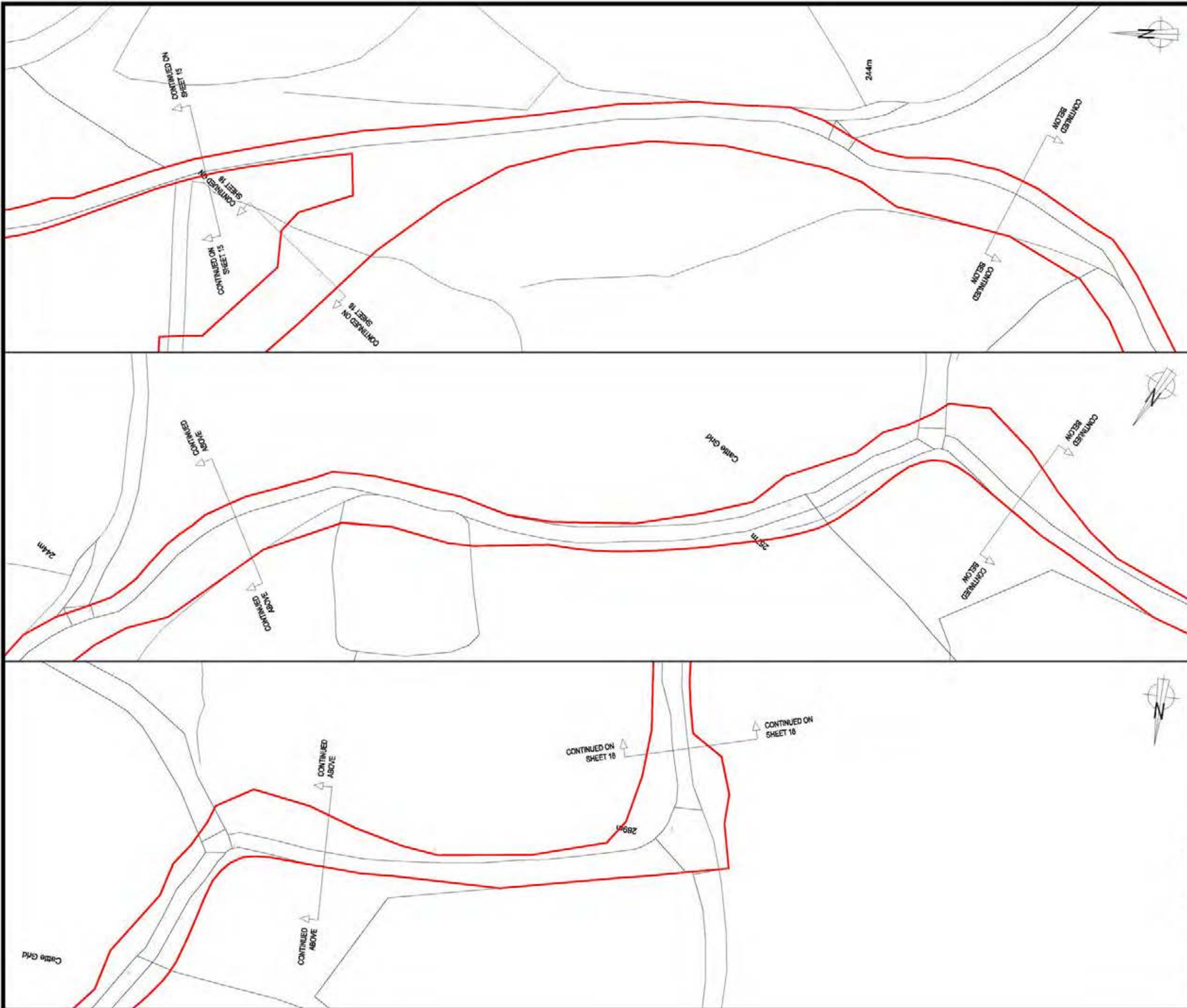
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DRAWING 1-2D

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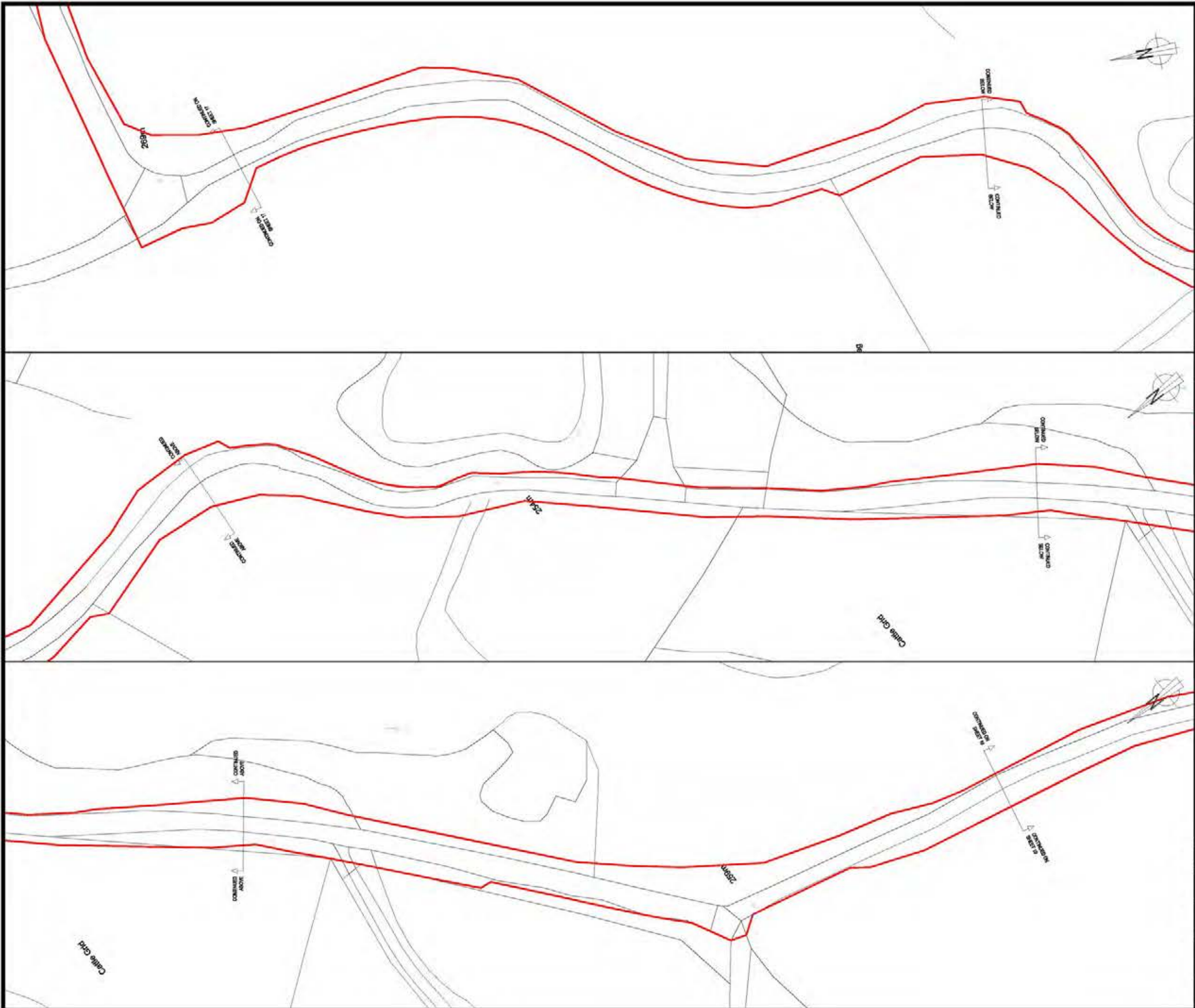
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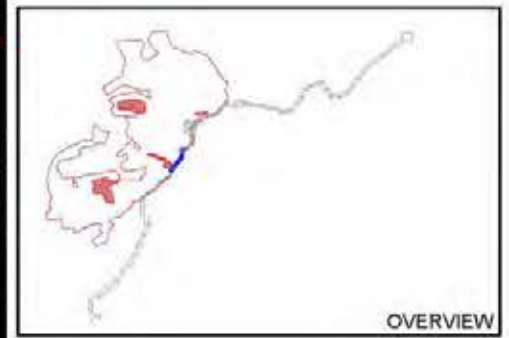
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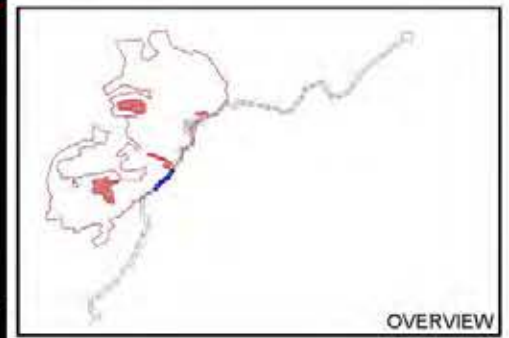
DRAWING 1-2F

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KEY

SITE BOUNDARY
(TAKEN FROM LLANBRYNMAIR LTMP DRAWINGS)



ACCESS DETAILS
SHEET 19 OF 25

LAYOUT DWS: N/A LAYOUT NO.: N/A

DRAWING NUMBER: **01592D2205-15**

SCALE - 1:1,250 @ A3

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**LLANBRYNMAIR
WIND FARM**

DRAWING 1-2G

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OVERVIEW

ACCESS DETAILS
SHEET 20 OF 25

LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER
01592D2205-15

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**LLANBRYNMAIR
WIND FARM**

DRAWING 1-3A

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ACCESS DETAILS
SHEET 21 OF 25

LAYOUT DWG	N/A	LAYOUT NO.	N/A
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01592D2205-15

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**LLANBRYNMAIR
WIND FARM**

DRAWING 1-3B

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KEY

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ACCESS DETAILS
SHEET 22 OF 25

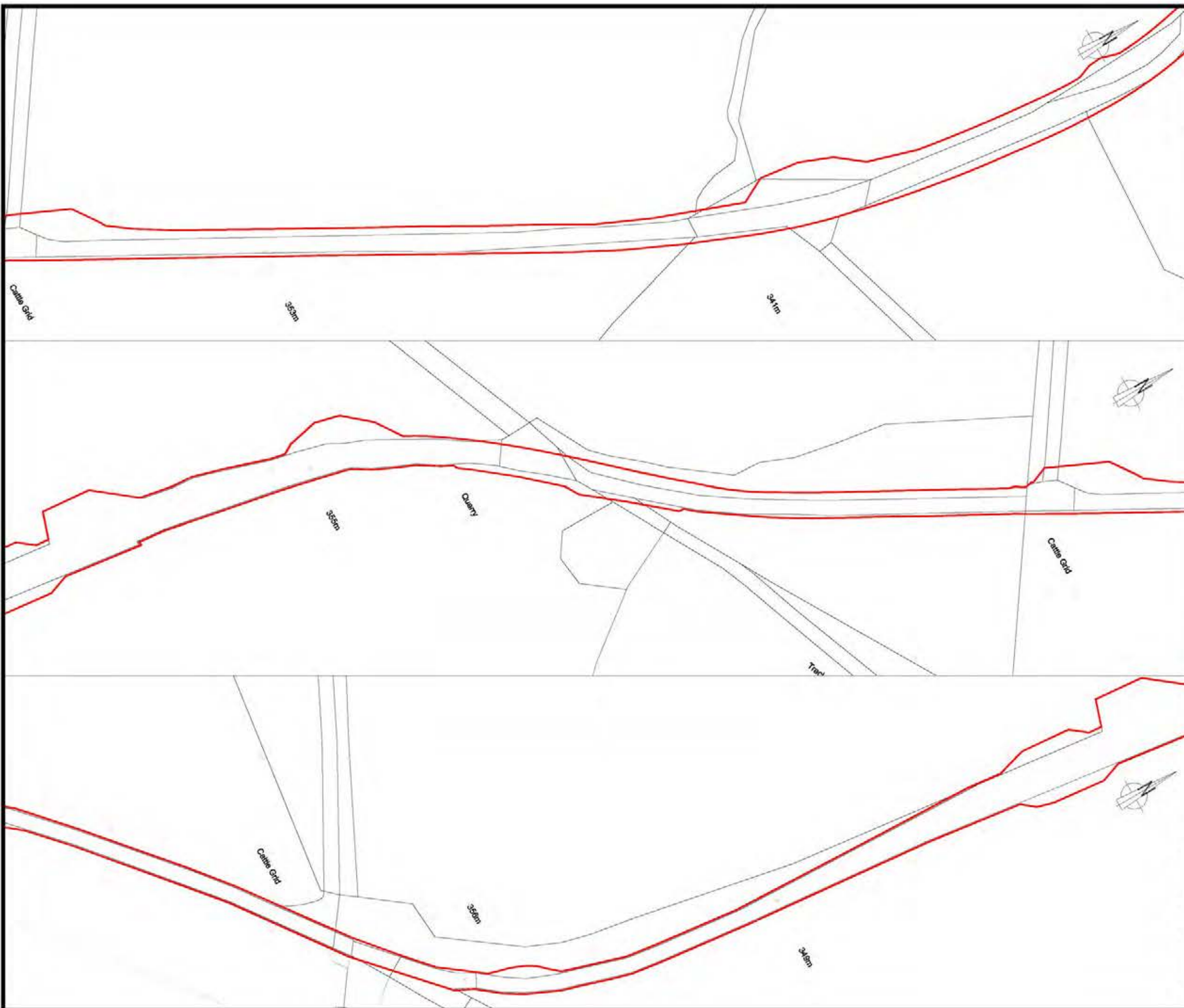
LAYOUT DWG: N/A | LAYOUT NO.: N/A

DRAWING NUMBER: **01592D2205-15**

SCALE - 1:1,250 @ A3

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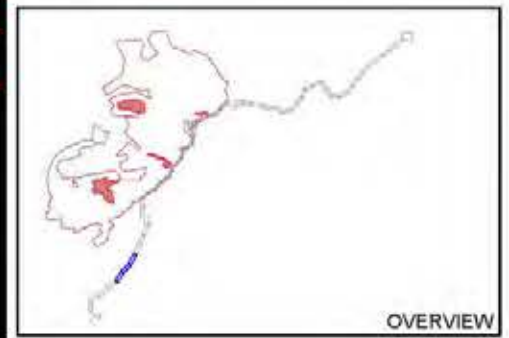
DRAWING 1-3C

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KEY

SITE BOUNDARY
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ACCESS DETAILS
SHEET 23 OF 25

LAYOUT NO. N/A | LAYOUT NO. N/A

PROJWIND NUMBER
01592D2205-15

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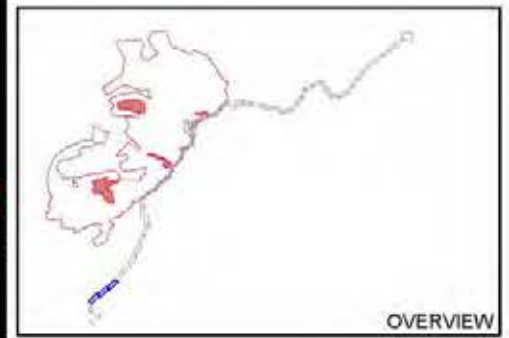
DRAWING 1-3D

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KEY

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OVERVIEW

ACCESS DETAILS
SHEET 24 OF 25

LAYOUT NO. N/A LAYOUT NO. N/A

PROJ. NO. N/A **01592D2205-15**

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
**LLANBRYNMAIR
WIND FARM**

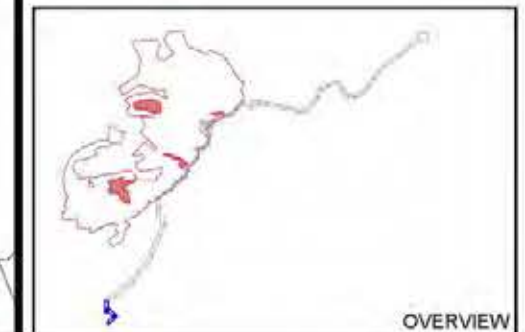
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KEY

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(TAKEN FROM LLANBRYNMAIR LTMP DRAWINGS)



OVERVIEW

ACCESS DETAILS
SHEET 25 OF 25

LAYOUT NO. N/A | LAYOUT NO. N/A

01592D2205-15

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CHAPTER 1: INTRODUCTION FIGURES

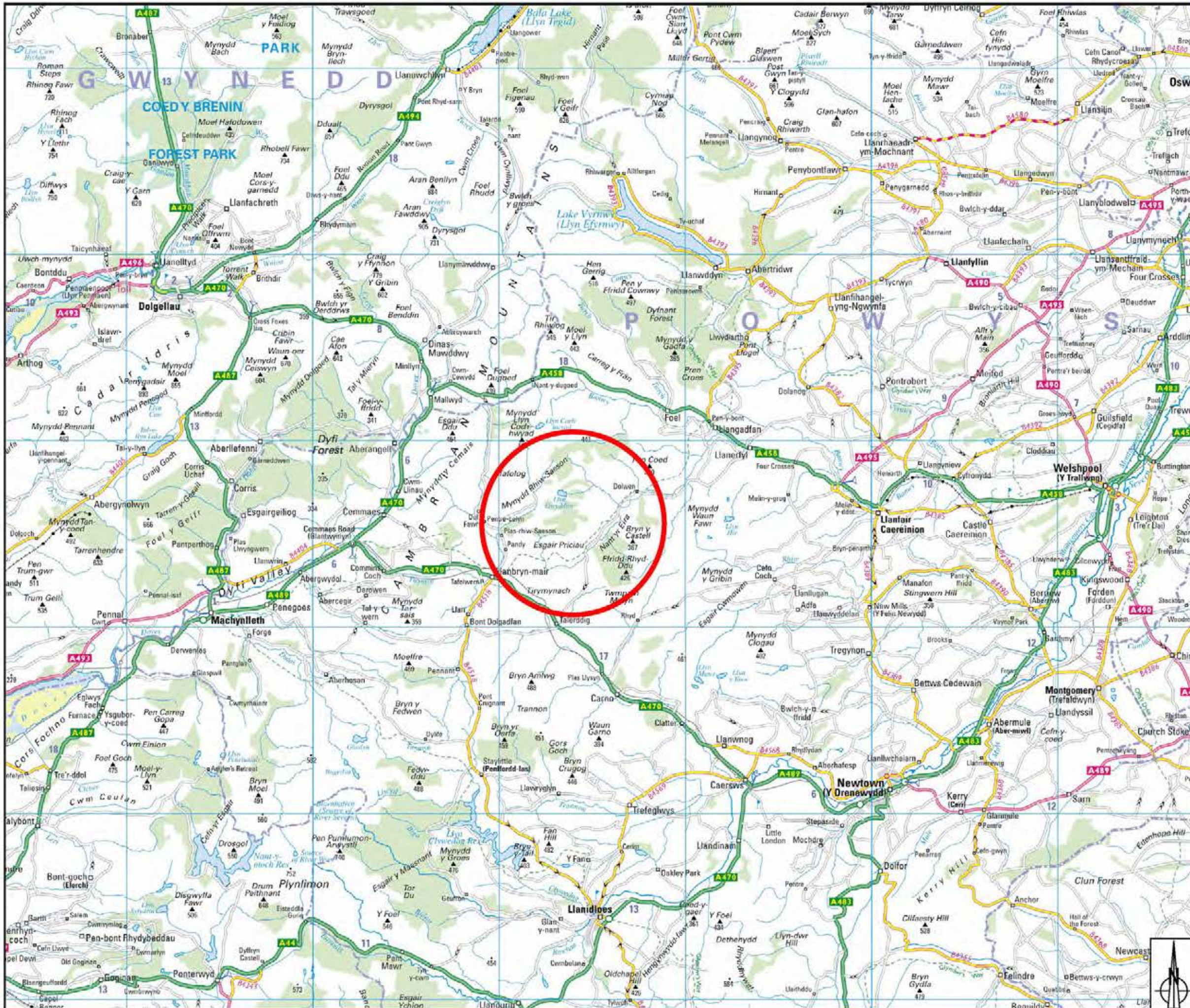


LLANBRYNMAIR WIND FARM

FIGURE 1.1

INDICATIVE SITE LOCATION

 Site location



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LAWYER NAME: N/A | FLAVOUR: N/A

DRAWING NUMBER: **01592D1001-07**

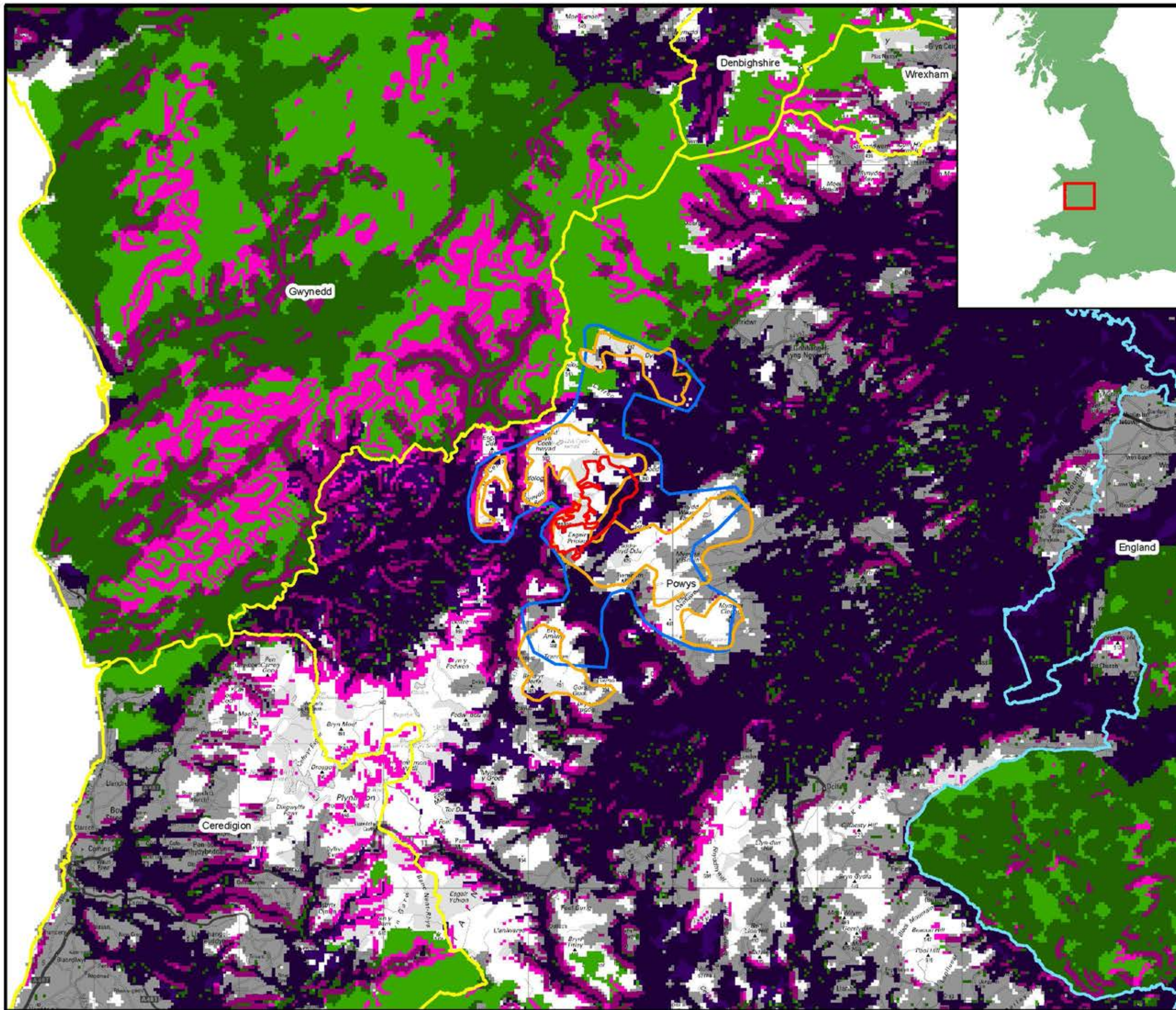
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CHAPTER 3: DESCRIPTION OF THE PROJECT FIGURES



**LLANBRYNMAIR
WIND FARM**

FIGURE 3.1

REGIONAL CONSTRAINTS

Legend

- SITE DEVELOPMENT AREA
- POWYS REFINED SSA B *
- TAN 8 SSA B
- WELSH COUNTY BORDERS
- ENGLISH BORDER
- HABITATIONS**
- 550M BUFFER OF ADDRESS DENSITY POINTS
- TECHNICAL CONSTRAINTS**
- SLOPE > 12 DEGREES
- WINDSPEED**
- <math>< 6.2\text{ M/S}</math> AT 60M HEIGHT
- NATURAL HERITAGE DESIGNATIONS**
- AONB
- SAC/ SPA/ Ramsar sites
- Nature & RSPB Reserves
- National Parks

* AREA TAKEN FROM THE SECOND DRAFT INTERIM DEVELOPMENT CONTROL GUIDANCE ON WIND FARM DEVELOPMENT IN POWYS, PUBLISHED MAY 2008.



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REPORT DATE	N/A	REVISION NO.	N/A
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DRAWING NUMBER	01592D6001-03
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SCALE	1:250,000
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LLANBRYNMAIR WIND FARM

FIGURE 3.2

STRATEGIC SEARCH AREA B & SITE BOUNDARY

-  TAN 8 SSA B
-  POWYS REFINED SSA B *
-  SITE DEVELOPMENT AREA
-  TURBINE LOCATIONS

* AREA TAKEN FROM THE SECOND DRAFT INTERIM DEVELOPMENT CONTROL GUIDANCE ON WIND FARM DEVELOPMENT IN POWYS, PUBLISHED MAY 2008.

REFER TO CHAPTER 3 VOL II OF ES

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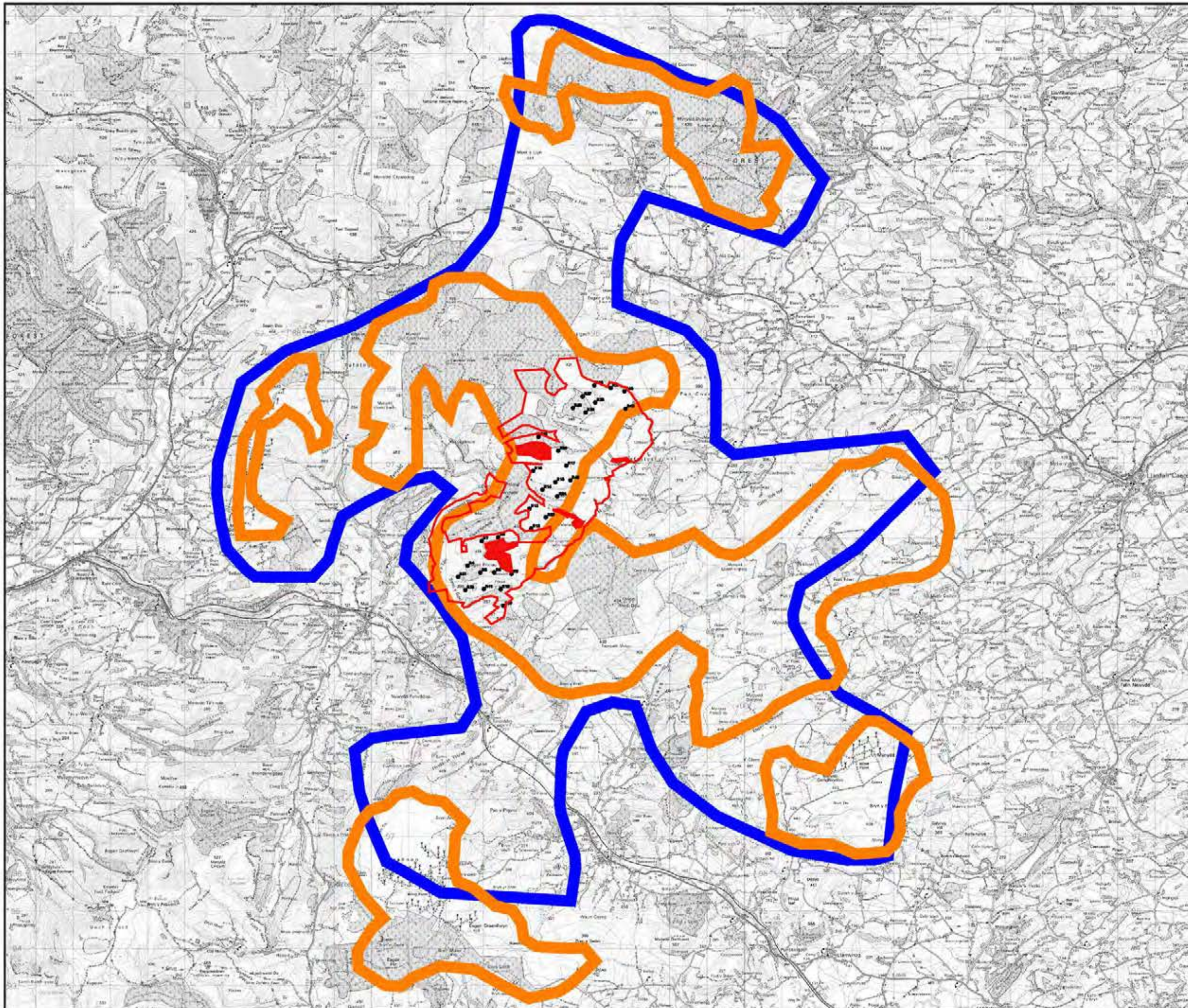
LAW/EDWS 01592D0004-10 PLANNING PWAL/067

DRAWING NUMBER
01592D2218-04

SCALE - 1 : 100,000 @ A3

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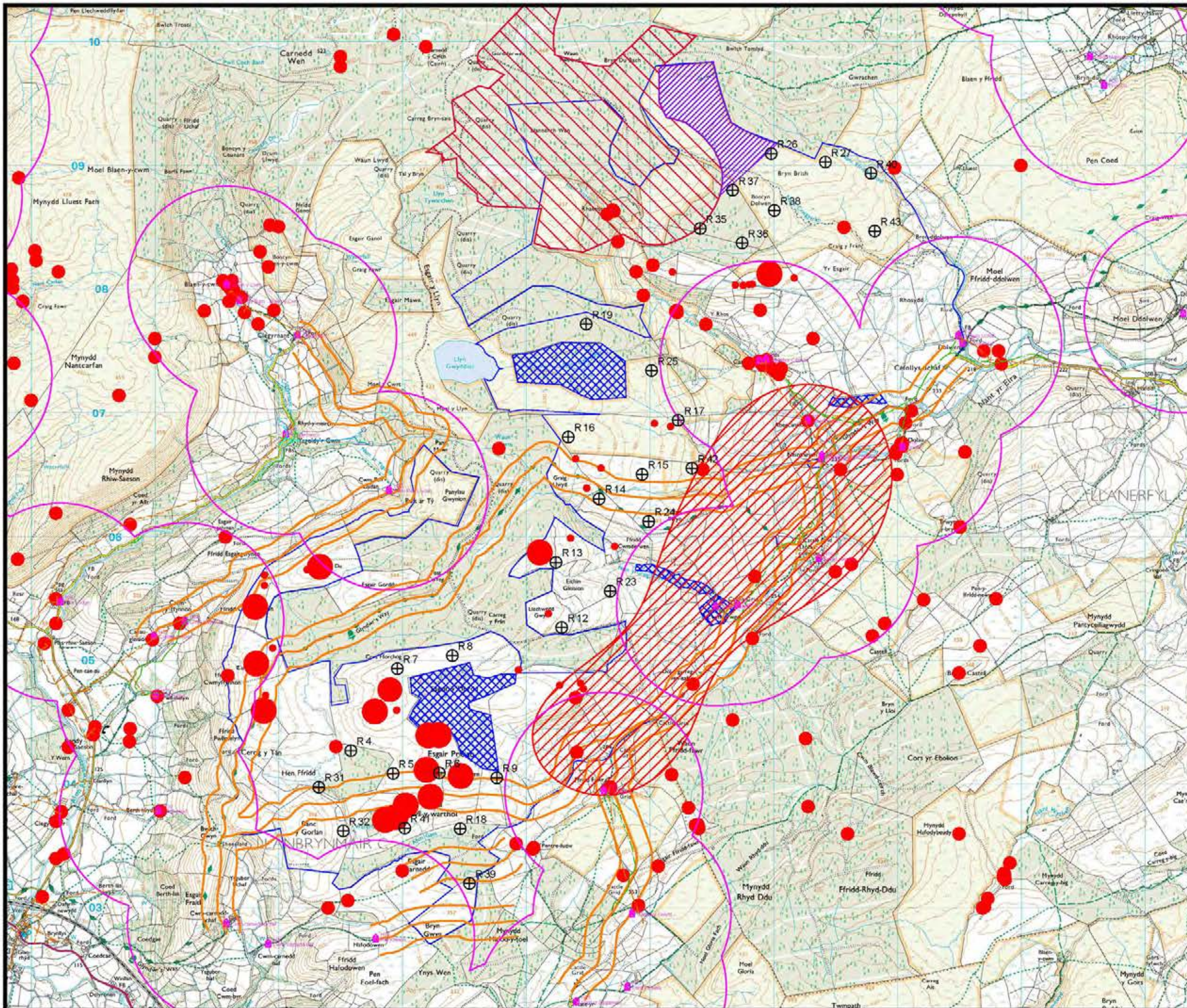




LLANBRYNMAIR WIND FARM

FIGURE 3.3

COMBINED CONSTRAINTS



- Site boundary
- Excluded from wind power project
- Public right of way (with turbine tip height buffer)
- Black Grouse Refuge
- Curlew nesting area
- Blanket Bog
- Cultural Heritage feature
- RES Turbine Locations
- House locations
- 800m House Buffer
- BT
- Water
- Electricity
- Water (Abandoned)

For details concerning turbine R14 see Figure 12.1.

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LAYOUT DRAW: 01592D0004-10 FLAVOUR NO: PWAL1a087

01592D2106-10

SCALE - 1 : 30,000 @ A3

SUPPLEMENTARY ENVIRONMENTAL INFORMATION 2013

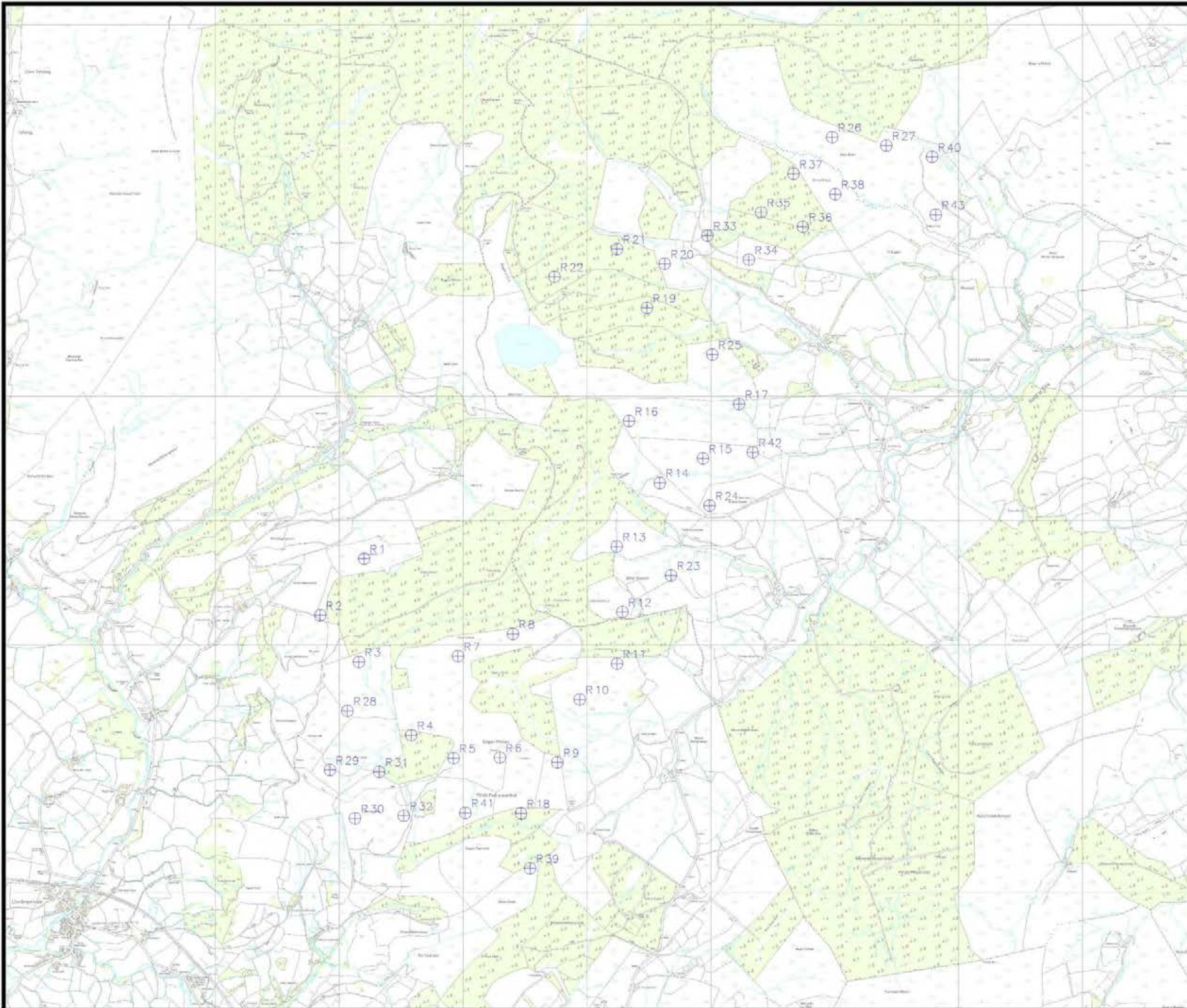
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.4

**ORIGINAL SUBMITTED
TURBINE LAYOUT (2009)**



KEY:

⊕ RES Turbine Locations x 43



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LAYOUT EWS: 01952D0004-05 | LAYOUT NO: PWAL052

DRAWING NUMBER
01952D0006-01

SCALE - 1 : 30 000

**SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013**

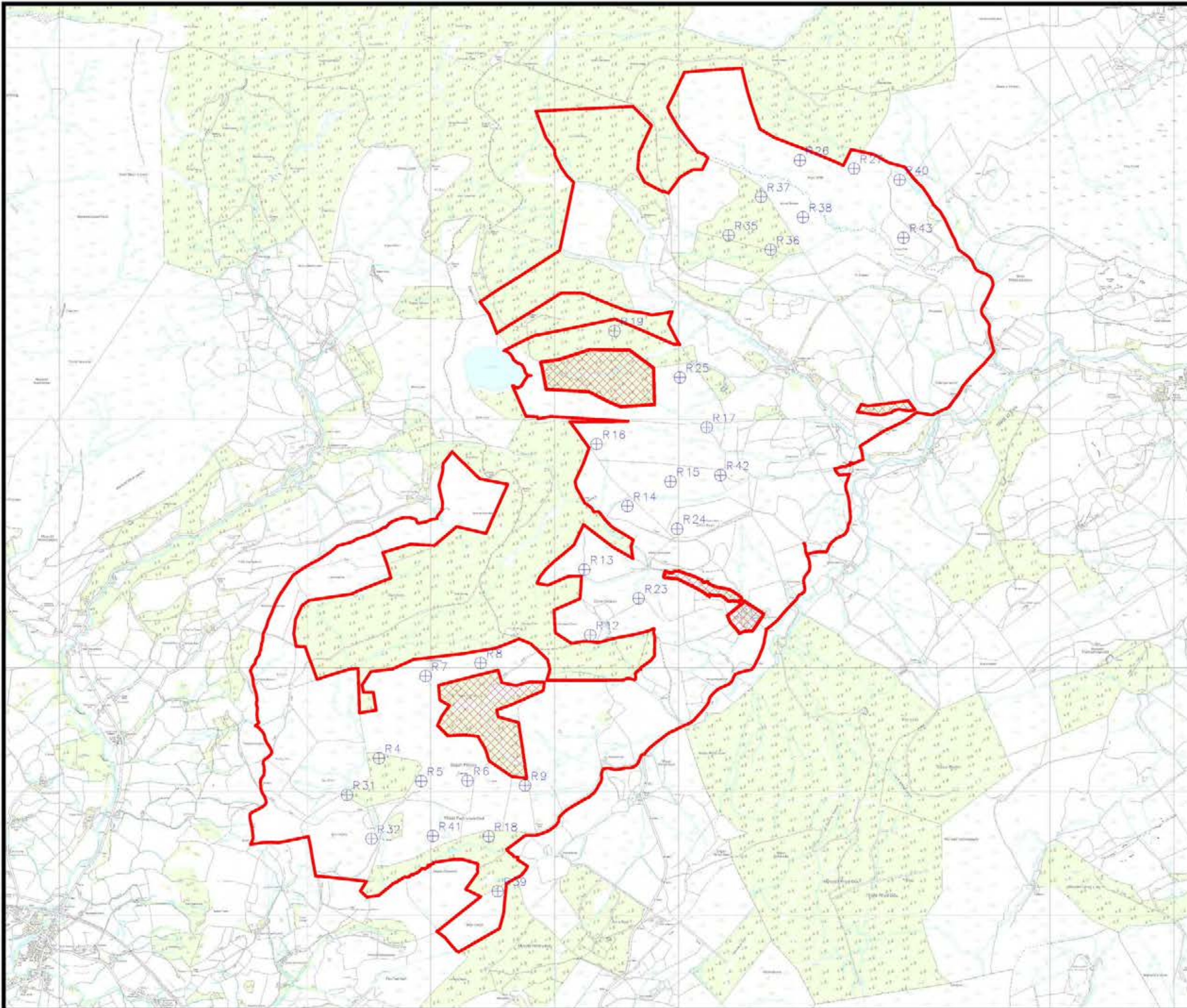
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LLANBRYNMAIR WIND FARM

FIGURE 3.5

CURRENT TURBINE LAYOUT



- KEY
- ⊕ RES TURBINE LOCATIONS x 30
 - SITE BOUNDARY (COMPRISES THE COMBINED OPTION SITES)
 - ▨ EXCLUDED FROM WIND POWER PROJECT



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LAYOUT DWG 01592D0004-10 T-LAYOUT NO. PWAL1a087

DRAWING NUMBER **01592D0005-01**

SCALE - 1 : 30 000

SUPPLEMENTARY ENVIRONMENTAL INFORMATION 2013

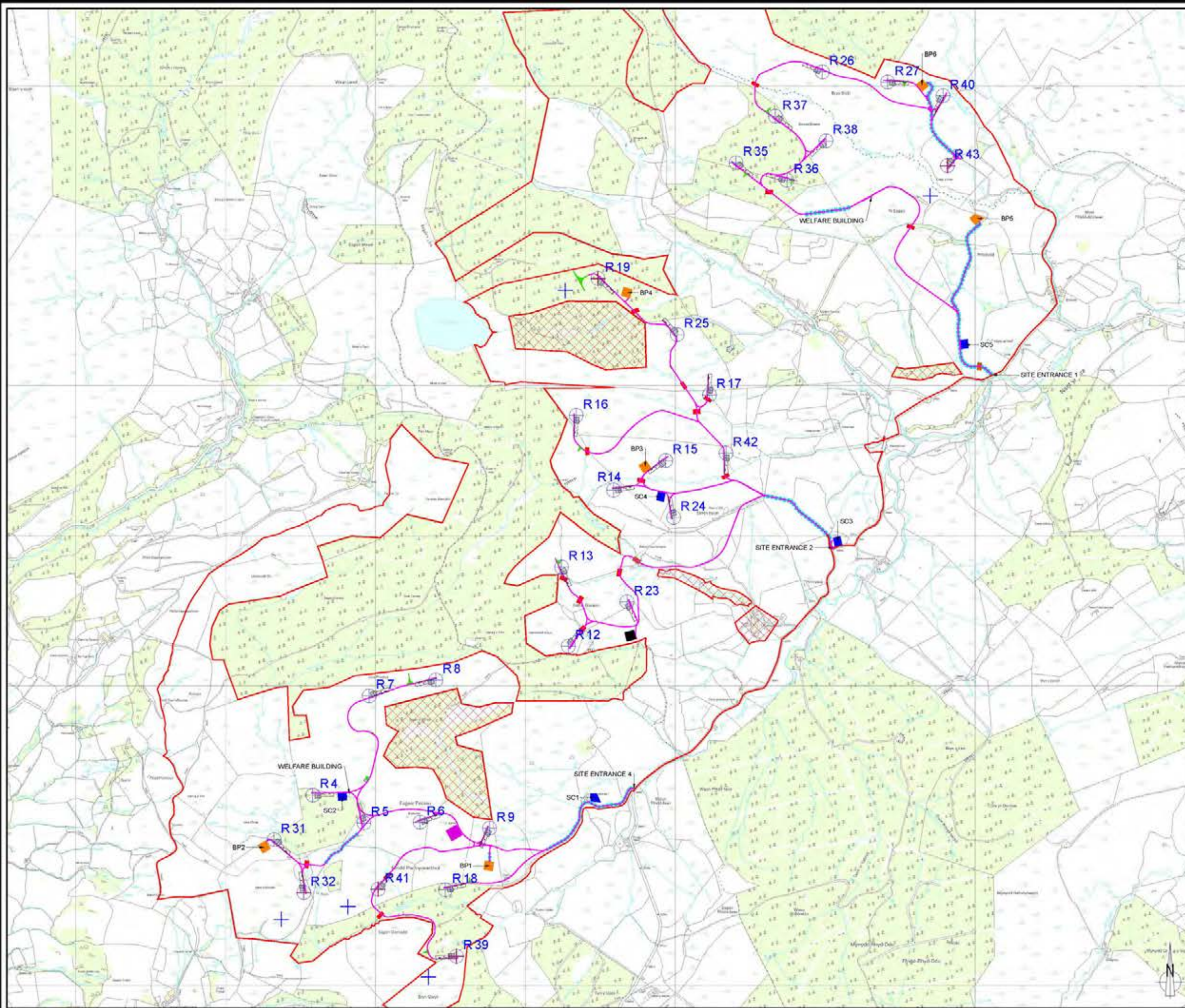
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LLANBRYNMAIR WIND FARM

FIGURE 3.6

INFRASTRUCTURE LAYOUT



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KEY:

- WIND TURBINE
- SITE TRACK
- HARDSTANDING
- BORROW PIT (BP#)
- TEMPORARY SITE COMPOUND (SC#)
- SUB STATION
- LOCATIONS OF EXISTING TRACK
- WATER CROSSING EXISTING
- WATER CROSSING NEW
- TEMPORARY TURBINE MAST
- TEMPORARY CALIBRATION MAST
- PERMANENT MAST
- BATCHING PLANT
- TEMPORARY INFRASTRUCTURE (PASSING BAYS & TURNING HEADS)
- SITE BOUNDARY (REFER TO DRAWING 01592D2205-13 FOR DETAILS).
- WELFARE BUILDING

LAYOUT DWG: 01592D0004-10 | LAYOUT NO: PWAL1a087

DRAWING NUMBER: **01592D1002-24**

SCALE - 1:25,000

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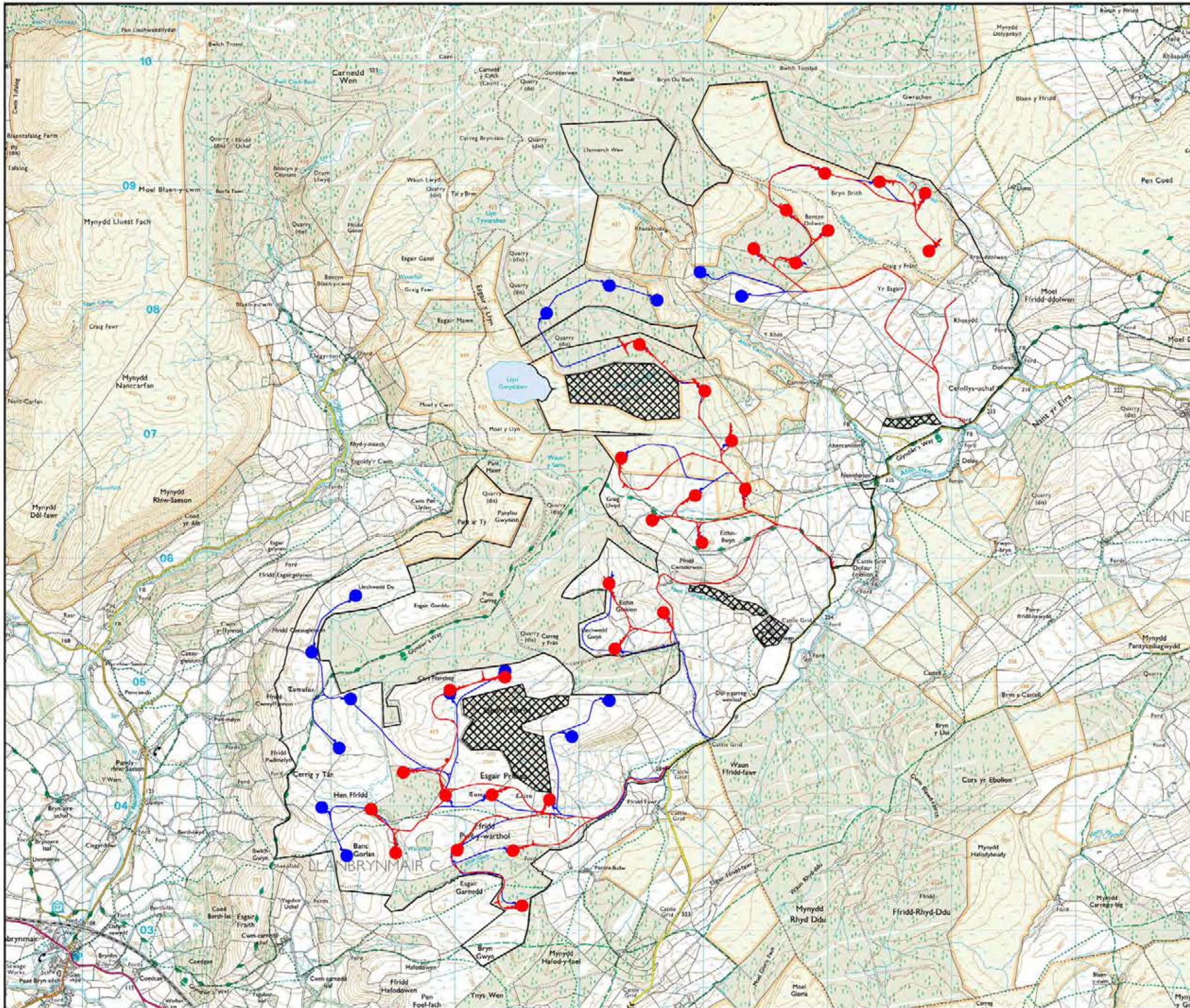


LLANBRYNMAIR WIND FARM

FIGURE 3.7

ADJUSTMENTS TO TURBINE LAYOUT AND INFRASTRUCTURE

- Turbine layout and infrastructure December 2008
- Revised final turbine layout and infrastructure July 2013
- Site boundary



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LAYOUT DWS: 01592D0004-10 LAYOUT NO: PWALL1a087

DRAWING NUMBER: 01592D2236-03

SCALE - 1 : 30,000 @ A3

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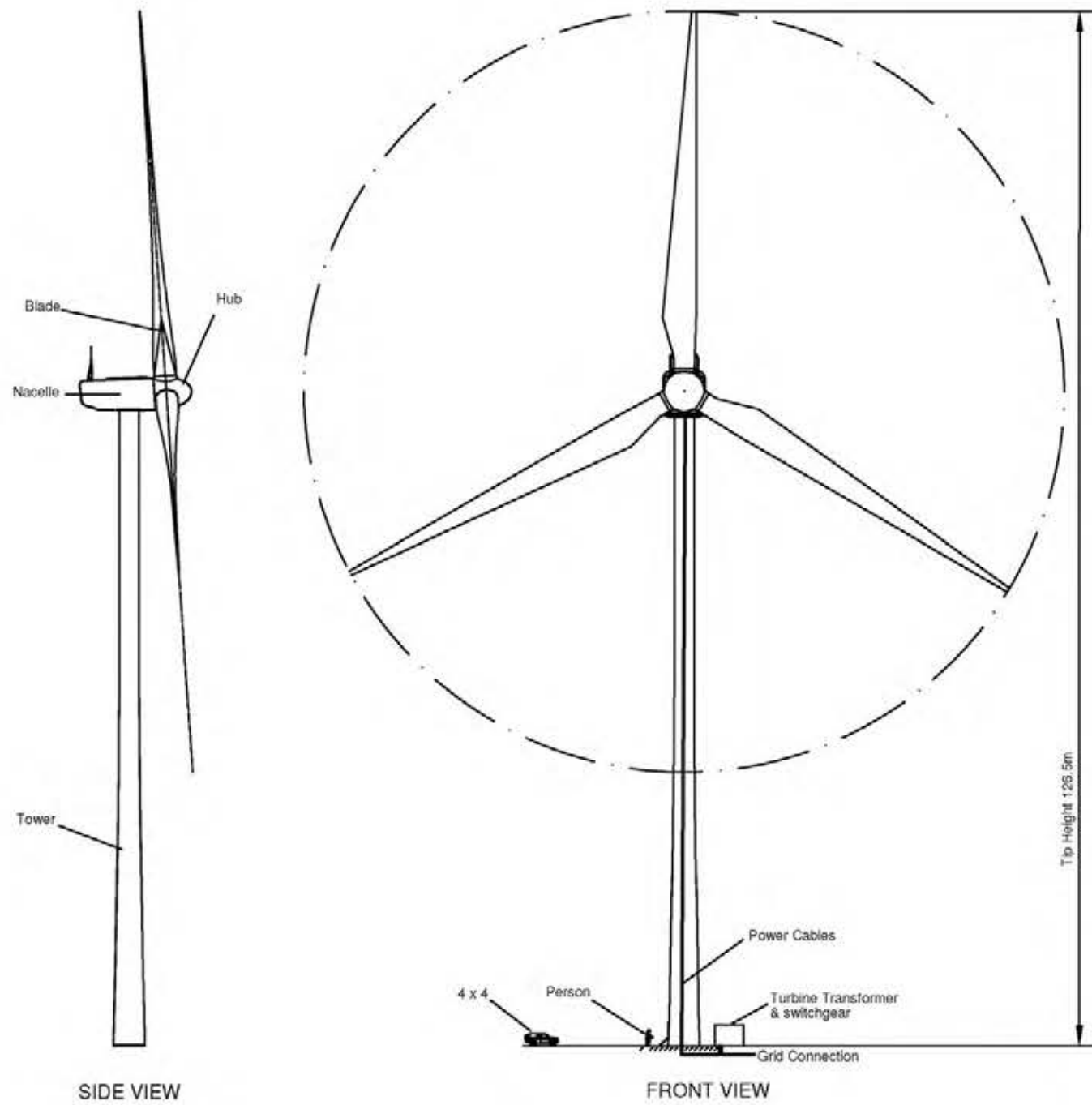
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.8

**TYPICAL FRONT AND SIDE
ELEVATIONS OF A
WIND TURBINE**



**PHOTOGRAPH OF TURBINE
(NOT TO SCALE)**

LAYOUT NO:	N/A	LAYOUT NO:	N/A
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DRAWING NUMBER: **01592D2901-03**

SCALE - NTS

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INFORMATION 2013**

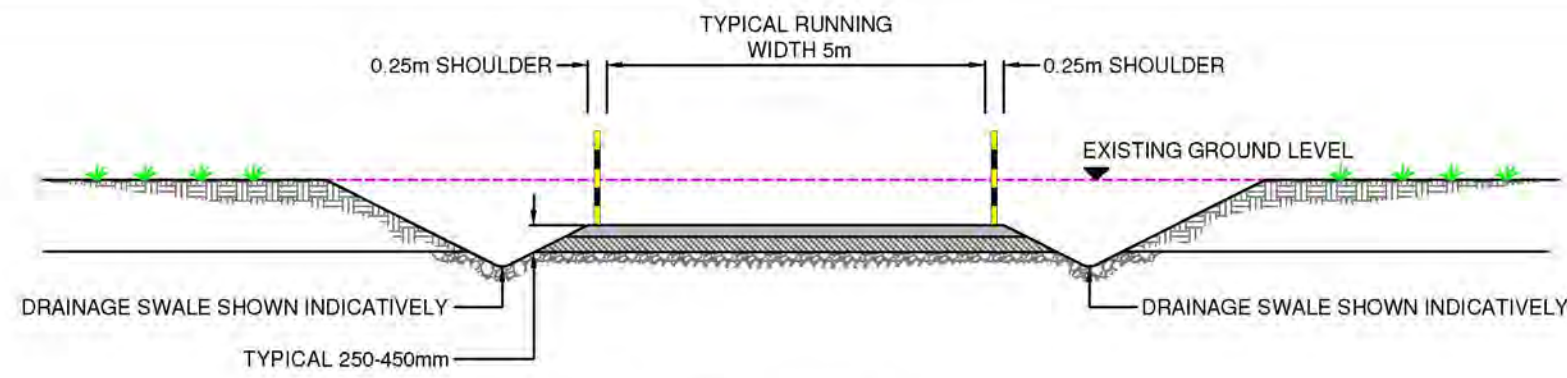
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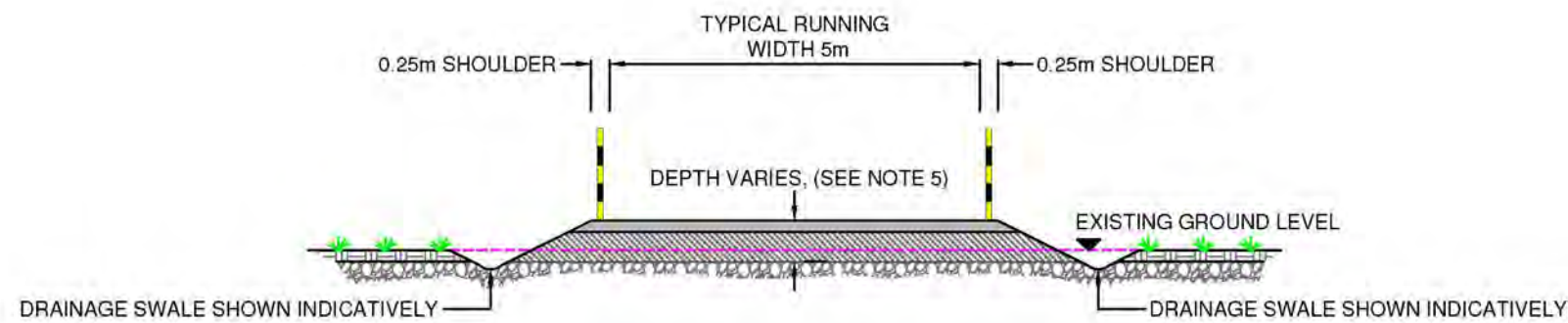
**LLANBRYNMAIR
WIND FARM**

FIGURE 3.9

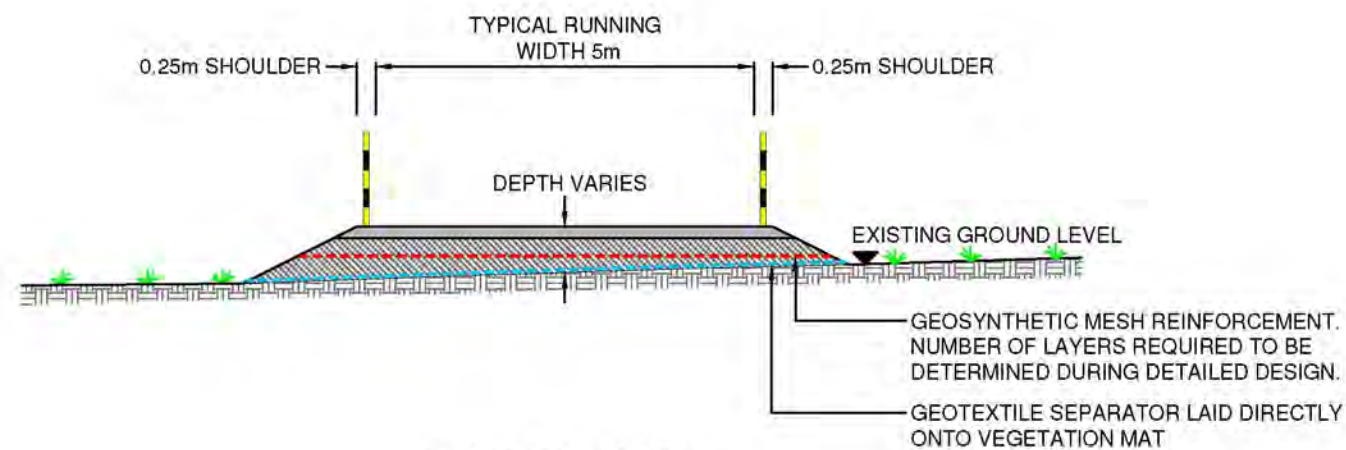
**TYPICAL ACCESS
TRACK DESIGN**



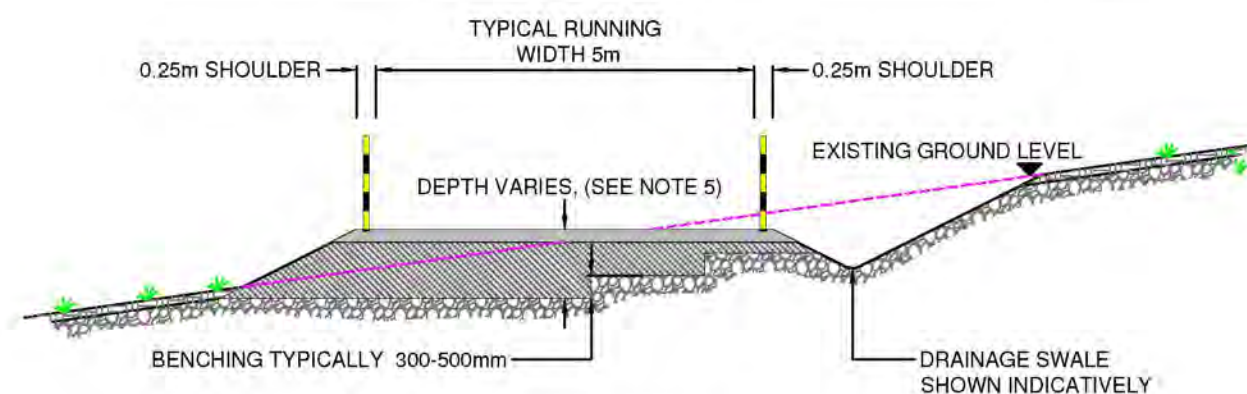
CUT TRACK SECTION



FILL TRACK SECTION



FLOATED TRACK SECTION



SLOPING GROUND SECTION

- KEY**
- RUNNING SURFACE
 - CAPPING LAYER / ENGINEERED FILL
 - TOPSOIL/PEAT LAYER
 - LOAD BEARING STRATA TBC VIA IN-SITU TESTING
 - SNOW POLES TO DELINEATE SITE TRACKS AT NOMINAL 50m INTERVALS

- NOTES**
1. EFFECTIVE WIDTH OF TRACK TO BE 5m ON STRAIGHT SECTIONS WITH WIDENING ON BENDS AND PASSING PLACES.
 2. ALL EMBANKMENT SLOPES TO BE PROVIDED AT A STABLE ANGLE BASED ON THE PROPERTIES OF THE MATERIAL ENCOUNTERED ON SITE.
 3. MATERIALS ARISING FROM TRACK CONSTRUCTION TO BE SEGREGATED AND PLACED IN AGREED LOCATIONS ADJACENT TO THE WORKING AREA. REINSTATEMENT AND/OR SPOIL MANAGEMENT PLANS WILL BE DEVELOPED DURING THE DETAILED DESIGN OF SITE INFRASTRUCTURE AND WILL IDENTIFY AREAS OF RE-USE AND PERMANENT STORAGE OF EXCAVATED MATERIALS IN LINE WITH CURRENT BEST PRACTICE.
 4. RUNNING SURFACE, CAPPING LAYER AND ENGINEERED FILL TO BE FORMED FROM SUITABLE MATERIALS COMPACTED IN LAYERS.
 5. GEOSYNTHETIC REINFORCEMENT MAY BE USED TO REDUCE THE DEPTH OF TRACK CONSTRUCTION. REQUIREMENT TO BE DETERMINED DURING DETAILED DESIGN.
 6. A GEOTEXTILE SEPARATION MAY BE INSTALLED BENEATH THE CAPPING / ENGINEERED FILL LAYER FOR ALL TRACK CONSTRUCTION TYPES DEPENDING ON GROUND CONDITIONS ENCOUNTERED ON SITE.

LAYOUT DWG: N/A T-LAYOUT NO: N/A

DRAWING NUMBER: **01592D2413-04**

SCALE - 1:100

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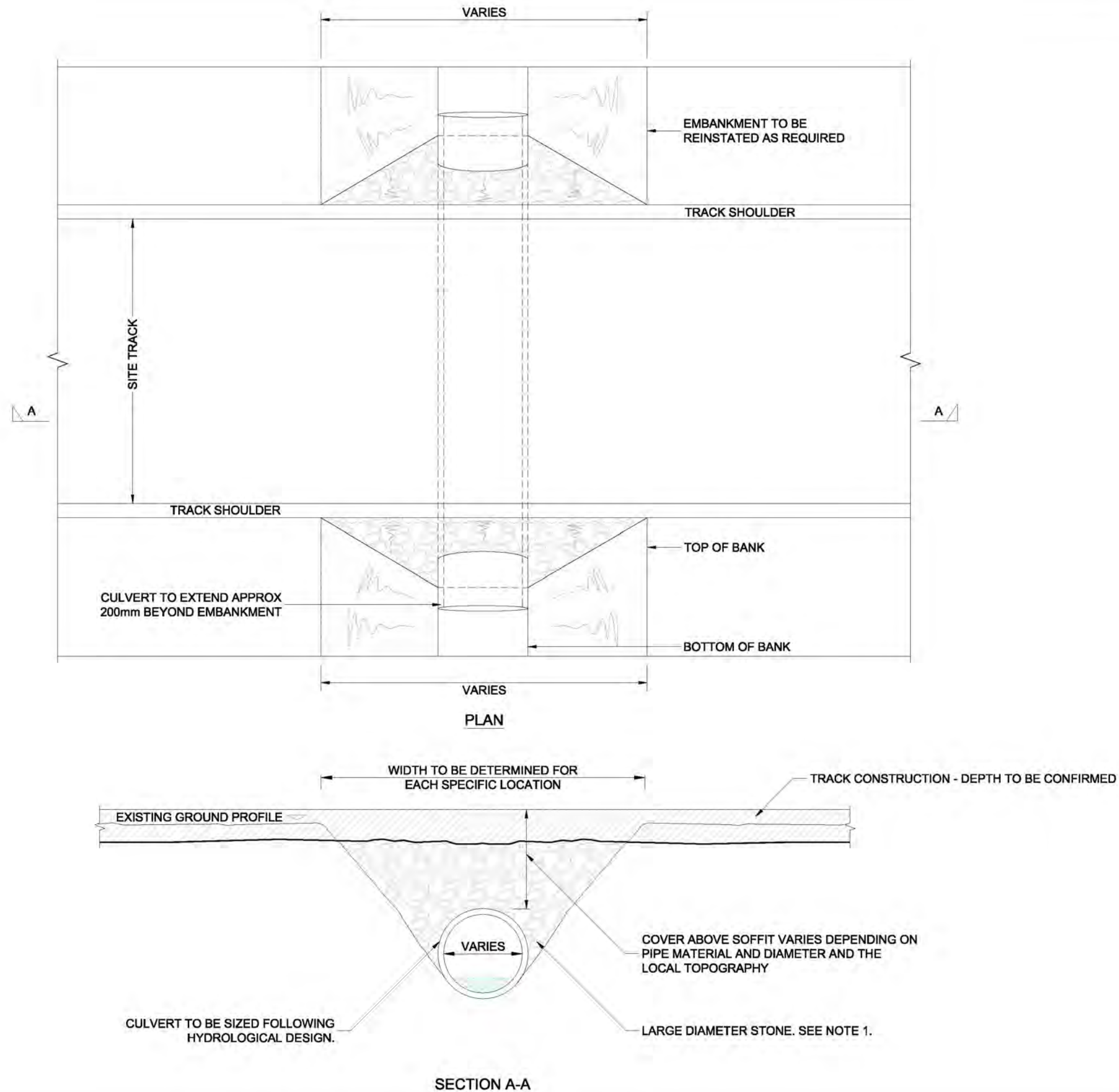
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.10

**TYPICAL WATERCOURSE
CROSSING**



NOTES

1. FINAL SPECIFICATION AND INSTALLATION METHOD TO BE CONFIRMED FOLLOWING DETAILED DESIGN SPECIFIC TO EACH WATERCROSSING.
2. CULVERT TYPE AND SIZING TO BE DEFINED DURING DESIGN OF ON-SITE DRAINAGE SYSTEMS.
3. INFILL MATERIAL TO BE CLEAN CRUSHED ROCK.

LAYOUT DWG: N/A | LAYOUT NO.: N/A

DRAWING NUMBER: **01592D2301-03**

SCALE - NTS

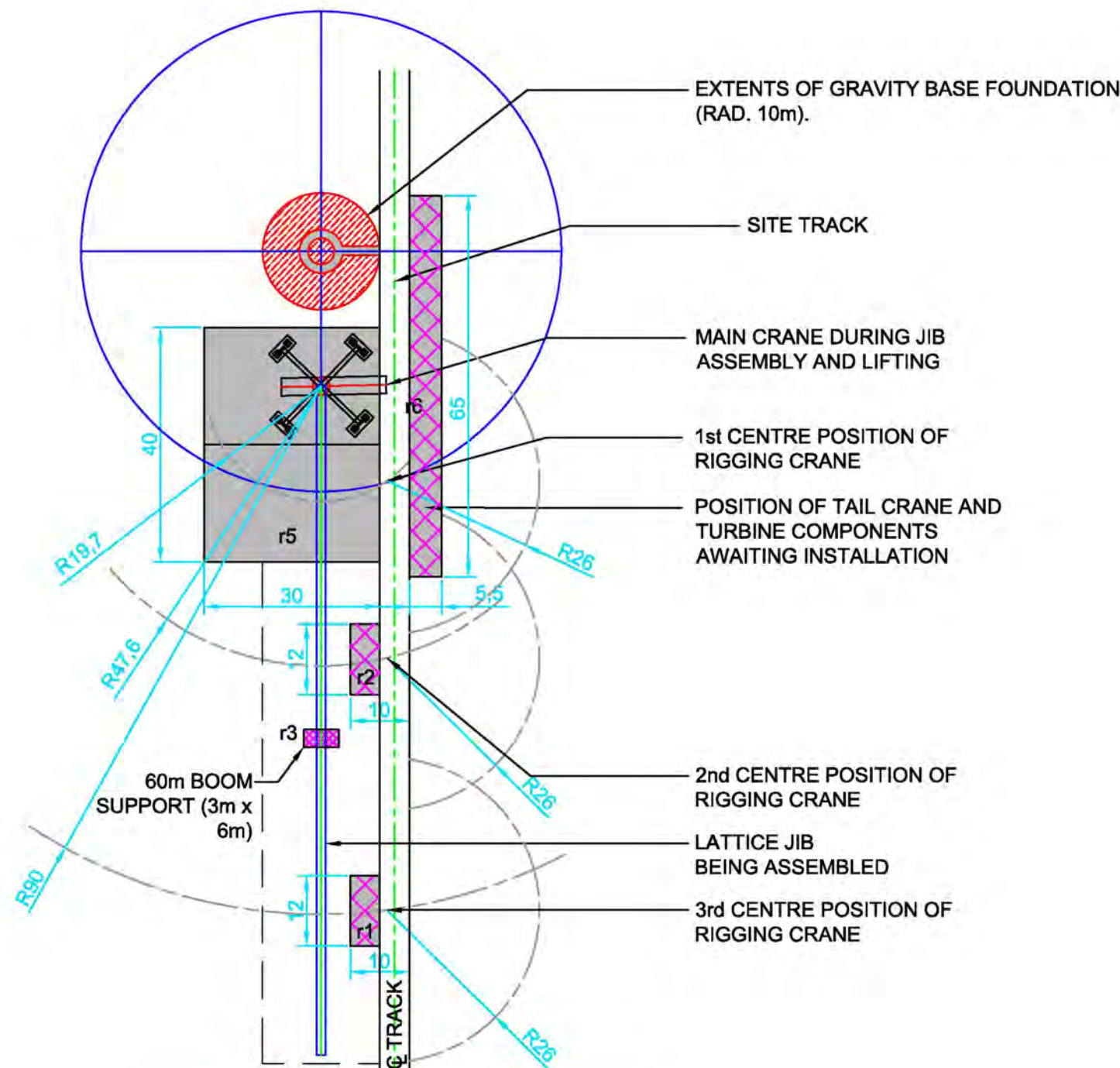
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.11

**TYPICAL CRANE
HARDSTANDING
GENERAL ARRANGEMENT**



**HARDSTANDING AND CRANE CONFIGURATION FOR
TURBINES TO L.H.S. OF TRACK**

*(NOTE: FOR TURBINES ON RHS
THE CONFIGURATION SHALL BE MIRRORED)*

NOTES

1. ALL DIMENSIONS IN METRES.
2. CRANE ARRANGEMENT BASED ON 1000T CAPACITY MOBILE CRANE WITH LATTICE JIB.
3. ALL HARD STANDINGS TO BE CONSTRUCTED IN CRUSHED ROCK & FORMING A POROUS SURFACE.
4. ALL HARD STANDING AREAS TO BE BUILT UP FROM HARD UNDERLYING MATERIAL TO BE SUITABLE TO SUPPORT CRANE OUTRIGGERS.
5. PRECISE SETTING OUT OF CRANE PAD TO BE VERIFIED AGAINST SPECIFIC WIND TURBINE SUPPLIER REQUIREMENTS PRIOR TO PREPARATION OF CONSTRUCTION DRAWINGS

- AREA DISTURBED DURING FOUNDATION CONSTRUCTION
- HARDSTANDING AREA TEMPORARY
- HARDSTANDING AREA
- ROTOR OVERFLY ZONE.
- CLEARED AREA FOR JIB ASSEMBLY

LAYOUT DWG: N/A T-LAYOUT NO.: N/A

DRAWING NUMBER: **01592D2306-10**

SCALE - 1:1000 @ A3

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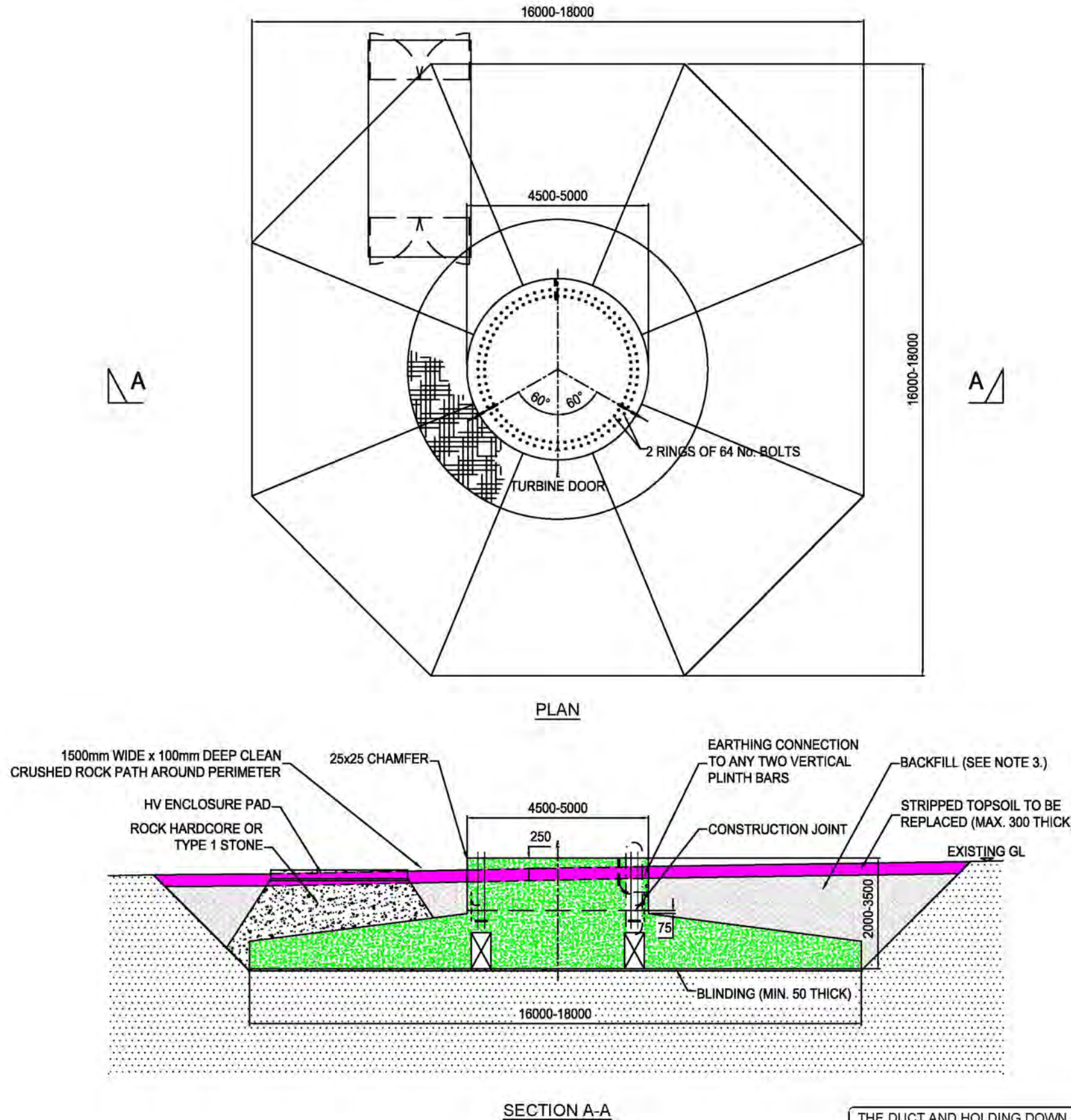
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.12

**WIND TURBINE
FOUNDATION**



NOTES

1. DIMENSIONS AND DETAILS ARE INDICATIVE ONLY AND MAY VARY DUE TO SPECIFIC TURBINE OR GROUND CONDITIONS.
2. ALL DIMENSIONS IN MILLIMETERS UNLES OTHERWISE STATED.
3. CONCRETE FOR THE FOUNDATION BASE SHALL B EGRADE C30/37.
4. CONCRETE FOR BUILDINGS SHALL BE C12/15 MINIMUM CEMENT CONTENT TO BE 180kg/m³.
5. TURBINE BASES AR ETO BE BACKFILLED (DENSITY 1800kg/m³). THE 300mm BELOW THE EXISTING GROUND LEVEL, AFTER CONNECTION OF THE EARTHING MAT BY OTHERS.
6. THE BACKFILL ABOVE THE BASE IS TO BE PLACED AND COMPACTED IN ACCORDANCE WITH THE RES EARTHWORKS SPECIFICATION. THE TOP 300mm OF FILL IS TO BE EXISTING TOPSOIL, STRIPPED AND SET ASIDE EXCEPT UNDER HARD STANDINGS.
7. THE UPSTAND OF THE PLINTH ABOVE FINISHED GROUND LEVEL SHALL BE A MINIMUM OF 150mm AND A MAXIMUM OF 250mm.
8. THE CONTRACTOR MAY CAST THE PLINTH AS A SQUARE SUBJECT TO THE ENGINEERS APPROVAL OF THE DETAIL & METHOD OF CONSTRUCTION.

LAYOUT DWG: N/A LAYOUT NO: N/A

DRAWING NUMBER: **01592D2303-03**

SCALE - NTS

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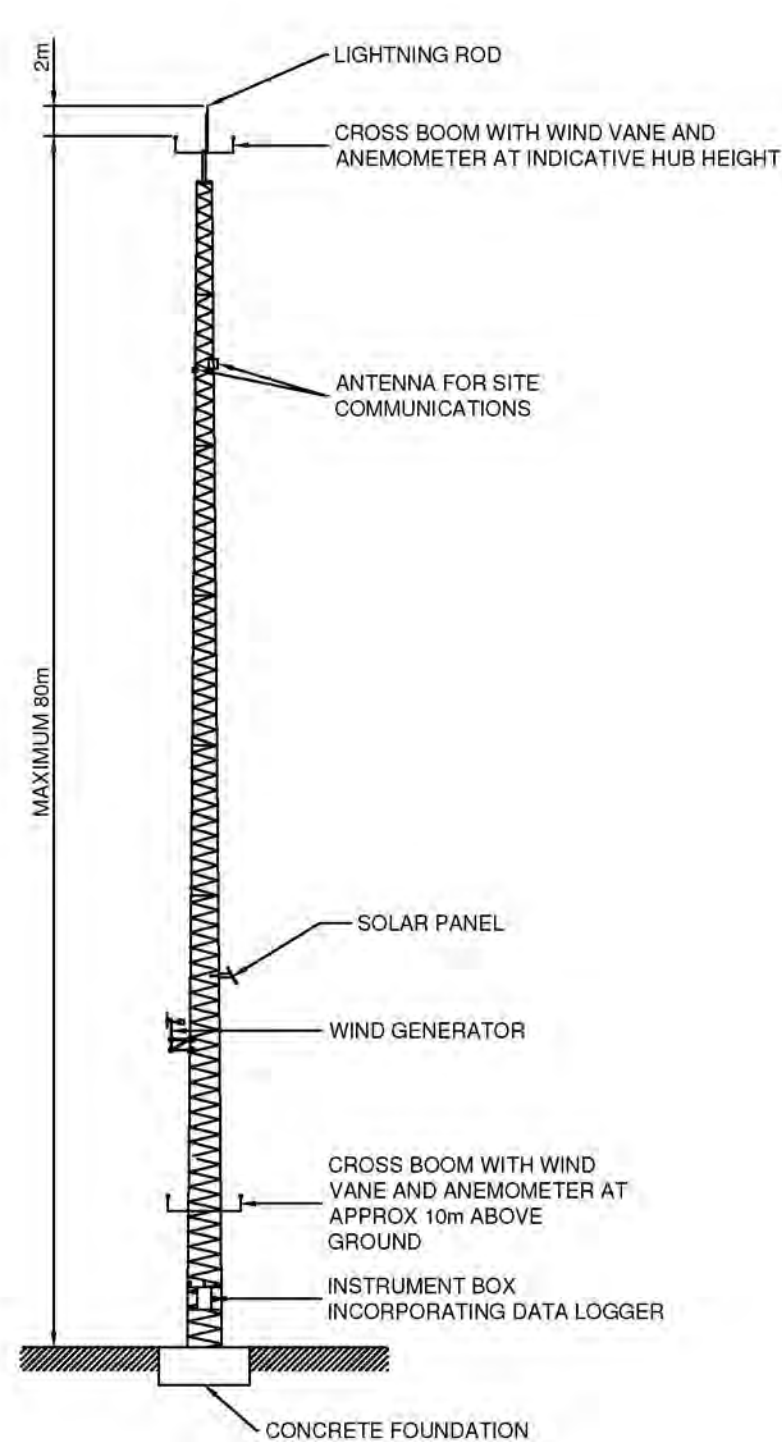
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THE DUCT AND HOLDING DOWN BOLT ARRANGEMENT SHOWN ON THIS DRAWING IS TYPICAL FOR THE TYPE OF TURBINE PROPOSED FOR LLANBRYNMAIR. HOWEVER, ALTERNATIVE CAST-IN ARRANGEMENTS ARE AVAILABLE AND MAY BE SUBSTITUTED, DEPENDING ON THE ACTUAL TURBINE SELECTED.

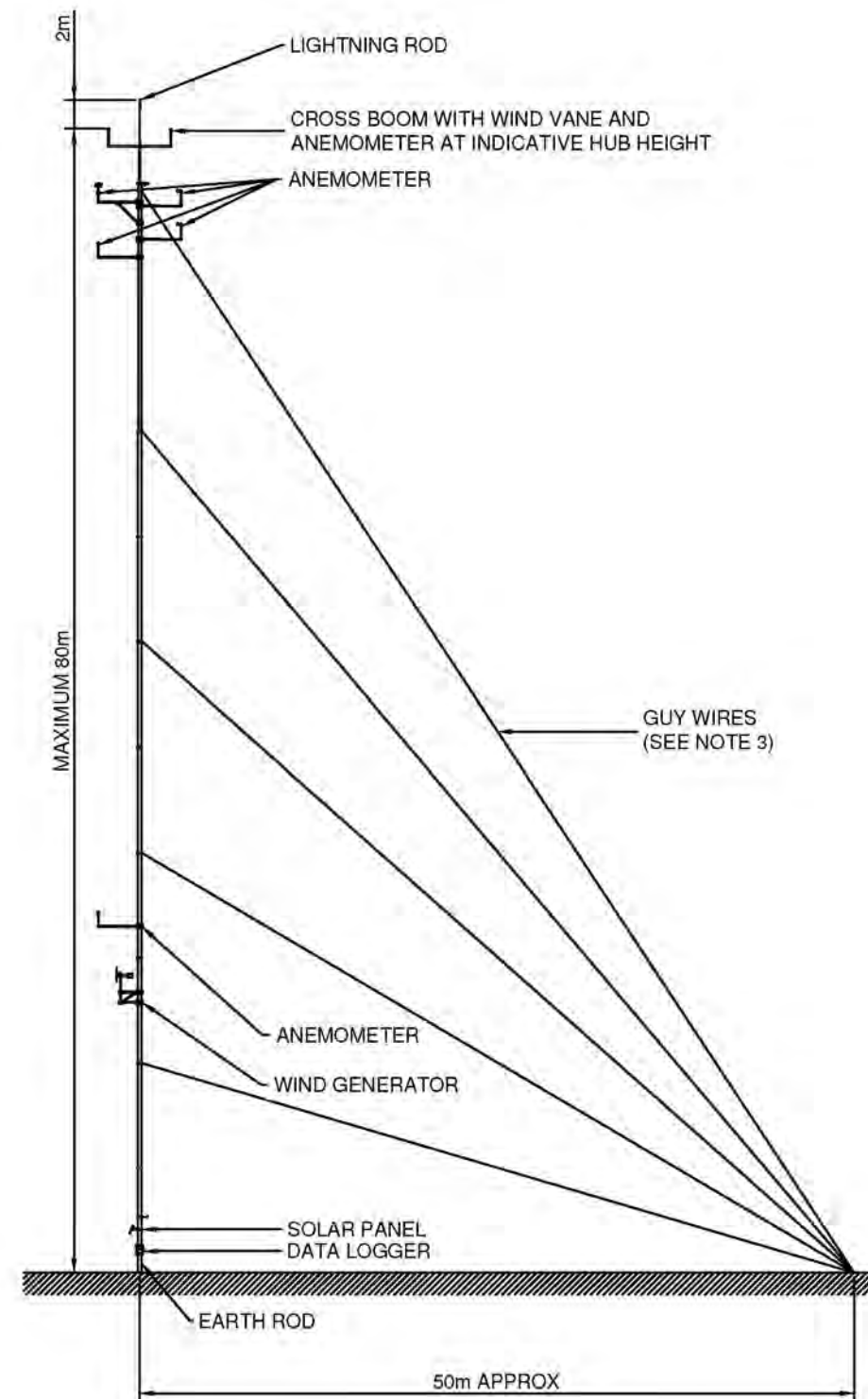
**LLANBRYNMAIR
WIND FARM**

FIGURE 3.13

**TYPICAL TEMPORARY &
PERMANENT
ANEMOMETER MASTS**



PERMANENT METEOROLOGICAL MAST



TEMPORARY AND
SITE CALIBRATION METEOROLOGICAL MAST

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL INSTRUMENTATION SHOWN TO PROVIDE INDICATION OF TYPES AND NUMBERS REQUIRED. ACTUAL REQUIREMENTS TO BE CONFIRMED DURING DEVELOPMENT OF DETAILED DESIGN.
3. NUMBER AND LOCATION OF GUY WIRES ARE INDICATIVE ONLY, ALL REQUIRED WIRES NOT SHOWN FOR CLARITY.
4. ALL GUY WIRES TO EXTEND TO AND BE ANCHORED AT GROUND LEVEL.

DATE: N/A DRAWING NO.: N/A

DRAWING NUMBER: **01592D2309-04**

SCALE - NTS

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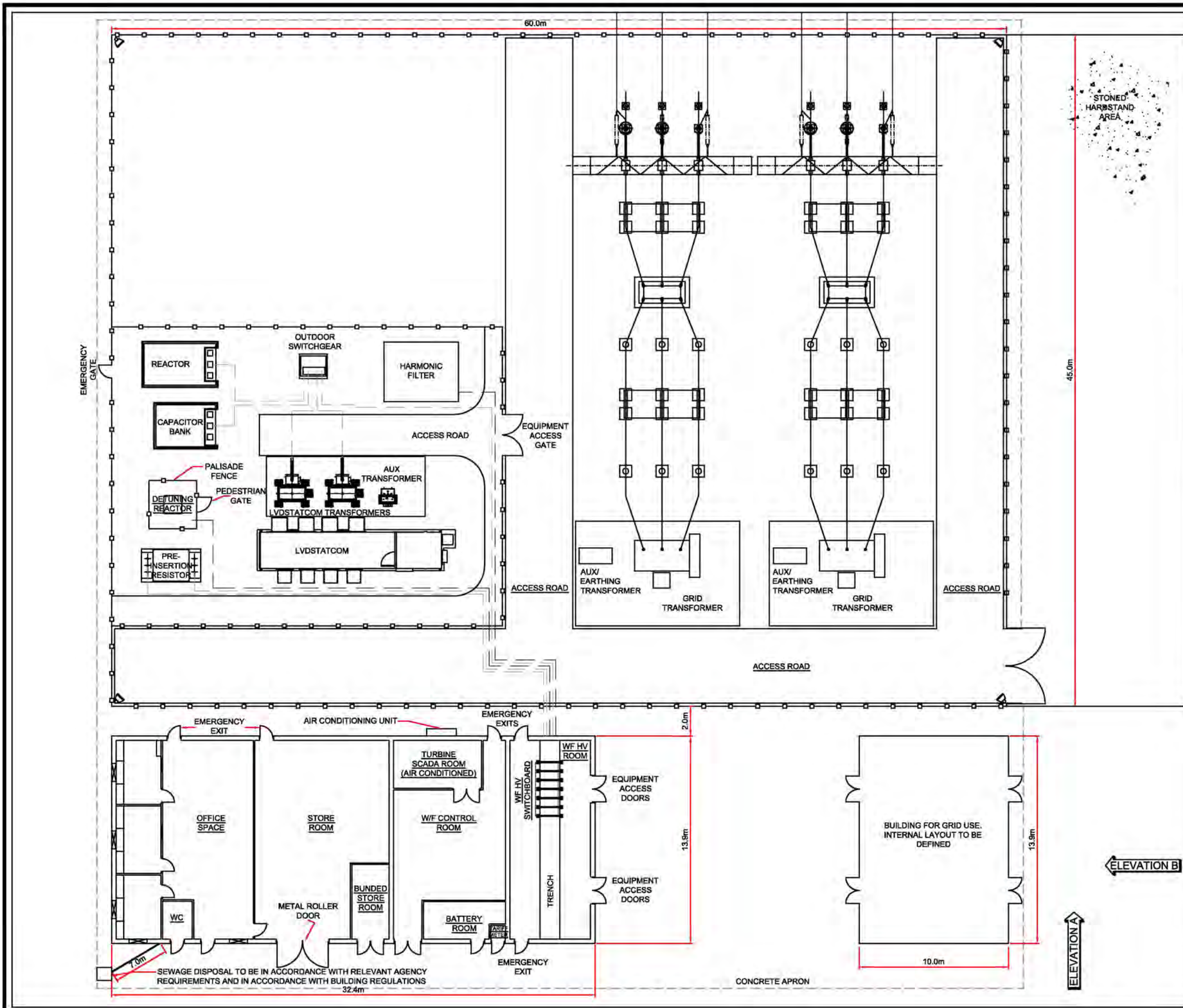
**LLANBRYNMAIR
WIND FARM**

FIGURE 3.14

**PRIMARY CONTROL
BUILDING & SUBSTATION
PLAN**

NOTES

1. FULL CONVERTOR SOLUTIONS ARE NOW REQUIRED FOR GRID CODE COMPLIANCE.
2. REACTORS ARE INCLUDED FOR BALANCING CABLE CAPACITIVE EXPORT
3. CONTROL BUILDING ROOM LAYOUT, COMPOUND LAYOUT AND GRID BUILDING ROOM LAYOUT IS INDICATIVE ONLY AND MAY CHANGE
4. STONED HARDSTAND AREA FOR CRANE DURING INSTALLATION PHASE AND PARKING DURING OPERATIONAL PHASE.



LAUGH/DWG:	N/A	TLAYOUT/NO:	N/A
DRAWING NUMBER:	01592D2304-05		
SCALE:	1:250@A3		
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.15

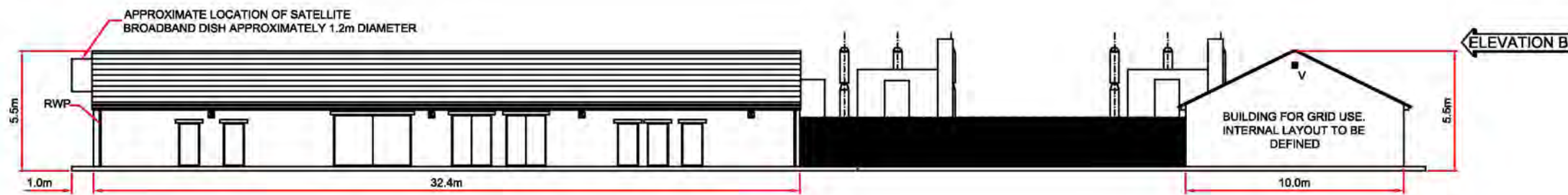
**PRIMARY CONTROL
BUILDING &
SUBSTATION ELEVATION**

KEY:

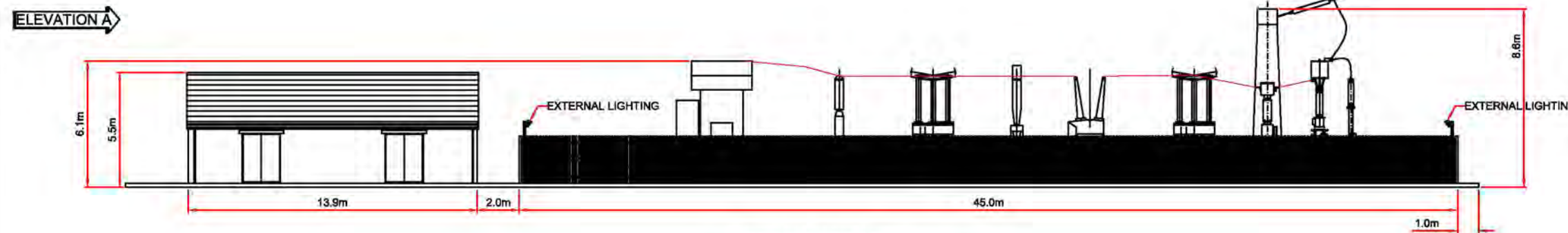
V - VENT

RWP - RAINWATER PIPE

☒ - PIR LIGHTING ABOVE DOORS



FRONT ELEVATION (A)
SCALE - 1:250



SIDE ELEVATION (B)
SCALE - 1:250

LAYOUT DWG:	N/A	LAYOUT NO:	N/A
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DRAWING NUMBER: **01592D2305-05**

SCALE - 1:250@A3

**SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013**

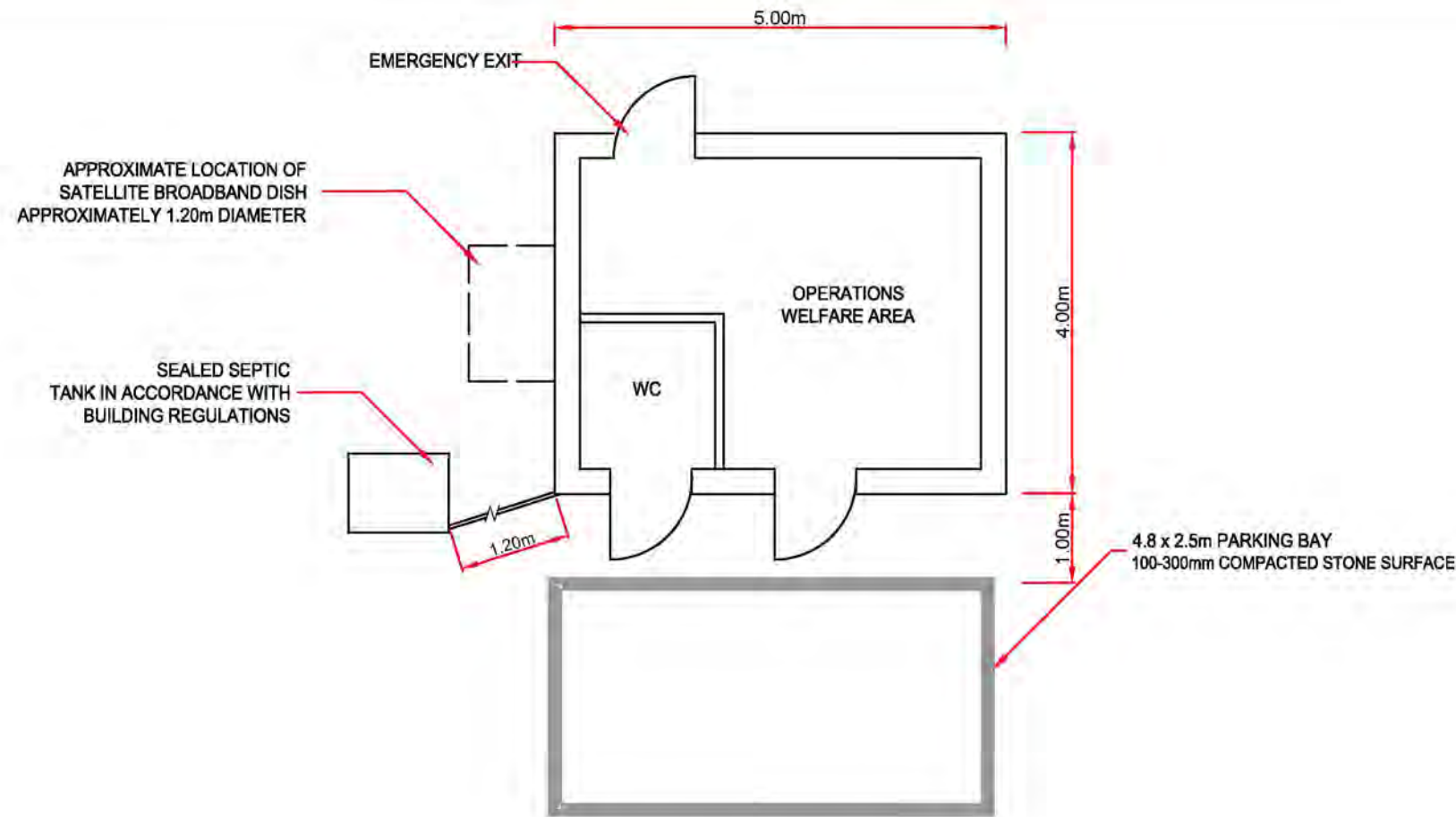
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LLANBRYNMAIR
WIND FARM

FIGURE 3.16

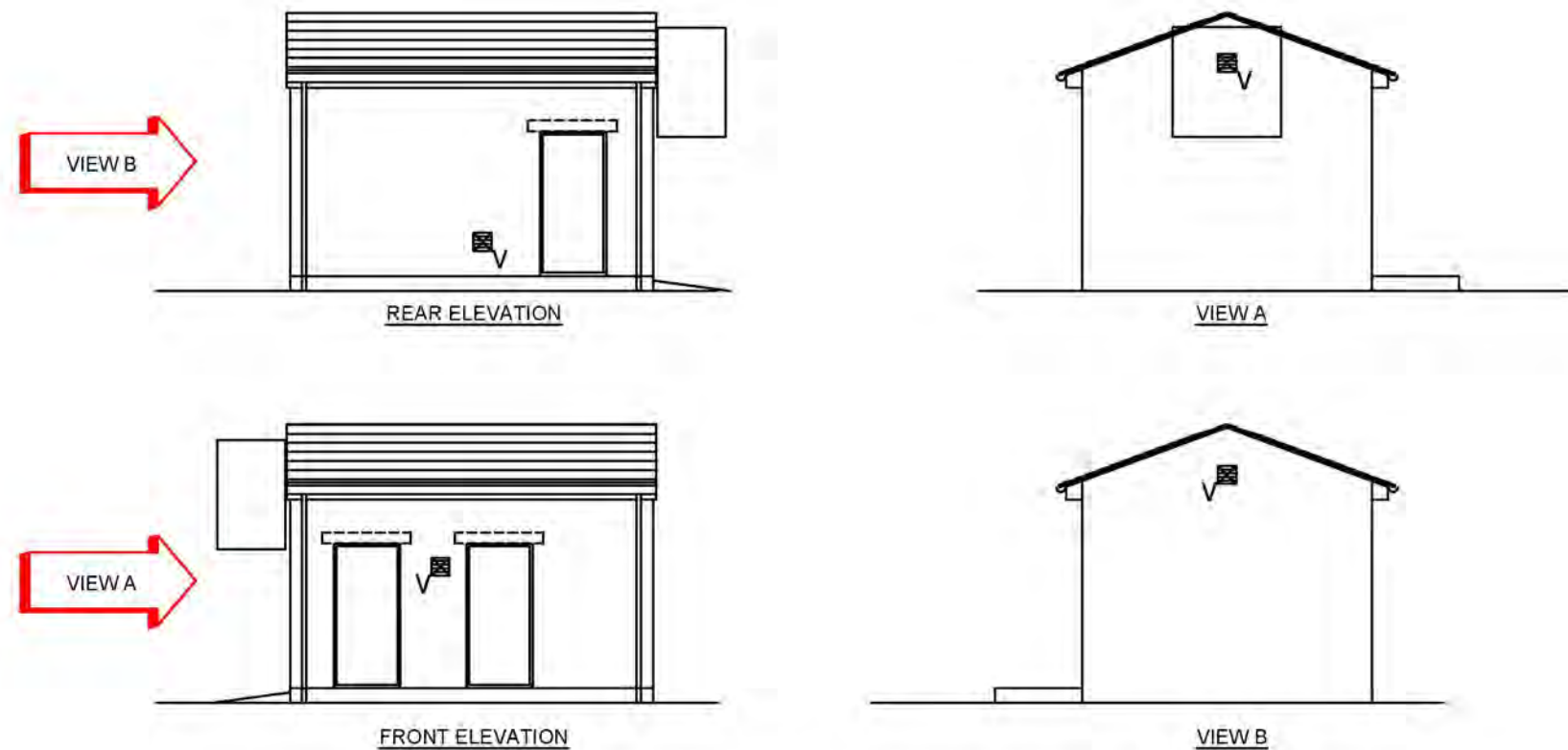
OPERATIONS WELFARE
BUILDING LAYOUT
AND ELEVATIONS



OPERATIONS WELFARE BUILDING LAYOUT
SCALE 1:75

NOTES

1. ROOM DESCRIPTIONS AND POSITIONS OF DOORS, GATES, INTERNAL WALLS AND EXTERNAL EQUIPMENT ARE INDICATIVE ONLY AND ARE SUBJECT TO REQUIREMENTS OF THE WIND FARM OPERATOR AND GRID COMPANY.



OPERATIONS WELFARE BUILDING ELEVATIONS
SCALE 1:100

LAYOUT NO: N/A

DRAWING NUMBER: 01592D2312-02

SCALE - AS SHOWN @ A3

SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013

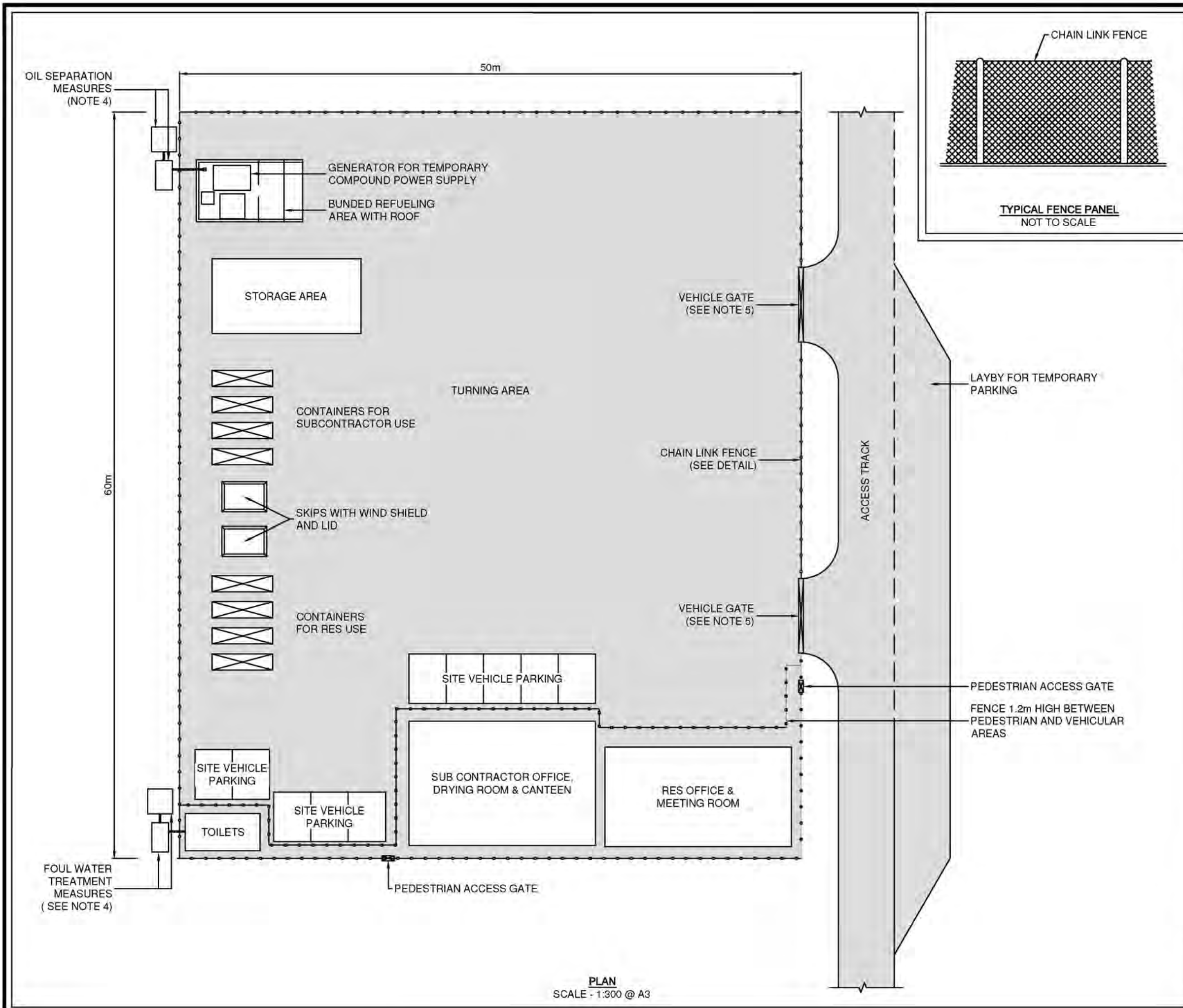
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.17

**TYPICAL CONSTRUCTION
COMPOUND**



NOTES

1. SIZE, NUMBER AND LOCATION OF COMPOUND EQUIPMENT AND FACILITIES ARE INDICATIVE ONLY
2. STRUCTURE TO BE TEMPORARY AND TO BE REMOVED AFTER CONSTRUCTION.
3. HARDSTANDING TO COMPOUND CONSISTING OF COMPACTED STONE OVER A LAYER OF GEOTEXTILE TO PROVIDE A CLEAN, FIRM, LEVEL AND FREE DRAINING SURFACE SUITABLE FOR CABINS AND HEAVY TRAFFIC.
4. APPROPRIATE MEASURES FOR SEPARATION OF OILS AND TREATMENT OF FOUL WATER TO BE AGREED WITH THE RELEVANT AUTHORITIES.
5. VEHICULAR GATES TO BE 6m WIDE CONSISTING OF 2 x 3m LEAVES

LAYOUT DWG: N/A LAYOUT NO: N/A

DRAWING NUMBER: **01592D2221-03**

SCALE - AS SHOWN

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PLAN
SCALE - 1:300 @ A3

**LLANBRYNMAIR
WIND FARM**

FIGURE 3.18

**TYPICAL SITE DRAINAGE
PLAN**

NOTES

1. SUDS SYSTEM TO BE CONSTRUCTED PRIOR TO, OR AT THE SAME TIME AS THE ACCESS ROAD.
2. SUSTAINABLE PREVENTION MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT THE CONVEYANCE OF SILTS TO RECEIVING WATERCOURSE.
3. DRAINAGE SWALES TO BE EXCAVATED ADJACENT TO THE ACCESS TRACK. REGULAR CROSS DRAINS TO BE LOCATED ALONG ACCESS TRACKS TO PREVENT EXCESSIVE VOLUMES OF WATER COLLECTING IN THE SWALES.
4. ROADSIDE SWALES TO BE SHALLOW WITH MODERATE GRADIENTS TO PREVENT SCOURING. IN STEEP AREAS CHECK DAMS WILL BE DESIGNATED TO REDUCE FLOW RATE AND PROVIDE SOURCE CONTROL SILT CONTAINMENT. WHERE NECESSARY THESE WILL BE DESIGNATED IN CONJUNCTION WITH SETTLEMENT PONDS AND/OR CROSS DRAINS.
5. BUILD UP OF SILT LEVELS AT CHECK DAMS TO BE REMOVED AND DISPOSED OF APPROPRIATELY. SILT LEVELS AT CHECK DAMS TO BE VISUALLY INSPECTED AS PART OF AN ONGOING MAINTENANCE PROGRAMME.
6. SPACING AND FREQUENCY OF CHECK DAMS WILL BE DEPENDANT UPON LONGITUDINAL GRADIENT OF SWALE.

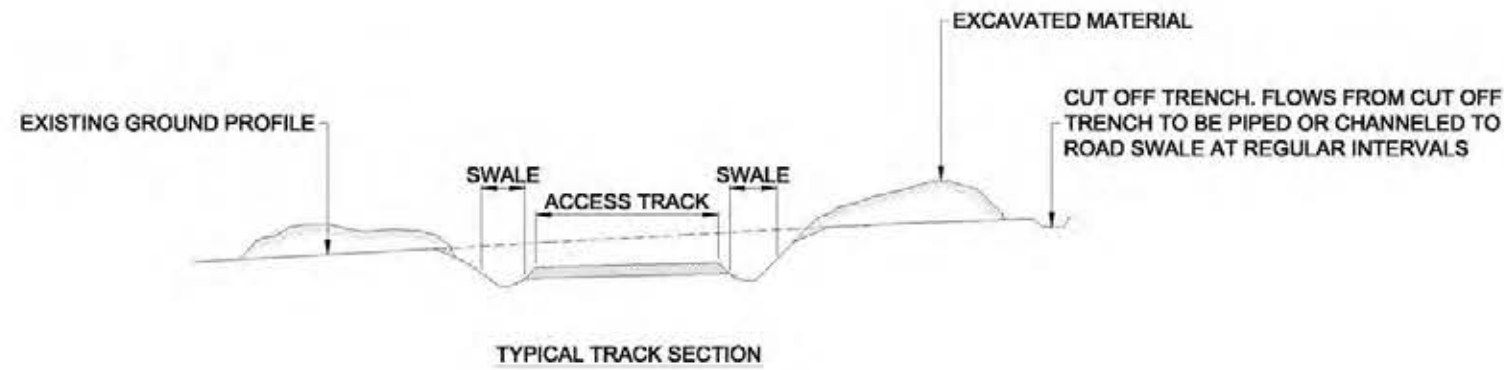
LAYOUT NO: N/A T. LAYOUT NO: N/A

DRAWING NUMBER: **01592D2219-04**

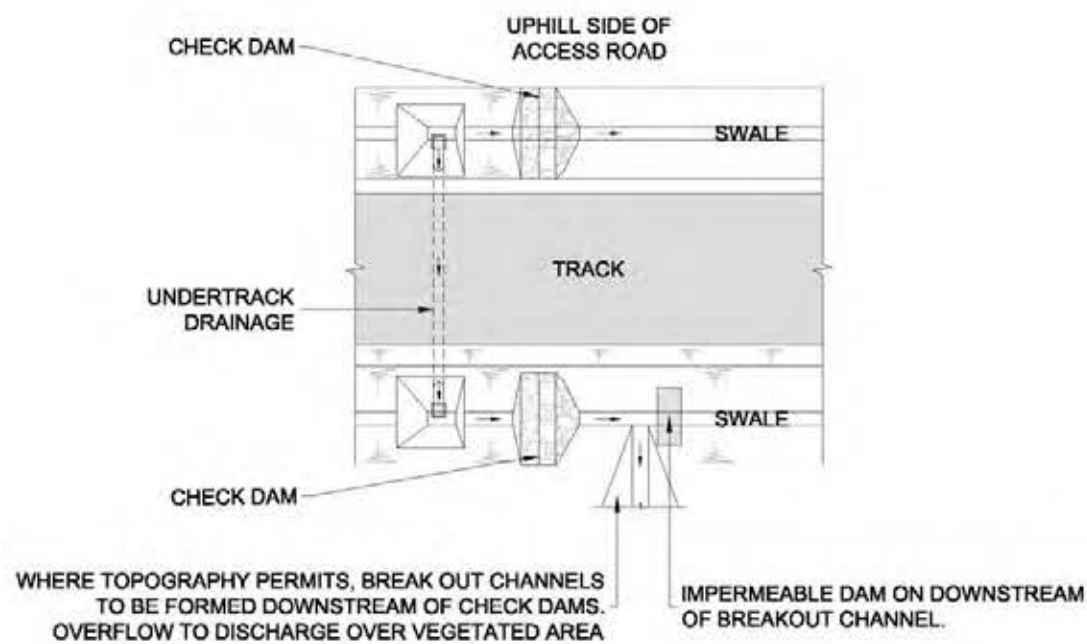
SCALE - NOT TO SCALE

**SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013**

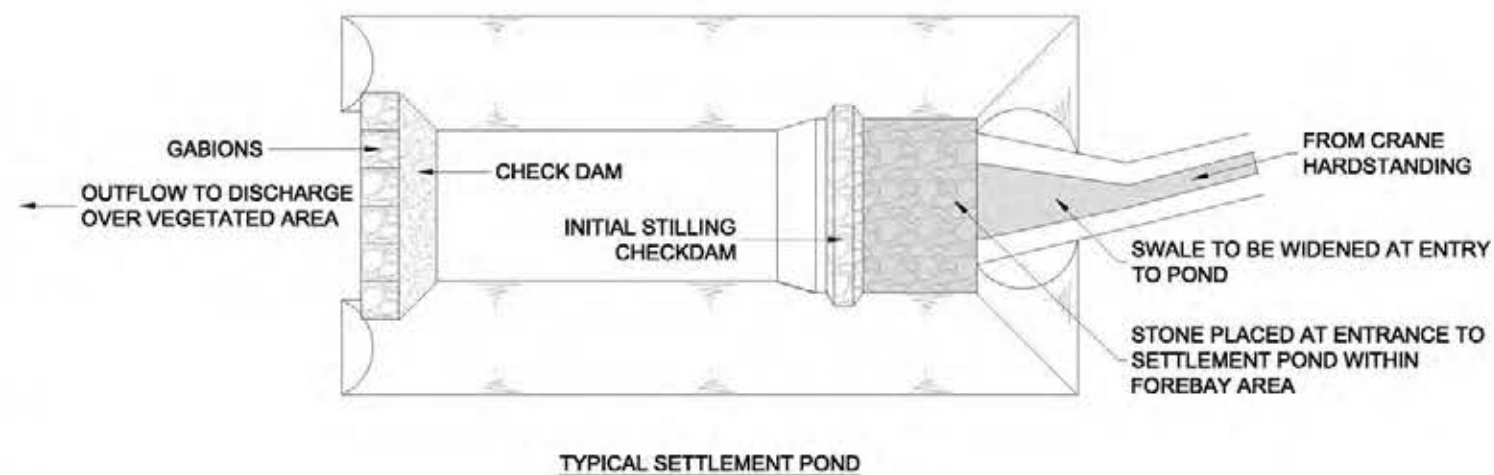
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TYPICAL UNDER TRACK DRAINAGE



TYPICAL CHECK DAM

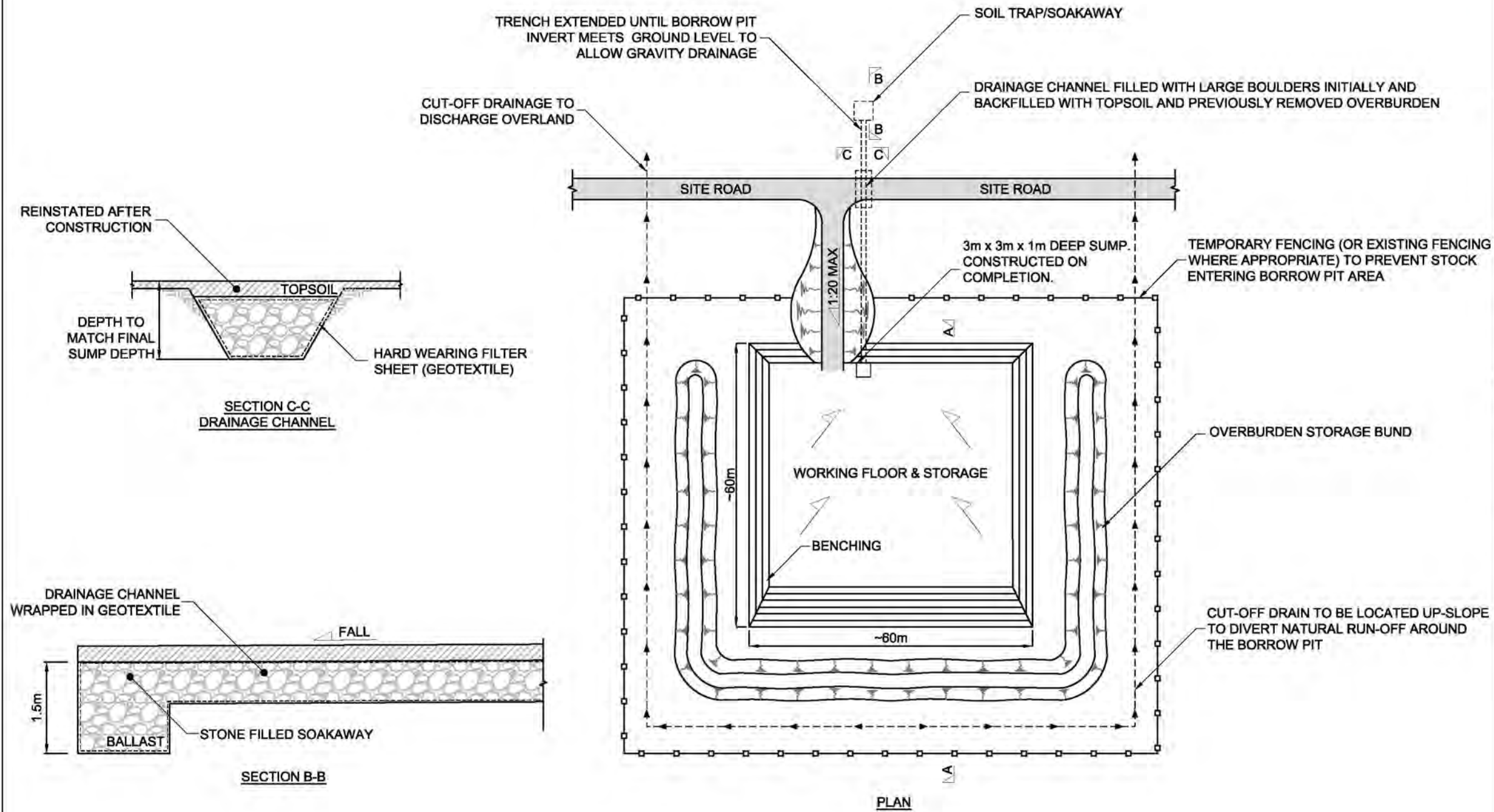


TYPICAL SETTLEMENT POND

**LLANBRYNMAIR
WIND FARM**

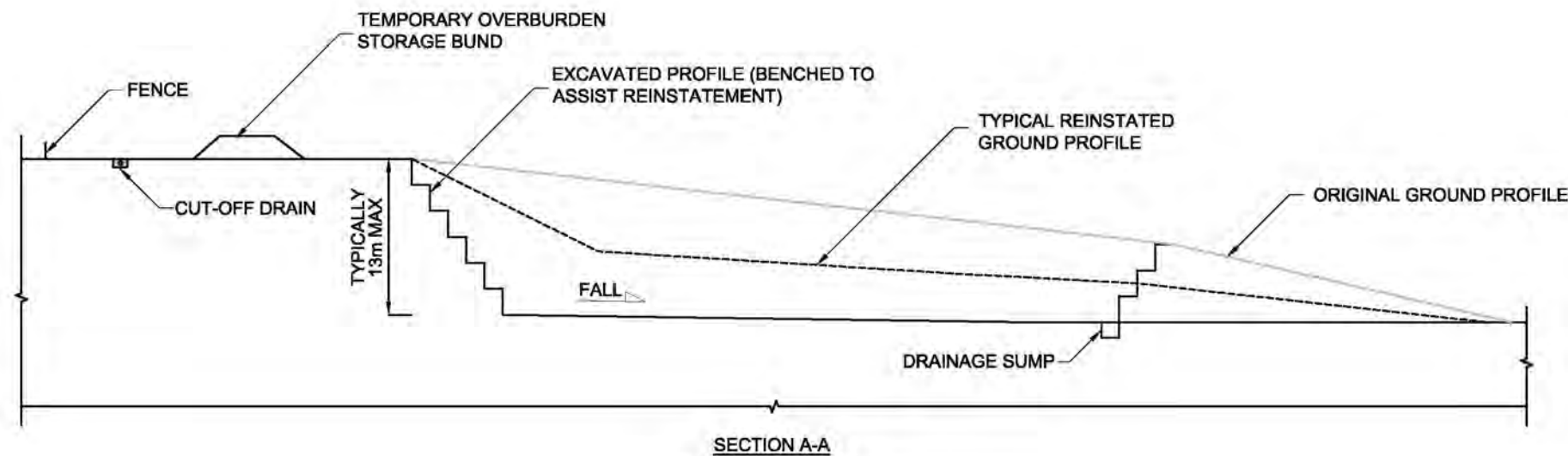
FIGURE 3.19

**TYPICAL BORROW PIT
PROFILE AND LAYOUT PLAN**



NOTES

1. LAYOUT SHOWN IS INDICATIVE ONLY EXACT DIMENSIONS TO BE CONFIRMED ON SITE FOLLOWING DETAILED SITE INVESTIGATIONS AND DESIGN.
2. REFER TO SITE INFRASTRUCTURE LAYOUT FOR PROPOSED BORROW PIT LOCATIONS.
3. OVERBURDEN, SPOIL AND PEAT MANAGEMENT AND REINSTATEMENT ARRANGEMENT TO BE CONFIRMED.
4. DRAINAGE DETAILS ARE INDICATIVE ONLY AND SUBJECT TO FULL SUDS DESIGN.



LAYOUT DATE: N/A LAYOUT NO: N/A

DRAWING NUMBER: **01592D2220-04**

SCALE - NOT TO SCALE

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INFORMATION 2013**

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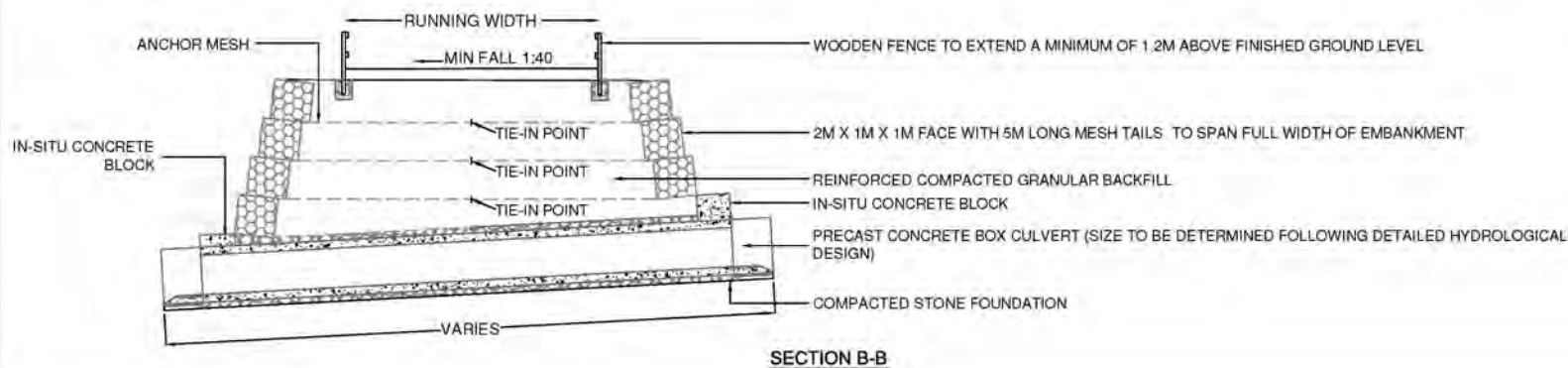
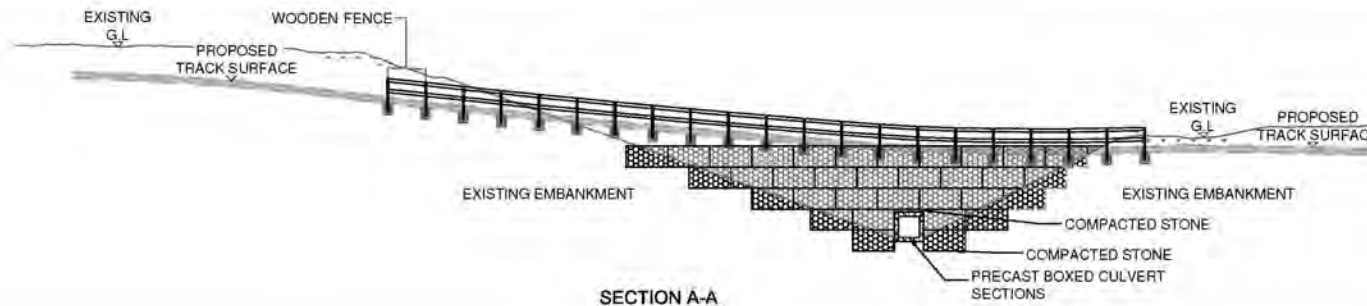
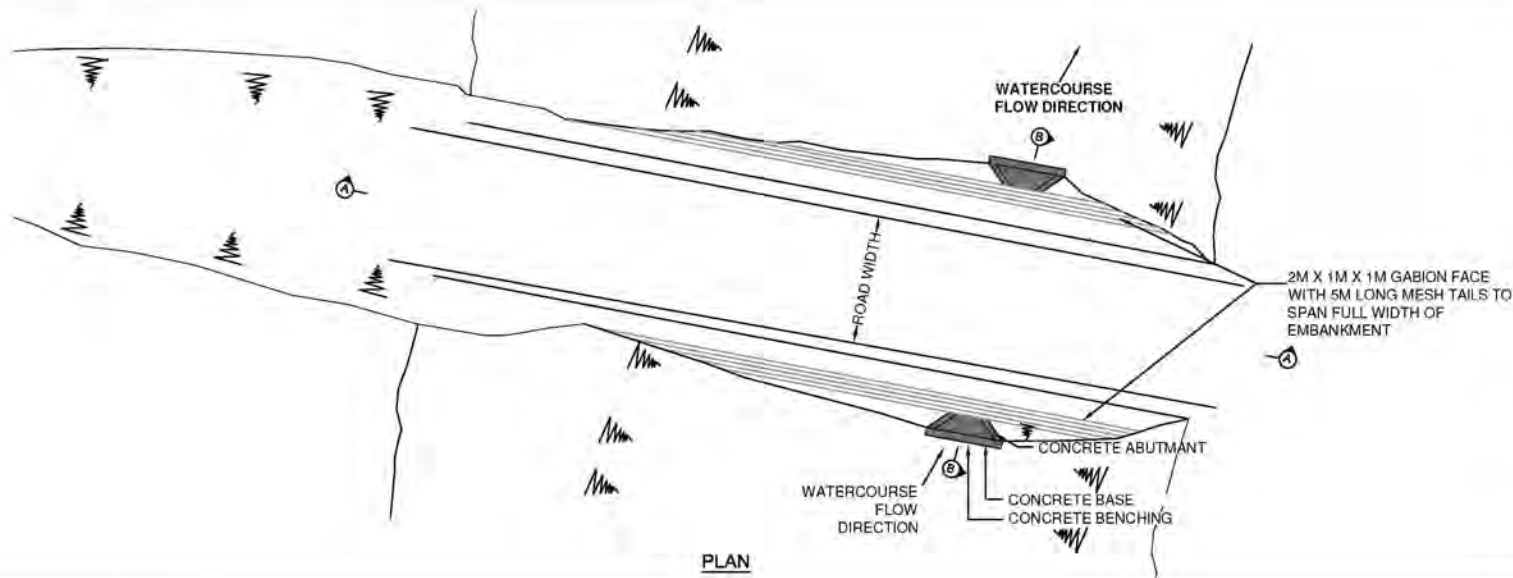
**LLANBRYNMAIR
WIND FARM**

FIGURE 3.20

**INDICATIVE STEEP - SIDED
WATER CROSSING DETAIL**

NOTES

1. DIMENSIONS TO BE CONFIRMED AT DETAILED SITE DESIGN STAGE.
2. CULVERT WIDTH WILL BE AS WIDE AS THE NATURAL ACTIVE CHANNEL WIDTH AND AGREED WITH RELEVANT AUTHORITY.
3. CULVERT BASE WILL BE BURIED BELOW THE EXISTING CHANNEL BED.
4. THE CULVERT SLOPE AND ALIGNMENT WILL MATCH THAT OF THE EXISTING WATERCOURSE.
5. THE SOFFIT HEIGHT WILL BE GREATER THAN THE NATURAL BANK HEIGHT.



DATE/REV	N/A	APPROVAL	N/A
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DOCUMENT REF: **01592D2302-03**

SCALE - NTS

**SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013**

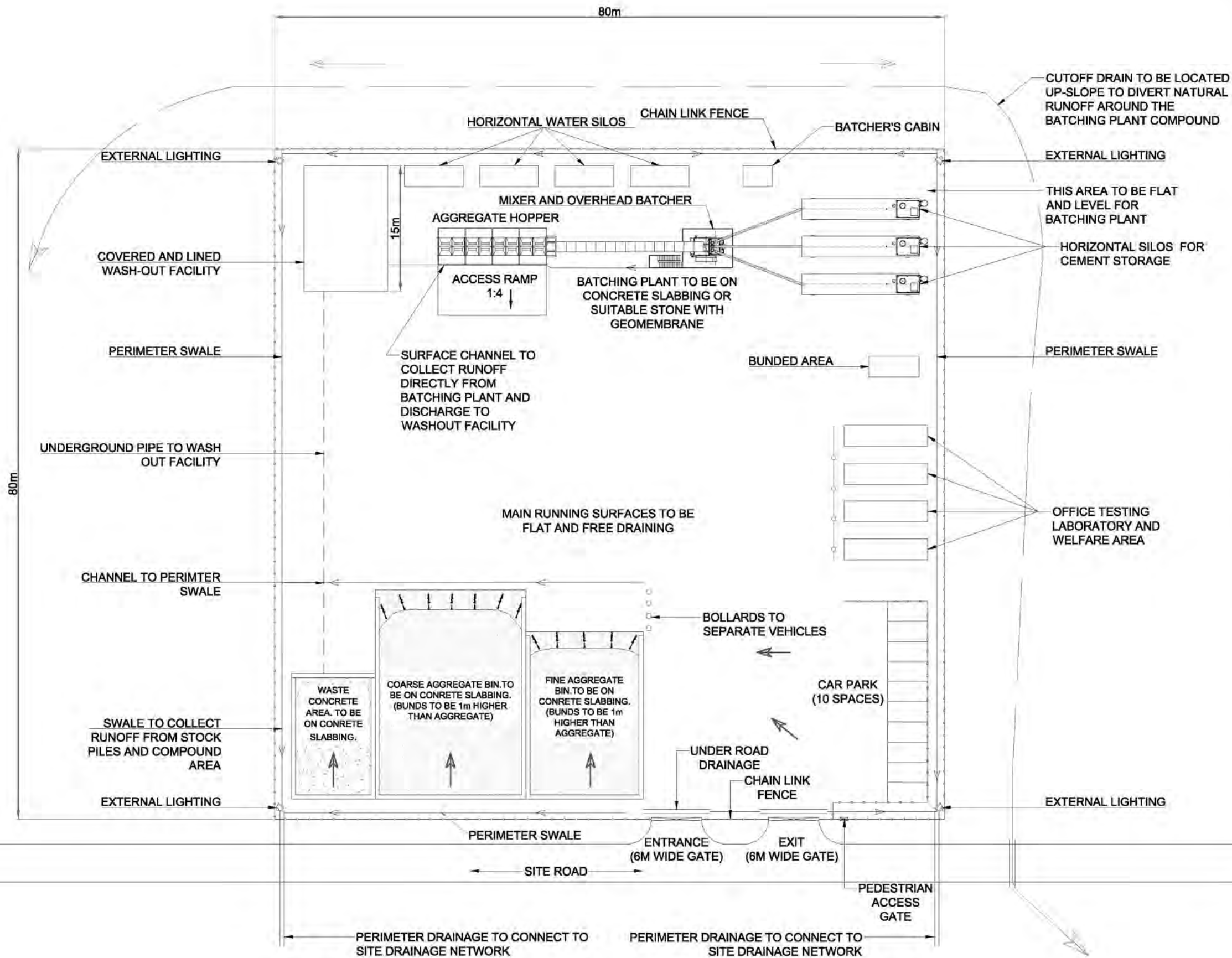
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**LLANBRYNMAIR
WIND FARM**

FIGURE 3.21

**TYPICAL BATCHING
PLANT LAYOUT**



- NOTES**
1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 2. SIZE, NUMBER AND LOCATION OF EQUIPMENT AND FACILITIES ARE INDICATIVE ONLY.
 3. STRUCTURE TO BE TEMPORARY AND TO BE REMOVED AFTER CONSTRUCTION.
 4. REFER TO DRAWING 01592D1002-22 FOR BATCHING PLANT LOCATION

LAYOUT DWG:	N/A	LAYOUT NO.:	N/A
DRAWING NUMBER:	01592D2310-03		
SCALE -	1:500@A3		
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LLANBRYNMAIR WIND FARM

FIGURE 3.22

MV CABLE LAYOUT

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- KEY:**
- WIND TURBINE
 - SITE TRACK
 - HARDSTANDING
 - BORROW PIT (BP#)
 - TEMPORARY SITE COMPOUND (SC#)
 - SUB STATION
 - LOCATIONS OF EXISTING TRACK
 - WATER CROSSING EXISTING
 - WATER CROSSING NEW
 - TEMPORARY TURBINE MAST
 - TEMPORARY CALIBRATION MAST
 - PERMANENT MAST
 - BATCHING PLANT
 - TEMPORARY INFRASTRUCTURE (PASSING BAYS & TURNING HEADS)
 - SITE BOUNDARY (REFER TO DRAWING 01592D2205-13 FOR DETAILS).
 - WELFARE BUILDING

MV CIRCUIT 1		
FROM	TO	ROUTE LENGTH (m)
R35	R36	7710
R36	R37	2058
R36	R38	5110
R36	R39	541
R37	R38	408
R38	R40	577
R40	R27	561
R40	R43	111

MV CIRCUIT 2		
FROM	TO	ROUTE LENGTH (m)
R16	R15	896
R16	R14	605
R16	R13	588
R16	R12	540
R16	R11	487
R16	R10	1051
R16	R9	506
R16	R8	799

MV CIRCUIT 3		
FROM	TO	ROUTE LENGTH (m)
R12	R11	539
R12	R10	475

MV CIRCUIT 4		
FROM	TO	ROUTE LENGTH (m)
R4	R31	1343
R4	R32	1200
R4	R33	1458
R4	R34	1019

MV CIRCUIT 5		
FROM	TO	ROUTE LENGTH (m)
R5	R31	847
R5	R32	520
R5	R33	588
R5	R34	1350
R5	R35	337

NOTES

- REVISION 2 OF THIS DRAWING IS BASED ON INFRASTRUCTURE LAYOUT 01592D41002-23.
- ALL CABLE LENGTHS STATED ON THIS DRAWING ARE 2-DIMENSIONAL, POINT TO POINT, LENGTHS TAKEN DIRECTLY FROM AUTOCAD AND AS SUCH DO NOT ALLOW FOR ANY TOLERANCE FACTORS, TERMINATION LENGTHS OR ELEVATION TOPOGRAPHY, AND AS SUCH SHOULD NOT BE USED AS PURCHASING LENGTHS.

LAYOUT DWG 01592D0004-10 T-LAYOUT NO. PWAL1a087

DRAWING NUMBER 01592D4303-02

SCALE - 1:25,000 @ A1

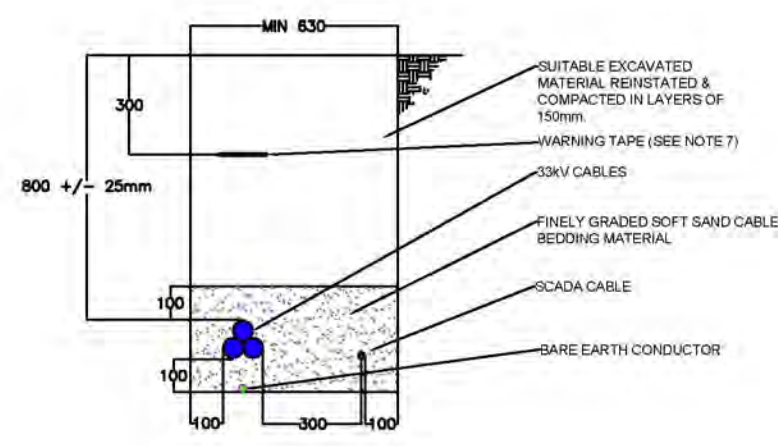
SUPPLEMENTARY ENVIRONMENTAL INFORMATION 2013

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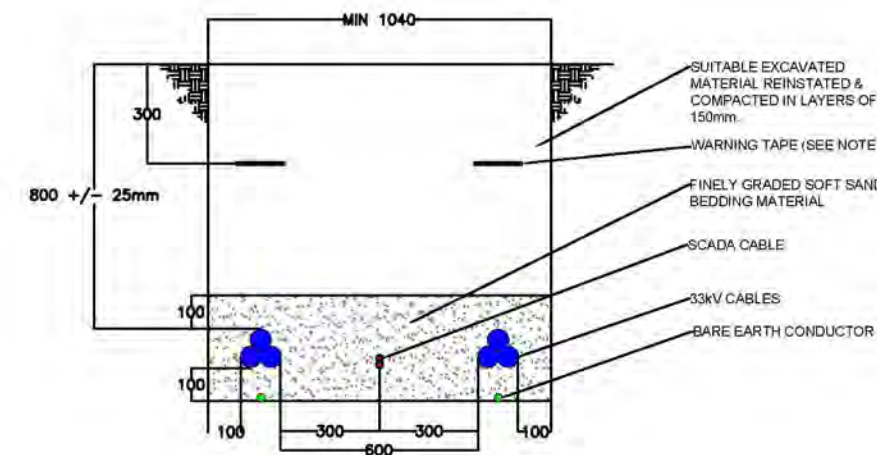
**LLANBRYNMAIR
WIND FARM**

FIGURE 3.23

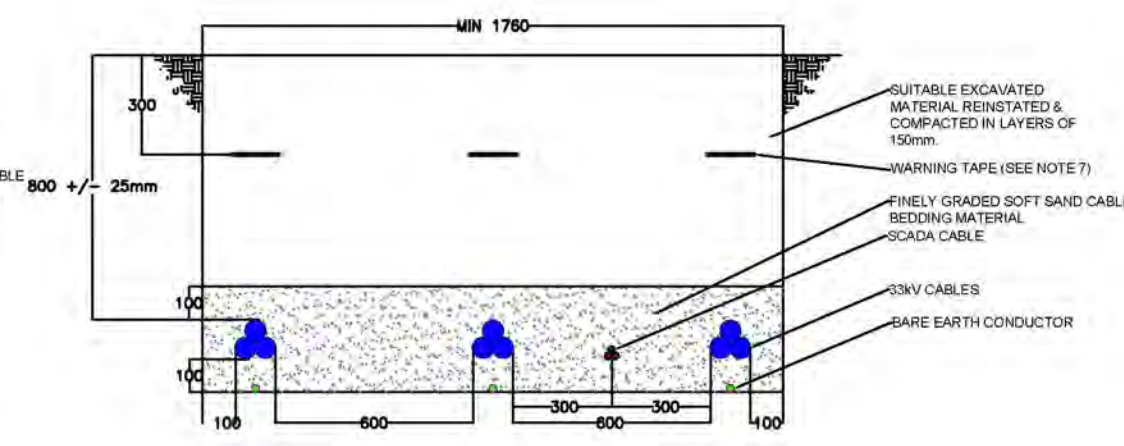
**CABLE TRENCH
SECTIONS**



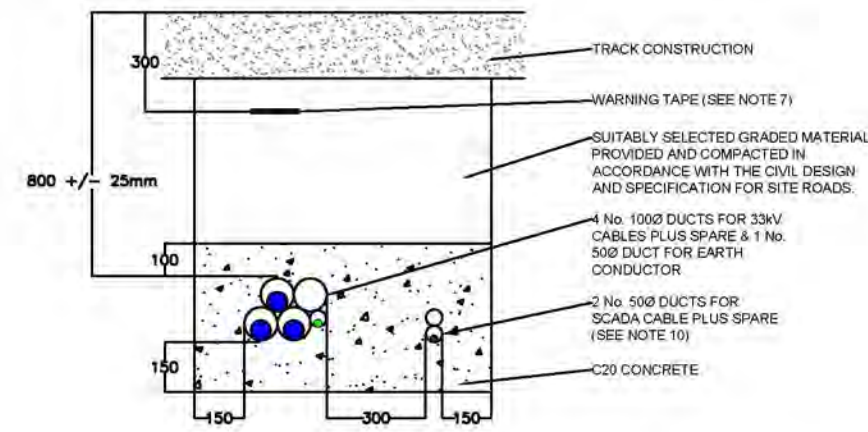
**1. TYPICAL 33kV SINGLE CIRCUIT CABLE TRENCH-
DIRECT BURIED**



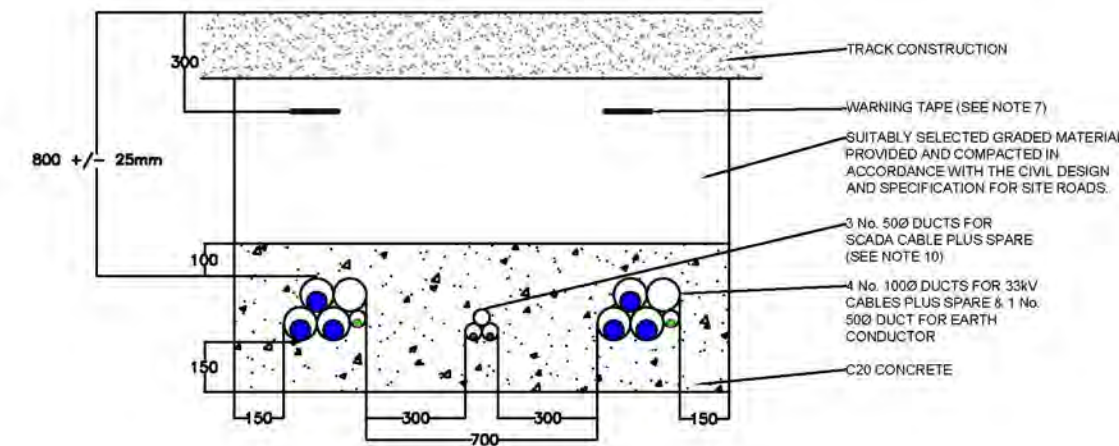
**2. TYPICAL 33kV DOUBLE CIRCUIT CABLE TRENCH-
DIRECT BURIED**



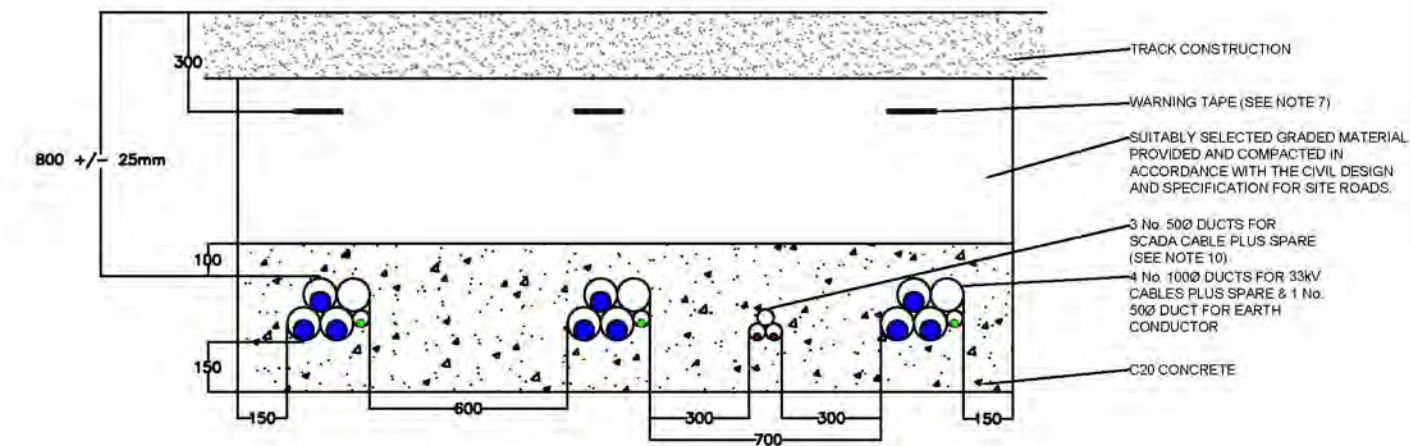
**3. TYPICAL 33kV TRIPLE CIRCUIT CABLE TRENCH-
DIRECT BURIED**



4. TYPICAL 33kV SINGLE CIRCUIT ROAD CROSSING



5. TYPICAL 33kV DOUBLE CIRCUIT ROAD CROSSING



6. TYPICAL 33kV TRIPLE CIRCUIT ROAD CROSSING

NOTES

1. SITE MANAGER TO BE INFORMED PRIOR TO ANY EXCAVATING TAKING PLACE.
2. 'PERMIT TO DIG' TO BE OBTAINED PRIOR TO ANY EXCAVATING TAKING PLACE.
3. SURVEY PROPOSED CABLE ROUTE. STOP WORK IMMEDIATELY AND CONTACT SITE MANAGER SHOULD ANY EXISTING CABLES BE ENCOUNTERED. UPON APPROVAL HAND DIG ONLY ADJACENT TO EXISTING SERVICES.
4. THE CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES, INCLUDING POWER UTILITIES AND COMMUNICATIONS PROVIDERS TO ASCERTAIN CABLE TRENCHING AND DUCTING SPECIFICATIONS NEAR TO EXISTING SERVICES.
5. MANUFACTURER'S CABLE INSTALLATION GUIDELINES MUST BE USED WHEN INSTALLING CABLES.
6. ALL DIMENSIONS IN mm.
7. WARNING TAPES SHALL BE 150mm MINIMUM IN WIDTH, OF A NON-CORRODIBLE PLASTIC MATERIAL, BRIGHT YELLOW IN COLOUR AND INDELIBLY MARKED IN BLACK WITH THE WORDS: 'DANGER - ELECTRIC CABLE'.
8. CABLES LAID IN TREFOIL SHALL BE STRAPPED TOGETHER WITH SUITABLY SIZED PLASTIC CABLE TIES, AT MAX 1.5m INTERVALS.
9. MAXIMUM GRADIENT OF CABLE ROUTE AND DETAIL OF CABLE RESTRAINTS IS TO BE AGREED AFTER COMPLETION OF CABLE ROUTE SURVEY.
10. ALL CABLE DUCTS SHALL BE MADE FROM PVC AND COMPLY WITH THE LATEST EDITION OF ENA TS 12-24, AS FOLLOWS:
POWER CABLE DUCTS: CLASS 1
OTHER DUCTS: CLASS 3
11. MINIMUM BENDING RADIUS OF 33kV CABLE LAID IN DUCT: 1700mm (BASED ON max 630mm² CABLE).

LAYOUT DWG: N/A T-LAYOUT NO.: N/A

DRAWING NUMBER: **01592D4302-03**

SCALE - N.T.S.

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LLANBRYNMAIR WIND FARM

FIGURE 3.24

PROPOSED ACCESS ROUTE

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2013 LICENCE NUMBER 0100031673.

KEY

-  SITE BOUNDARY
(TAKEN FROM RES DRAWING
01592D2205-13)
-  PROPOSED ABNORMAL LOAD
DELIVERY ROUTE
-  PROPOSED ABNORMAL LOADS AND
CONSTRUCTION TRAFFIC ROUTE
-  PROPOSED CONSTRUCTION TRAFFIC
ROUTE



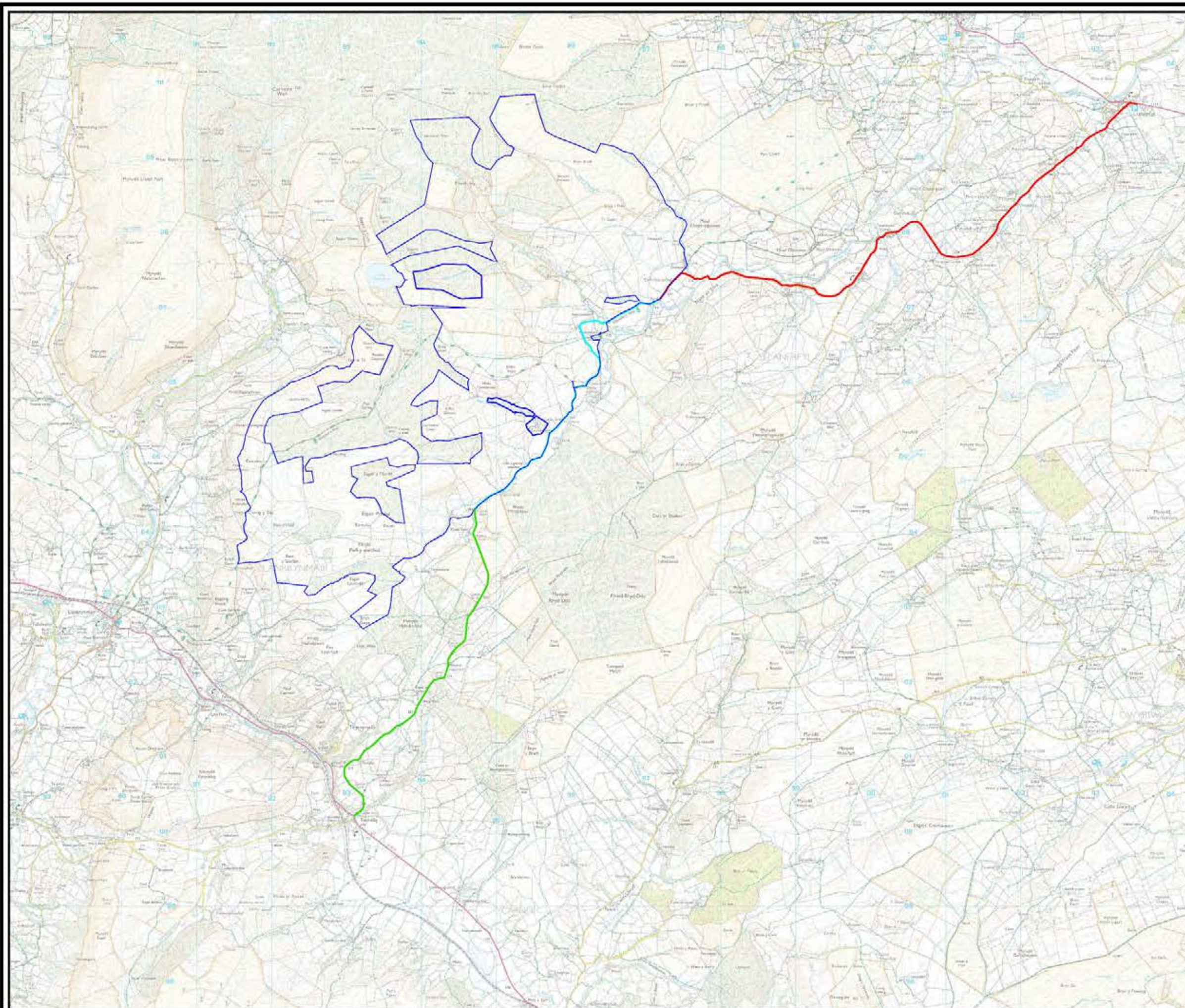
LAYOUT 1/2013 N/A 1/2013 N/A

DRAWING NUMBER:
01592D2250-03

SCALE - 1:50,000@A3

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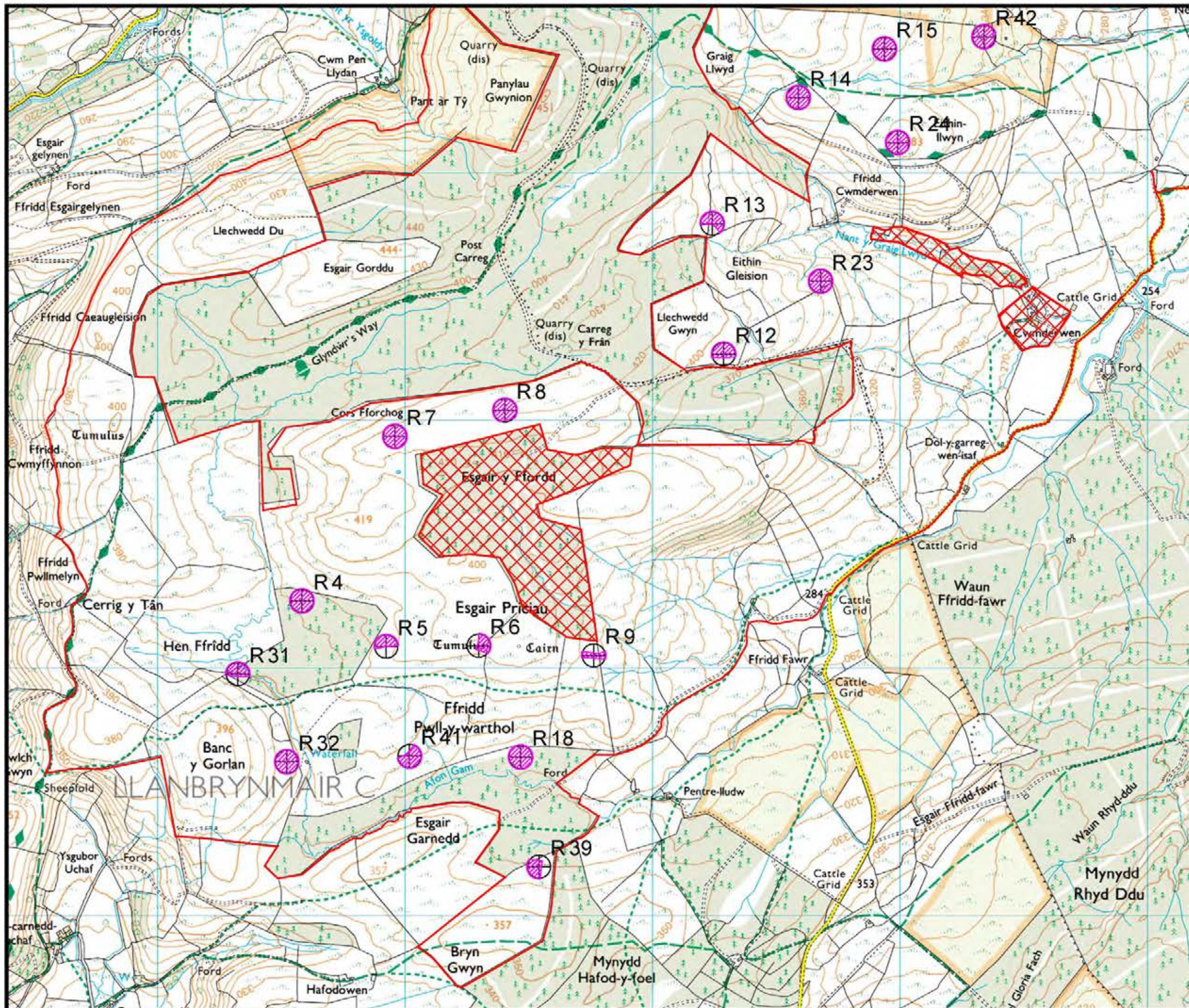


LLANBRYNMAIR WIND FARM

FIGURE 3.25a

LAYOUT AND MICROSITING AREAS

- Site boundary
- ⊕ RES Turbine Locations
- ⊗ Micrositing Areas (maximum radius 50m)



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2013 LICENCE NUMBER 0100031673.

LAYER ID: 01592D0004-10 LAYER NO: PWAL1a087

DRAWING NUMBER: **01592D2217-06**

SCALE - 1 : 15,000 @ A3

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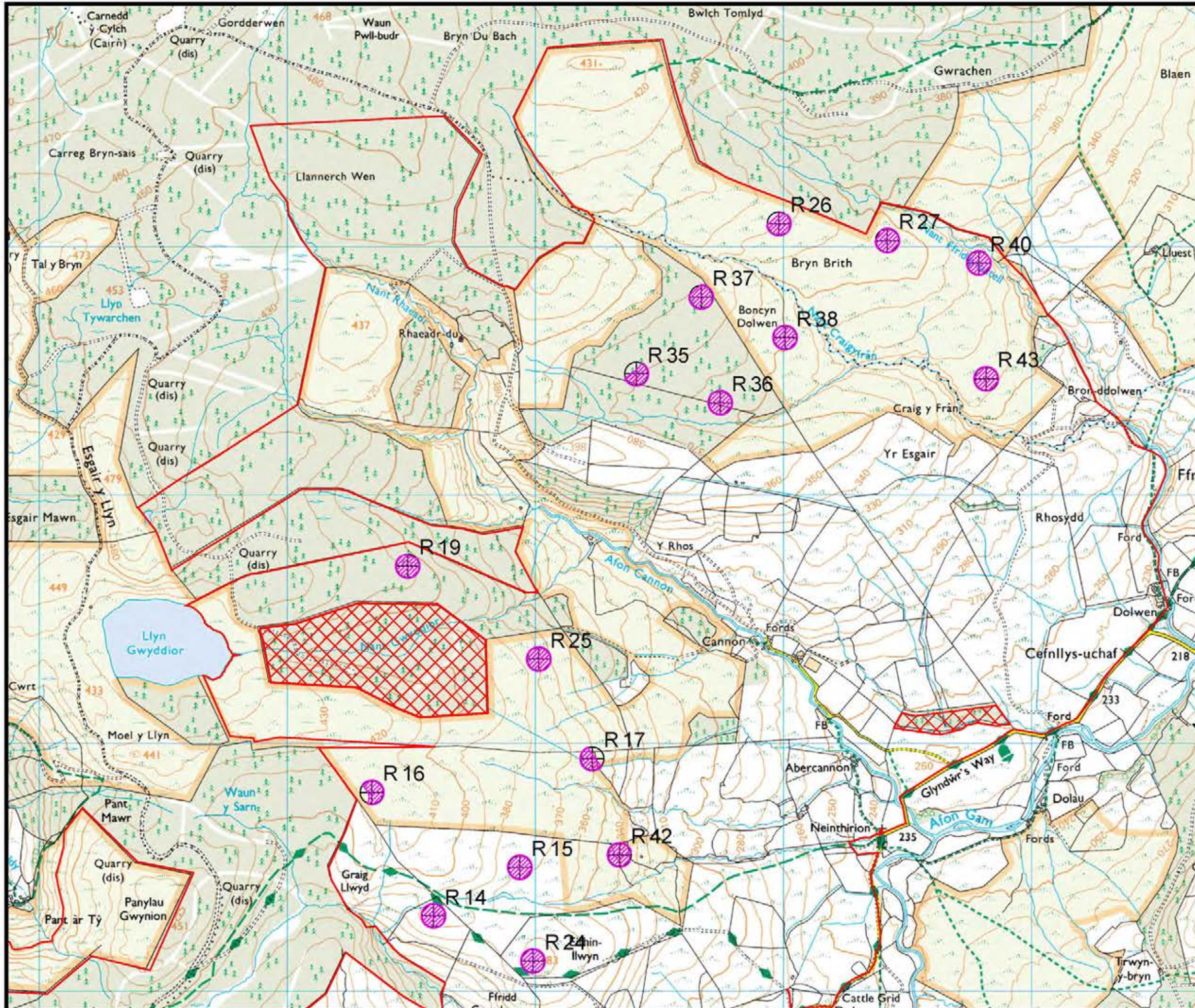


LLANBRYNMAIR WIND FARM

FIGURE 3.25b

LAYOUT AND MICROSITING AREAS

- Site boundary
- ⊕ RES Turbine Locations
- ⊗ Micrositing Areas (maximum radius 50m)



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LAYOUT DWG: 01592D0004-10 | DRAWING NO: PWALla087

DRAWING NUMBER: **01592D2217-06**

SCALE - 1 : 15,000 @ A3

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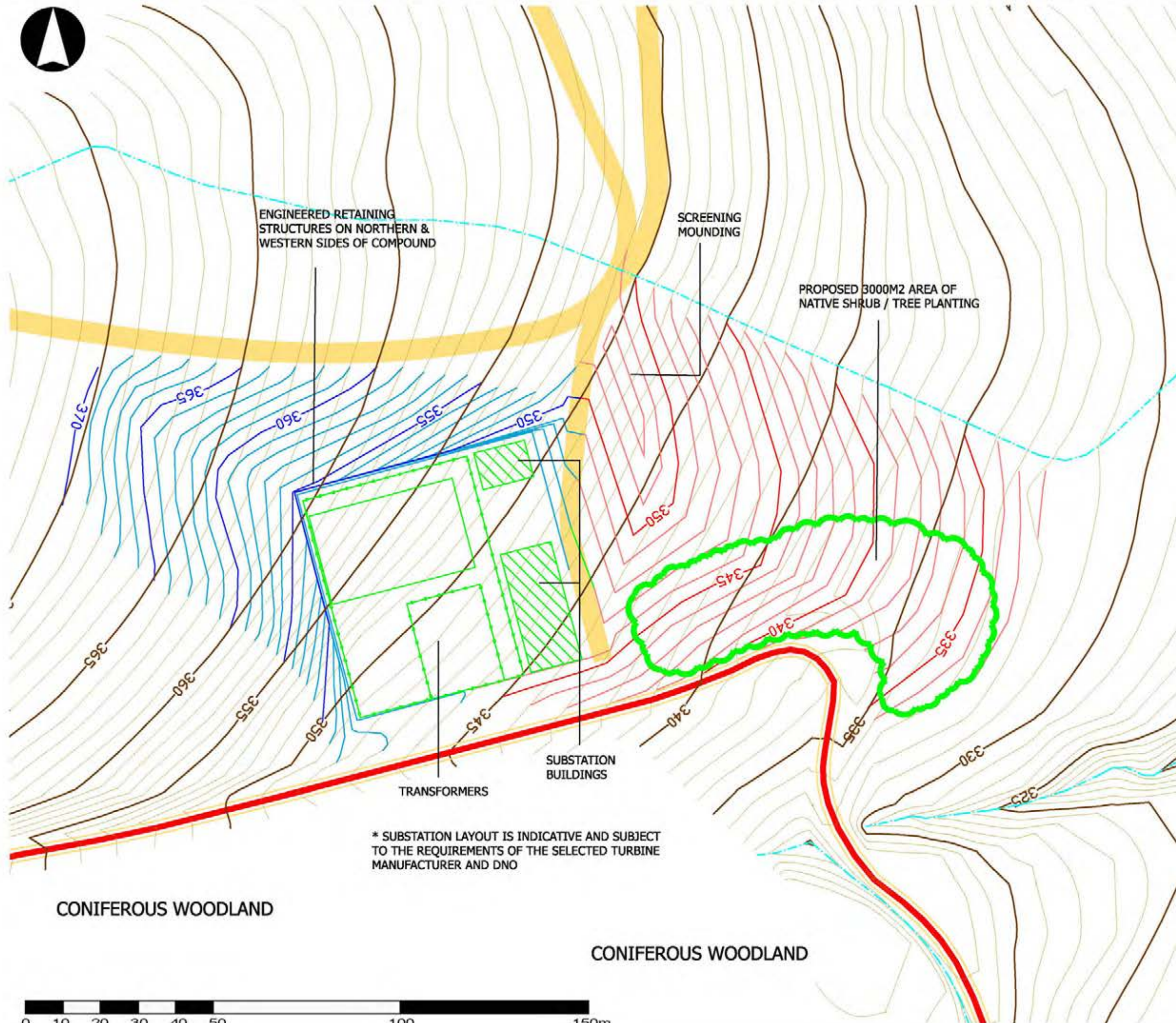













LLANBRYNMAIR WINDFARM

FIGURE 3.26

PRIMARY CONTROL BUILDING & SUBSTATION PLAN: PROPOSED GROUND MODELLING & PLANTING

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673



-  APPLICATION BOUNDARY
-  EXISTING TRACK
-  WATERCOURSE
-  EXISTING 5M CONTOUR
-  EXISTING 1M CONTOUR
-  PROP 5M CUT CONTOUR
-  PROP 1M CUT CONTOUR
-  PROP 5M FILL CONTOUR
-  PROP 1M FILL CONTOUR
-  PROP ACCESS TRACK
-  PROPOSED PLANTING

* PROPOSED GROUND LEVELS ARE INDICATIVE ONLY AND SUBJECT TO FURTHER DETAILED DESIGN

DATE: N/A DRAWING NO: N/A

SCALE: N/A

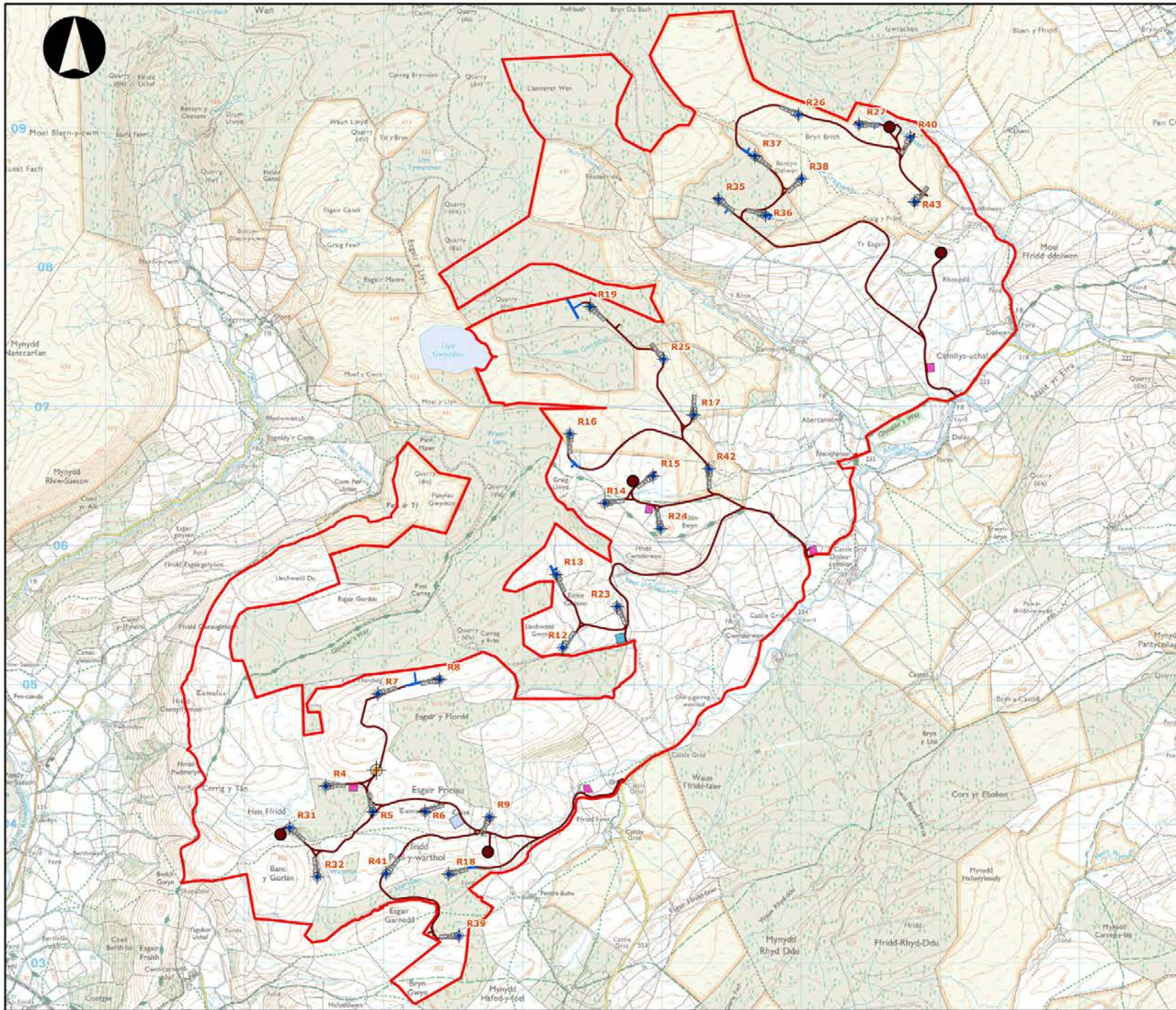
SCALE - 1:1000

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CHAPTER 4: LANDSCAPE AND VISUAL ASSESSMENT FIGURES













**LLANBRYNMAIR
WINDFARM**

FIGURE 4.1

SITE LAYOUT

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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Legend

-  Turbines
-  Red Line Boundary
-  Anemometer
-  Borrow Pits
-  Access Tracks
-  Turning Heads
-  Hardstanding
-  Batching Plant
-  Substation
-  Temporary Construction Compounds

LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: **5599-01_025**

SCALE - 1:26,000

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LLANBRYNMAIR WINDFARM

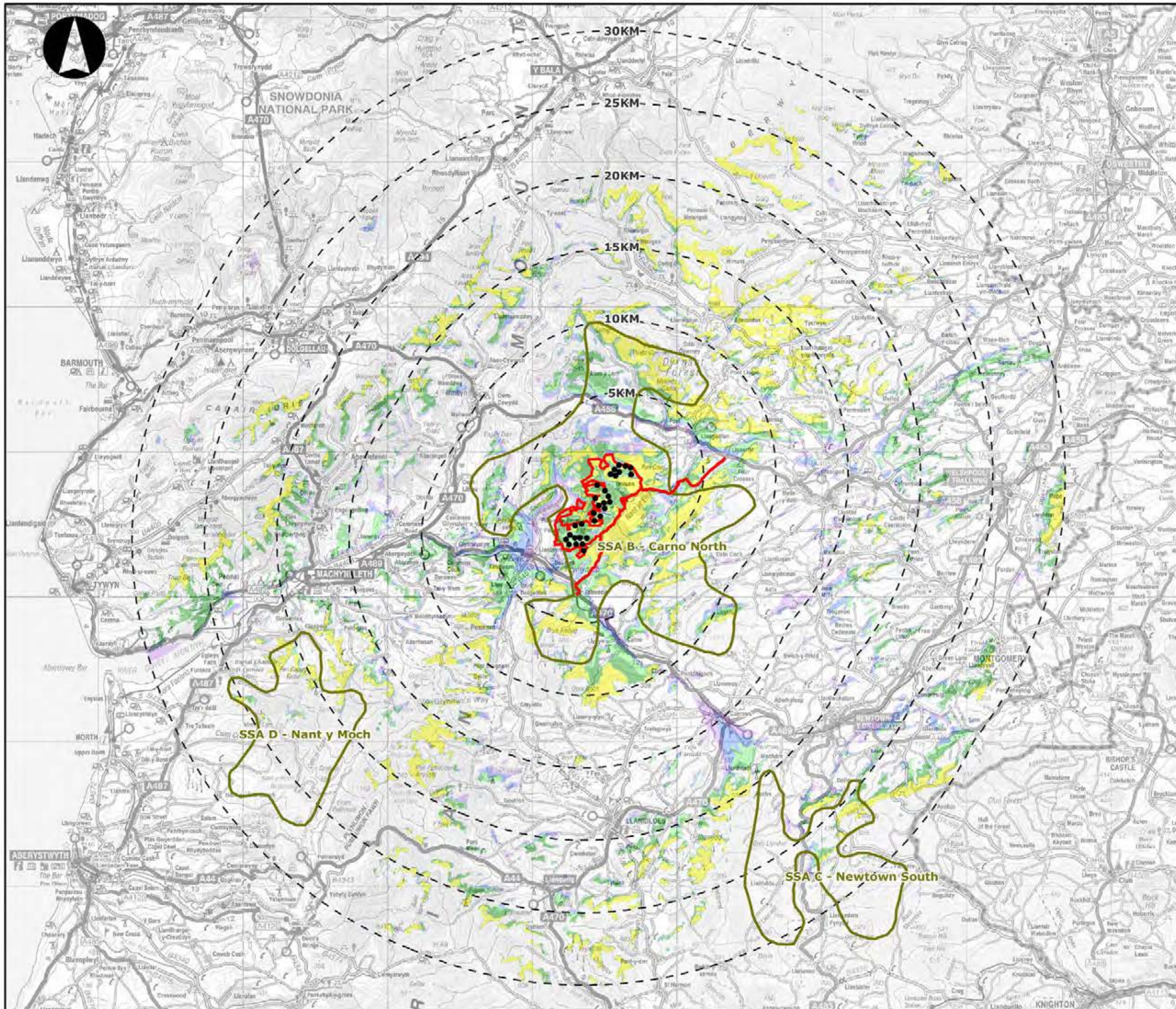
FIGURE 4.2

SITE LOCATION AND STUDY AREA

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- Turbines (Tip Height 126.5m)
- Red Line Boundary – Wind Farm Site and Access Route
- TAN8 Strategic Search Areas
- Number of Turbines Visible
 - 1 - 3
 - 4 - 8
 - 9 - 14
 - 15 - 23
 - 24 - 30



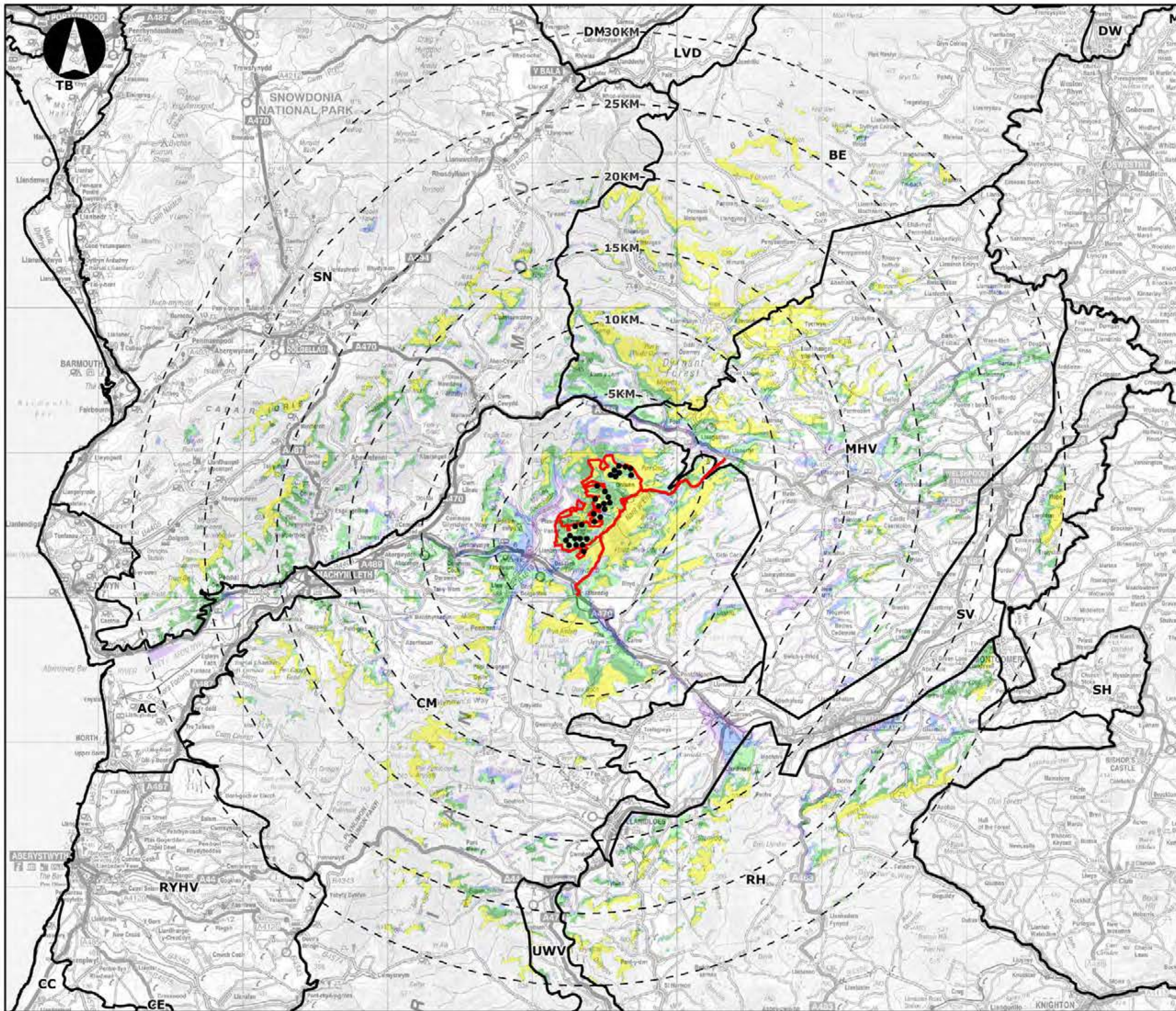
LAYOUT DATE N/A LAYOUT NO. N/A

DRAWING NUMBER 5599-01_026

SCALE - 1:250,000

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LLANBRYNMAIR WINDFARM

FIGURE 4.3

LANDSCAPE CHARACTER MAP OF WALES

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- Turbines (Tip Height 126.5m)
- Red Line Boundary – Wind Farm Site and Access Route

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30

Landscape Character Areas

- AC - Aberdovey Coast
- BE - Berwyn
- CC - Ceredigion Coast
- CE - Ceredigion
- CM - Cambrian Mountains
- DM - Denbigh Moors
- DW - Deeside and Wrexham
- LVD - Llangollen and the Vale of Dee
- MA - Maelor
- MHV - Montgomeryshire Hills and Vales
- RH - Radnorshire Hills
- RYHV - Rheidol and Ystwyth Hills and Valleys
- SH - Shropshire Hills (Part)
- SN - Snowdonia
- SV - Severn Valley
- TB - Tremadoc Bay
- UWV - Upper Wye Valley

LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_027

SCALE - 1:250,000

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FIGURE 4.4

POWYS LANDSCAPE CHARACTER ASSESSMENT

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

● Turbines (Tip Height 126.5m)

— Red Line Boundary – Wind Farm Site and Access Route

□ Landscape Character Areas

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30

- M1 - Berwyn Mountains
- M5 - Dyfnant Forest/Llanbrymair Moors
- M6 - Llyn Efyrrwy
- M7 - Pont Llogel
- M8 - Llanfyllin Farmlands
- M9 - Severn Farmlands
- M10 - Guilsfield
- M11 - Mynydd y Cemmas
- M12 - Barwy Valley
- M13 - Tregynon/Llanerfyl
- M14 - Esgair Cwmowen
- M15 - Dyfi Valley and Catchment
- M16 - Dyfi Forest
- M17 - Dyfi and Twymyn Hillsides
- M21 - Plynlimon
- M22 - Trannon
- M23 - Carno Valley
- M24 - Llyn Clywedog
- M26 - Caersws Valleys
- M28 - Llaur-y-glyn Hillsides

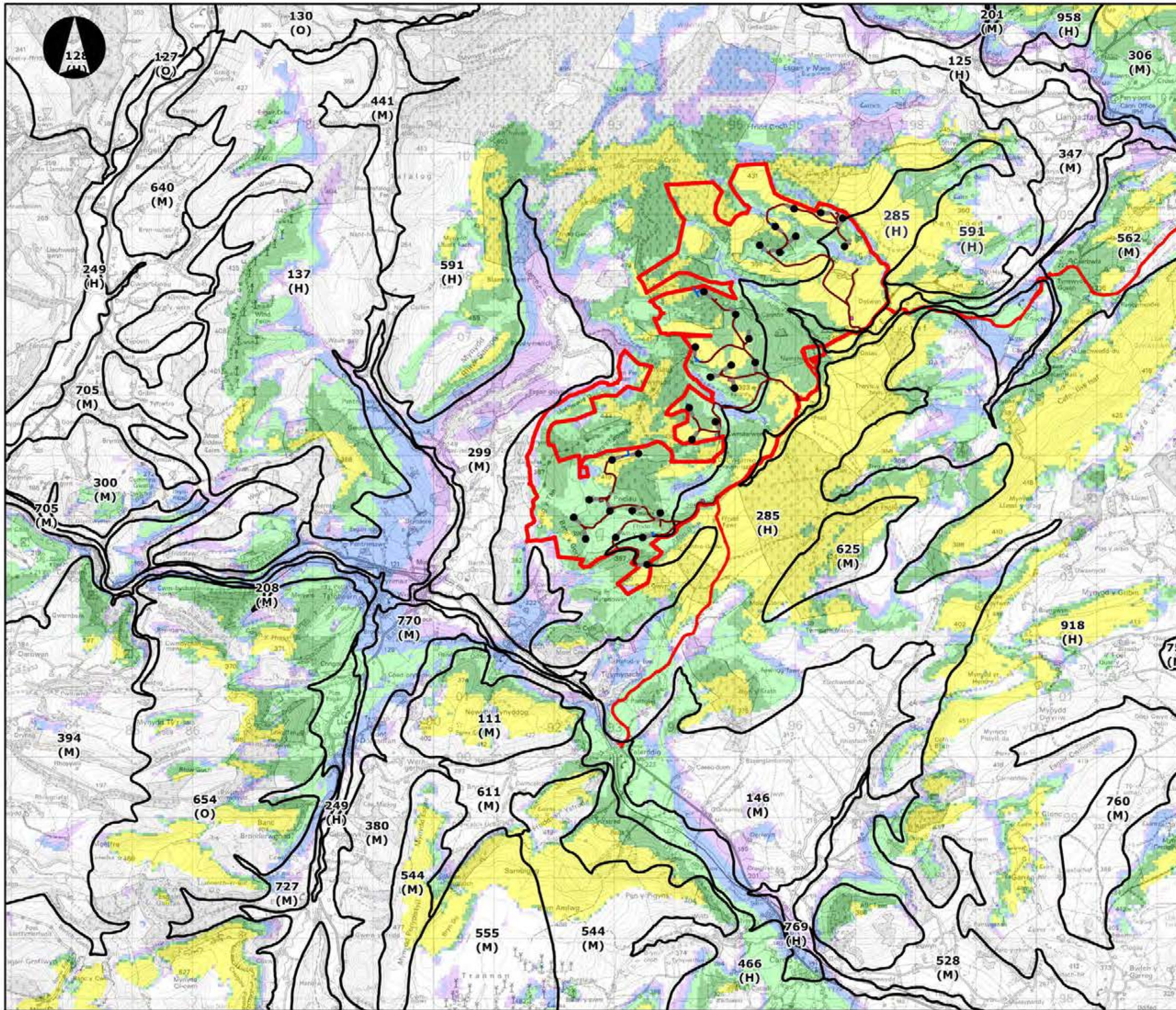
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_028

SCALE - 1:100000

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FIGURE 4.5

**LANDMAP GEOLOGICAL
LANDSCAPE**

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Legend

- Turbines (Tip Height 126.5m)
- Hardstanding
- Turning Heads
- Access Tracks
- Red Line Boundary – Wind Farm Site and Access Route
- Temporary Compounds
- Substation
- Geological Landscape
- GL33: Evaluation Criteria:
- Overall Evaluation
- O = Outstanding
- H = High
- M = Moderate

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30

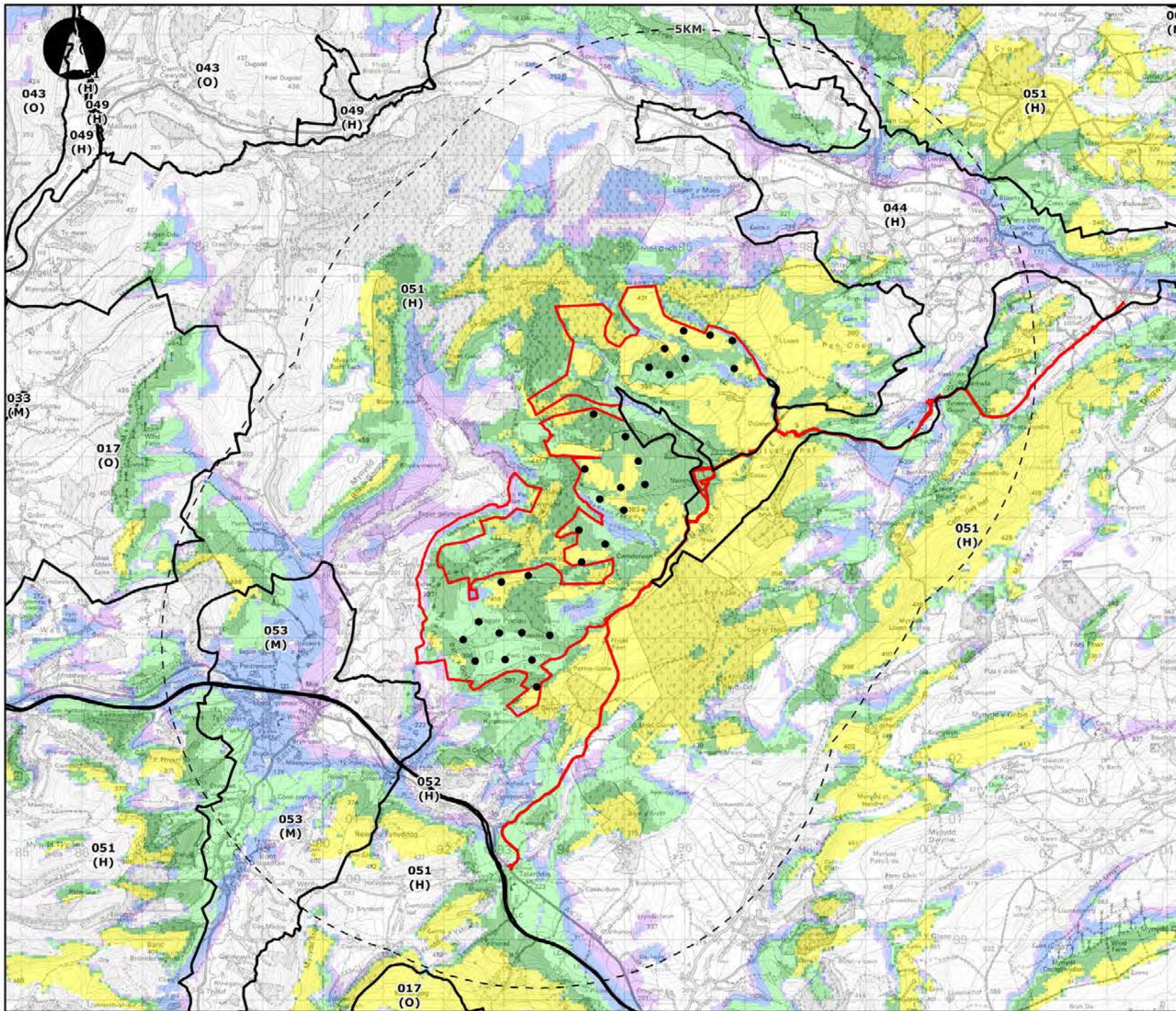
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_029

SCALE - 1:60000

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FIGURE 4.7

**LANDMAP CULTURAL
LANDSCAPE**

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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Legend

● Turbines (Tip Height 126.5m)

— Red Line Boundary – Wind Farm Site and Access Route

□ Cultural Landscape
CL40: Evaluation Criteria:
Overall Evaluation
O = Outstanding
H = High
M = Moderate

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30

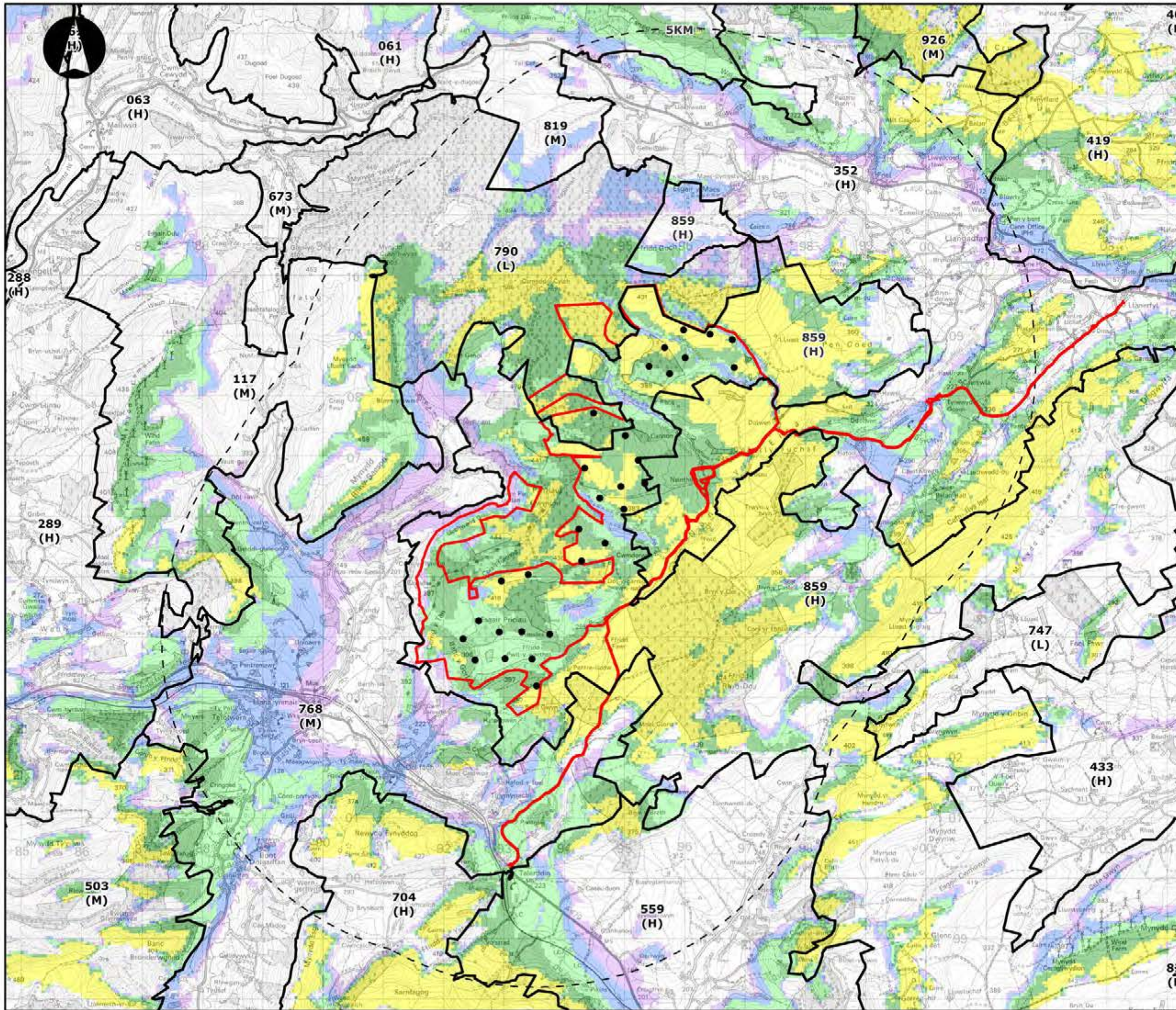
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_031

SCALE - 1:60000

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FIGURE 4.8

**LANDMAP HISTORIC
LANDSCAPE**

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

• Turbines (Tip Height 126.5m)

— Red Line Boundary – Wind Farm Site and Access Route

□ Historic Landscape

HL40: Evaluation Criteria:

Overall Evaluation

O = Outstanding

H = High

M = Moderate

L = Low

Number of Turbines Visible

1 - 3

4 - 8

9 - 14

15 - 23

24 - 30

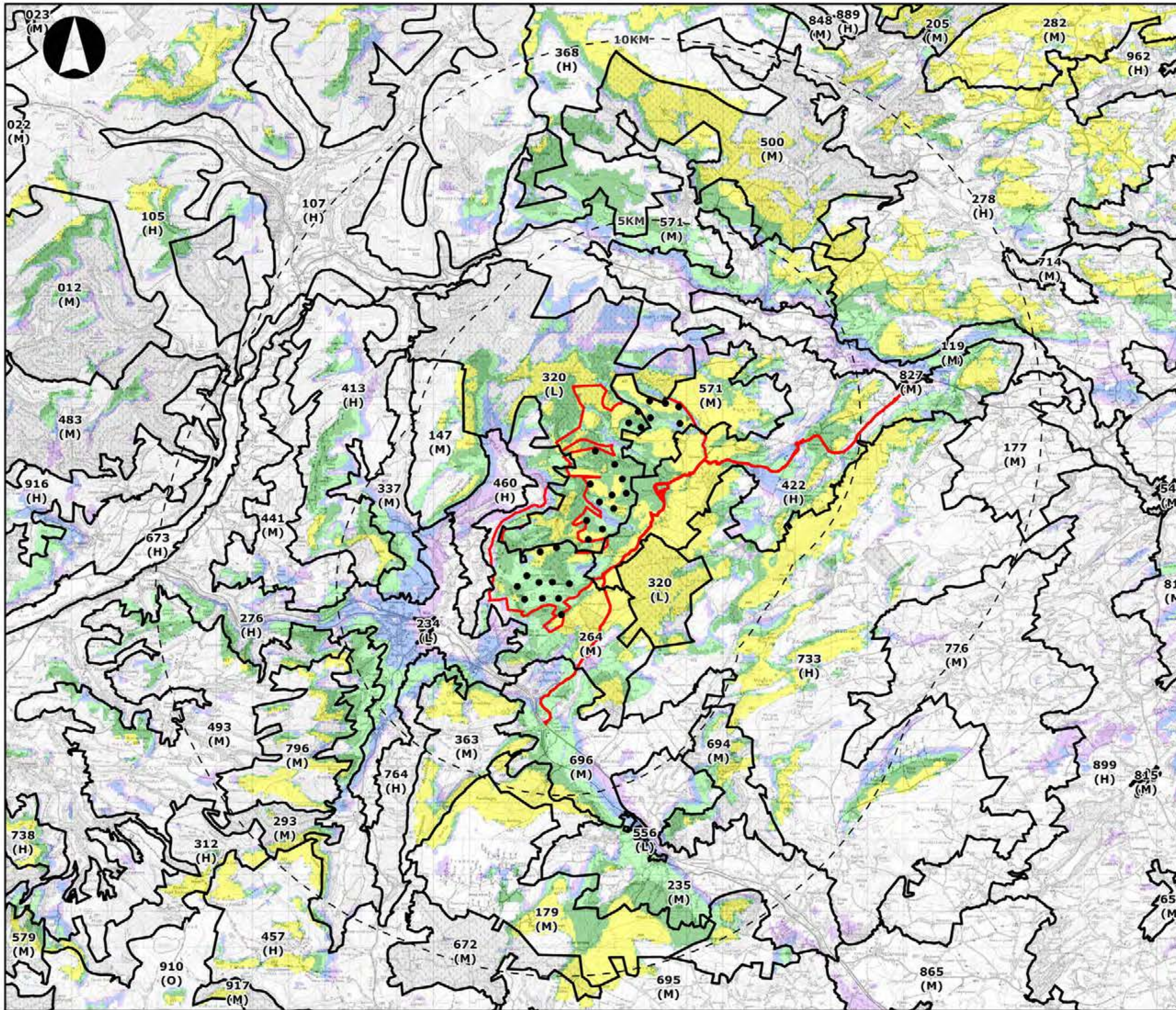
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_032

SCALE - 1:60000

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FIGURE 4.9

**LANDMAP VISUAL AND
SENSORY**

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Legend

- Turbines (Tip Height 126.5m)
- Red Line Boundary – Wind Farm Site and Access Route
- Visual and Sensory VS50: Evaluation Criteria: Overall Evaluation
- = Outstanding
- = High
- = Moderate
- = Low

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30

LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_033

SCALE - 1:100000

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FIGURE 4.10

DESIGNATED LANDSCAPES

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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Legend

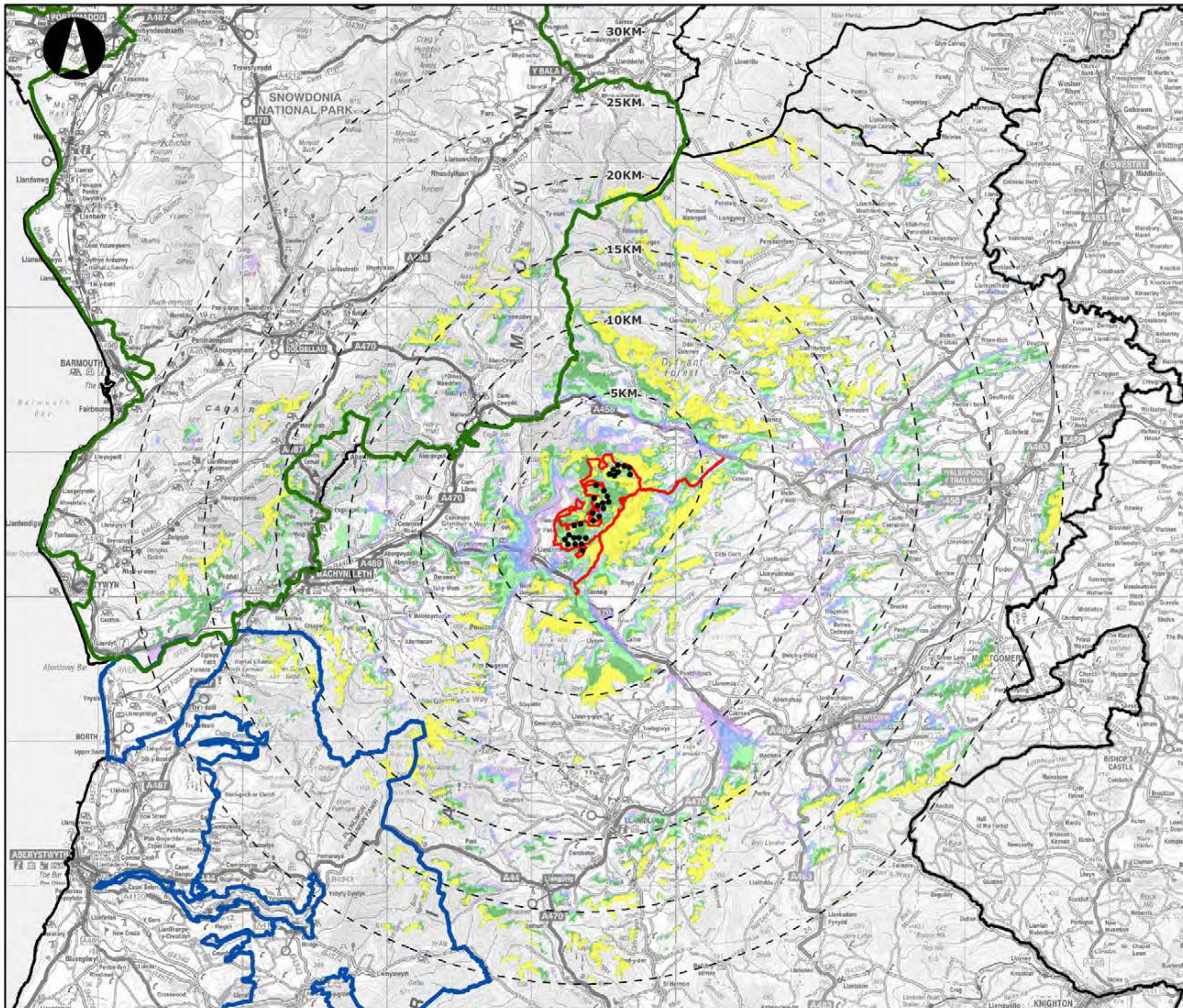
- Turbines (Tip Height 126.5m)
- Red Line Boundary – Wind Farm Site and Access Route

SLA

Snowdonia National Park

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_034

SCALE - 1:45,000

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FIGURE 4.11

TIP HEIGHT ZTV (126.5M)

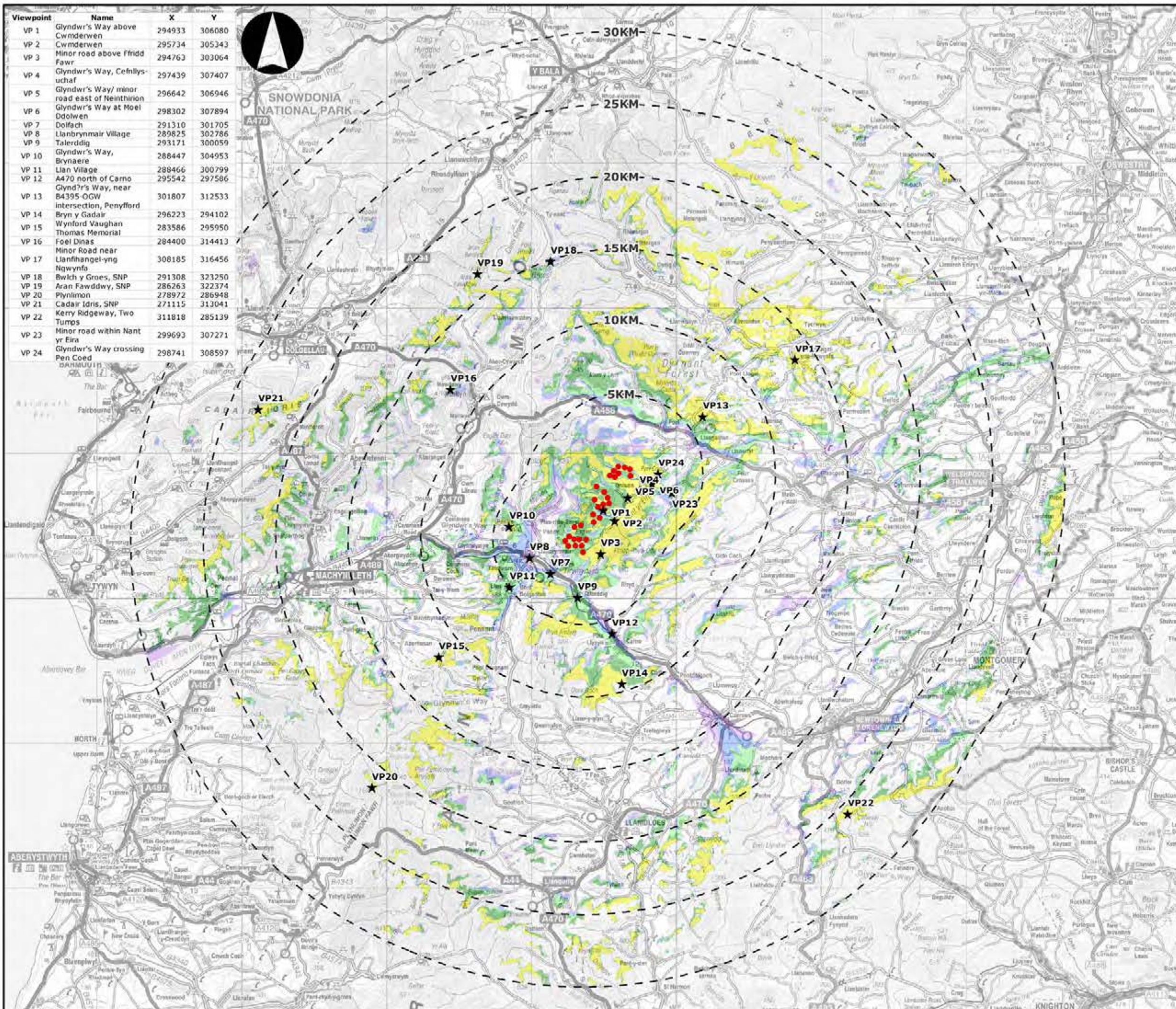
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- Turbines
- ★ Viewpoints

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



Viewpoint	Name	X	Y
VP 1	Glyndwr's Way above Cwmdarwen	294933	306080
VP 2	Cwmdarwen	295734	305343
VP 3	Minor road above Ffridd Fawr	294763	303064
VP 4	Glyndwr's Way, Cefnllys-uchaf	297439	307407
VP 5	Glyndwr's Way/ minor road east of Neintinion	296642	306946
VP 6	Glyndwr's Way at Moel Ddolwen	298302	307894
VP 7	Dolfach	291310	301705
VP 8	Llanbrynmair Village	289625	302786
VP 9	Talerddig	293171	300059
VP 10	Glyndwr's Way, Brynaere	288447	304953
VP 11	Llan Village	288466	300799
VP 12	A470 north of Carno	295542	297586
VP 13	Glyndwr's Way, near B4395 OGW intersection, Penyfford	301807	312533
VP 14	Bryn y Gadair	296223	294102
VP 15	Wynford Vaughan Thomas Memorial	283586	295950
VP 16	Foel Dinas	284400	314413
VP 17	Minor Road near Llanfihangel-yng Ngwynfa	308185	316456
VP 18	Bwlch y Groes, SNP	291308	323250
VP 19	Aran Fawddwy, SNP	286263	322374
VP 20	Plymlimon	278972	286948
VP 21	Cadair Idris, SNP	271115	313041
VP 22	Kerry Ridgeway, Two Tumps	311818	285139
VP 23	Minor road within Nant yr Eira	299693	307271
VP 24	Glyndwr's Way crossing Pen Coed	298741	308597

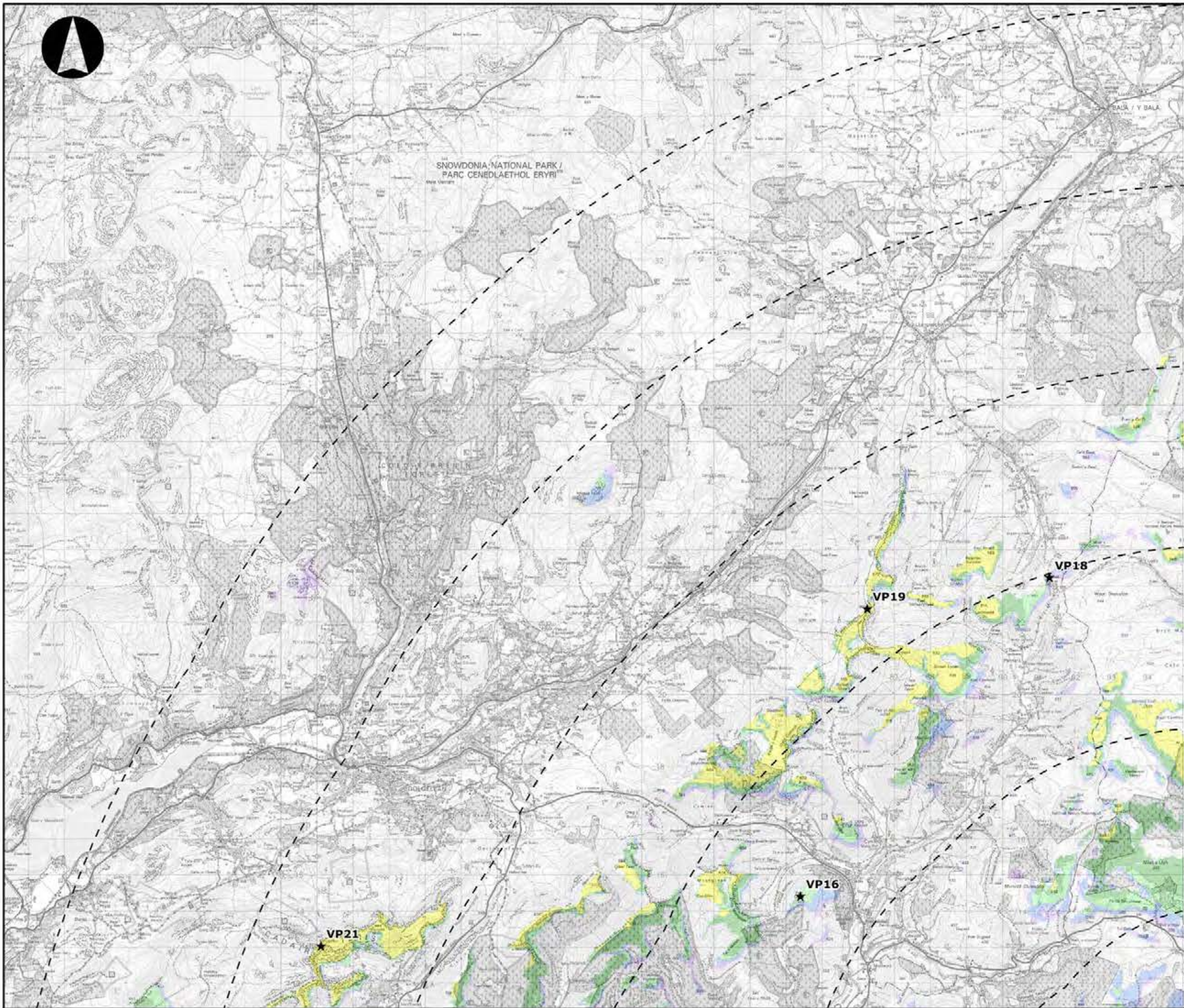
LAYOUT DIM: N/A LAYOUT NO: N/A

DRAWING NUMBER: **5599-01_035**

SCALE: **1:250,000**

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FIGURE 4.11A

**TIP HEIGHT ZTV (126.5M)
INDEXED MAP**

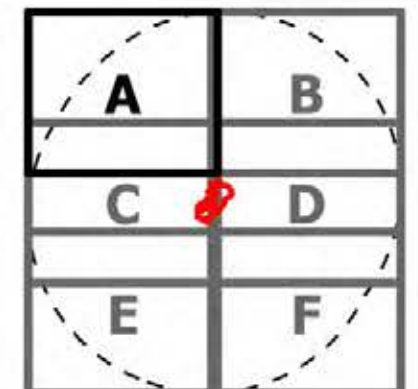
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



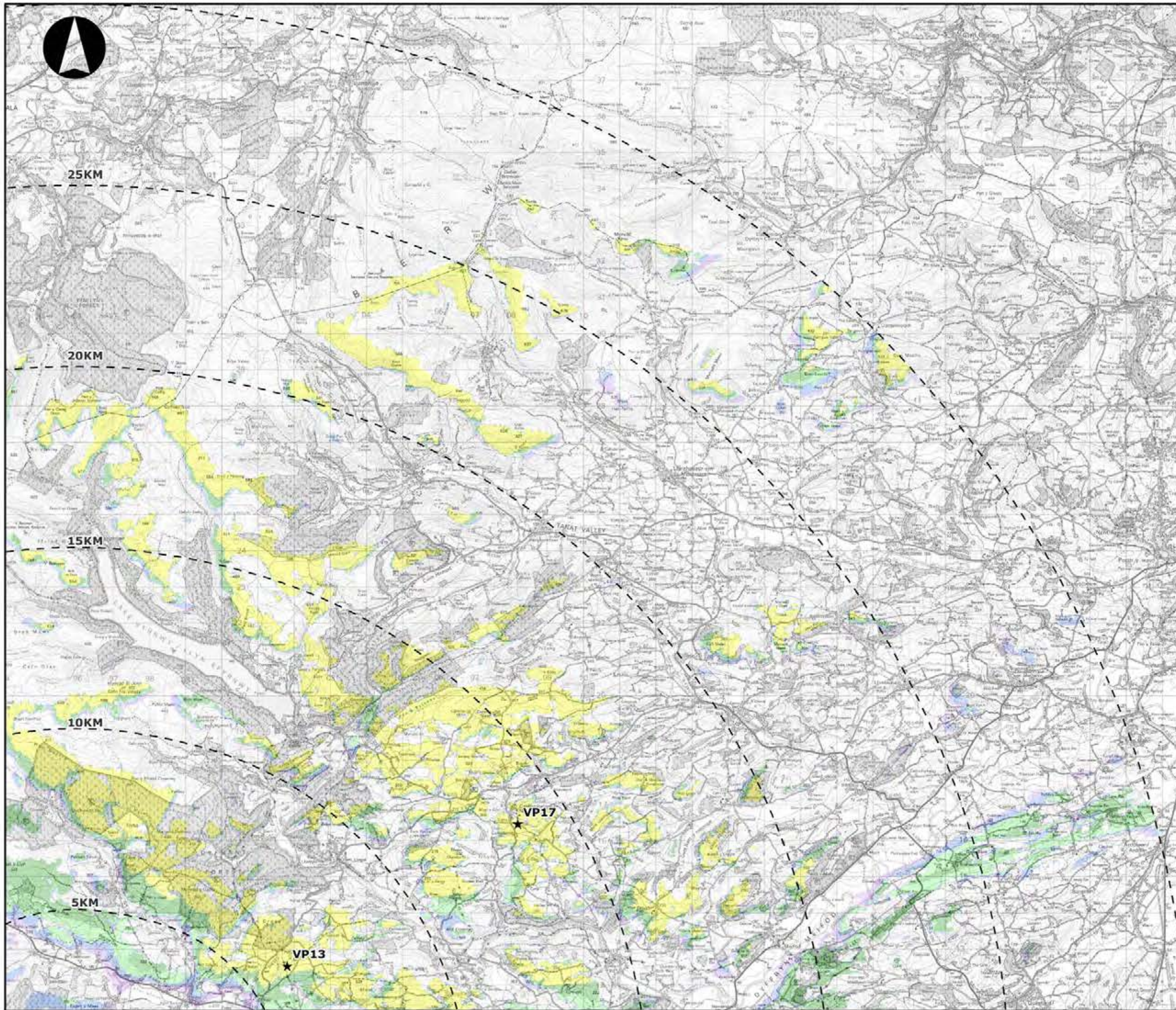
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: **5599-01_035**

SCALE - 1:100,000

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FIGURE 4.11B

**TIP HEIGHT ZTV (126.5M)
INDEXED MAP**

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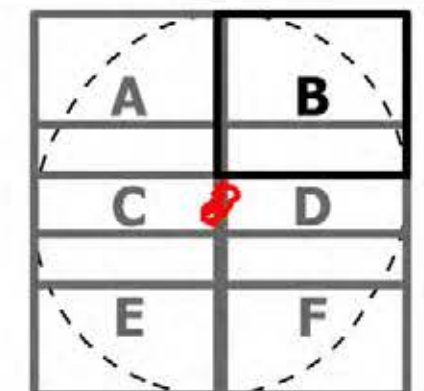
Legend

★ Viewpoints

• Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_035

SCALE - 1:100,000

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FIGURE 4.11C

**TIP HEIGHT ZTV (126.5M)
INDEXED MAP**

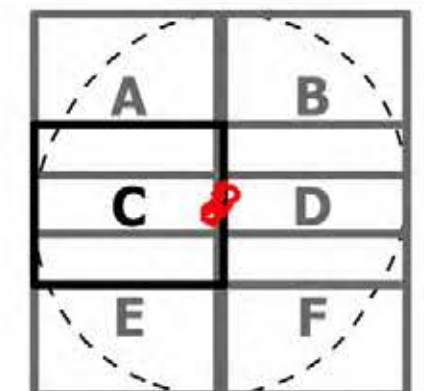
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



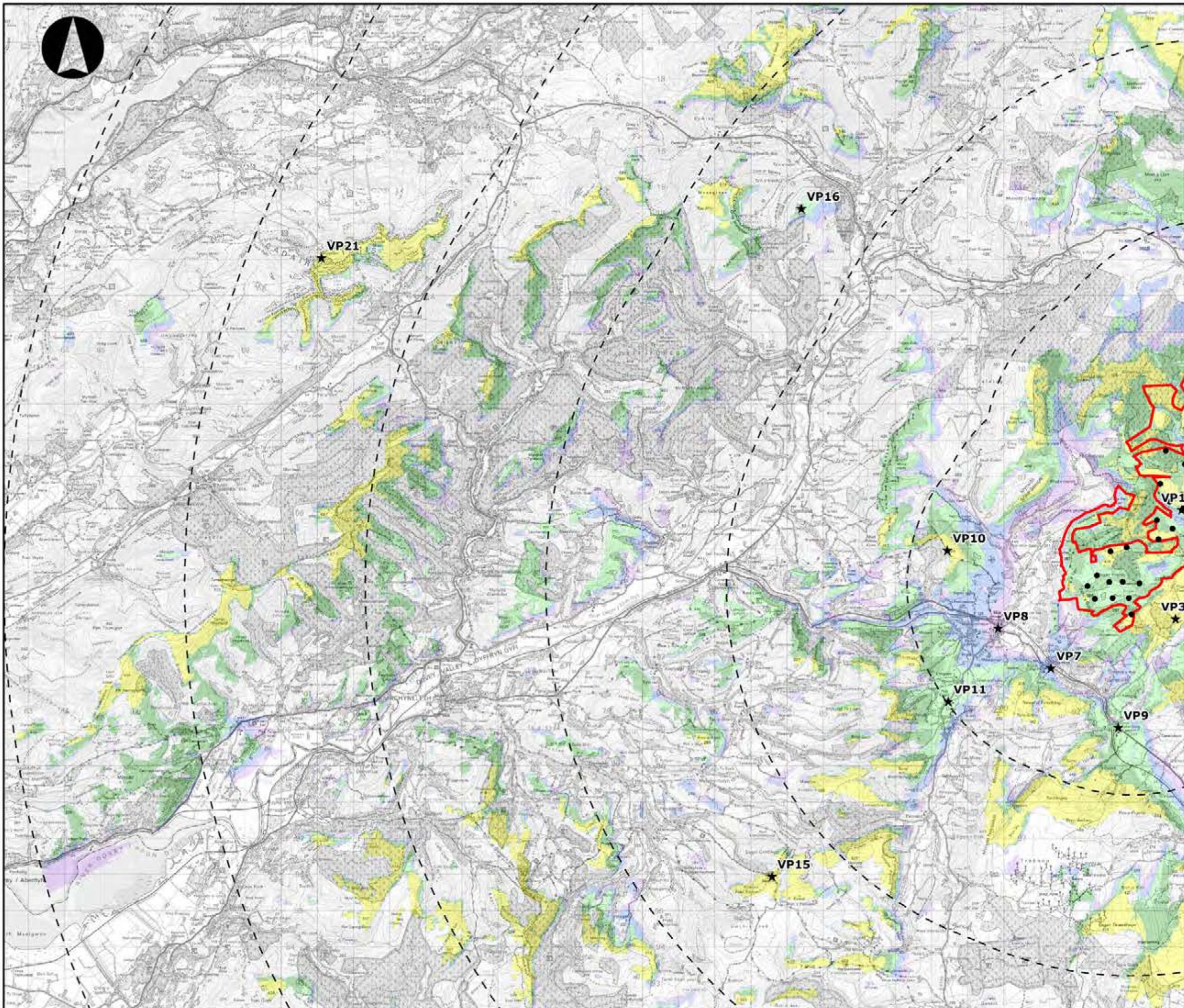
LAYOUT DATE: N/A LAYOUT NO.: N/A

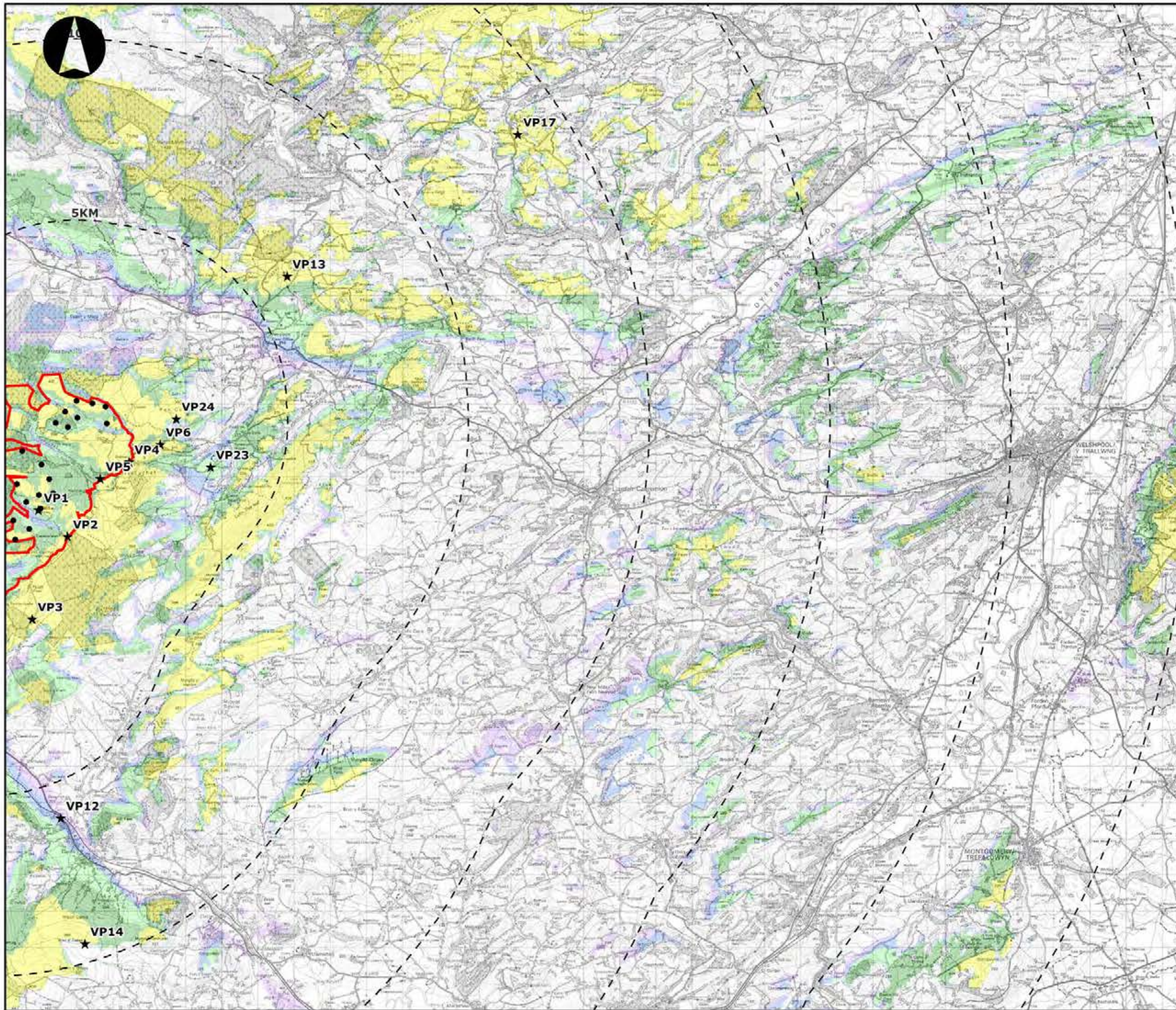
DRAWING NUMBER: 5599-01_035

SCALE - 1:100,000

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FIGURE 4.11D

**TIP HEIGHT ZTV (126.5M)
INDEXED MAP**

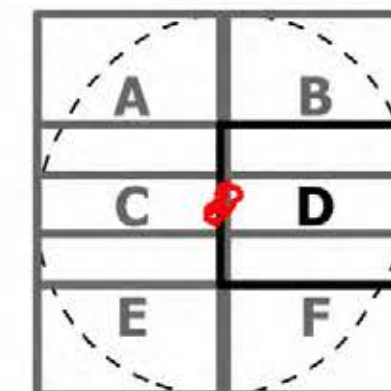
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



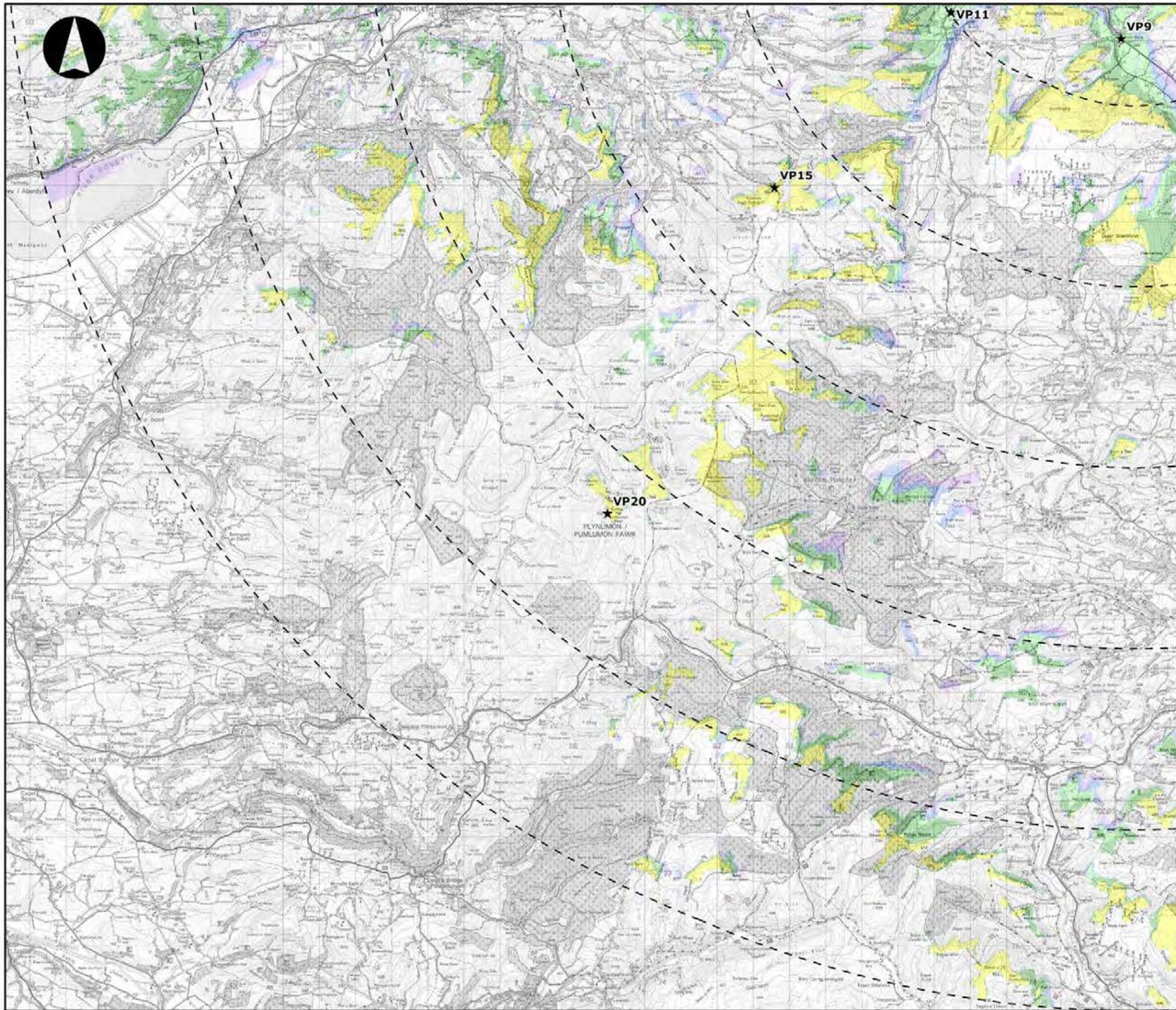
LAYOUT DIM: N/A LAYOUT NO: N/A

DRAWING NUMBER: 5599-01_035

SCALE - 1:100,000

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FIGURE 4.11E

**TIP HEIGHT ZTV (126.5M)
INDEXED MAP**

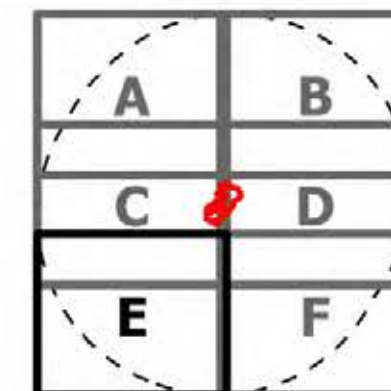
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
CROWN COPYRIGHT 2013. ALL RIGHTS RESERVED. LICENSE
NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



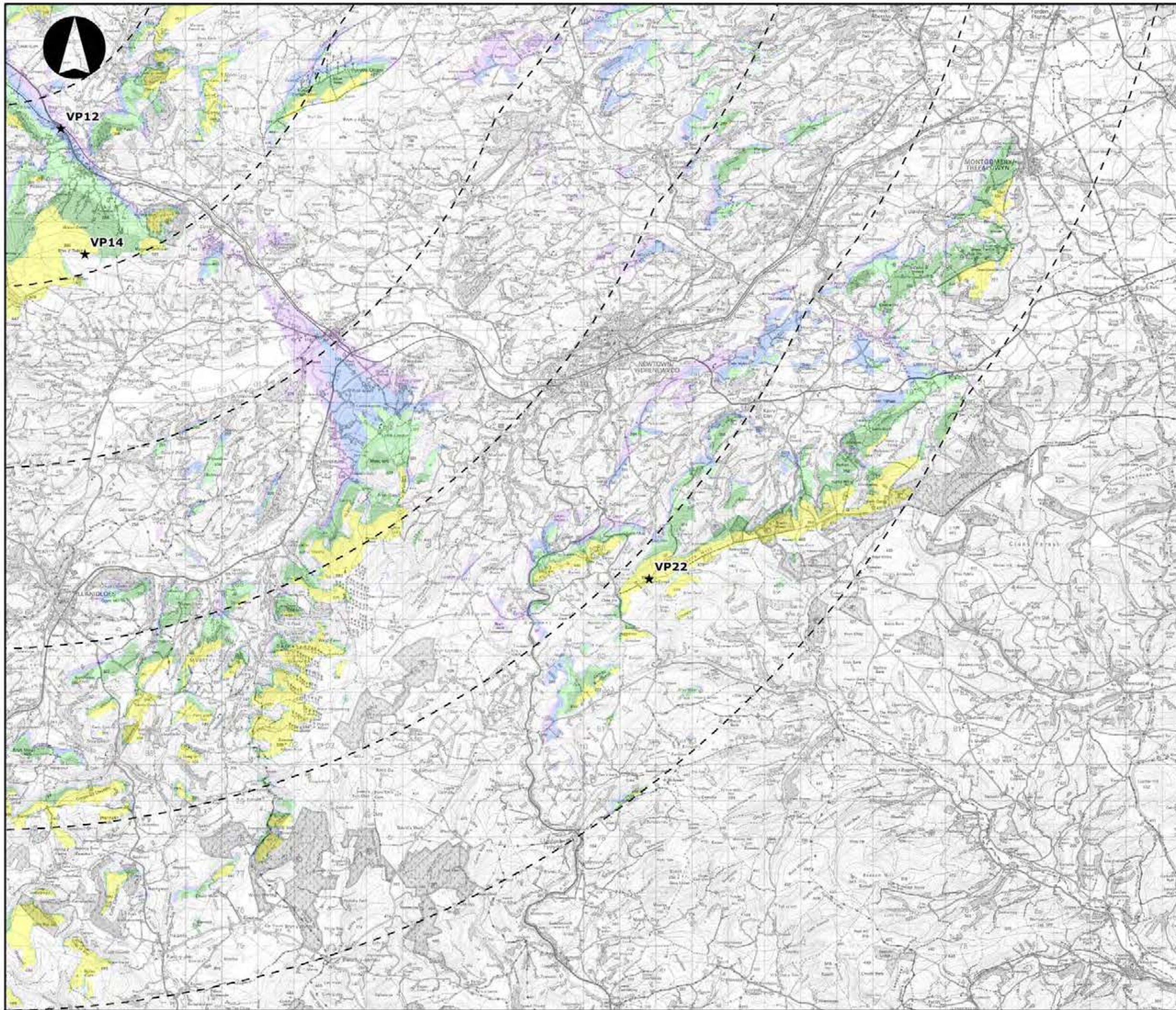
LAYOUT DWG N/A LAYOUT NO. N/A

DRAWING NUMBER
5599-01_035

SCALE - 1:100,000

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FIGURE 4.11F

**TIP HEIGHT ZTV (126.5M)
INDEXED MAP**

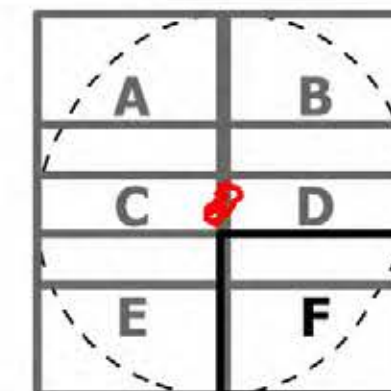
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: **5599-01_035**

SCALE - 1:100,000

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FIGURE 4.12

HUB HEIGHT ZTV (80M)

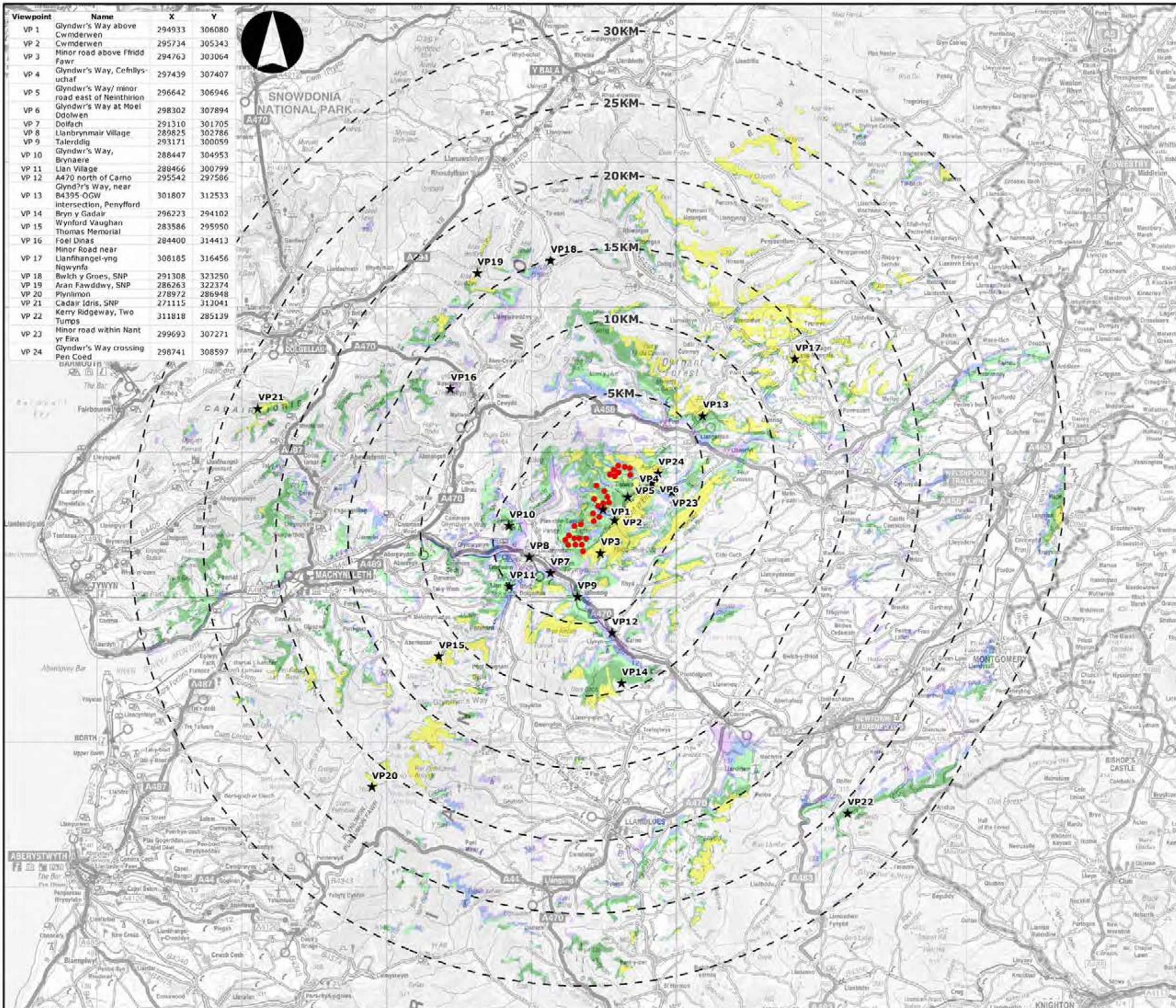
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- Turbines
- ★ Viewpoints

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



Viewpoint	Name	X	Y
VP 1	Glyndwr's Way above Cwmdwrwen	294933	306080
VP 2	Cwmdwrwen	295734	305343
VP 3	Minor road above Ffridd Fawr	294763	303064
VP 4	Glyndwr's Way, Cefnllys-uchaf	297439	307407
VP 5	Glyndwr's Way/ minor road east of Neinthron	296642	306946
VP 6	Glyndwr's Way at Moel Ddolwen	298302	307894
VP 7	Dolfach	291310	301705
VP 8	Llanbrynmair Village	289625	302786
VP 9	Talerddig	293171	300059
VP 10	Glyndwr's Way, Brynaere	288447	304953
VP 11	Llan Village	288466	300799
VP 12	A470 north of Carno	295542	297586
VP 13	Glyndwr's Way, near B4395 OGW intersection, Penyfford	301807	312533
VP 14	Bryn y Gadair	296223	294102
VP 15	Wynford Vaughan Thomas Memorial	283586	295950
VP 16	Foel Dinas	284400	314413
VP 17	Minor Road near Llanfihangel-yng Ngwynfa	308185	316456
VP 18	Bwlch y Groes, SNP	291308	323250
VP 19	Aran Fawddwy, SNP	286263	322374
VP 20	Plynlimon	278972	286948
VP 21	Cadair Idris, SNP	271115	313041
VP 22	Kerry Ridgeway, Two Tumps	311818	285139
VP 23	Minor road within Nant yr Eira	299693	307271
VP 24	Glyndwr's Way crossing Pen Coed	298741	308597

LAYOUT NO: N/A LAYOUT NO: N/A

DRAWING NUMBER: 5599-01_036

SCALE - 1:250,000

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FIGURE 4.12A

HUB HEIGHT ZTV (80M) INDEXED MAP

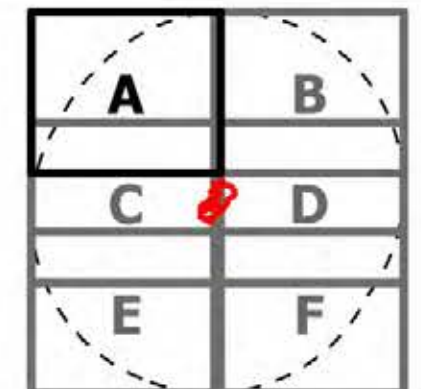
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



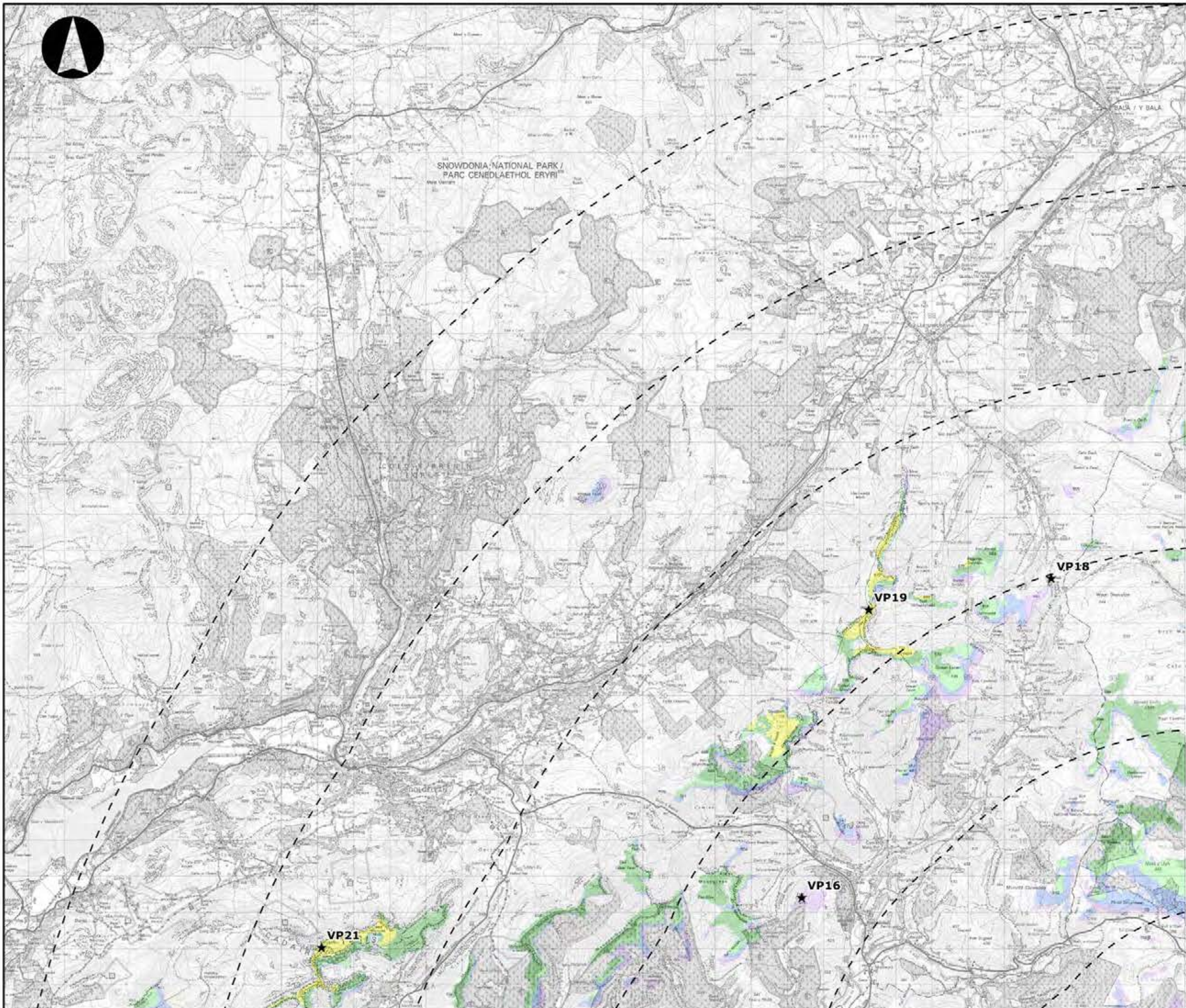
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_036

SCALE - 1:100,000

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FIGURE 4.12B

**HUB HEIGHT ZTV (80M)
INDEXED MAP**

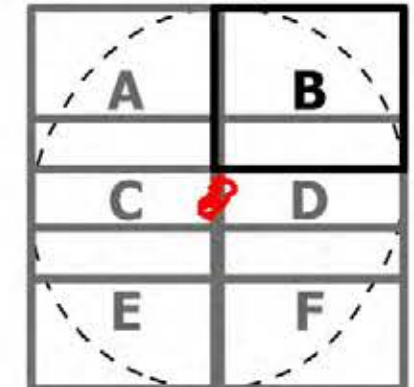
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_036

SCALE - 1:100,000

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FIGURE 4.12C

**HUB HEIGHT ZTV (80M)
INDEXED MAP**

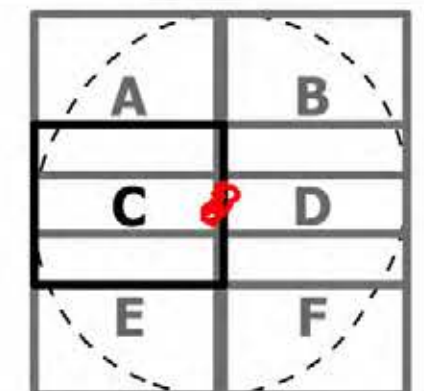
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
CROWN COPYRIGHT 2013. ALL RIGHTS RESERVED. LICENSE
NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



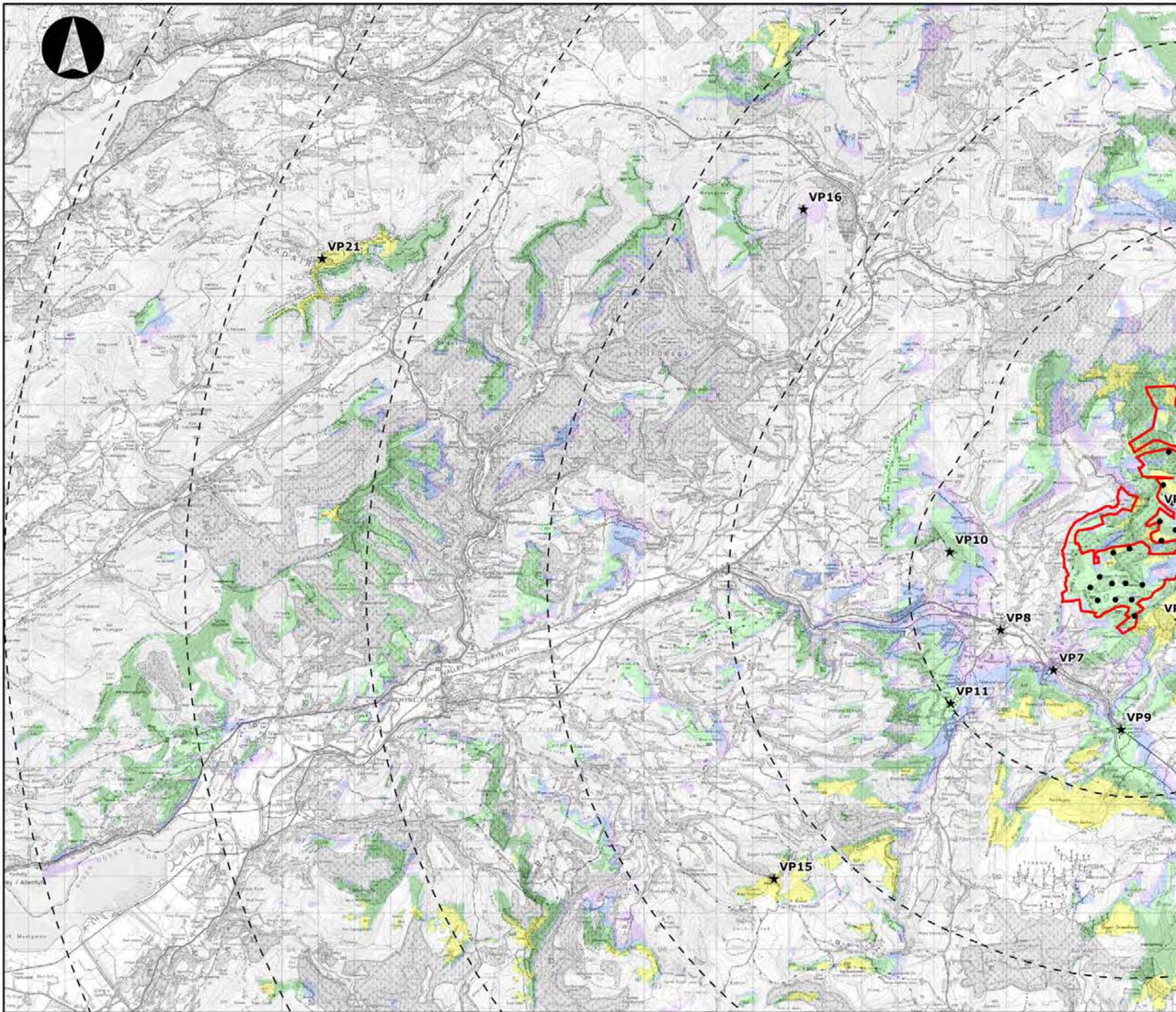
LAYOUT DIM: N/A LAYOUT NO: N/A

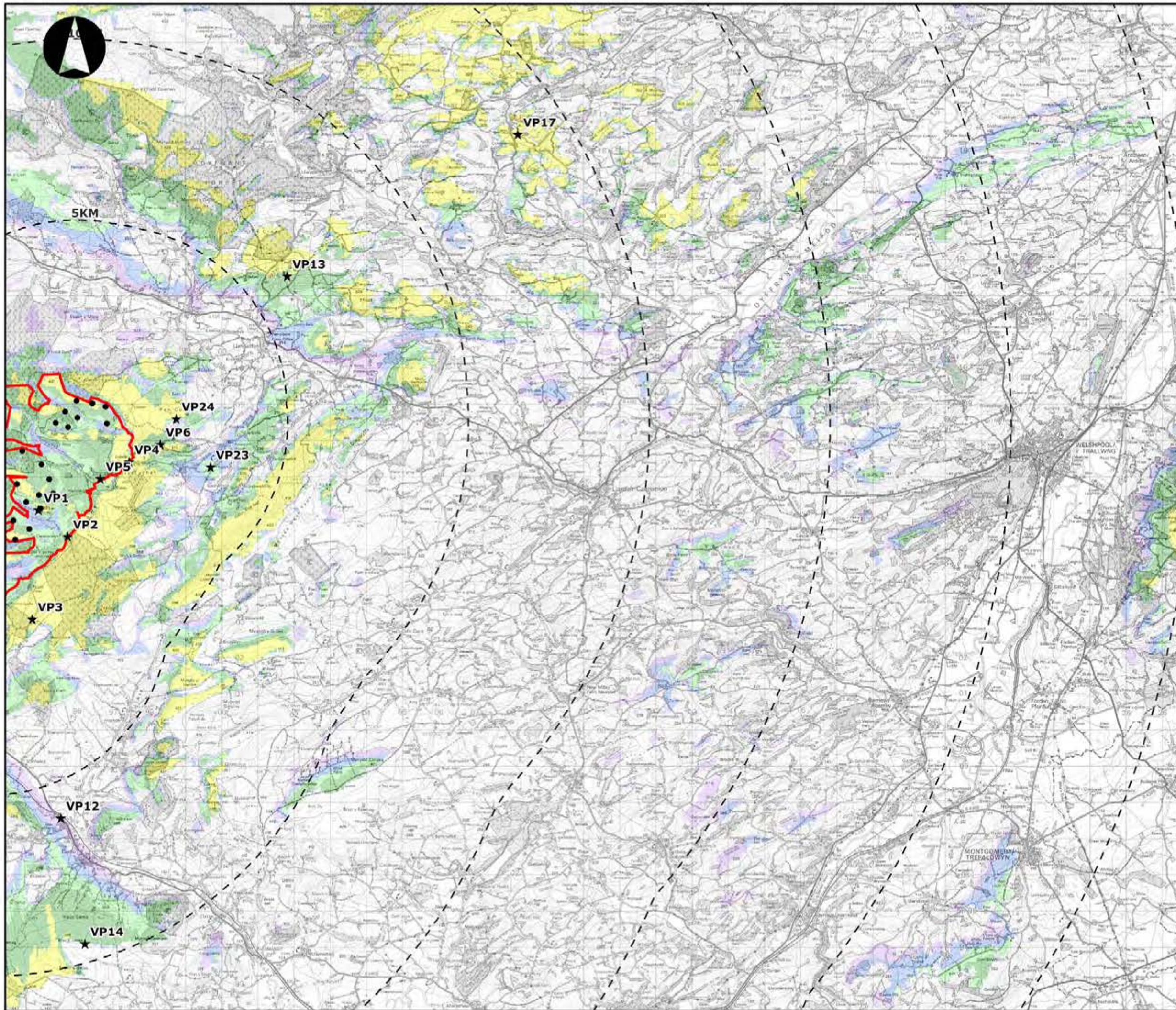
DRAWING NUMBER: 5599-01_036

SCALE - 1:100,000

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**LLANBRYNMAIR
WINDFARM**

FIGURE 4.12D

**HUB HEIGHT ZTV (80M)
INDEXED MAP**

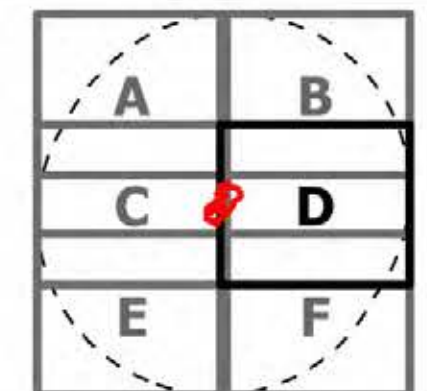
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



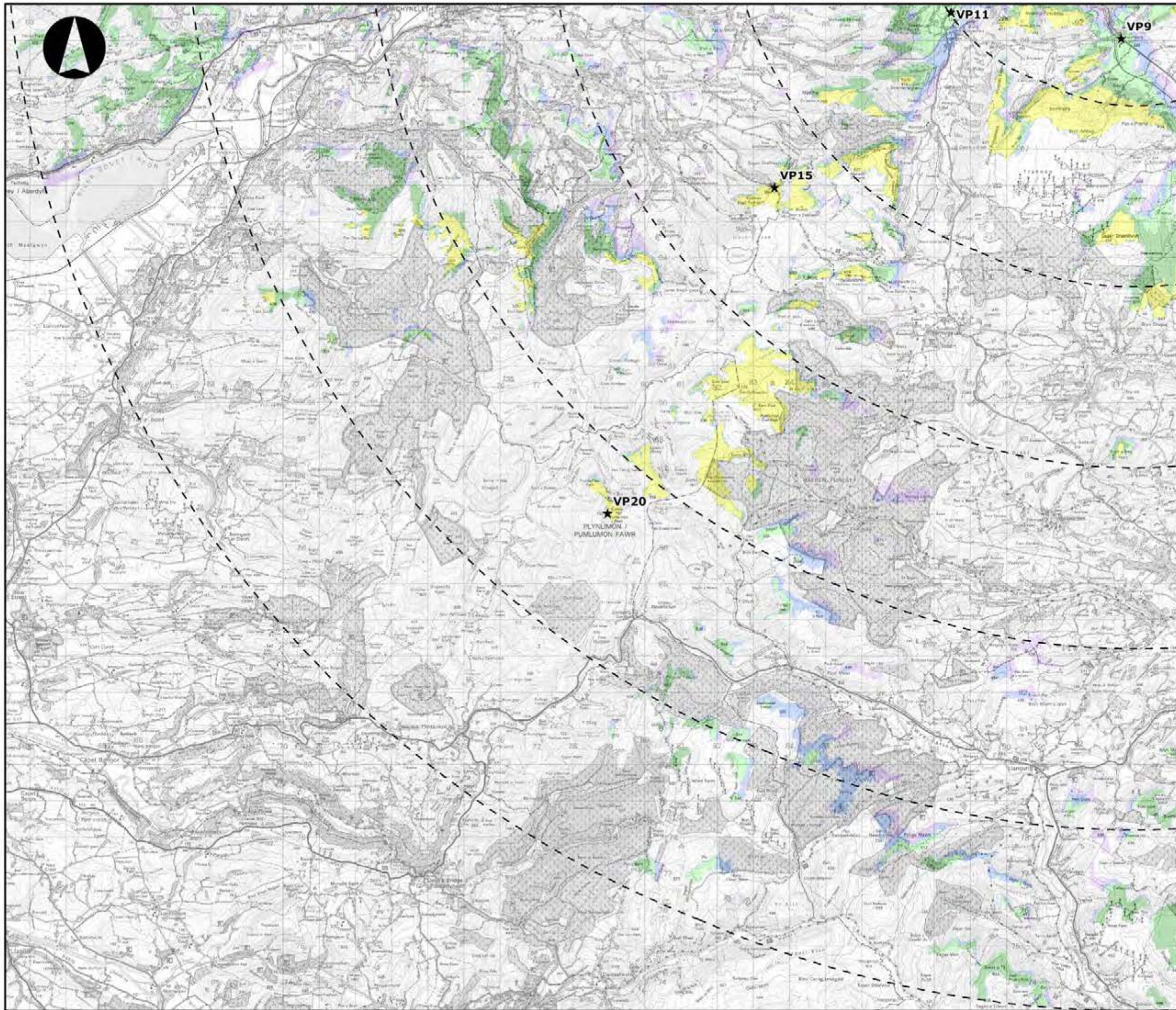
LAYOUT DIM: N/A LAYOUT NO: N/A

DRAWING NUMBER
5599-01_036

SCALE - 1:100,000

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**LLANBRYNMAIR
WINDFARM**

FIGURE 4.12E

**HUB HEIGHT ZTV (80M)
INDEXED MAP**

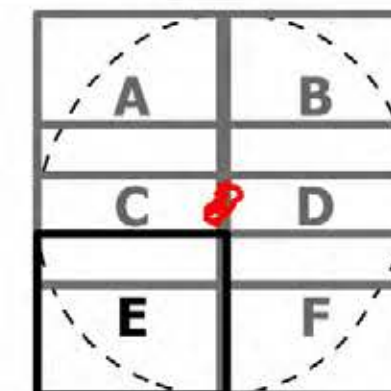
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
CROWN COPYRIGHT 2013. ALL RIGHTS RESERVED. LICENSE
NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



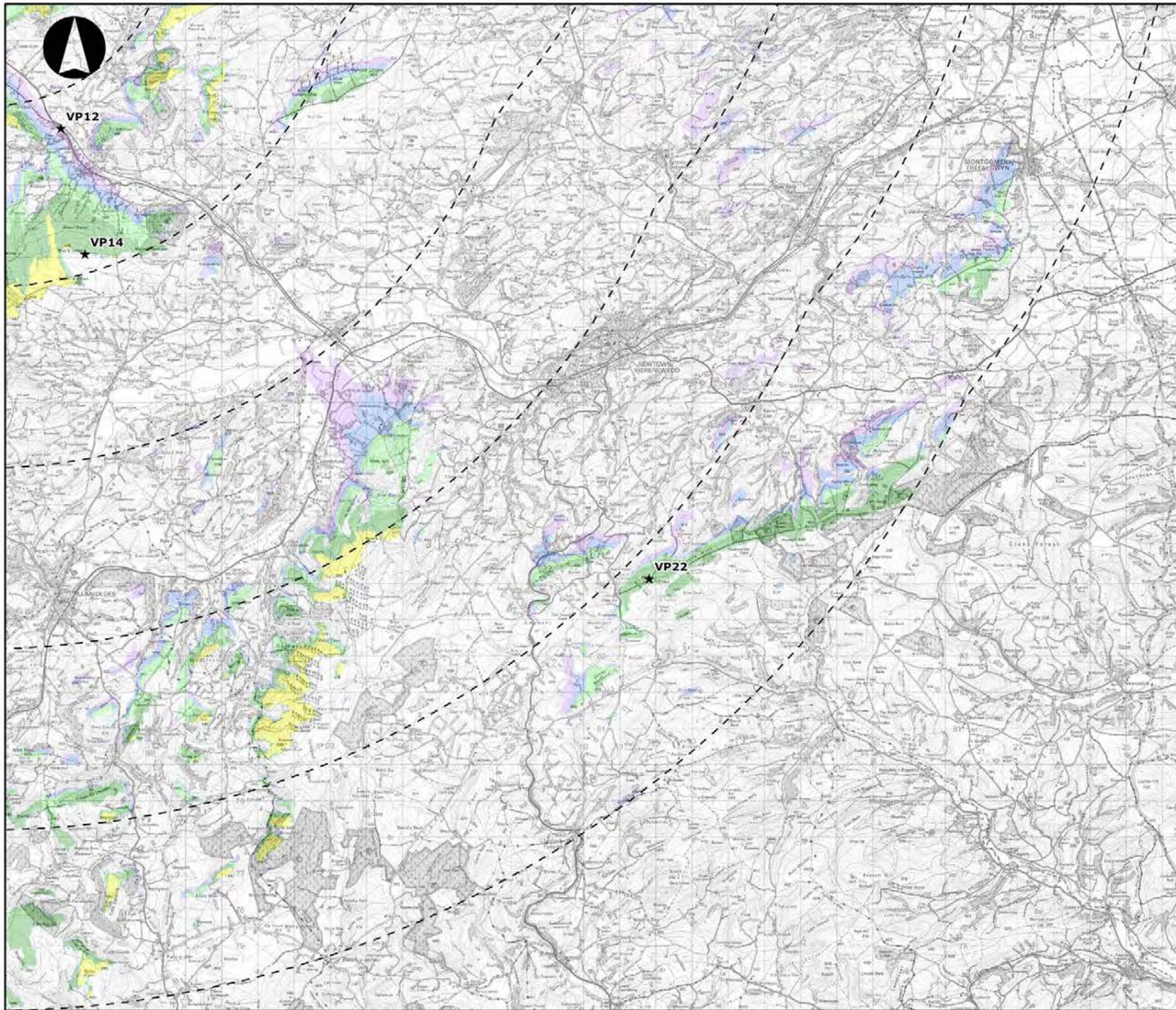
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_036

SCALE - 1:100,000

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**LLANBRYNMAIR
WINDFARM**

FIGURE 4.12F

**HUB HEIGHT ZTV (80M)
INDEXED MAP**

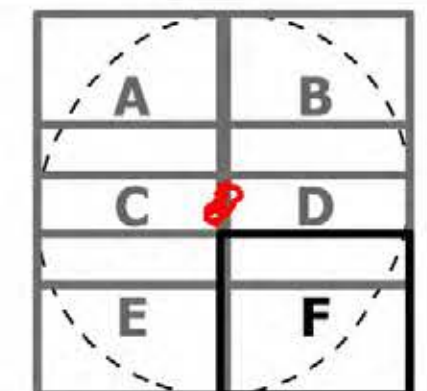
REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
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NUMBER 0100031673

Legend

- ★ Viewpoints
- Turbines

Number of Turbines Visible

- 1 - 3
- 4 - 8
- 9 - 14
- 15 - 23
- 24 - 30



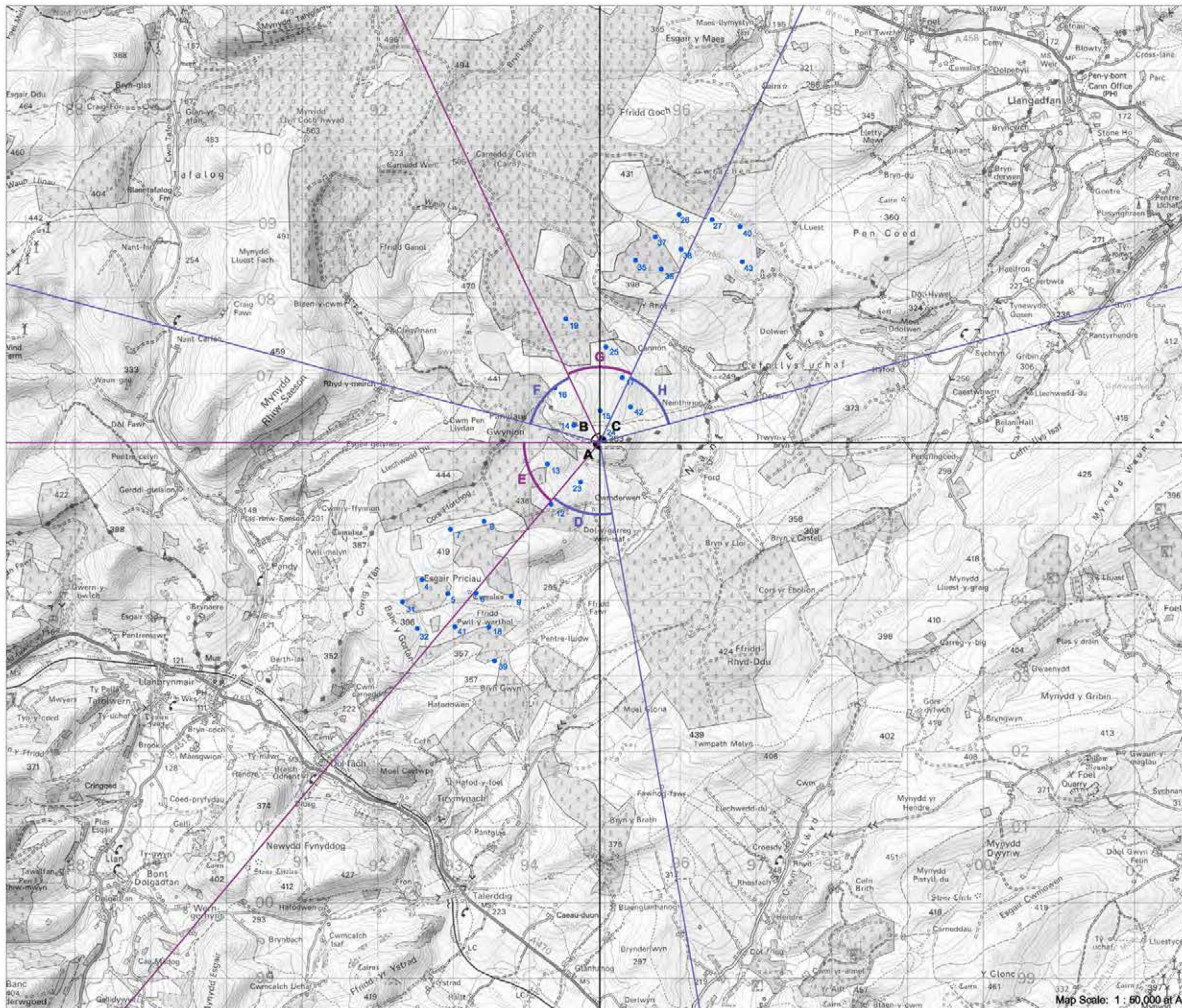
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: **5599-01_036**

SCALE - 1:100,000

**SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013**

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► Viewpoint 1: Glyndŵr's Way
above Cwnderwen

Viewpoint Location

OS Reference:	294933, 306080
Terrain height AOD (from model) :	373 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	72 m
Potential No of turbine hubs visible:	16
Potential No of turbine tips visible:	21

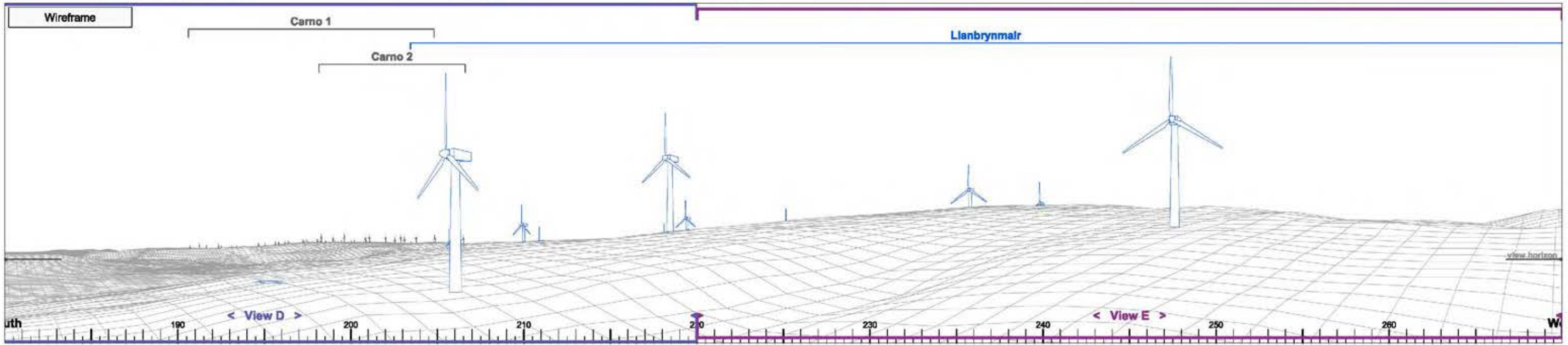
Photography information

Date:	21st February 2013
Time:	17:00
Camera type:	Nikon D7000
Focal length:	35 mm
Equivalent Focal length:	52 mm

Figure 4.13



Map Scale: 1 : 60,000 at A3



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View A

Bearing to centre of view:

225°

Horizontal field of view:

90°

Recommended viewing distance at A3:

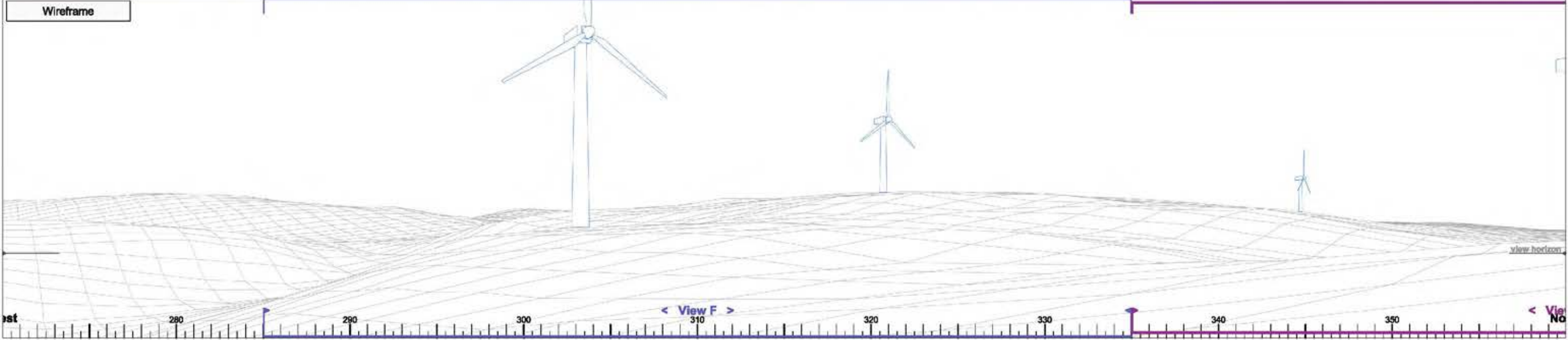
25 cm

Figure 4.13.1

Photograph



Wireframe



Photomontage



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View B

Bearing to centre of view:

315°

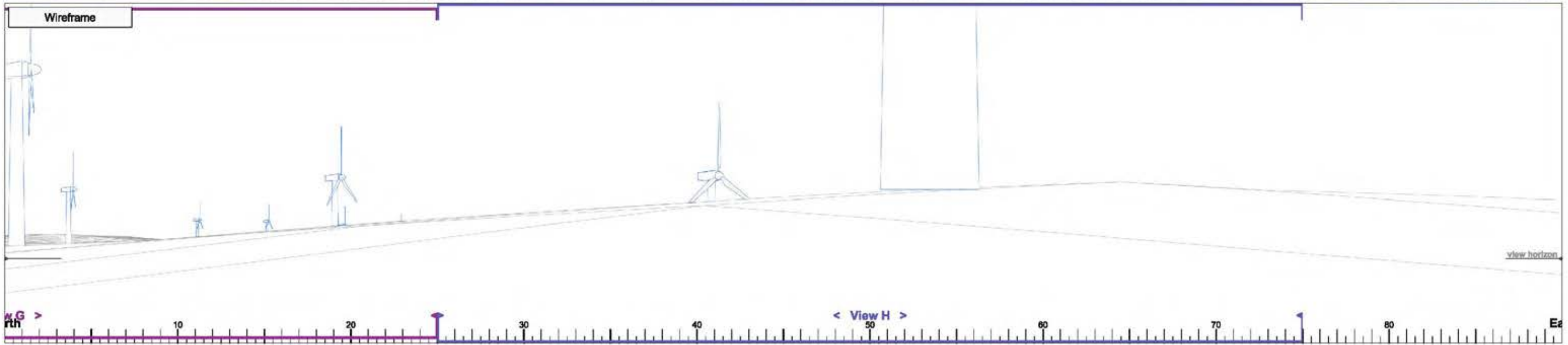
Horizontal field of view:

90°

Recommended viewing distance at A3:

25 cm

Figure 4.13.2



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View C

Bearing to centre of view:

45°

Horizontal field of view:

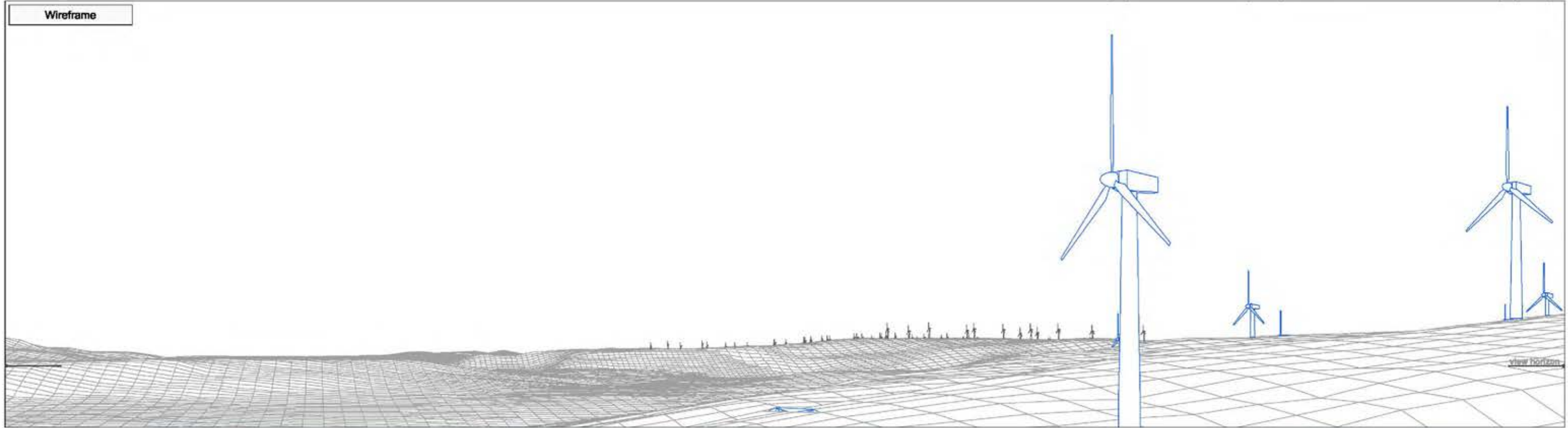
90°

Recommended viewing distance at A3:

25 cm

Figure 4.13.3

Wireframe



Photograph



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View D

Bearing to centre of view:

195°

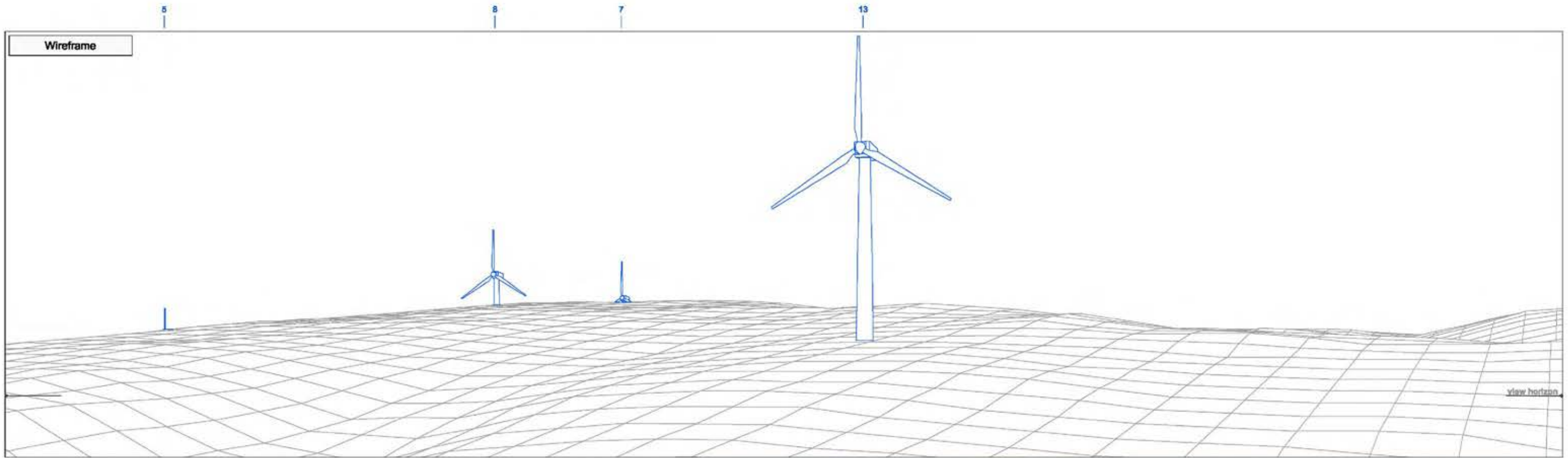
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.4



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View E

Bearing to centre of view:

245°

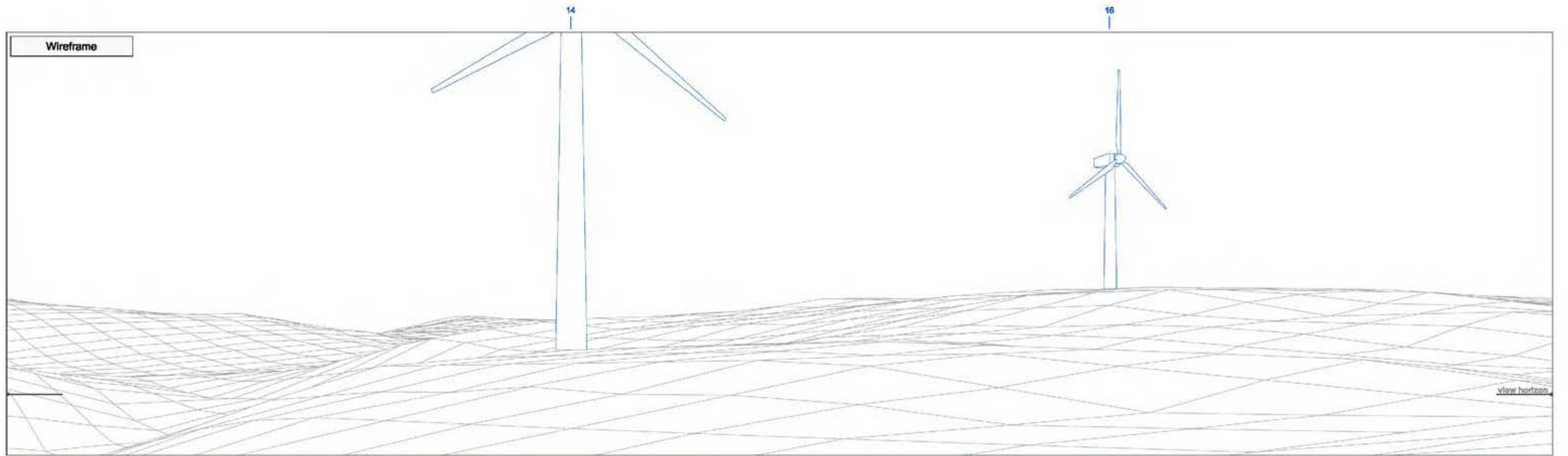
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.5



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View F

Bearing to centre of view:

310°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.6

19

15

25

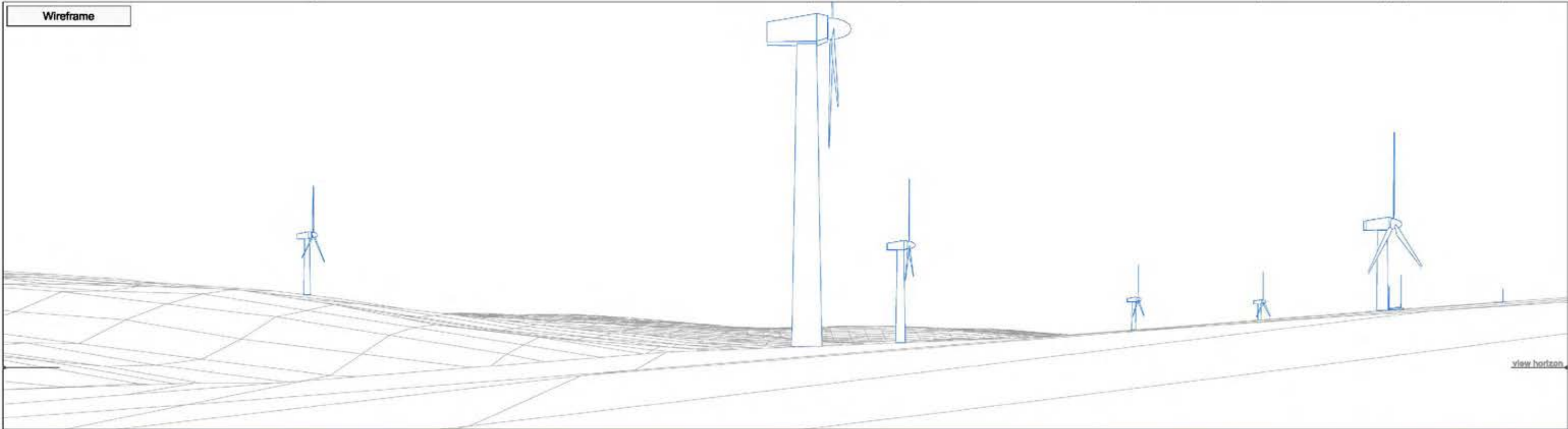
35

37

17 2636

36

Wireframe



Photograph



► Viewpoint 1 Glyndŵr's Way above Cwmdarwen

View G

Bearing to centre of view:

0°

Horizontal field of view:

50°

Recommended viewing distance at A3:

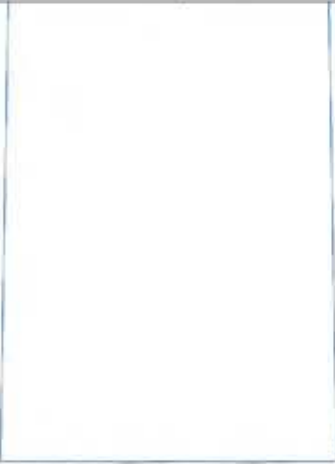
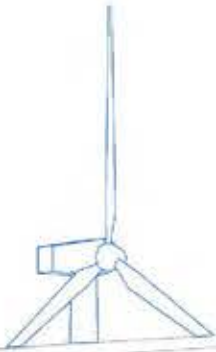
45 cm

Figure 4.13.7

42

24

Wireframe



view horizon

Photograph



► Viewpoint 1 Glyndŵr's Way above Cwmdarwen View H Bearing to centre of view: 50° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.13.8

39 23

9 10

41 12 8

Photomontage



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View D

Bearing to centre of view:

195°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.9



Photomontage

5

8

7

13

► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View E

Bearing to centre of view:

245°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.10



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View F

Bearing to centre of view:

310°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.11

19

15

25

35

37

17 2636

38

Photomontage



► Viewpoint 1 Glyndŵr's Way above Cwnderwen

View G

Bearing to centre of view:

0°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.12

42

24

Photomontage



► Viewpoint 1 Glyndŵr's Way above Cwmdrwen

View H

Bearing to centre of view:

50°

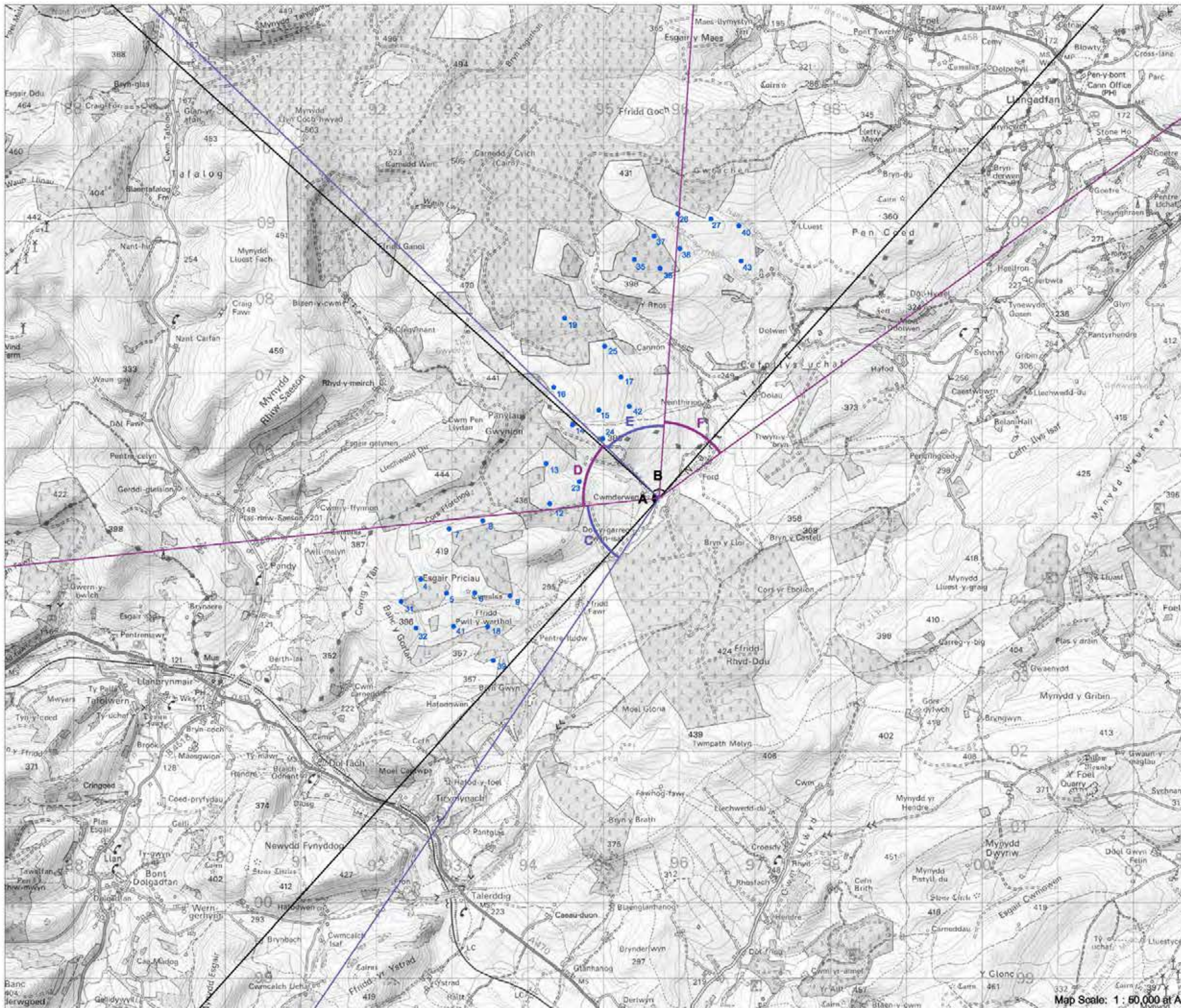
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.13.13



► Viewpoint 2: Cwmdrwen

Viewpoint Location

OS Reference:	295734, 305343
Terrain height AOD (from model) :	259 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	1,076 m
Potential No of turbine hubs visible:	19
Potential No of turbine tips visible:	26

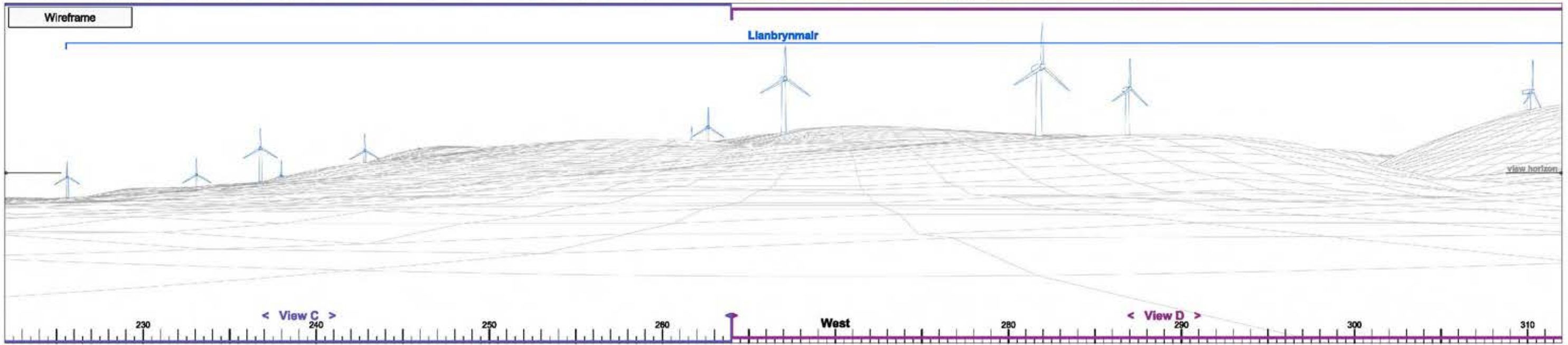
Photography information

Date:	22nd February 2013
Time:	12:55
Camera type:	Nikon D7000
Focal length:	35 mm
Equivalent Focal length:	52 mm

Figure 4.14



Map Scale: 1 : 60,000 at A3



► Viewpoint 2 Cwnderwen

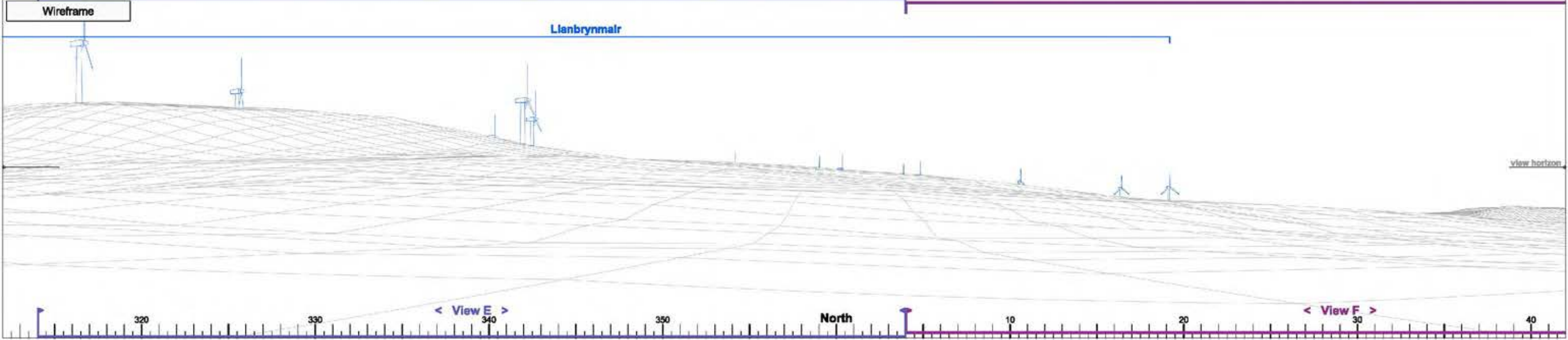
View A	Bearing to centre of view:	267°	Horizontal field of view:	90°	Recommended viewing distance at A3:	25 cm
--------	----------------------------	------	---------------------------	-----	-------------------------------------	-------

Figure 4.14.1

Photograph



Wireframe



Photomontage



► Viewpoint 2 Cwnderwen

View B

Bearing to centre of view:

357°

Horizontal field of view:

90°

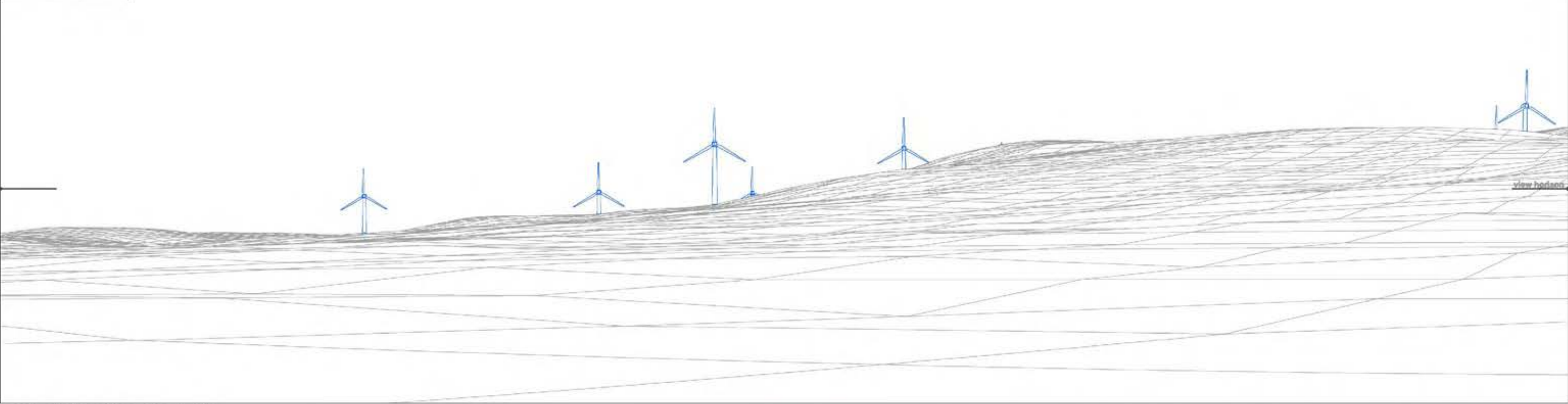
Recommended viewing distance at A3:

25 cm

Figure 4.14.2

39 18 9 41 6 5 7 8

Wireframe



Photograph



► Viewpoint 2 Cwnderwen

View C

Bearing to centre of view:

239°

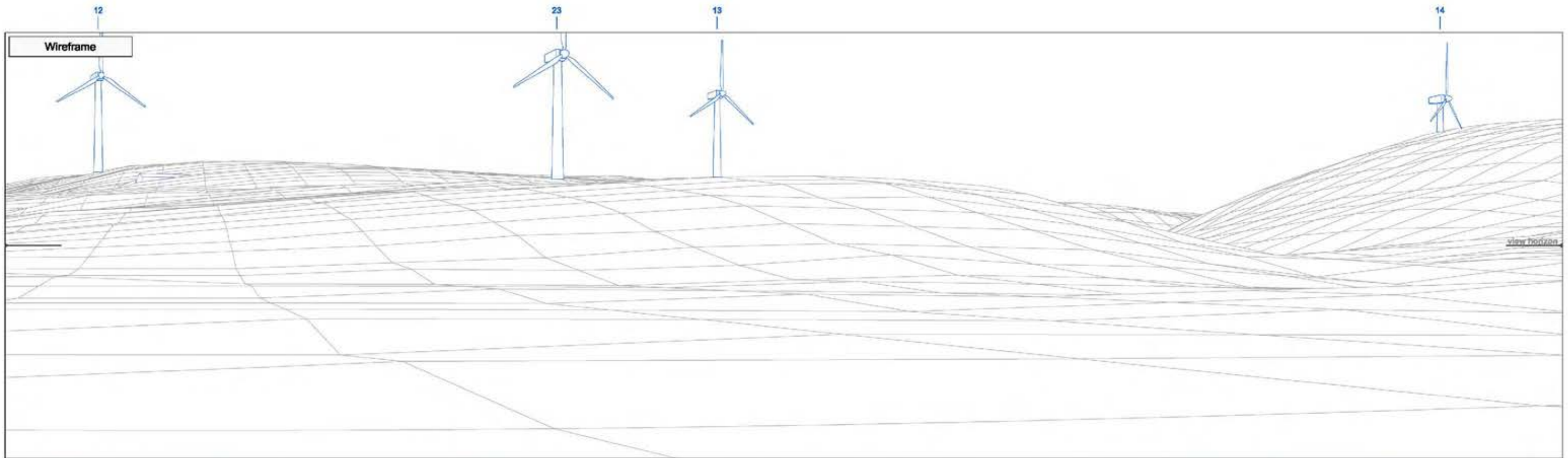
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.3



► Viewpoint 2 Cwnderwen

View D

Bearing to centre of view:

289°

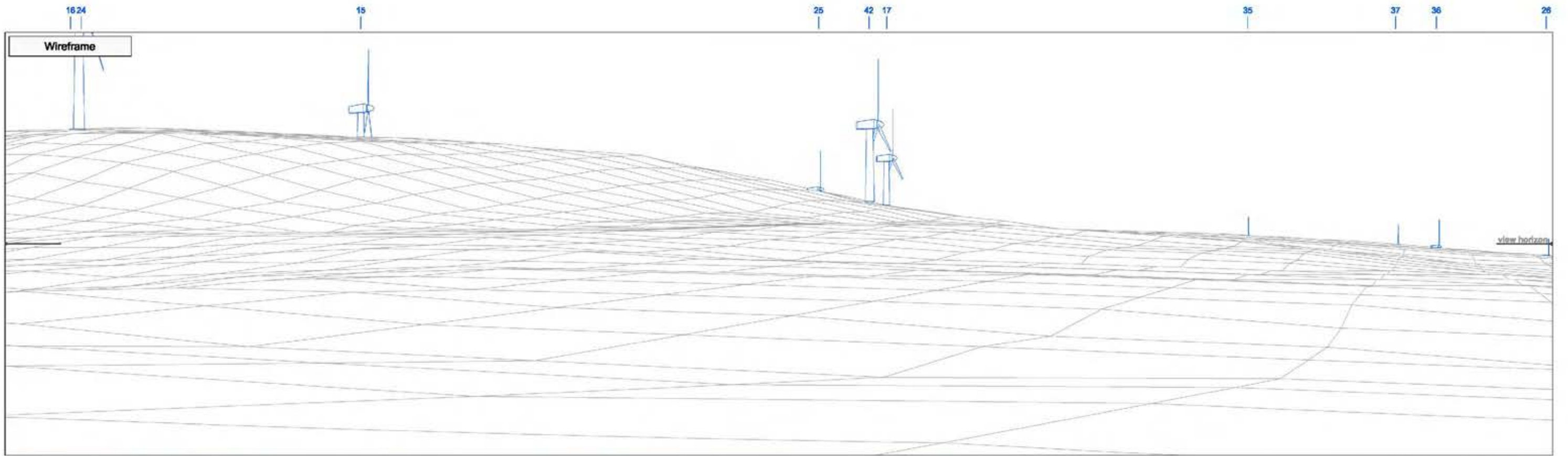
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.4



► Viewpoint 2 Cwmdarwen

View E

Bearing to centre of view:

339°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.5

38

27

40

43

Wireframe



Photograph



► Viewpoint 2 Cwnderwen

View F

Bearing to centre of view:

29°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.6

39 18 9 41 6 5 7 8

Photomontage



► Viewpoint 2 Cwnderwen

View C

Bearing to centre of view:

239°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.7



► Viewpoint 2 Cwnderwen

View D

Bearing to centre of view:

289°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.8



► Viewpoint 2 Cwnderwen

View E

Bearing to centre of view:

339°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.9

38

27

40

43

Photomontage



► Viewpoint 2 Cwnderwen

View E

Bearing to centre of view:

29°

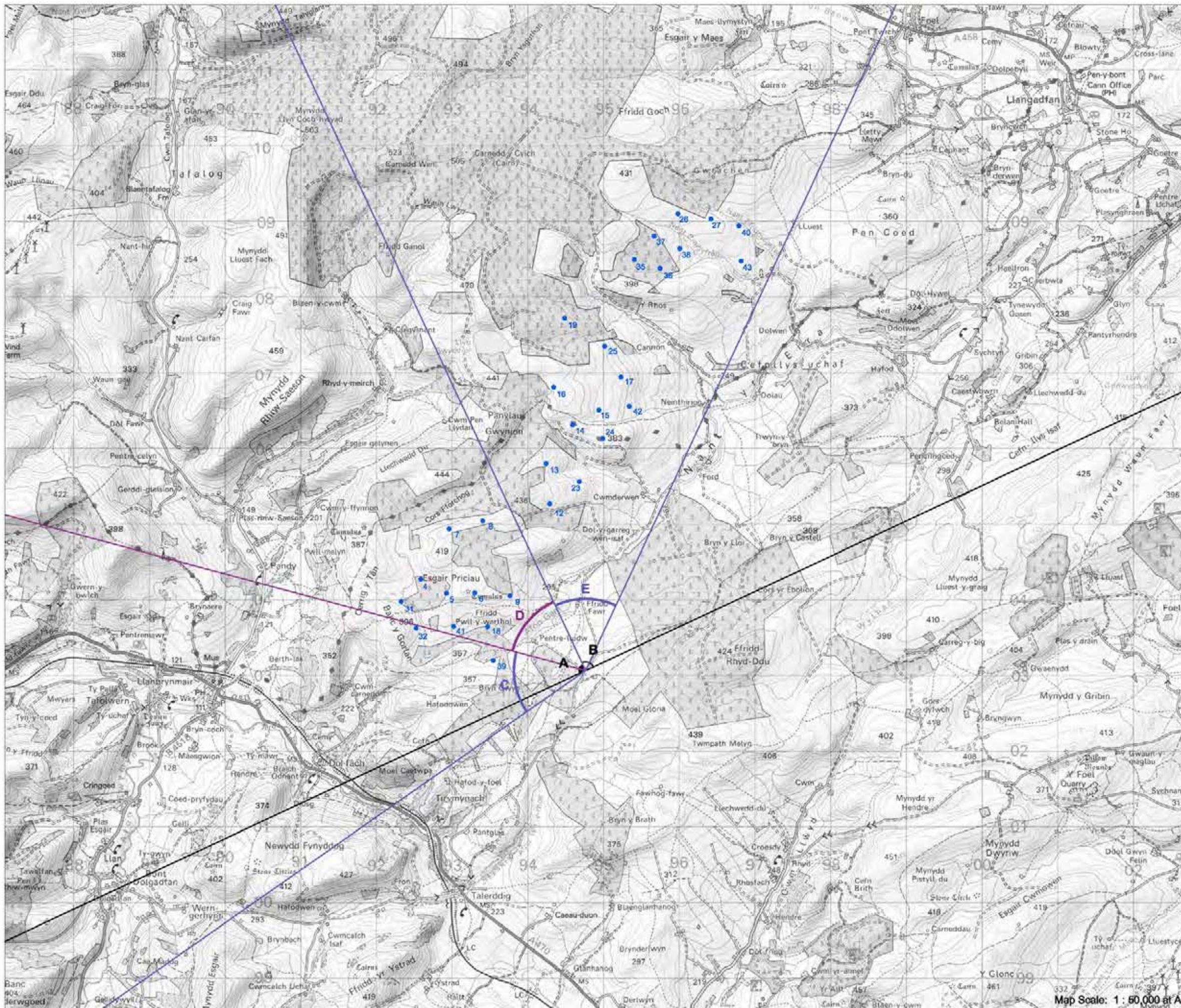
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.14.10



► Viewpoint 3: Minor road above Ffridd Fawr

Viewpoint Location

OS Reference:	294763, 303064
Terrain height AOD (from model) :	352 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	1,228 m
Potential No of turbine hubs visible:	30
Potential No of turbine tips visible:	30

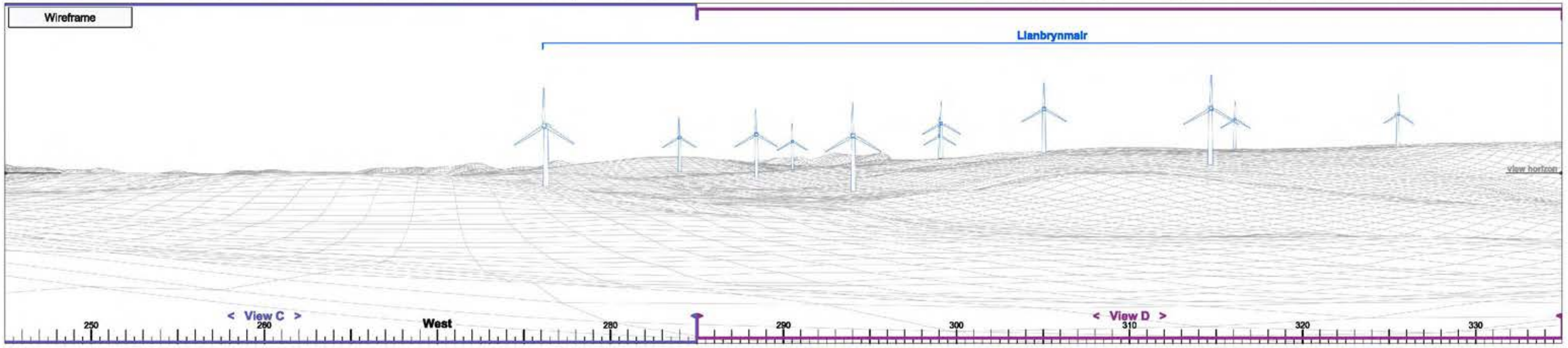
Photography information

Date:	21st February 2013
Time:	15:55
Camera type:	Nikon D7000
Focal length:	35 mm
Equivalent Focal length:	52 mm

Figure 4.15



Map Scale: 1 : 60,000 at A3



► Viewpoint 3 Minor road above Ffridd Fawr

View A

Bearing to centre of view:

290°

Horizontal field of view:

90°

Recommended viewing distance at A3:

25 cm

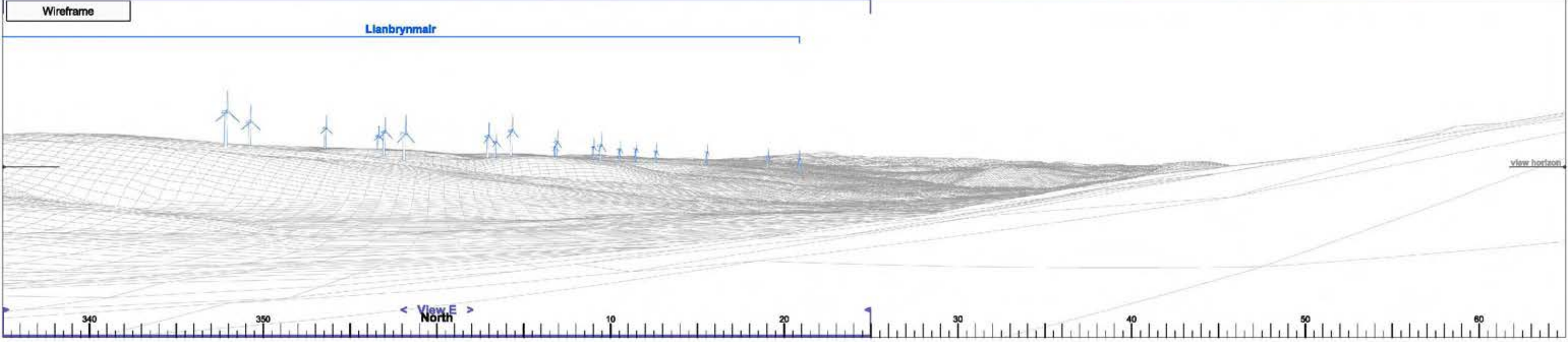
Figure 4.15.1

Photograph



Wireframe

Llanbrynmair



Photomontage



► Viewpoint 3 Minor road above Ffridd Fawr

View B

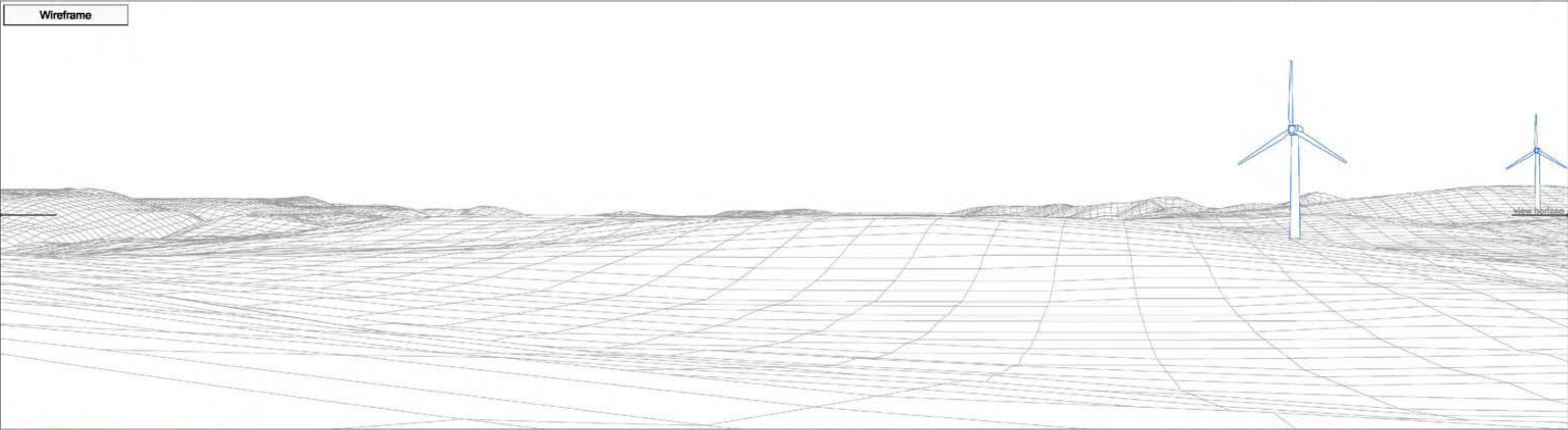
Bearing to centre of view: 20°

Horizontal field of view: 90°

Recommended viewing distance at A3: 25 cm

Figure 4.15.2

Wireframe



Photograph



► Viewpoint 3 Minor road above Ffridd Fawr

View C

Bearing to centre of view:

260°

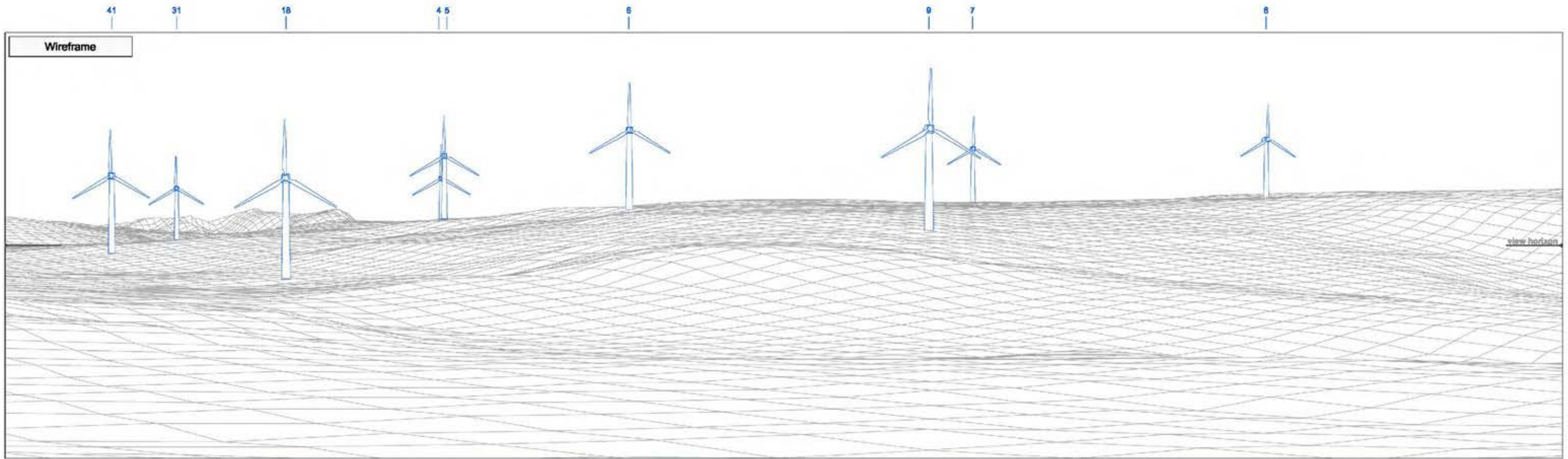
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.15.3



► Viewpoint 3 Minor road above Ffridd Fawr

View D

Bearing to centre of view:

310°

Horizontal field of view:

50°

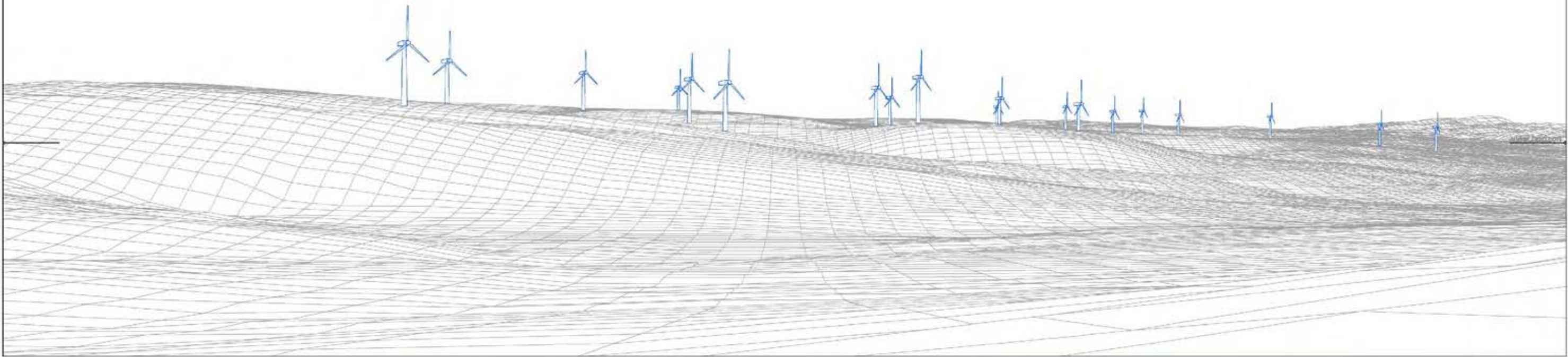
Recommended viewing distance at A3:

45 cm

Figure 4.15.4

12 13 16 19 14 23 15 25 24 35 17 37 42 38 26 36 27 40 43

Wireframe



Photograph



► Viewpoint 3 Minor road above Ffridd Fawr

View E

Bearing to centre of view:

0°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.15.5



► Viewpoint 3 Minor road above Ffridd Fawr

View C	Bearing to centre of view:	260°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.15.6



► Viewpoint 3 Minor road above Ffridd Fawr

View D

Bearing to centre of view:

310°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.15.7

12 13 16 19 14 23 15 25 24 35 17 37 42 36 26 38 27 40 43

Photomontage



► Viewpoint 3 Minor road above Ffridd Fawr

View E

Bearing to centre of view:

0°

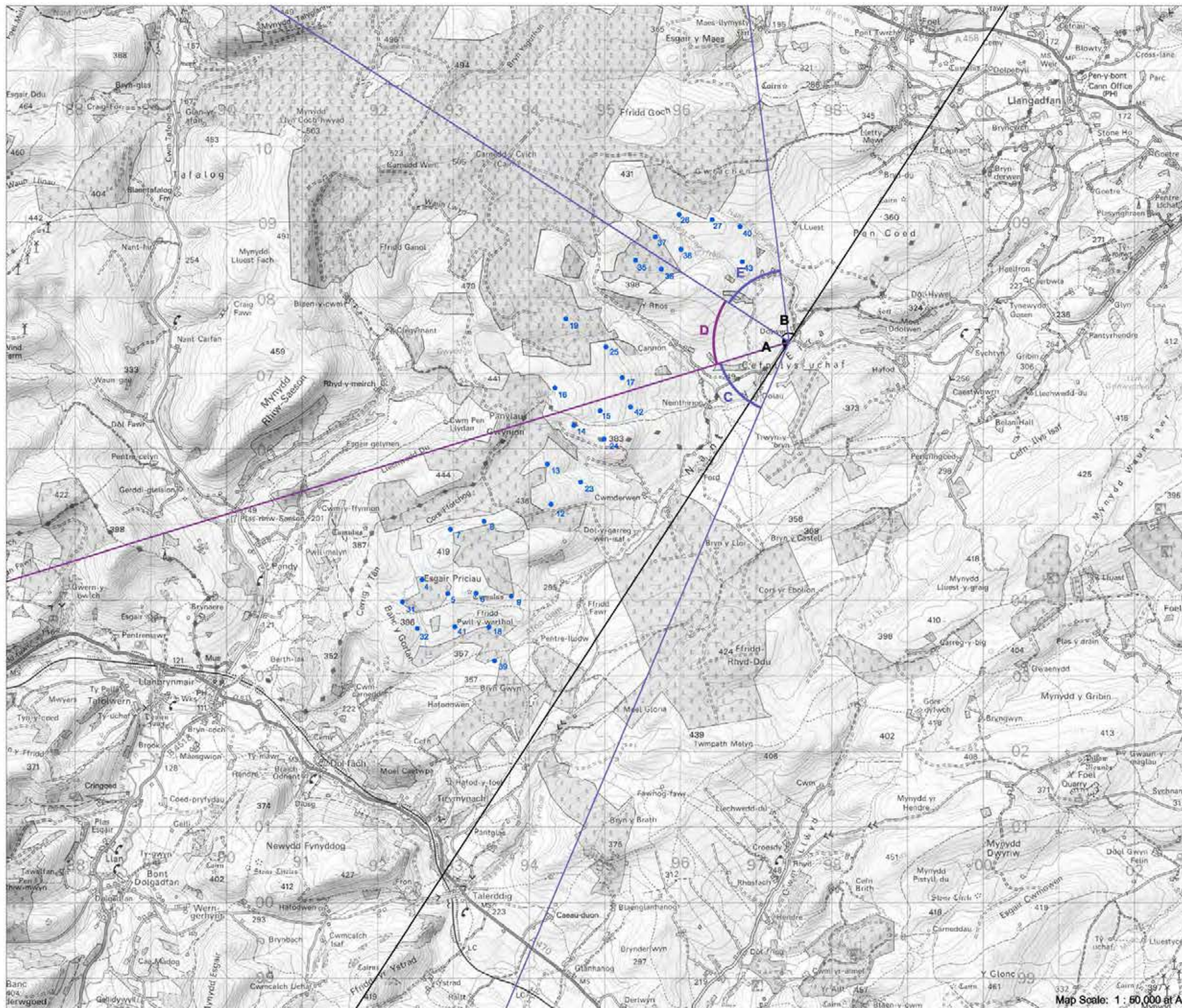
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.15.8



► Viewpoint 4: Glyndŵr's Way, Cefnlys-uchaf

Viewpoint Location

OS Reference:	297436, 307411
Terrain height AOD (from model) :	232 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	1,225 m
Potential No of turbine hubs visible:	25
Potential No of turbine tips visible:	28

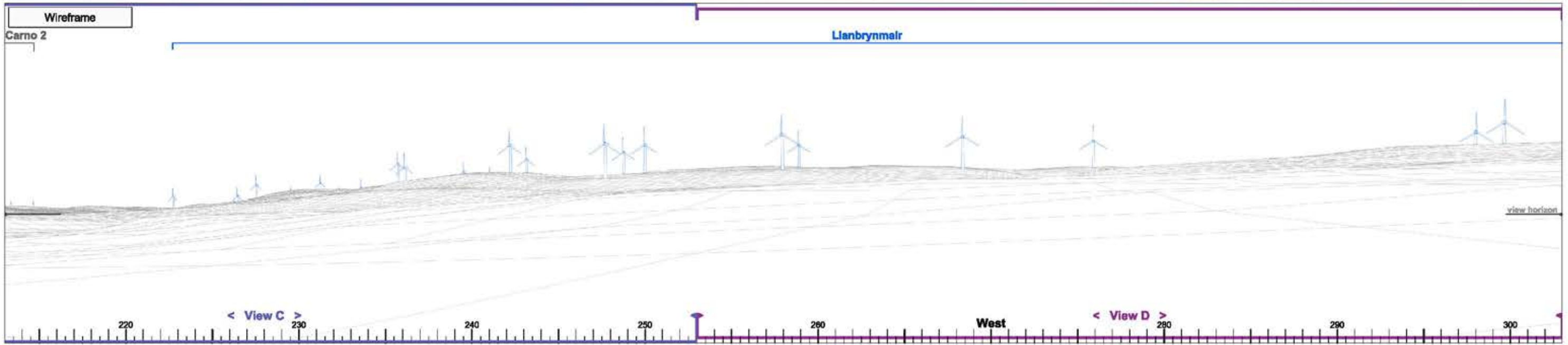
Photography information

Date:	25th June 2013
Time:	11:20
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

Figure 4.16



Map Scale: 1 : 60,000 at A3



► Viewpoint 4 Glyndŵr's Way, Cefnllys-uchaf

View A

Bearing to centre of view:

258°

Horizontal field of view:

90°

Recommended viewing distance at A3:

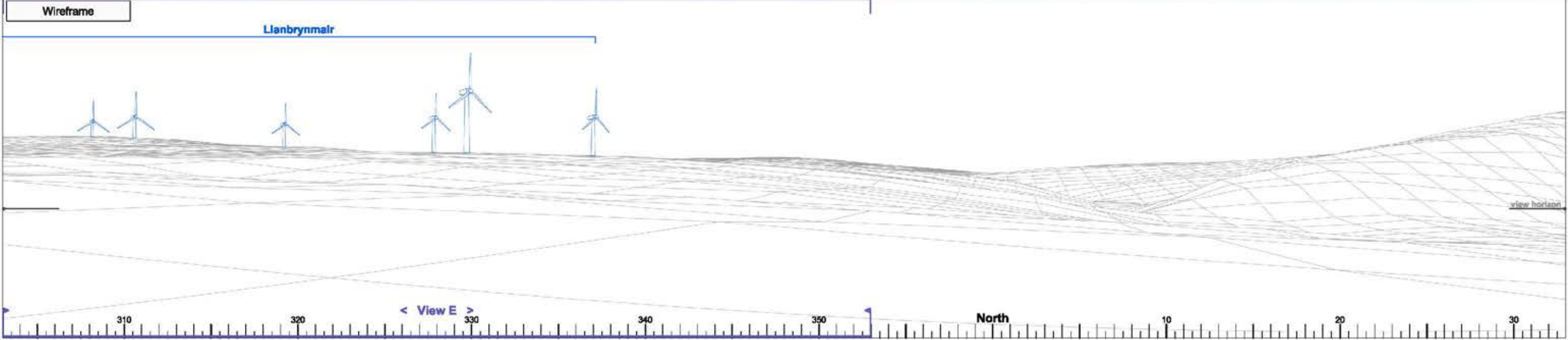
25 cm

Figure 4.16.1

Photograph



Wireframe



Photomontage



► Viewpoint 4 Glyndŵr's Way, Cefnllys-uchaf

View B

Bearing to centre of view:

348°

Horizontal field of view:

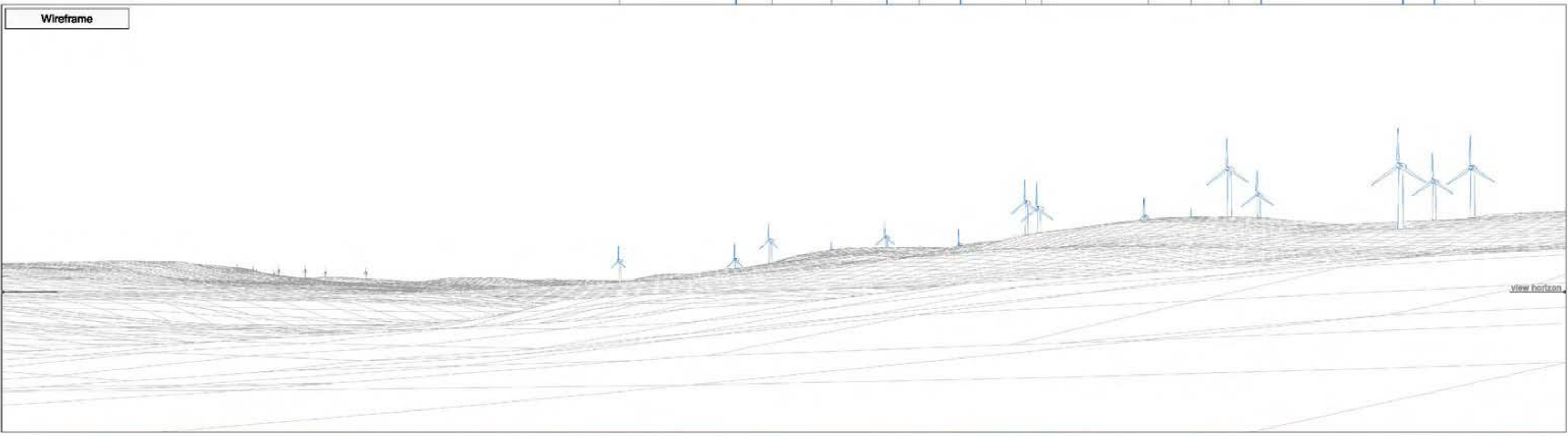
90°

Recommended viewing distance at A3:

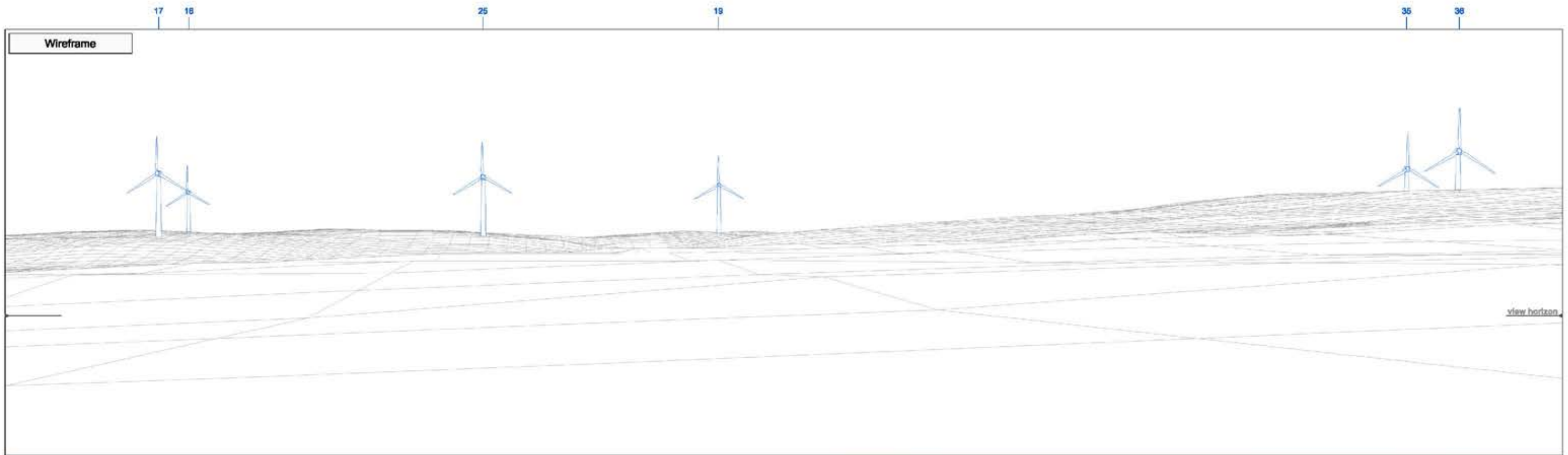
25 cm

Figure 4.16.2

39 18 9 41 6 32 5 12 23 6 7 24 13 42 14 15



► Viewpoint 4 Glyndŵr's Way, Cefnllys-uchaf View C Bearing to centre of view: 228° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.16.3



► Viewpoint 4 Glyndŵr's Way, Cefnllys-uchaf

View D

Bearing to centre of view:

278°

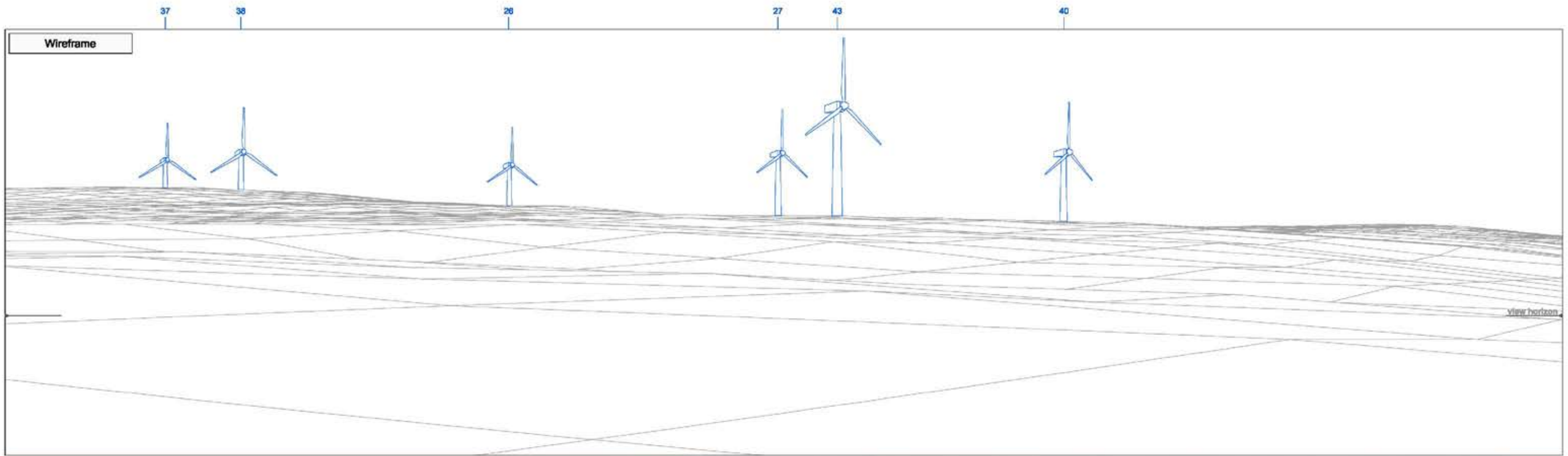
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.16.4



► Viewpoint 4 Glyndŵr's Way, Cefnllys-uchaf

View E

Bearing to centre of view:

328°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.16.5



► Viewpoint 4 Glyndŵr's Way, Cefnlllys-uchaf

View C

Bearing to centre of view:

228°

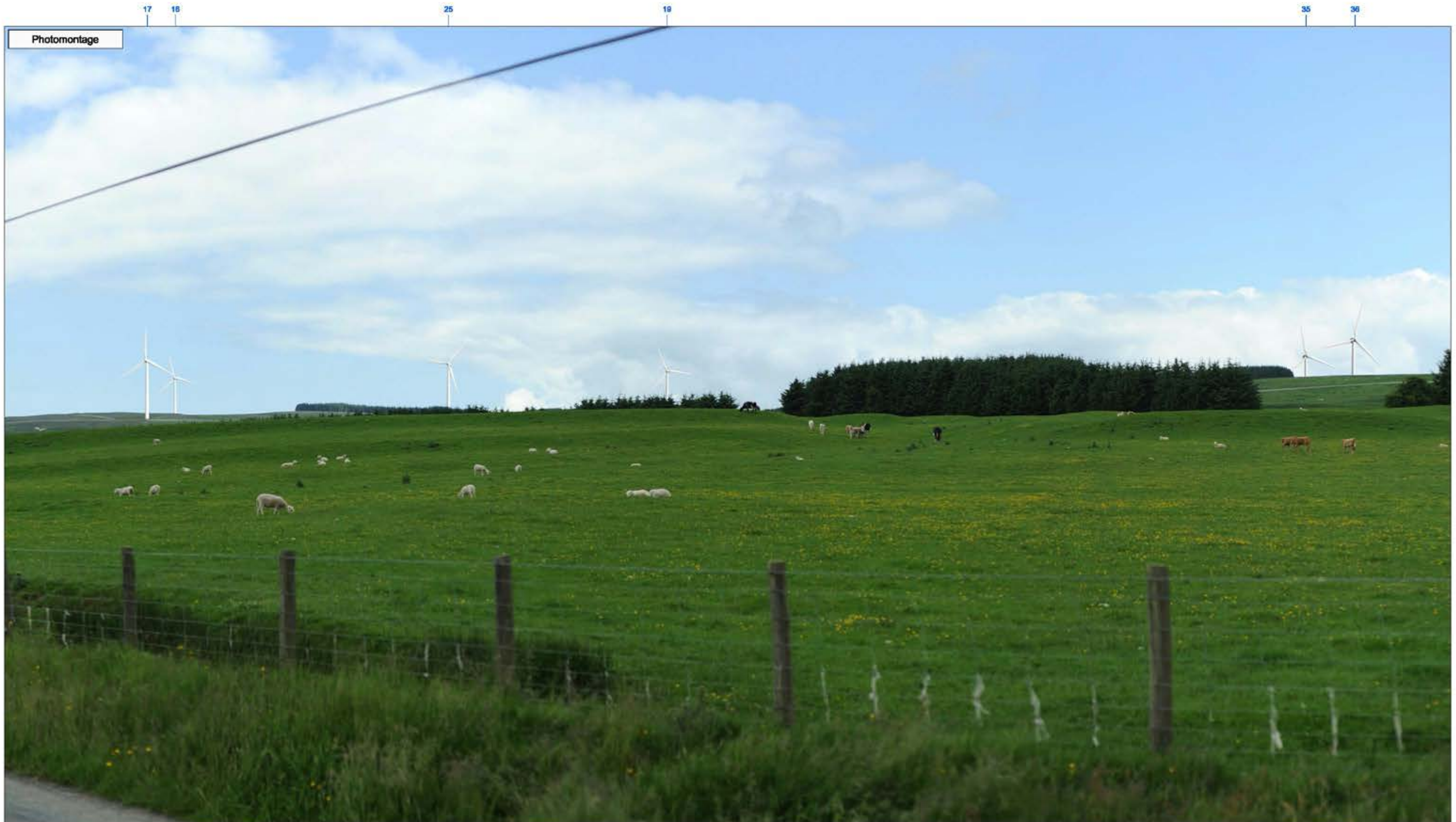
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.16.6



Photomontage

► Viewpoint 4 Glyndŵr's Way, Cefnllys-uchaf

View D	Bearing to centre of view:	278°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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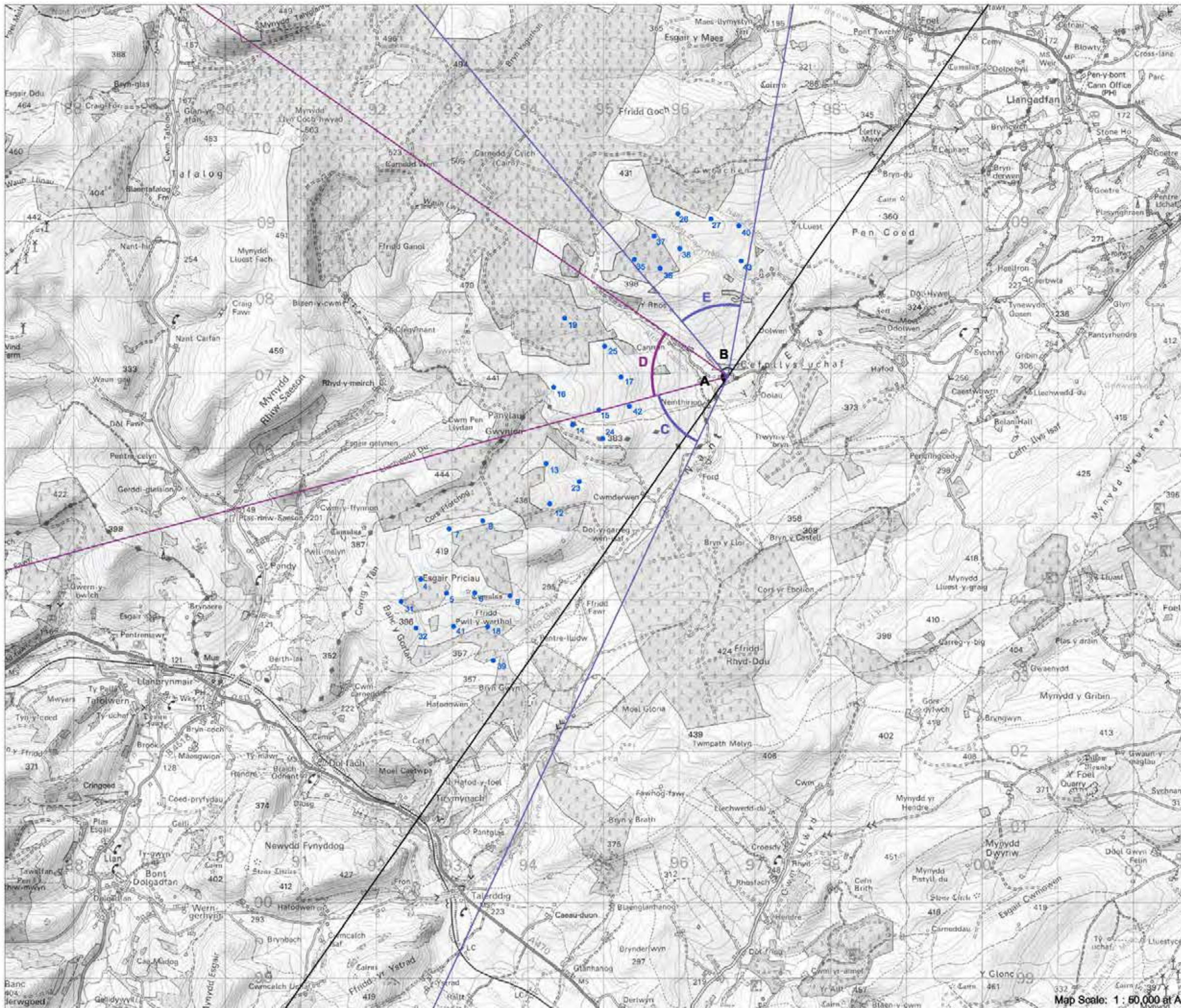
Figure 4.16.7



► Viewpoint 4 Glyndŵr's Way, Cefnlllys-uchaf

View E	Bearing to centre of view:	328°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.16.8



► Viewpoint 5: Glyndŵr's Way, minor road east of Neinthirion

Viewpoint Location

OS Reference:	296642, 306946
Terrain height AOD (from model) :	250 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	1,360 m
Potential No of turbine hubs visible:	21
Potential No of turbine tips visible:	24

Photography information

Date:	22nd February 2013
Time:	11:55
Camera type:	Nikon D7000
Focal length:	35 mm
Equivalent Focal length:	52 mm

Figure 4.17

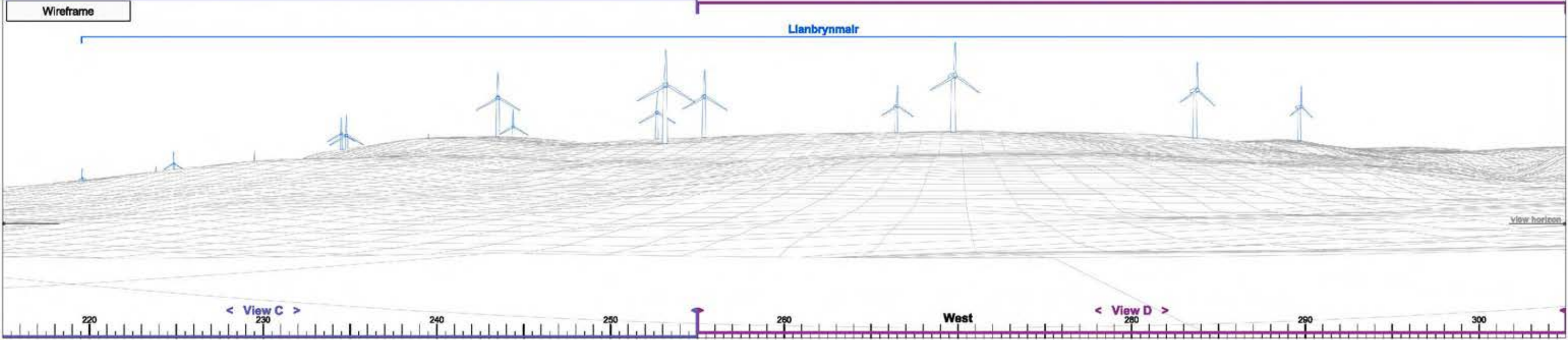


Map Scale: 1 : 60,000 at A3

Photograph



Wireframe



Photomontage



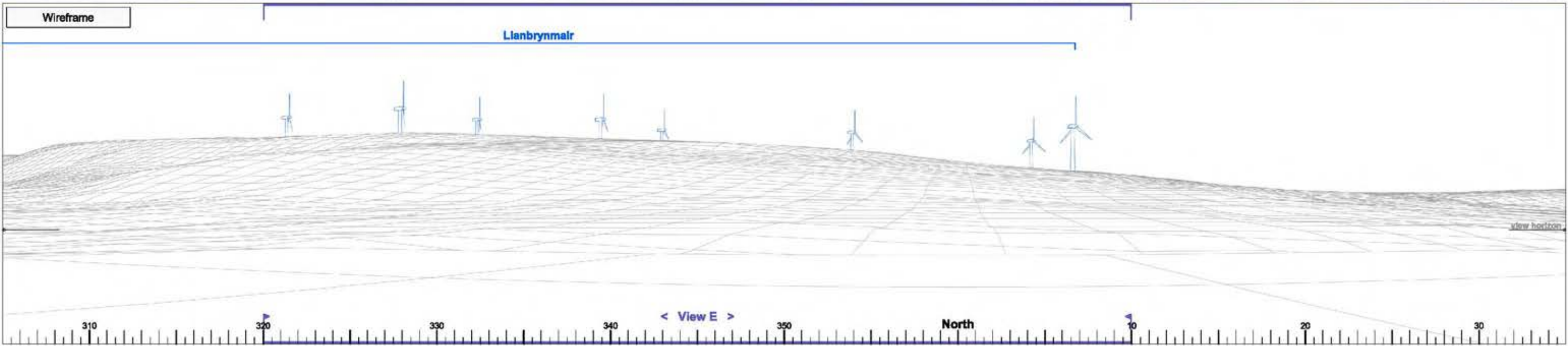
► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion View A Bearing to centre of view: 260° Horizontal field of view: 90° Recommended viewing distance at A3: 25 cm Figure 4.17.1

Photograph



Wireframe

Llanbrynmair



Photomontage



► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion

View B

Bearing to centre of view:

350°

Horizontal field of view:

90°

Recommended viewing distance at A3:

25 cm

Figure 4.17.2

39

15

9

6

12 23

8

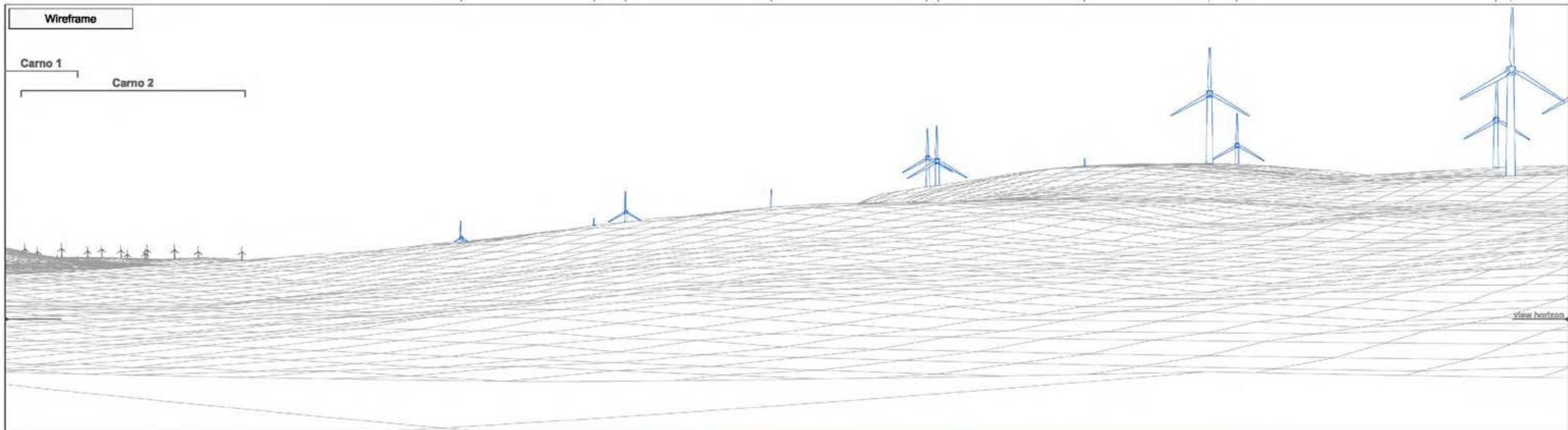
24

13

14 42

Wireframe

Carno 1
Carno 2



Photograph



► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion

View C

Bearing to centre of view:

230°

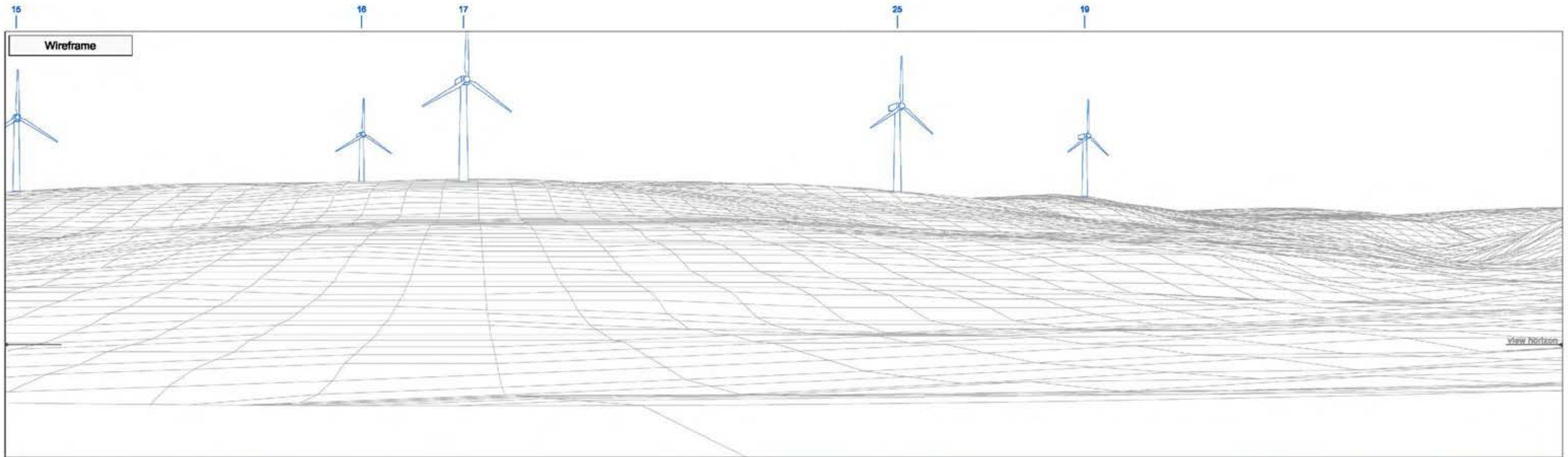
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.17.3



► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion

View D

Bearing to centre of view:

280°

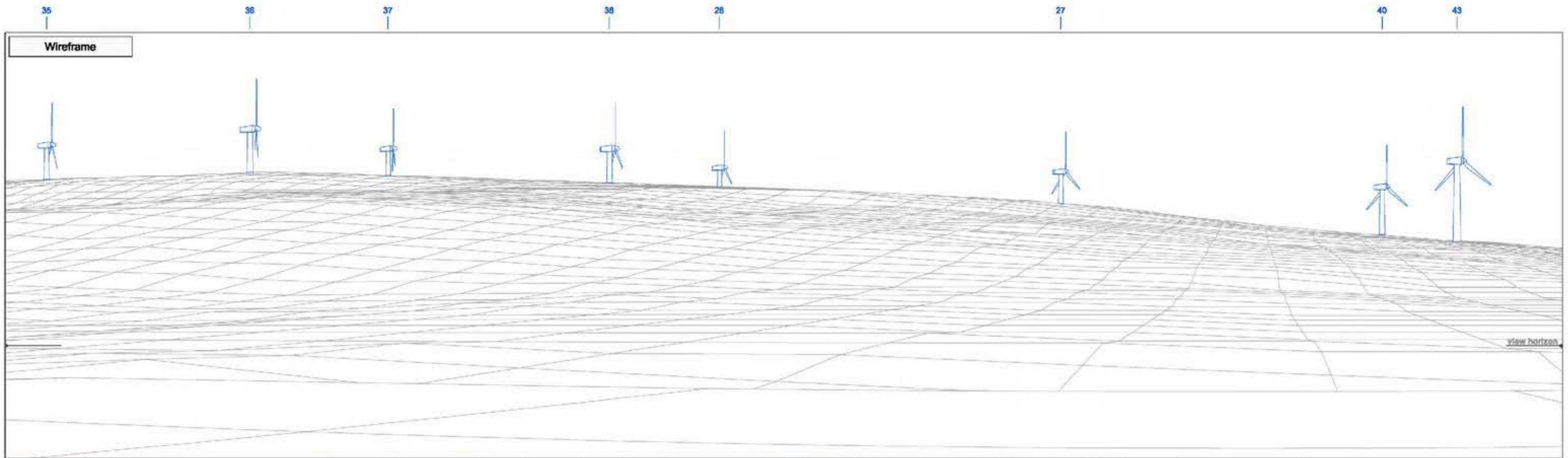
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.17.4



► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion

View E

Bearing to centre of view:

345°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.17.5

30 18 9 8 12 23 8 24 13 14 42

Photomontage



► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion

View C

Bearing to centre of view:

230°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.17.6



► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion

View D

Bearing to centre of view:

280°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.17.7



► Viewpoint 5 Glyndŵr's Way, minor road east of Neinthirion

View E

Bearing to centre of view:

345°

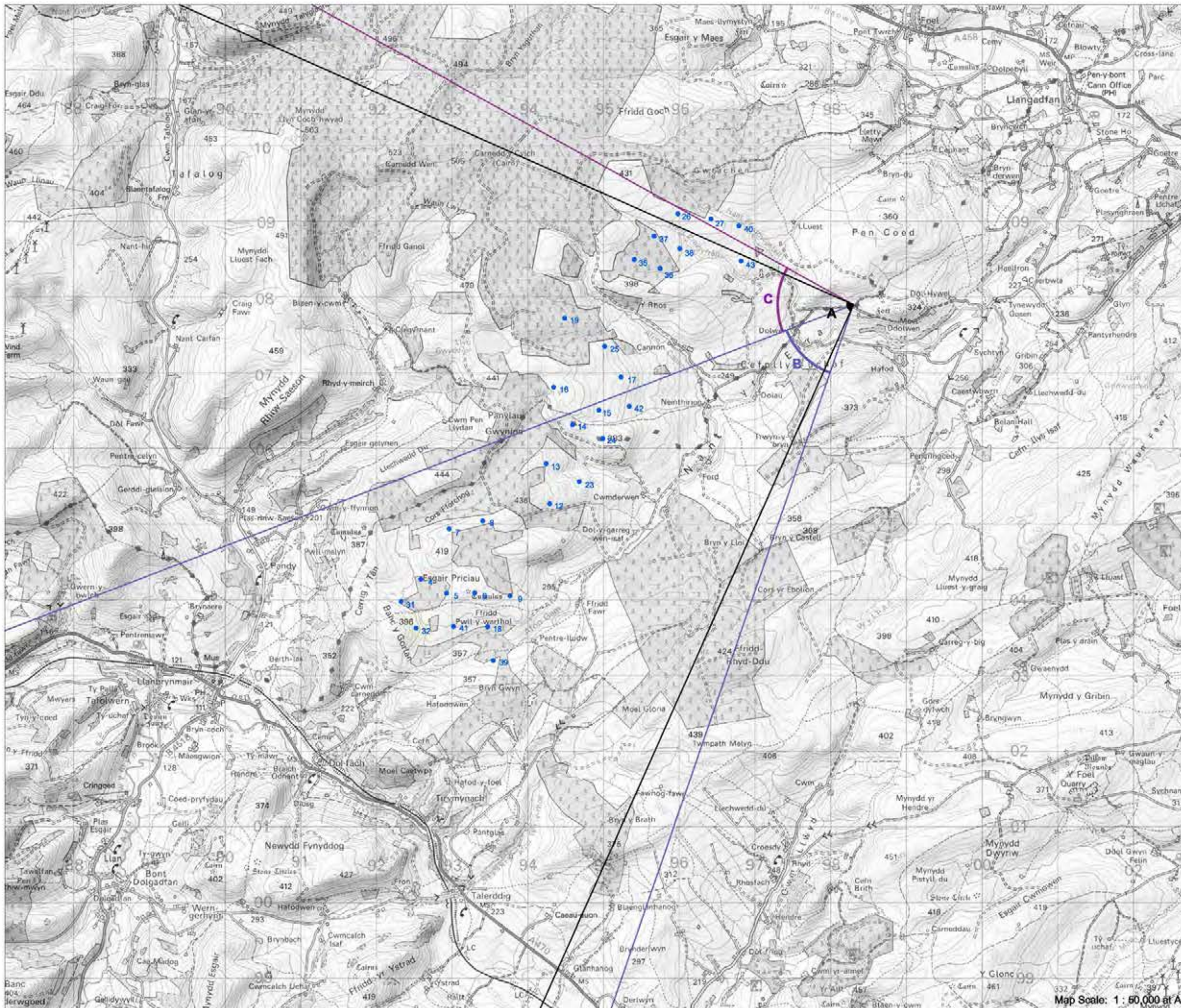
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.17.8



► Viewpoint 6: Glyndŵr's Way, Moel Ddolwen

Viewpoint Location

OS Reference:	298307, 307896
Terrain height AOD (from model) :	275 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	1,595 m
Potential No of turbine hubs visible:	21
Potential No of turbine tips visible:	27

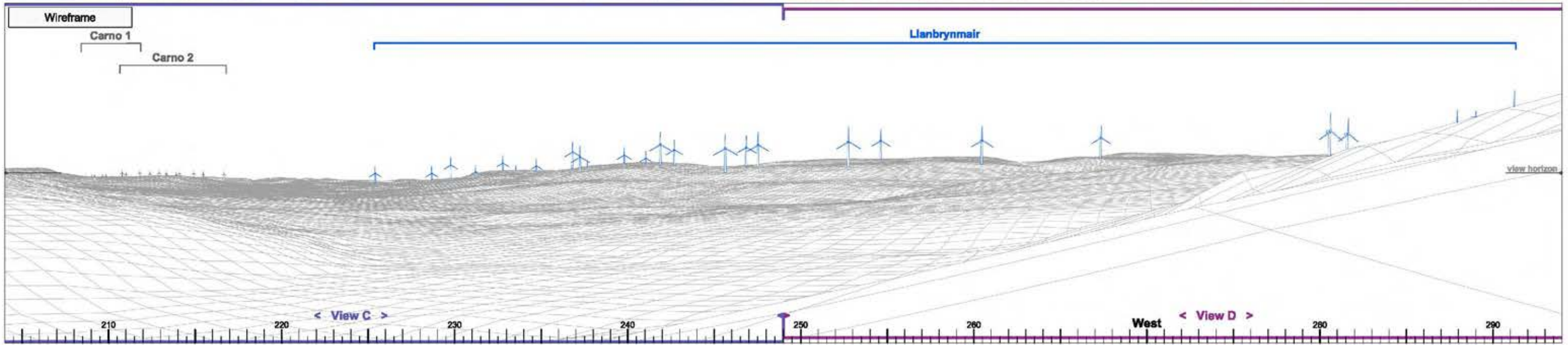
Photography information

Date:	25th June 2013
Time:	12:00
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

Figure 4.18



Map Scale: 1 : 60,000 at A3



► Viewpoint 6 Glyndŵr's Way, Moel Ddolwen

View A

Bearing to centre of view:

249°

Horizontal field of view:

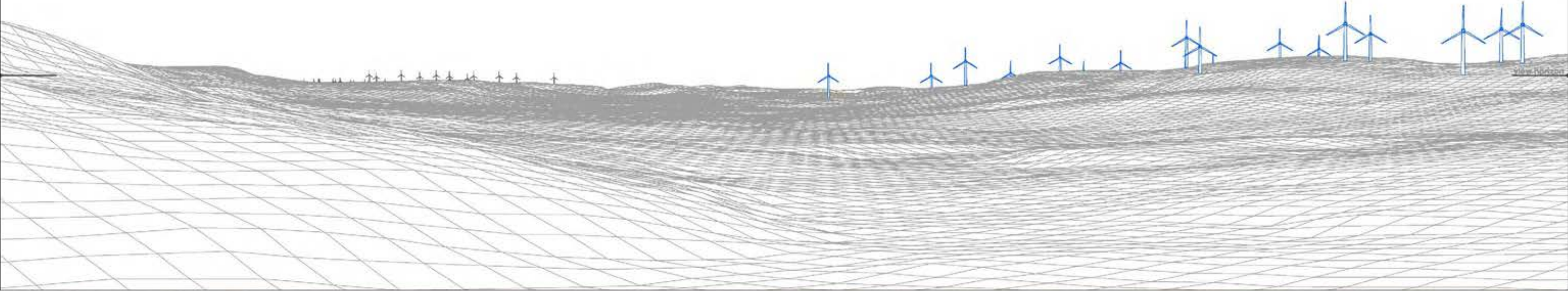
90°

Recommended viewing distance at A3:

25 cm

Figure 4.18.1

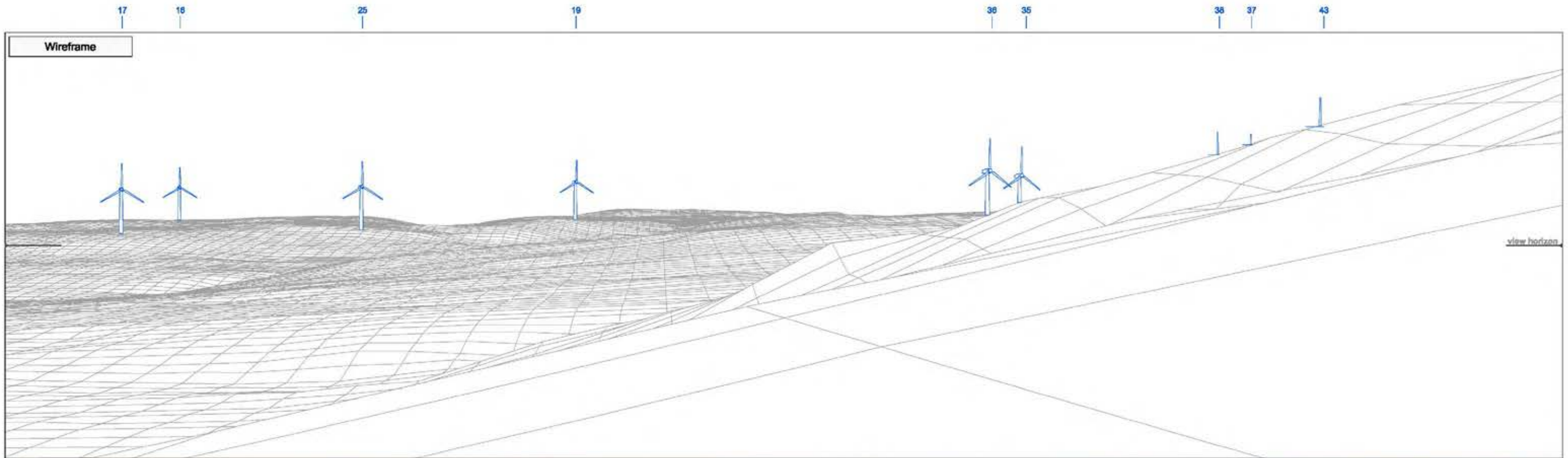
Wireframe



Photograph



► Viewpoint 6 Glyndŵr's Way, Moel Ddolwen View B Bearing to centre of view: 224° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.18.2



► Viewpoint 6 Glyndŵr's Way, Moel Ddolwen

View C

Bearing to centre of view:

274°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.18.3

39 18 9 41 6 32 5 12 23 4 8 7 24 13 42 14 15

Photomontage



► Viewpoint 6 Glyndŵr's Way, Moel Ddolwen

View B	Bearing to centre of view:	224°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.18.4

17

18

25

19

38

35

38

37

43

Photomontage



► Viewpoint 6 Glyndŵr's Way, Moel Ddolwen

View C

Bearing to centre of view:

274°

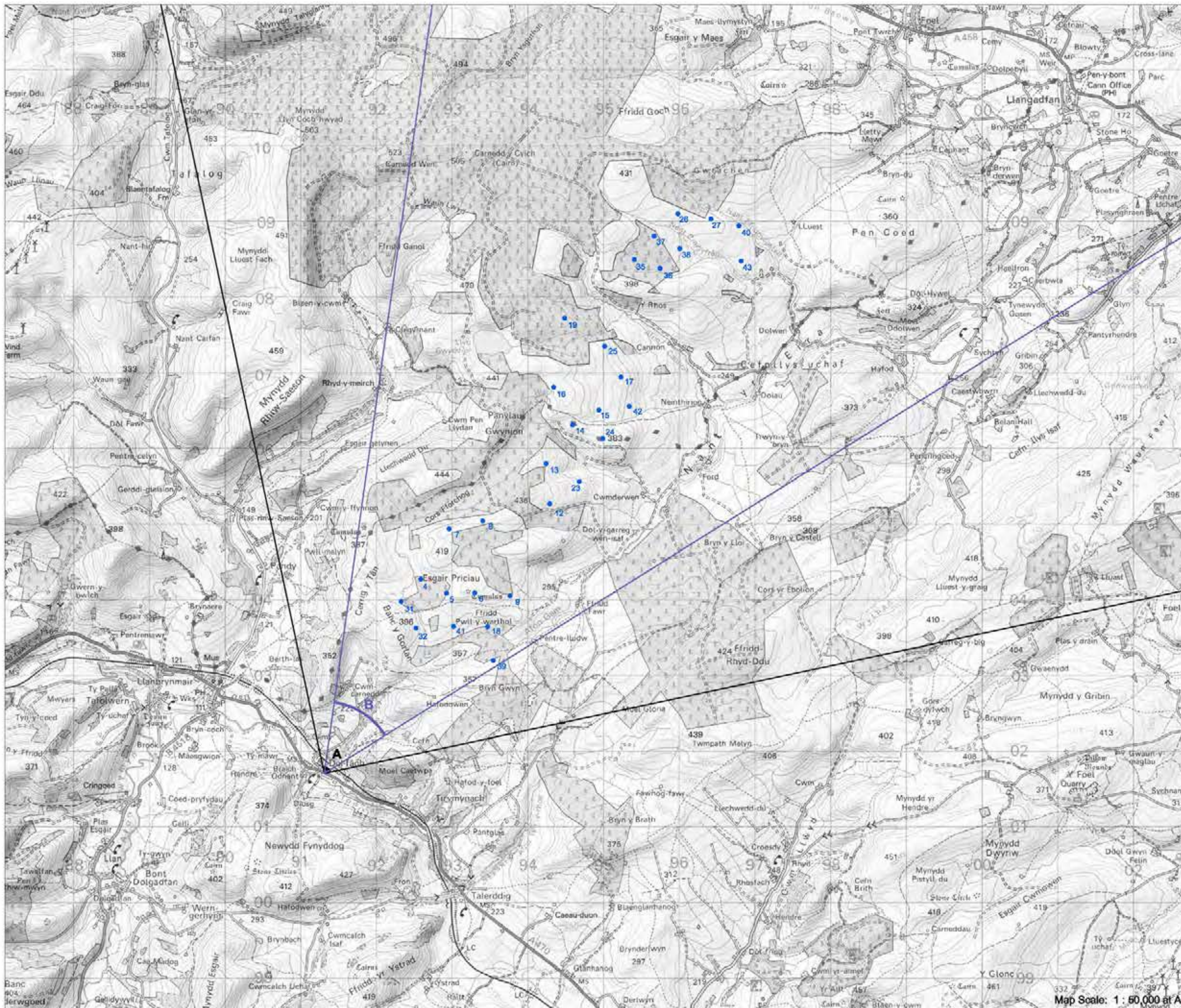
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.18.5



► Viewpoint 7: Dolfach

Viewpoint Location

OS Reference:	291310, 301705
Terrain height AOD (from model) :	137 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	2,254 m
Potential No of turbine hubs visible:	2
Potential No of turbine tips visible:	6

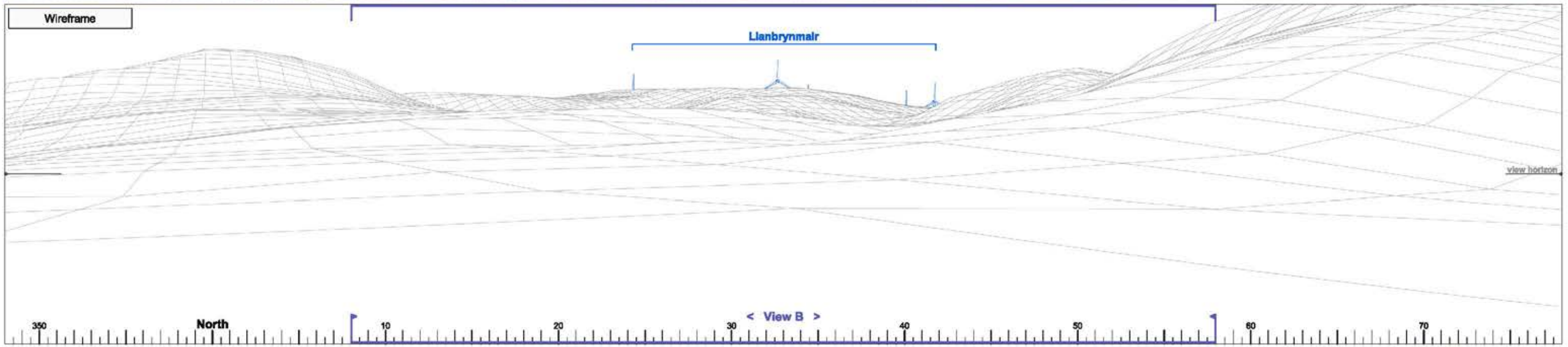
Photography information

Date:	30th May 2013
Time:	12:55
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

Figure 4.19



Map Scale: 1 : 60,000 at A3



► Viewpoint 7 Dolfach

View A

Bearing to centre of view:

33°

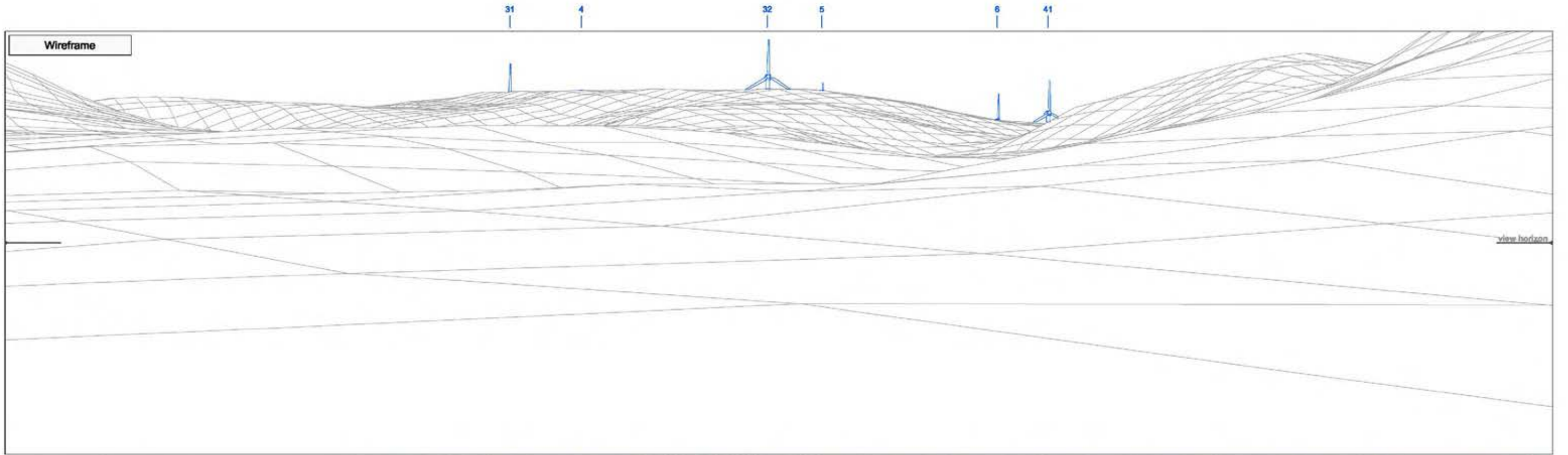
Horizontal field of view:

90°

Recommended viewing distance at A3:

25 cm

Figure 4.19.1



► Viewpoint 7 Dolfach

View B

Bearing to centre of view:

33°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.19.2

31 4 32 5 6 41

Photomontage



► Viewpoint 7 Dolfach

View B

Bearing to centre of view:

33°

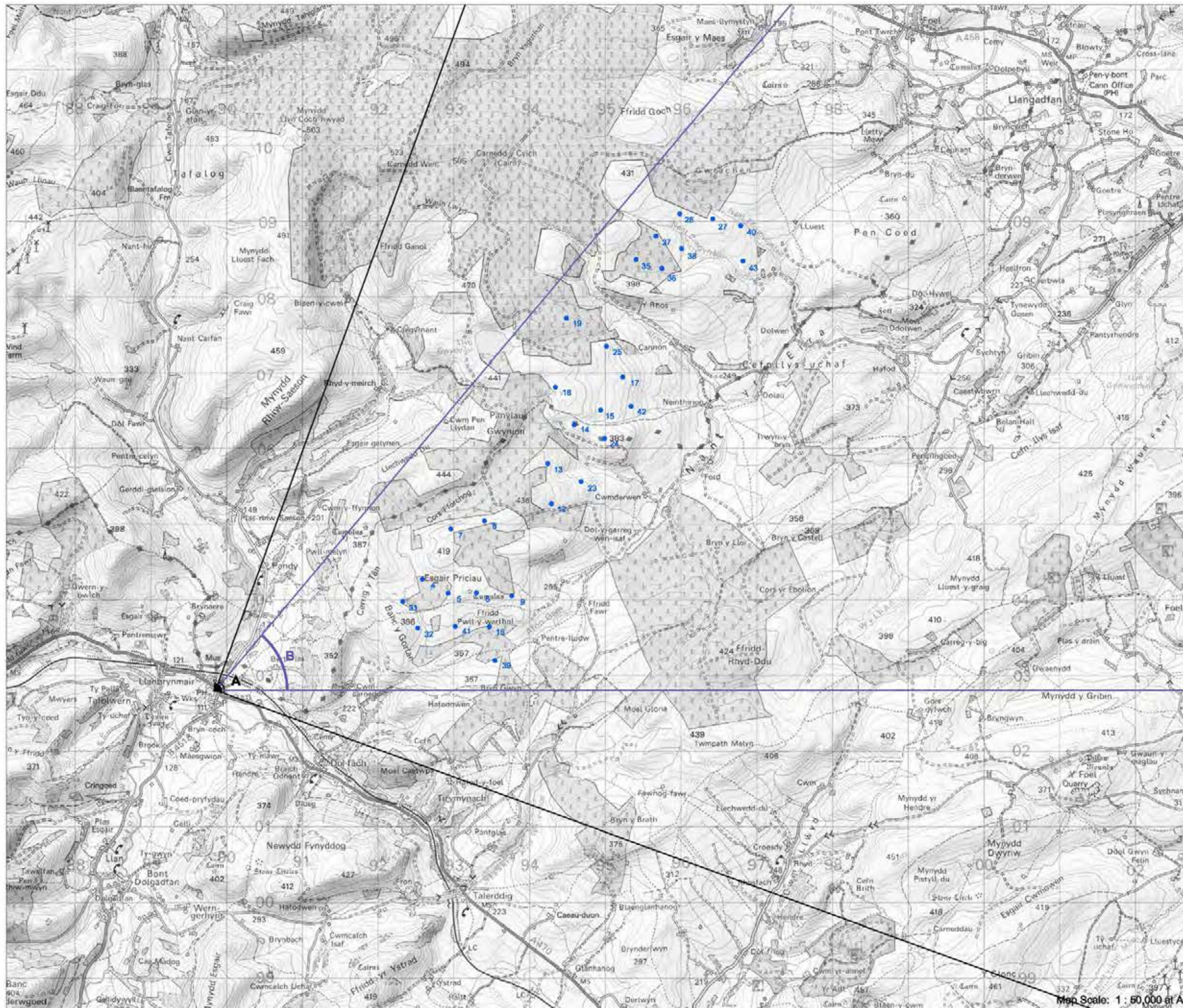
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.19.3



► Viewpoint 8: Llanbrynmair Village

Viewpoint Location

OS Reference:	289852, 302803
Terrain height AOD (from model) :	107 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	2,737 m
Potential No of turbine hubs visible:	0
Potential No of turbine tips visible:	1

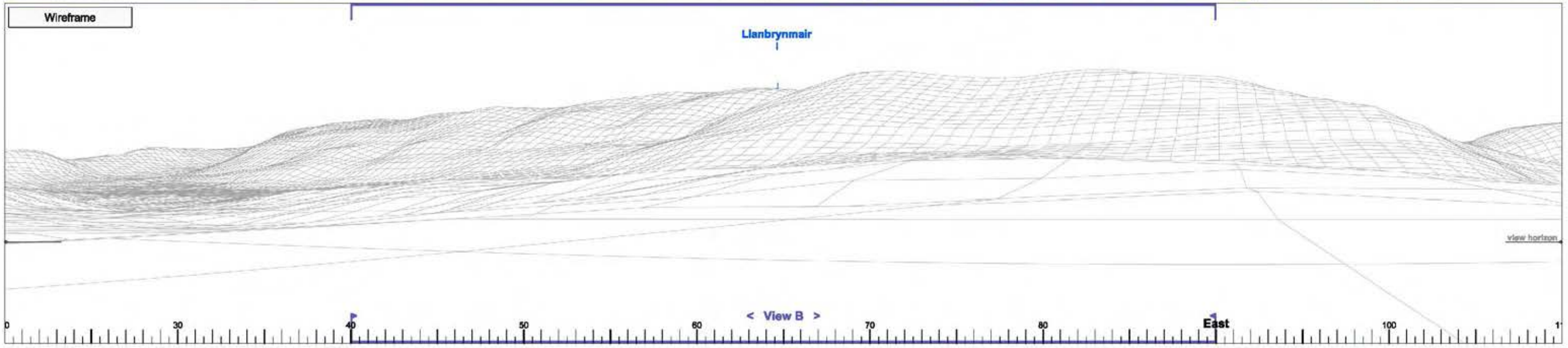
Photography information

Date:	24th June 2013
Time:	13:30
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

Figure 4.20



Map Scale: 1 : 60,000 at A3



► Viewpoint 8 Llanbrynmair Village

View A

Bearing to centre of view:

65°

Horizontal field of view:

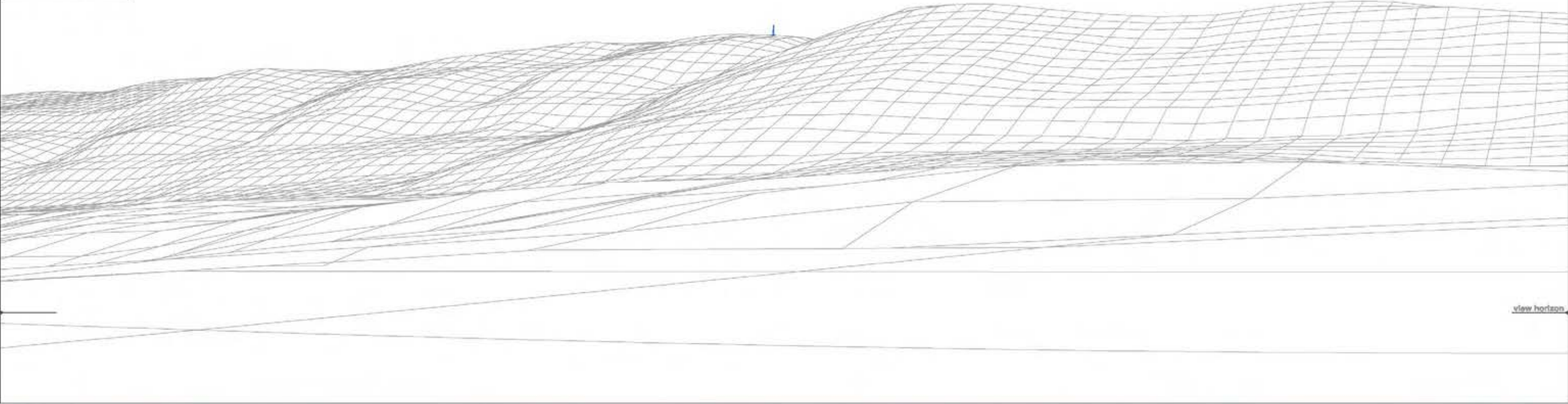
90°

Recommended viewing distance at A3:

25 cm

Figure 4.20.1

Wireframe



Photograph



► Viewpoint 8 Llanbrynmair Village View B Bearing to centre of view: 65° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.20.2



► Viewpoint 8 Llanbrynmair Village

View B

Bearing to centre of view:

65°

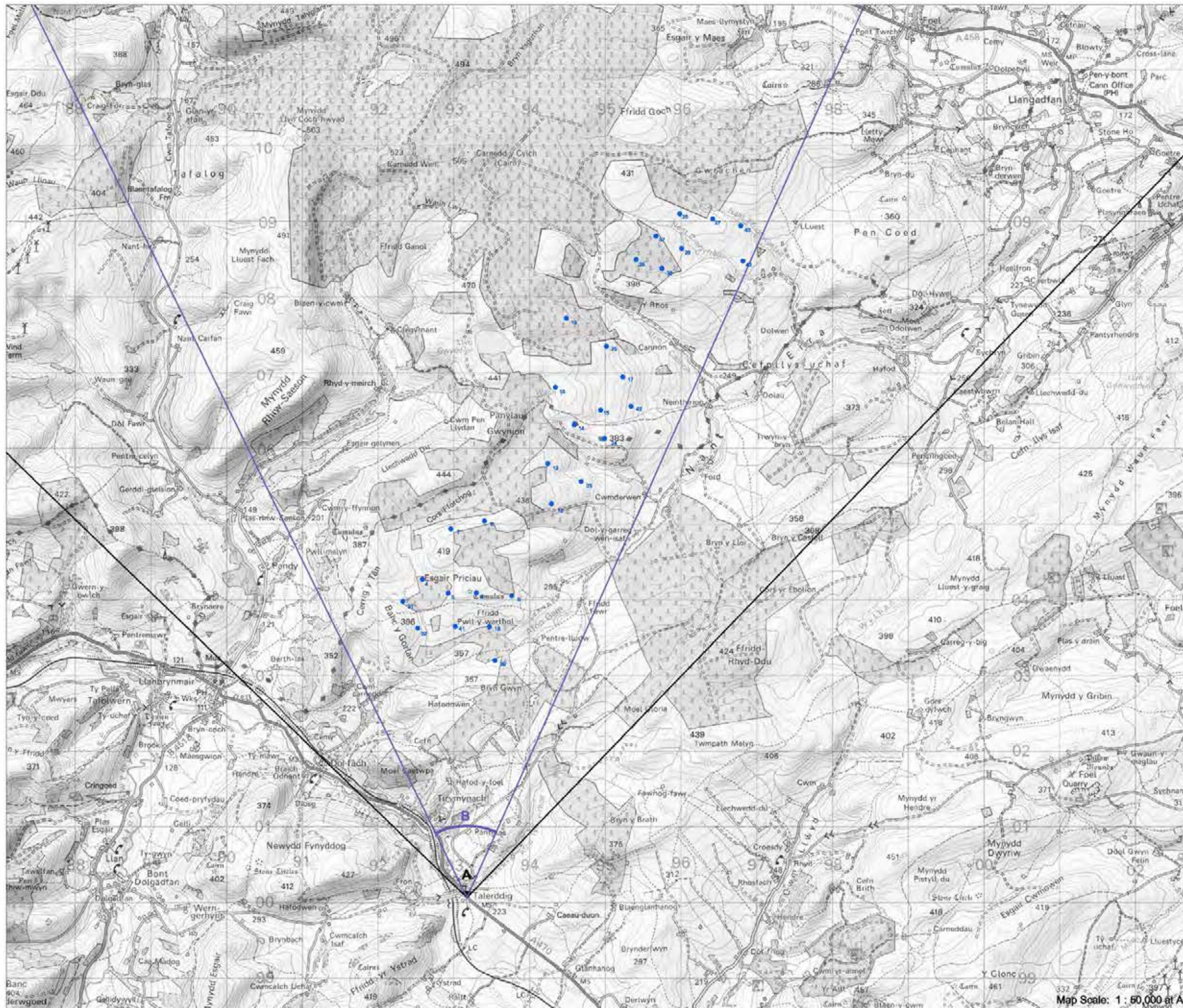
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.20.3



► Viewpoint 9: Talerddig

Viewpoint Location

OS Reference:	293173, 300062
Terrain height AOD (from model) :	218 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	3,157 m
Potential No of turbine hubs visible:	11
Potential No of turbine tips visible:	13

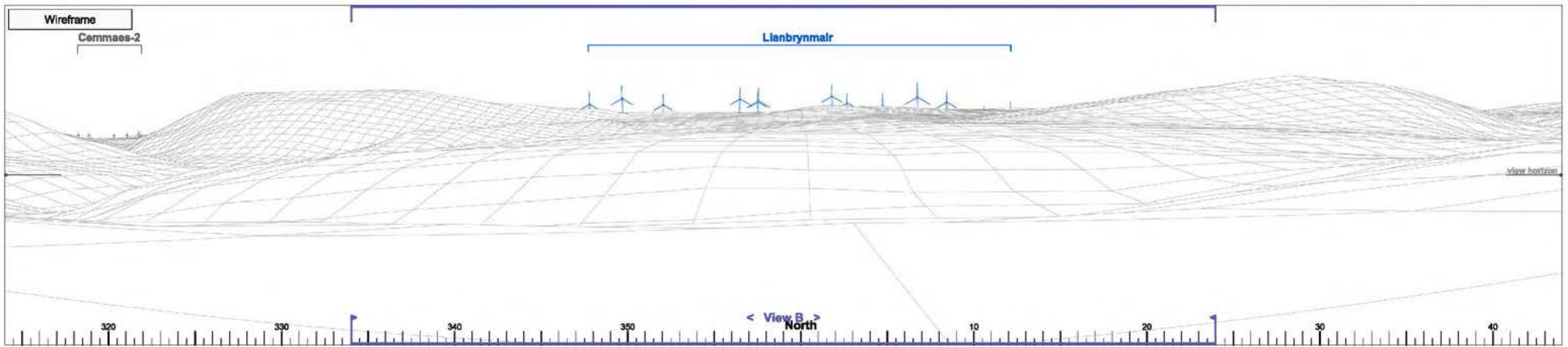
Photography information

Date:	24th June 2013
Time:	12:05
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

Figure 4.21



Map Scale: 1 : 60,000 at A3



► Viewpoint 9 Talerddig

View A

Bearing to centre of view:

359°

Horizontal field of view:

90°

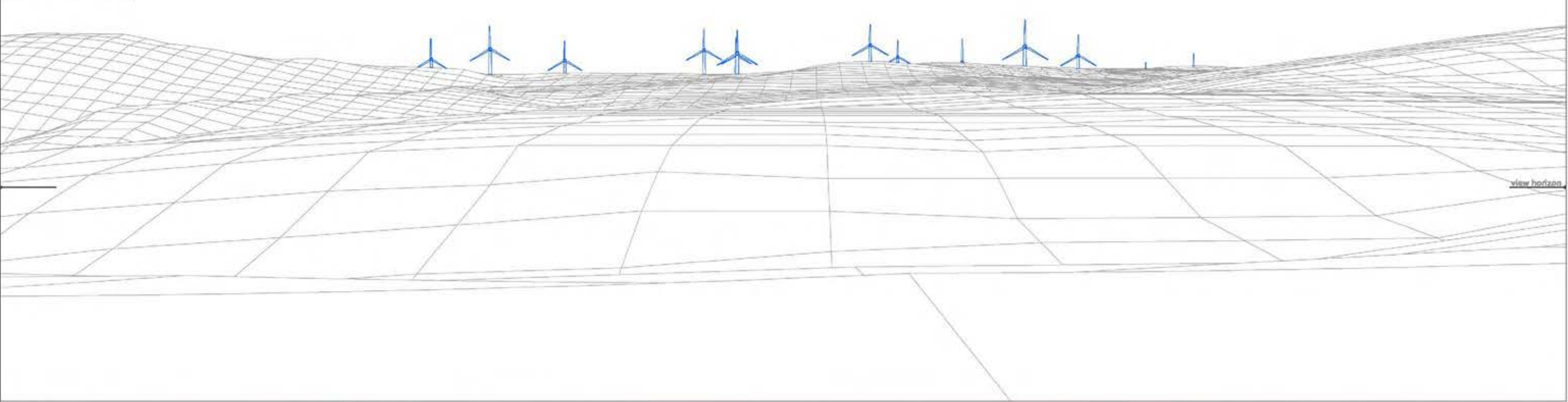
Recommended viewing distance at A3:

25 cm

Figure 4.21.1

31 32 4 5 7 41 6 8 16 39 9 13 12

Wireframe



Photograph



► Viewpoint 9 Talerddig

View B

Bearing to centre of view:

359°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.21.2

31 32 4 6 7 41 8 8 18 39 9 13 12

Photomontage



► Viewpoint 9 Talerddig

View B	Bearing to centre of view:	359°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.21.3



► Viewpoint 10: Glyndŵr's Way, Brynaere

Viewpoint Location

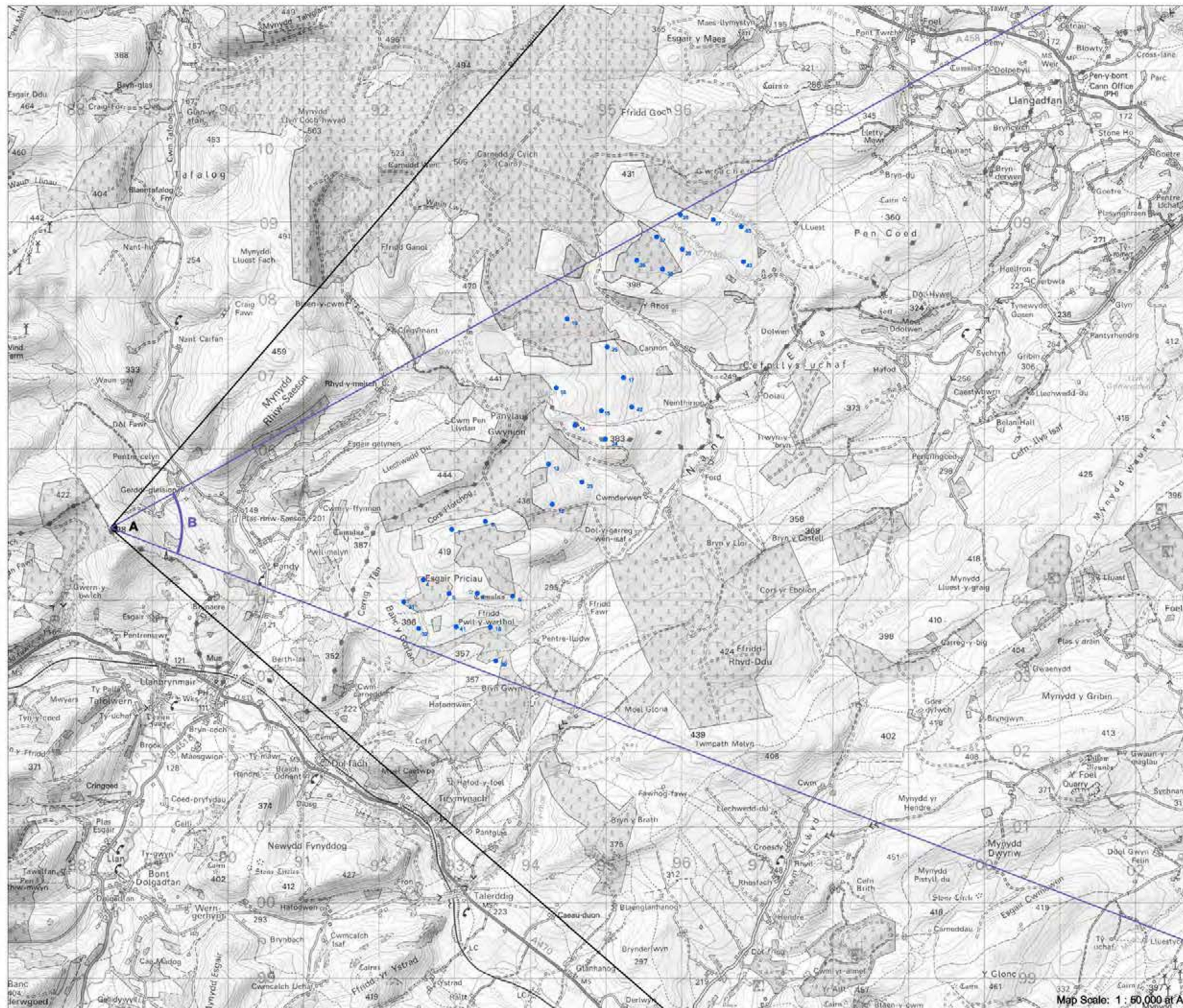
OS Reference:	288445, 304953
Terrain height AOD (from model) :	394 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	4,001 m
Potential No of turbine hubs visible:	18
Potential No of turbine tips visible:	27

Photography information

Date:	24th June 2013
Time:	15:00
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm



Map Scale: 1 : 60,000 at A3

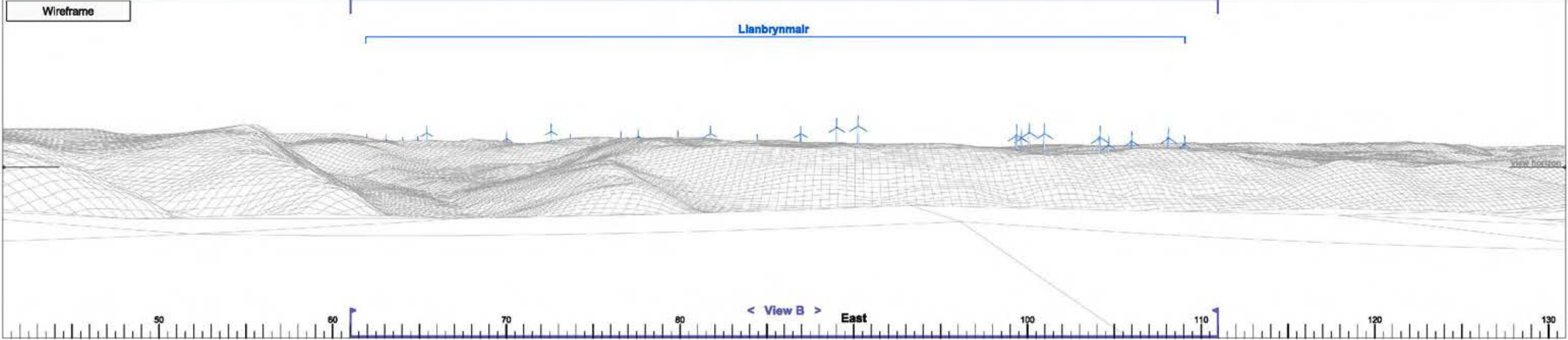
Figure 4.22



Photograph



Wireframe



Photomontage



► Viewpoint 10 Glyndŵr's Way, Brynaere

View A

Bearing to centre of view:

86°

Horizontal field of view:

90°

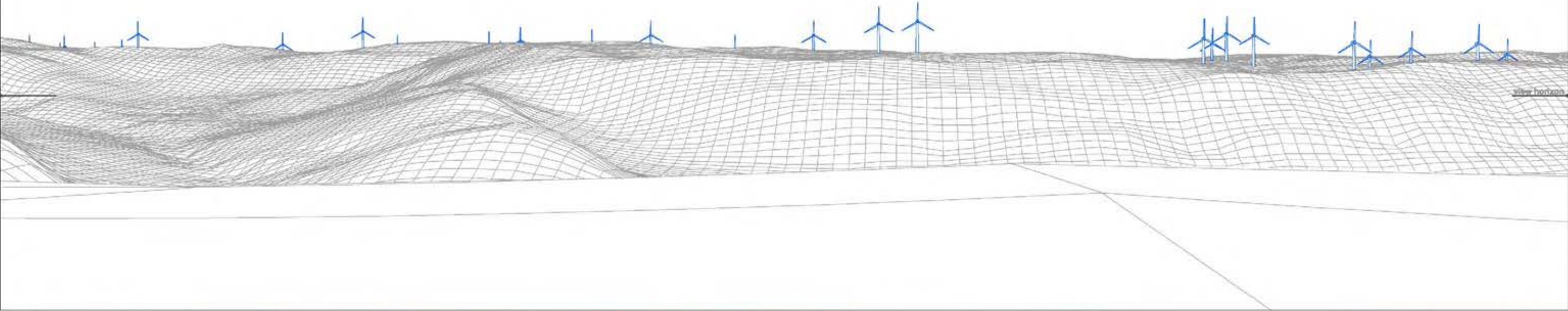
Recommended viewing distance at A3:

25 cm

Figure 4.22.1

37 2735 38 38 19 25 18 17 1542 14 24 13 23 12 8 7 4 9 6 5 31 18 41 32 39

Wireframe



Photograph



► Viewpoint 10 Glyndŵr's Way, Brynaere

View B

Bearing to centre of view:

86°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.22.2

37 2735 38 36 19

25

18

17

15 42 14

24

13

23

12

8

7

4 9 6 5

31 16 41

32 39

Photomontage



► Viewpoint 10 Glyndŵr's Way, Brynaere

View B

Bearing to centre of view:

86°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.22.3



► Viewpoint 11: Llan Village

Viewpoint Location

OS Reference:	288467, 300784
Terrain height AOD (from model) :	152 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	4,950 m
Potential No of turbine hubs visible:	11
Potential No of turbine tips visible:	11

Photography information

Date:	24th June 2013
Time:	13:00
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

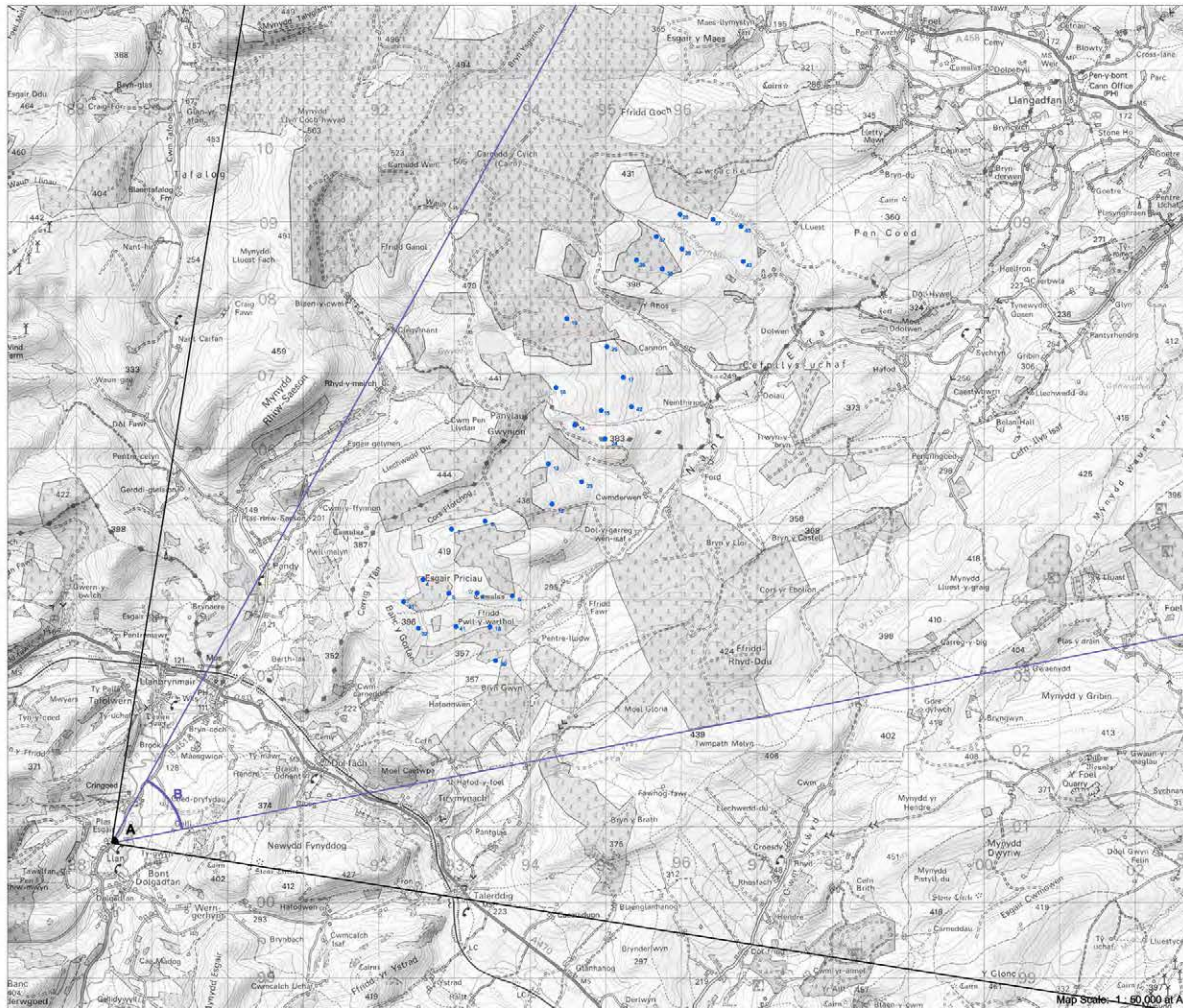
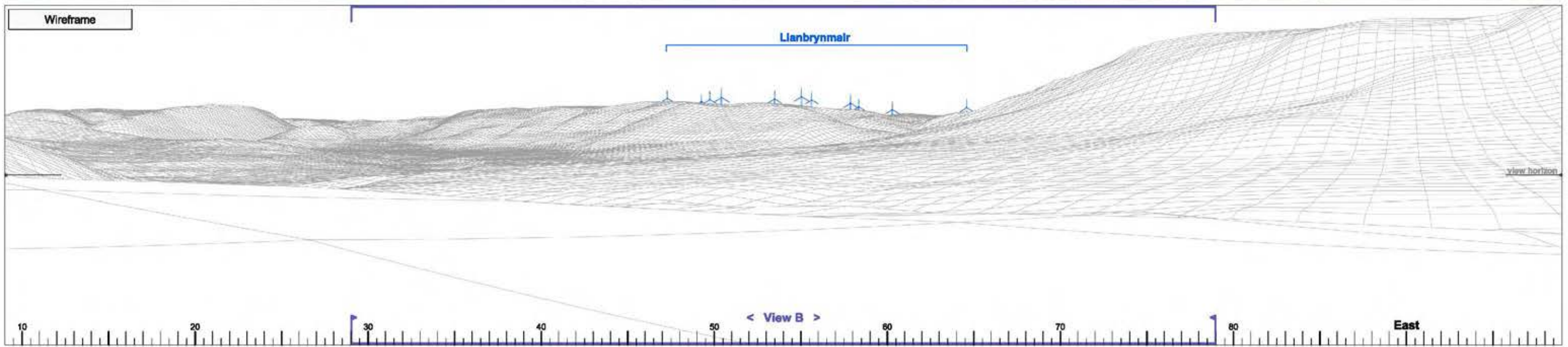


Figure 4.23





► Viewpoint 11 Llan Village

View A

Bearing to centre of view:

54°

Horizontal field of view:

90°

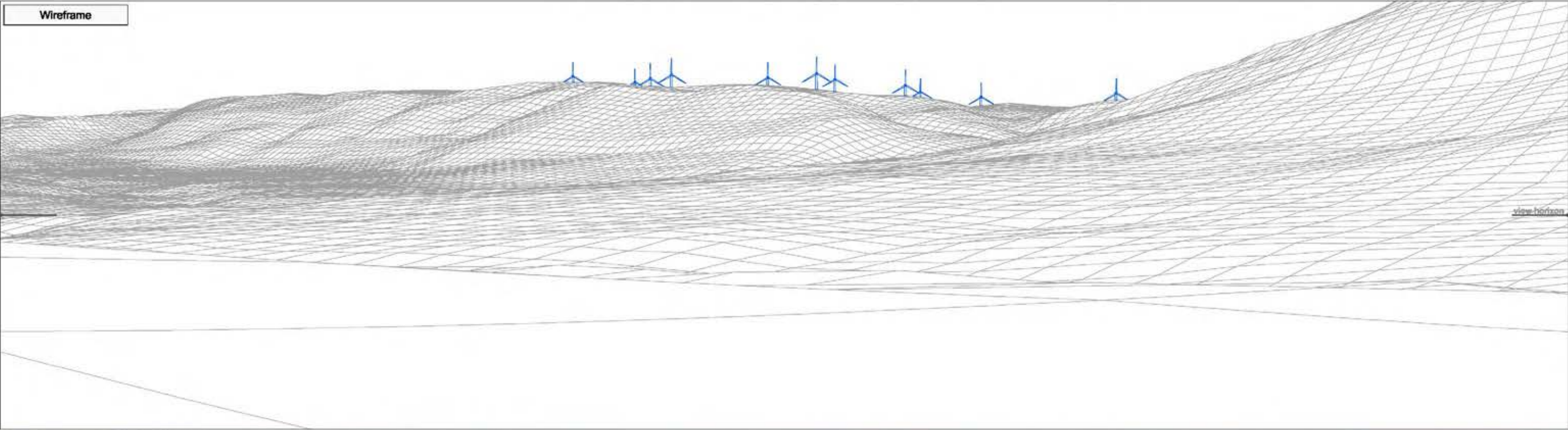
Recommended viewing distance at A3:

25 cm

Figure 4.23.1

7 8 4 31 5 32 6 41 9 18 39

Wireframe



Photograph



► Viewpoint 11 Llan Village View B Bearing to centre of view: 54° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.23.2

7 8 4 31 5 32 6 41 9 18 30



► Viewpoint 11 Llan Village

View B	Bearing to centre of view:	54°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.23.3



► Viewpoint 12: A470, north of Carno

Viewpoint Location

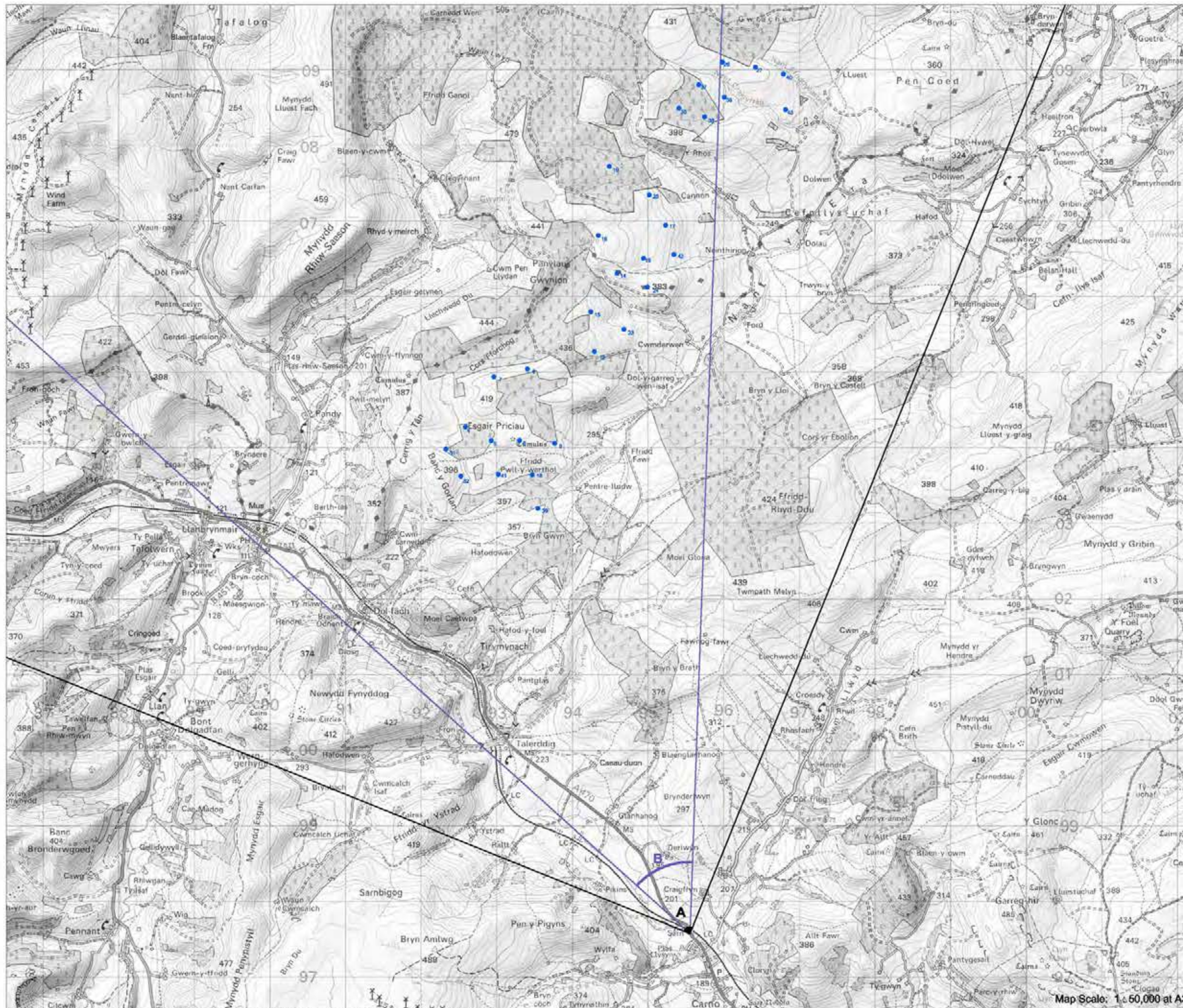
OS Reference:	295554, 297575
Terrain height AOD (from model) :	192 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	5,972 m
Potential No of turbine hubs visible:	0
Potential No of turbine tips visible:	5

Photography information

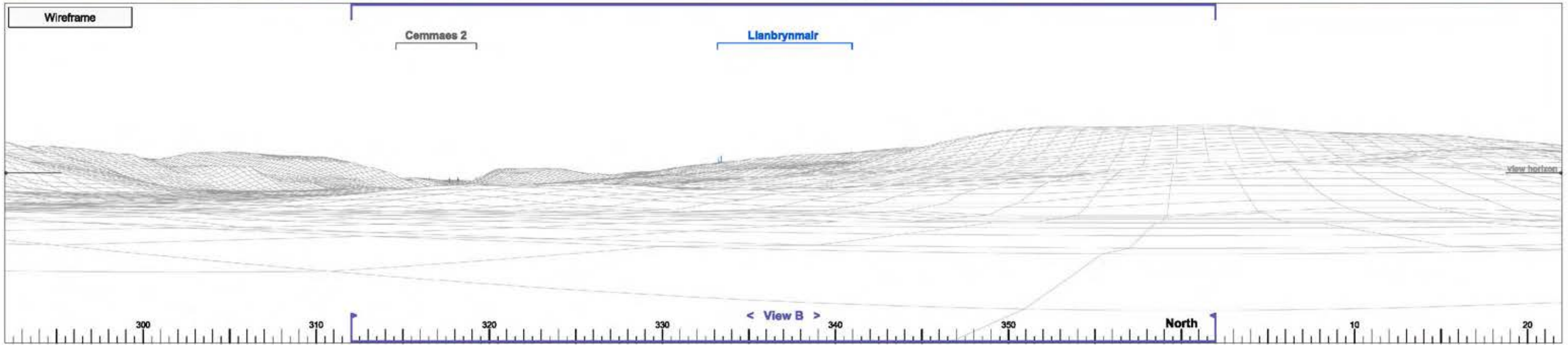
Date:	24th June 2013
Time:	11:30
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm



Map Scale: 1:60,000 at A3

Figure 4.24





► Viewpoint 12 A470, north of Carno

View A

Bearing to centre of view:

337°

Horizontal field of view:

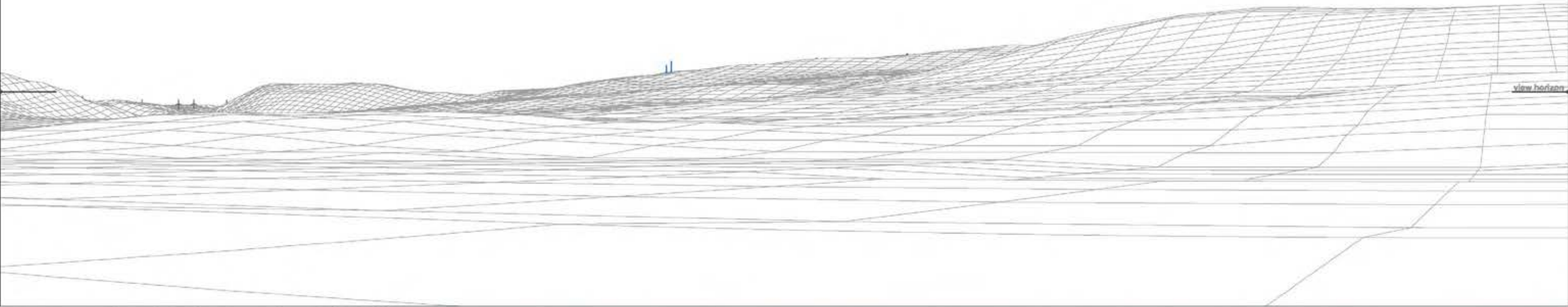
90°

Recommended viewing distance at A3:

25 cm

Figure 4.24.1

Wireframe



Photograph



► Viewpoint 12 A470, north of Carno

View B

Bearing to centre of view:

337°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.24.2

3132 4 5 6

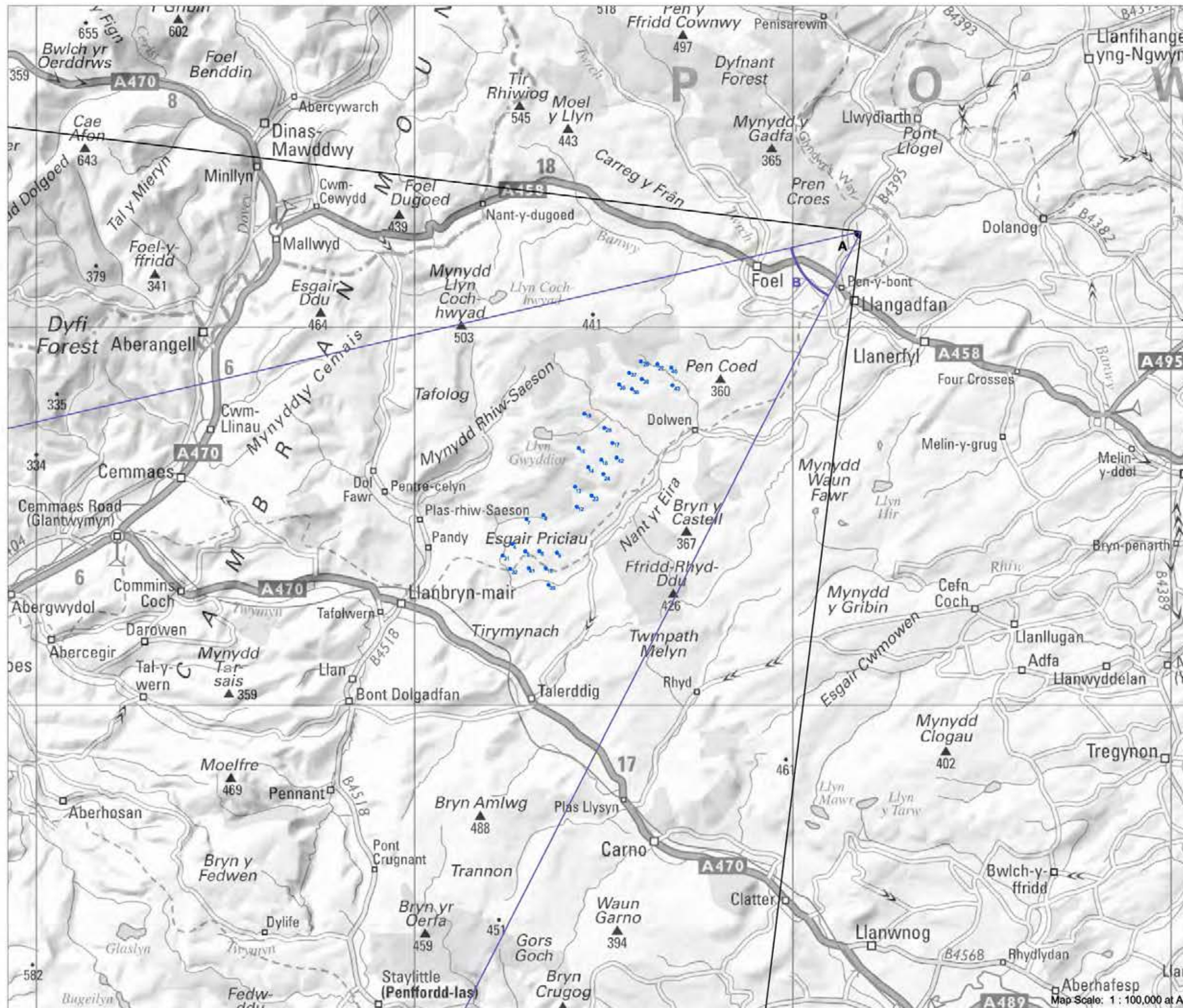


Photomontage

► Viewpoint 12 A470, north of Carno

View B	Bearing to centre of view:	337°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.24.3



► **Viewpoint 13: Glyndŵr's Way, Pennyford**

Viewpoint Location

OS Reference:	301807, 312533
Terrain height AOD (from model) :	259 m

Llanbryn-mair Wind Farm

Distance to the nearest turbine:	6,174 m
Potential No of turbine hubs visible:	23
Potential No of turbine tips visible:	26

Photography information

Date:	31st May 2013
Time:	07:50
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

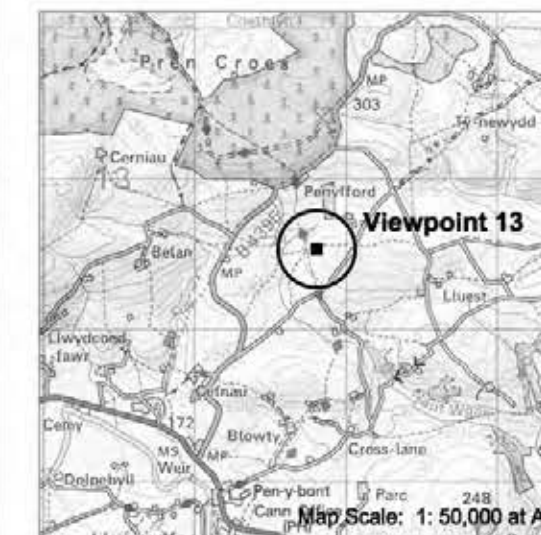


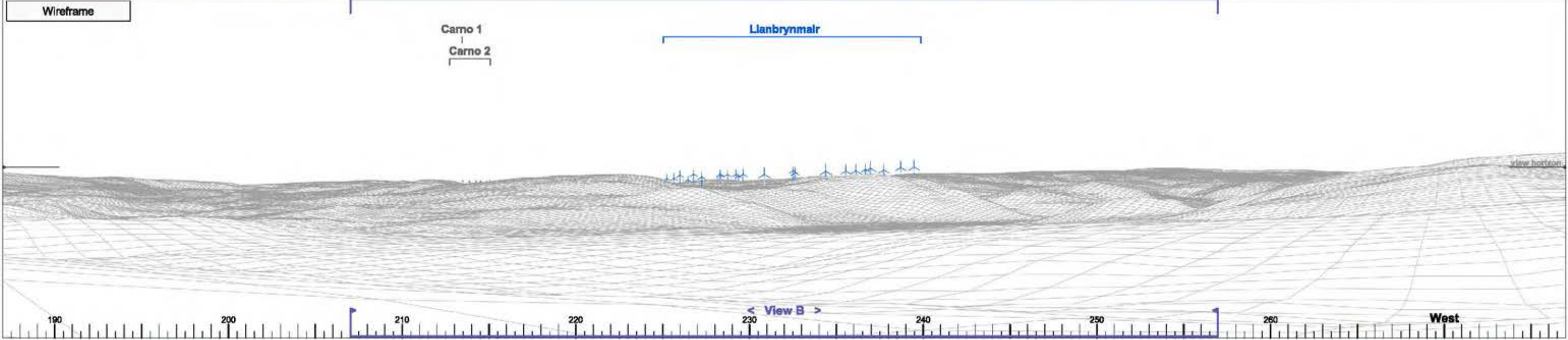
Figure 4.25



Photograph



Wireframe



Photomontage



► Viewpoint 13 Glyndŵr's Way, Pennyfford

View A

Bearing to centre of view:

232°

Horizontal field of view:

90°

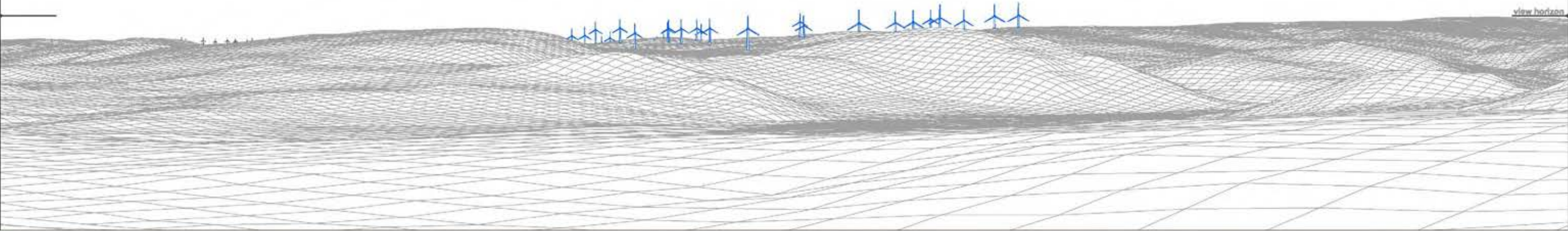
Recommended viewing distance at A3:

25 cm

Figure 4.25.1

6 12 5 42 48 15 7 43 25 36 18 35 26
 23 32 24 31 13 14 17 16 40 38 27 37

Wireframe



Photograph



► Viewpoint 13 Glyndŵr's Way, Pennyfford View B Bearing to centre of view: 232° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm **Figure 4.25.2**

0 12 5 42 48 15 7 43 25 36 19 35 26
 23 32 24 31 13 14 17 16 40 38 27 37

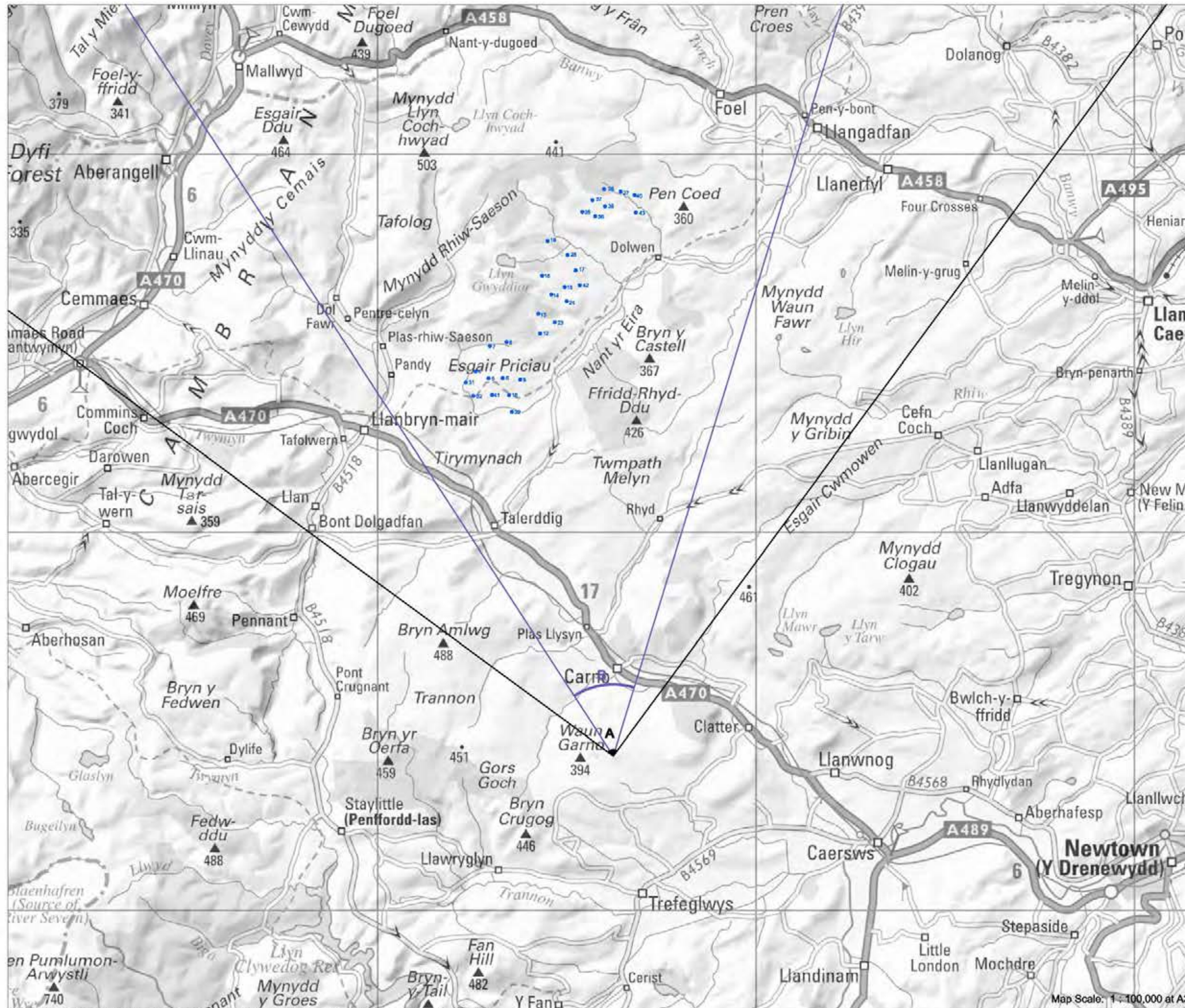
Photomontage



► Viewpoint 13 Glyndŵr's Way, Pennyfford

View B	Bearing to centre of view:	232°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.25.3



► Viewpoint 14: Bryn y Gadair

Viewpoint Location

OS Reference:	296223, 294102
Terrain height AOD (from model) :	390 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	9,482 m
Potential No of turbine hubs visible:	22
Potential No of turbine tips visible:	28

Photography information

Date:	6th May 2008
Time:	12:50
Camera type:	Canon EOS 20D
Focal length:	35 mm
Equivalent Focal length:	56 mm

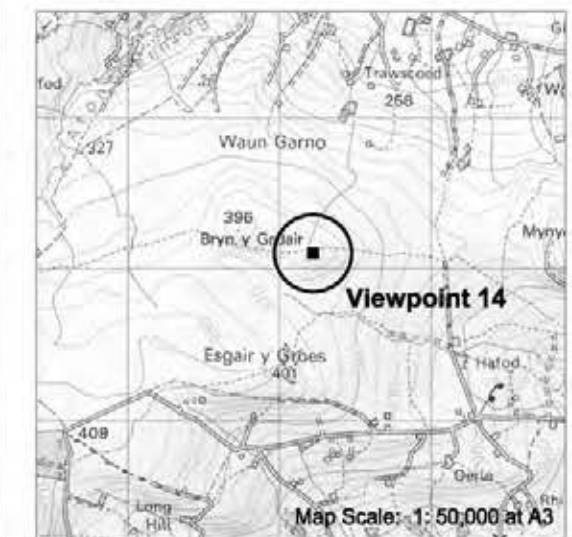
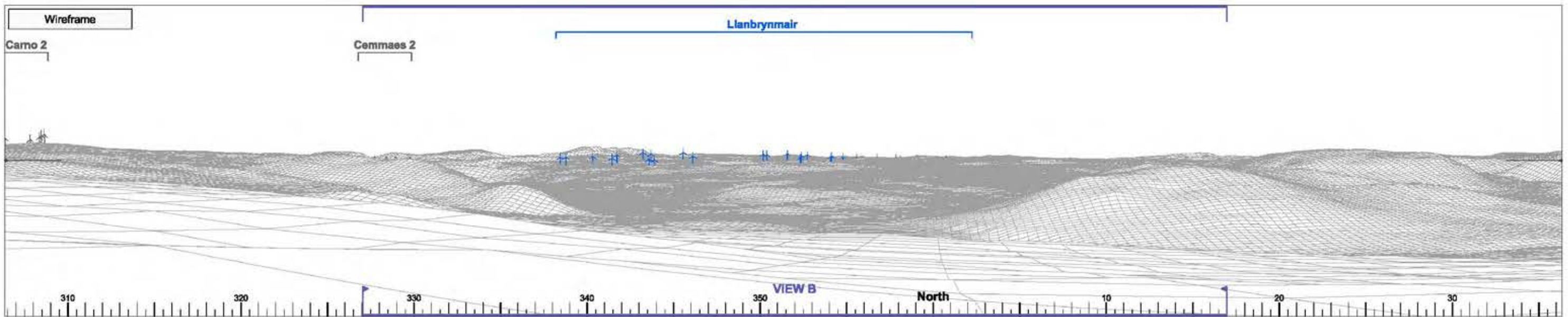


Figure 4.26





► Viewpoint 14 Bryn y Gadair

View A

Bearing to centre of view:

351°

Horizontal field of view:

90°

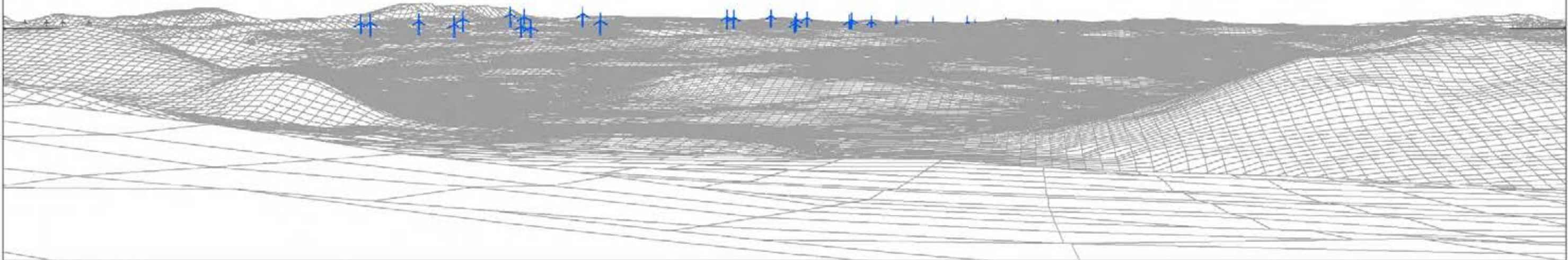
Recommended viewing distance at A3:

25 cm

Figure 4.26.1

31 32 4 41 5 39 16 7 6 8 9 1213 16 23 19 14 15 24 25 17 42 35 3736 26 27 40

Wireframe



Photograph



► Viewpoint 14 Bryn y Gadair

View B

Bearing to centre of view: 352°

Horizontal field of view: 50°

Recommended viewing distance at A3: 45 cm

Figure 4.26.2

31 32 | 4 | 41 5 | 39 18 | 7 8 | 8 9 | 1213 | 18 23 19 | 14 | 15 | 24 25 | 17 42 | 35 | 3738 | 26 | 27 | 40

Photomontage



► Viewpoint 14 Bryn y Gadair

View B	Bearing to centre of view:	352°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.26.3



► Viewpoint 15: Wynford Vaughan Thomas Memorial

Viewpoint Location

OS Reference:	283587, 295946
Terrain height AOD (from model) :	459 m

Llanbrynmair Wind Farm

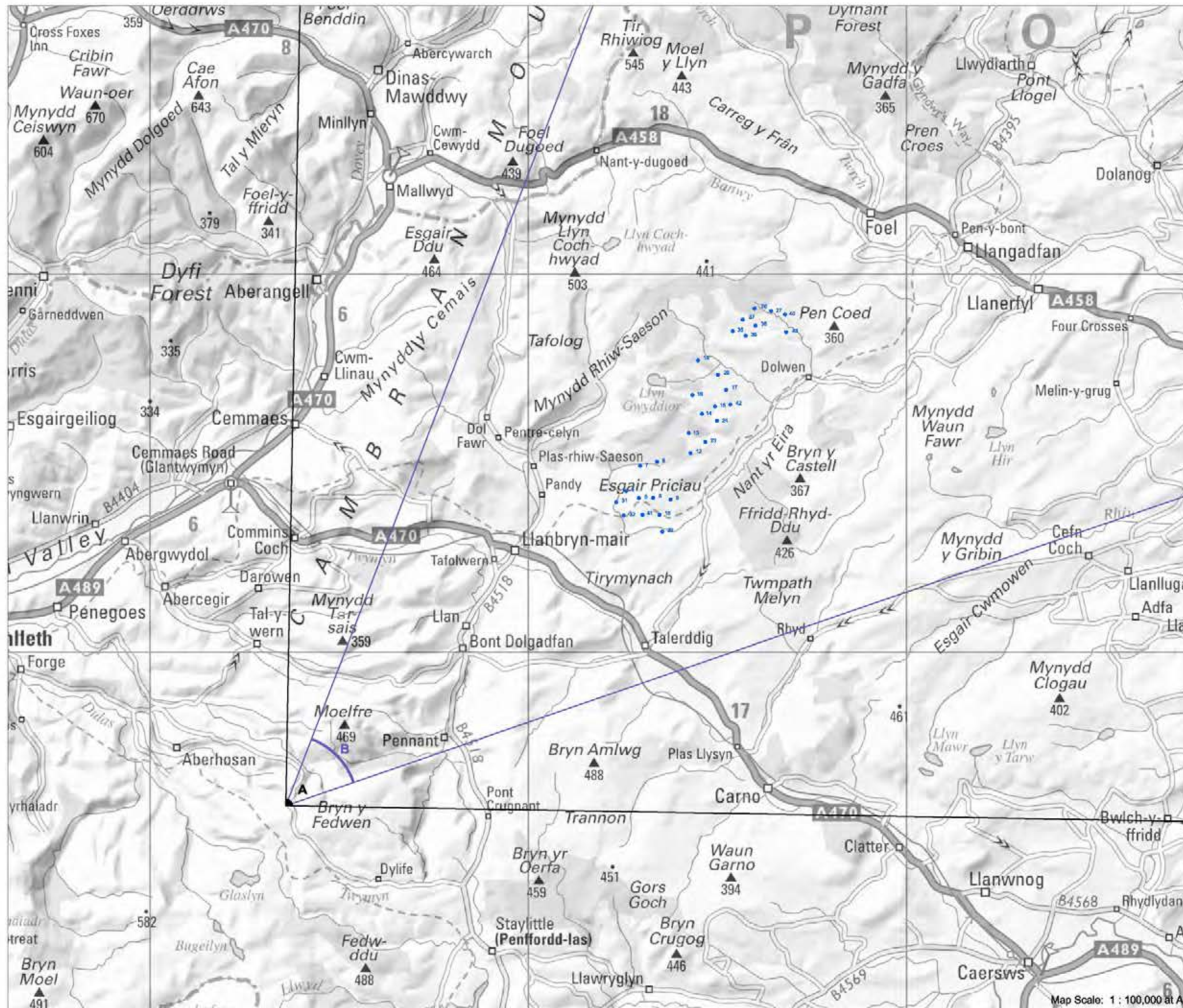
Distance to the nearest turbine:	11,780 m
Potential No of turbine hubs visible:	26
Potential No of turbine tips visible:	30

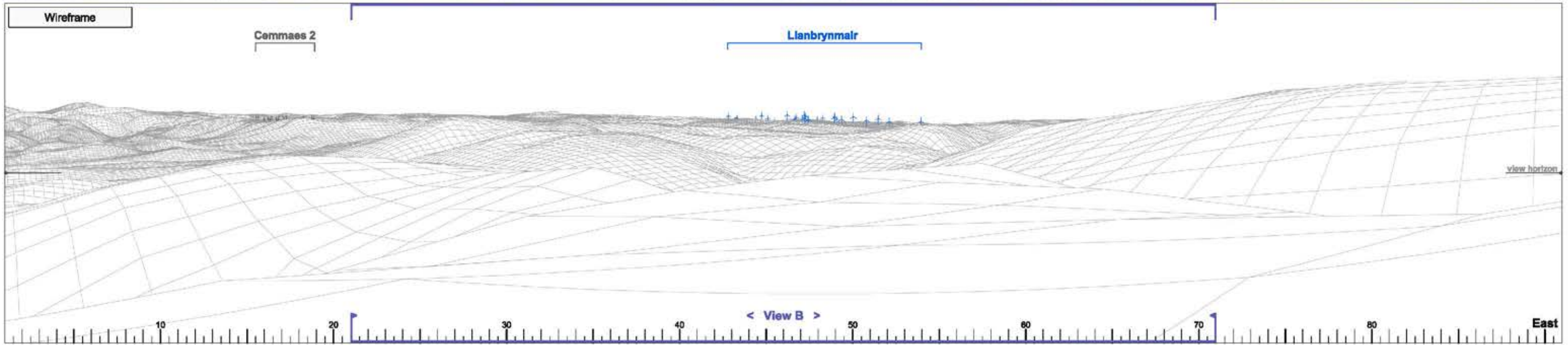
Photography information

Date:	26th June 2013
Time:	15:20
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm



Figure 4.27





► Viewpoint 15 Wynford Vaughan Thomas Memorial

View A

Bearing to centre of view:

46°

Horizontal field of view:

90°

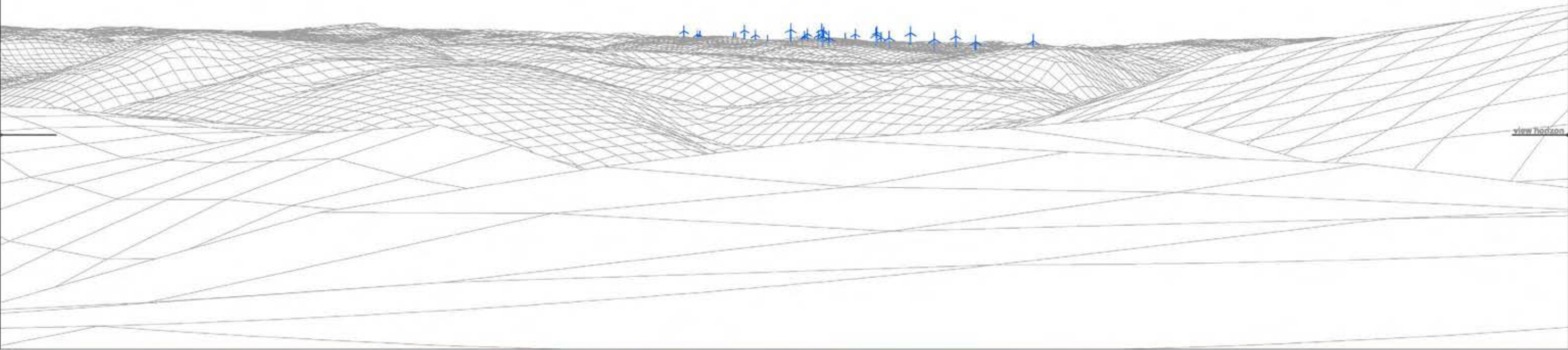
Recommended viewing distance at A3:

25 cm

Figure 4.27.1

37 26 38 16 7 17 15 4 31 5 23
 19 35 36 27 25 40 43 14 8 13 42 24 12 32 8 41 9 18 39

Wireframe



Photograph



► Viewpoint 15 Wynford Vaughan Thomas Memorial View B Bearing to centre of view: 46° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.27.2

37 26 38 16 7 17 15 4 31 5 23
 19 35 30 27 25 40 43 14 8 13 42 24 12 32 8 41 9 18 39

Photomontage



► Viewpoint 15 Wynford Vaughan Thomas Memorial

View B

Bearing to centre of view:

46°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.27.3



► Viewpoint 16: Foel Dinas in Snowdonia National Park

Viewpoint Location

OS Reference:	284404, 314412
Terrain height AOD (from model) :	471 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	12,103 m
Potential No of turbine hubs visible:	4
Potential No of turbine tips visible:	15

Photography information

Date:	25th June 2013
Time:	14:30
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

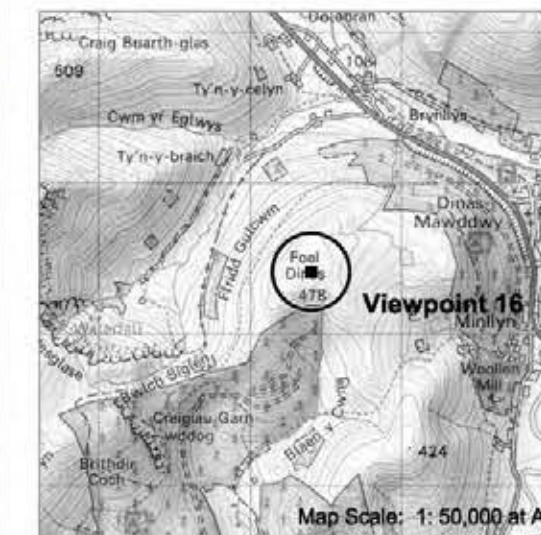
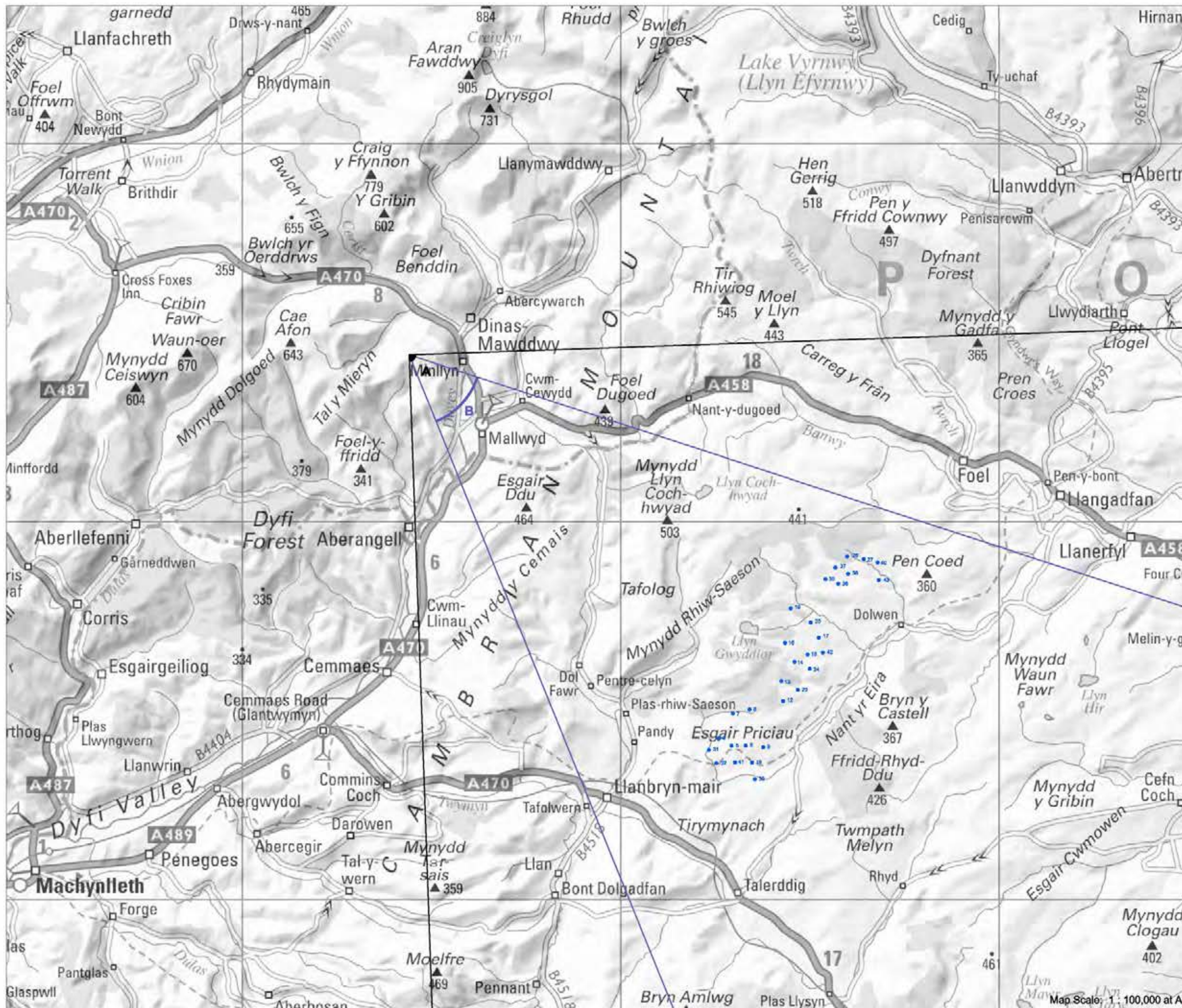


Figure 4.28

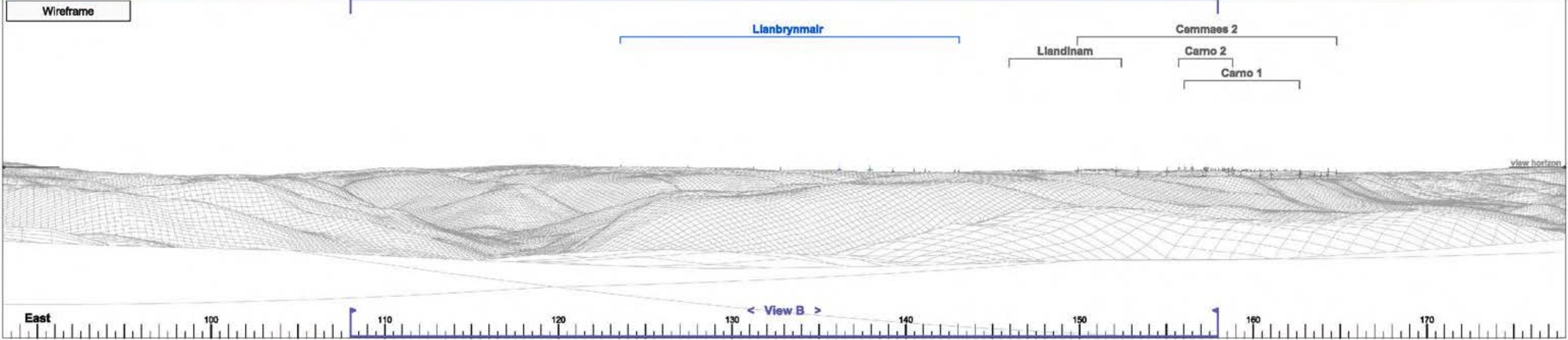


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Photograph



Wireframe



Photomontage



► Viewpoint 16 Foel Dinas in Snowdonia National Park

View A

Bearing to centre of view:

133°

Horizontal field of view:

90°

Recommended viewing distance at A3:

25 cm

Figure 4.28.1

19

10

14

13

12

8

9

7

8

5

39

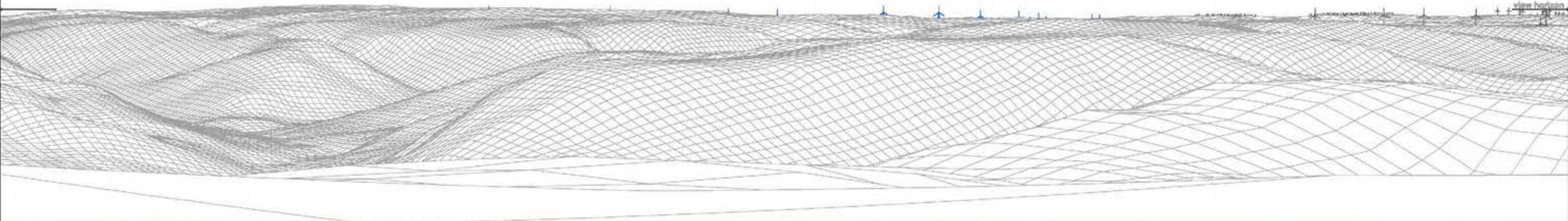
4

41

31

32

Wireframe



Photograph



► Viewpoint 16 Foel Dinas in Snowdonia National Park

View B

Bearing to centre of view:

133°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.28.2

19 16 14 13 12 8 9 7 6 5 39 4 41 31 32

Photomontage



► Viewpoint 16 Foel Dinas in Snowdonia National Park

View B

Bearing to centre of view:

133°

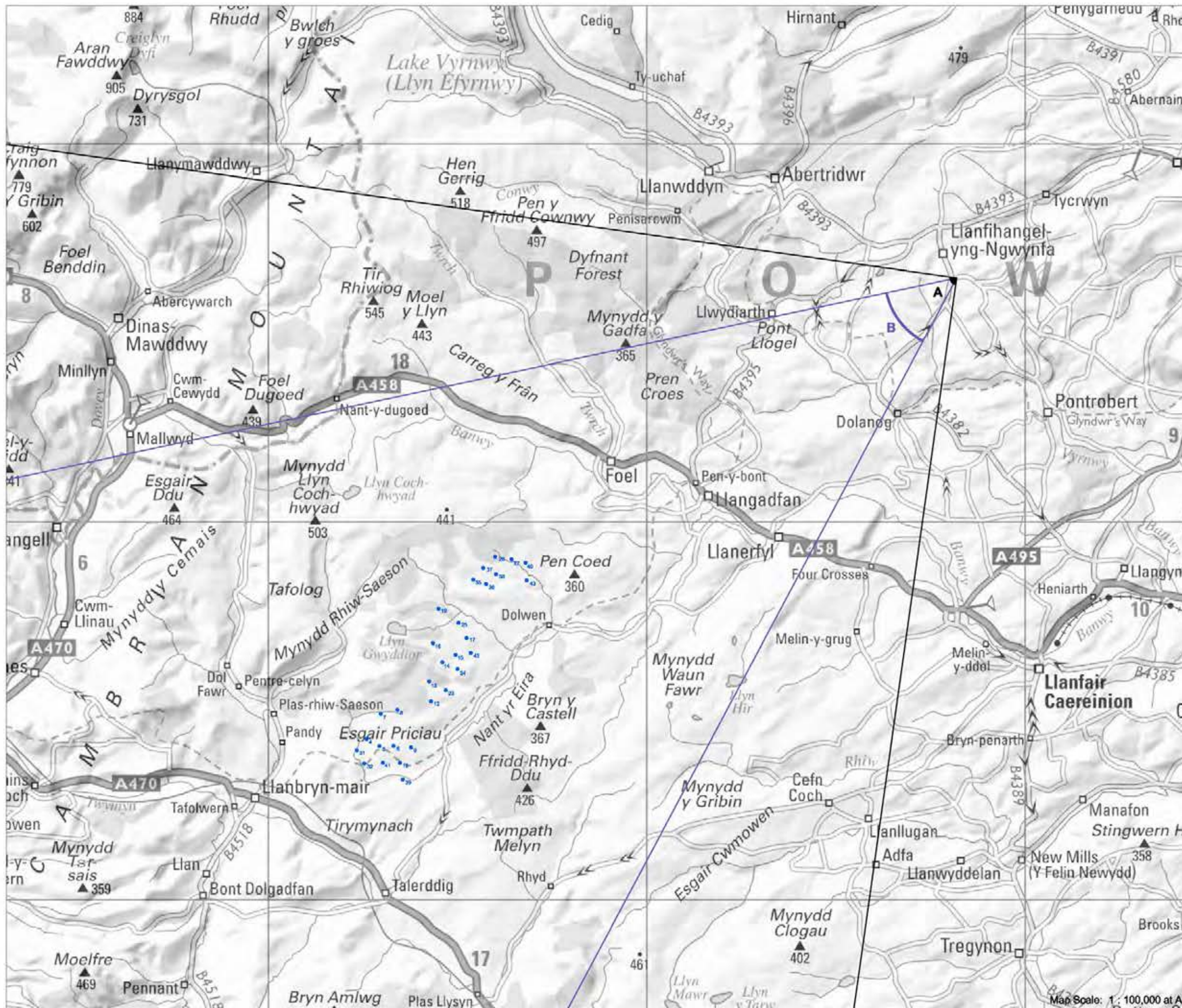
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.26.3



► **Viewpoint 17: Minor road near Llanfihangel-yng Ngwynfa**

Viewpoint Location

OS Reference:	308185, 316459
Terrain height AOD (from model) :	290 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	13,656 m
Potential No of turbine hubs visible:	29
Potential No of turbine tips visible:	30

Photography information

Date:	25th June 2013
Time:	09:50
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

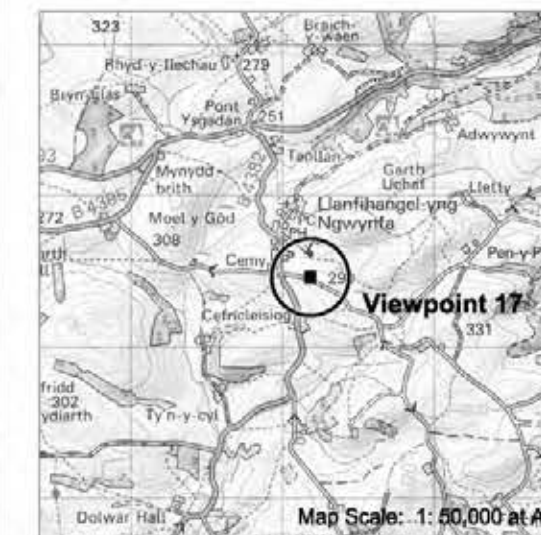
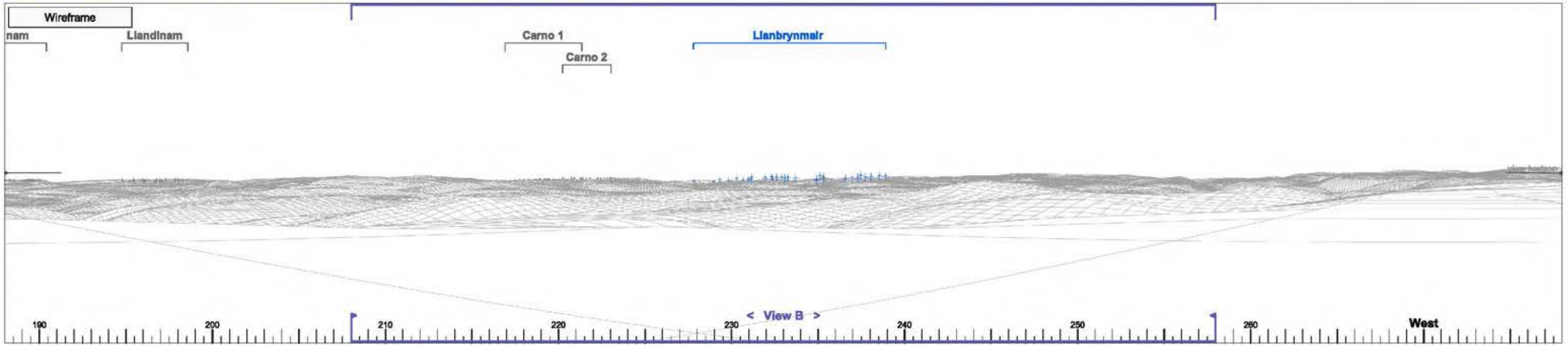


Figure 4.29





► Viewpoint 17 Minor road near Llanfihangel-yng Ngwynfa

View A

Bearing to centre of view:

233°

Horizontal field of view:

90°

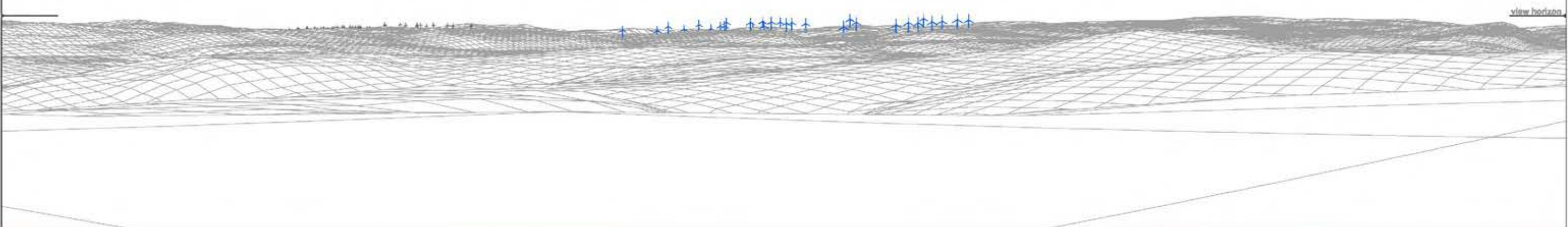
Recommended viewing distance at A3:

25 cm

Figure 4.29.1

30 18 9 41 8 5 12 31 4 42 7 14 17 43 25 16 40 38 19 35 37 26 27

Wireframe



Photograph



► Viewpoint 17 Minor road near Llanfihangel-yng Ngwynfa View B Bearing to centre of view: 233° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.29.2

39 18 9 41 8 32 23 24 8 13 15 16 36 27
 5 12 31 4 42 7 14 17 43 25 40 38 19 35 37 26



► Viewpoint 17 Minor road near Llanfihangel-yng Ngwynfa

View B

Bearing to centre of view:

233°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.29.3



► Viewpoint 18: Bwlch y Groes,
Snowdonia National Park

Viewpoint Location

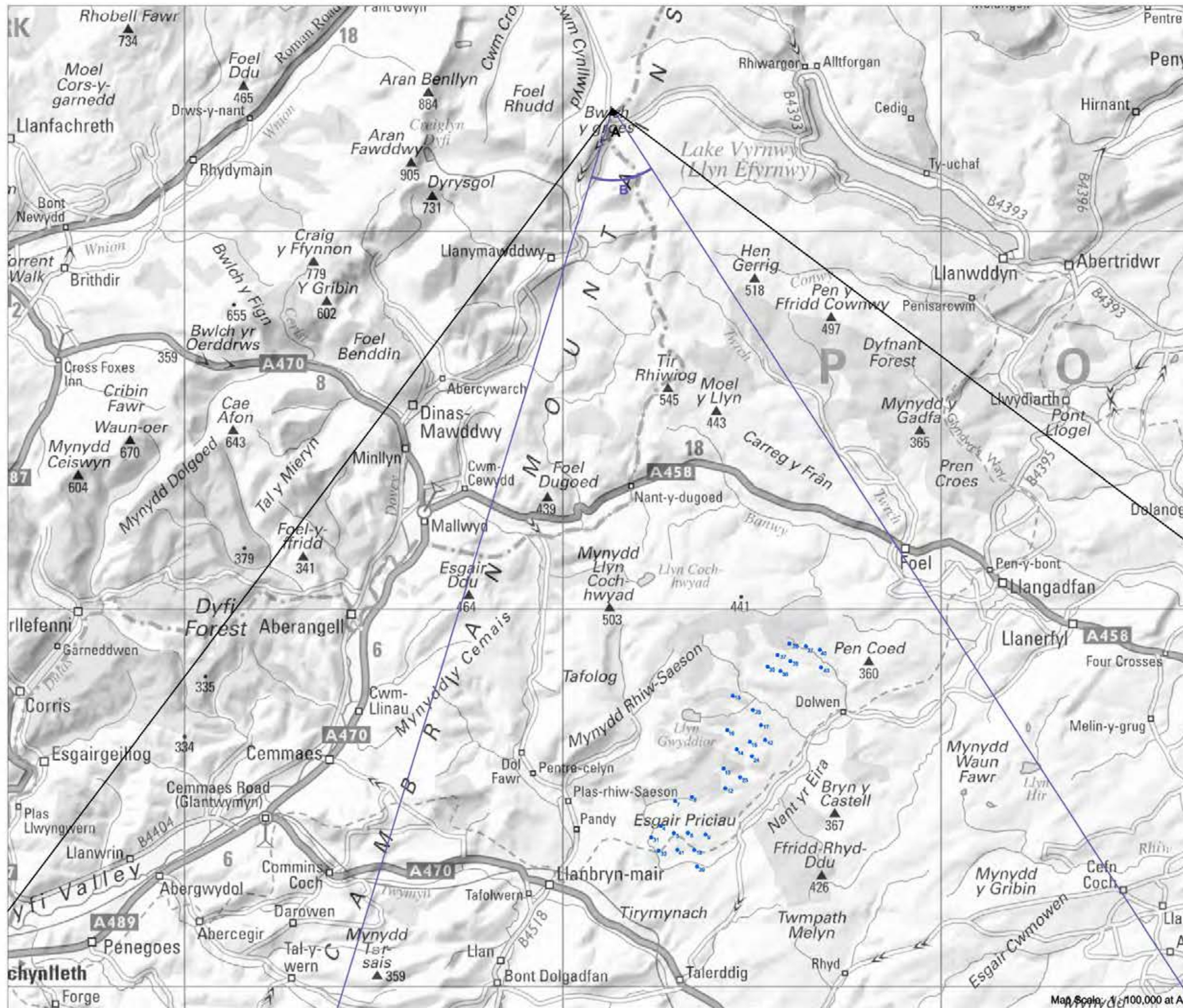
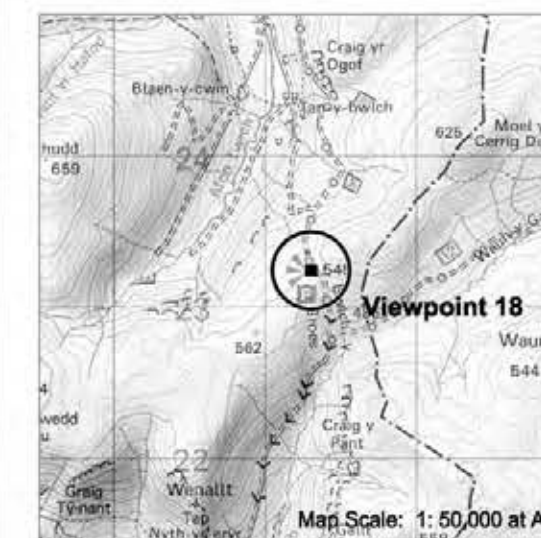
OS Reference:	291304, 323242
Terrain height AOD (from model) :	544 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	14,900 m
Potential No of turbine hubs visible:	0
Potential No of turbine tips visible:	6

Photography information

Date:	25th June 2013
Time:	20:00
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm



Map Scale: 1: 100,000 at A3

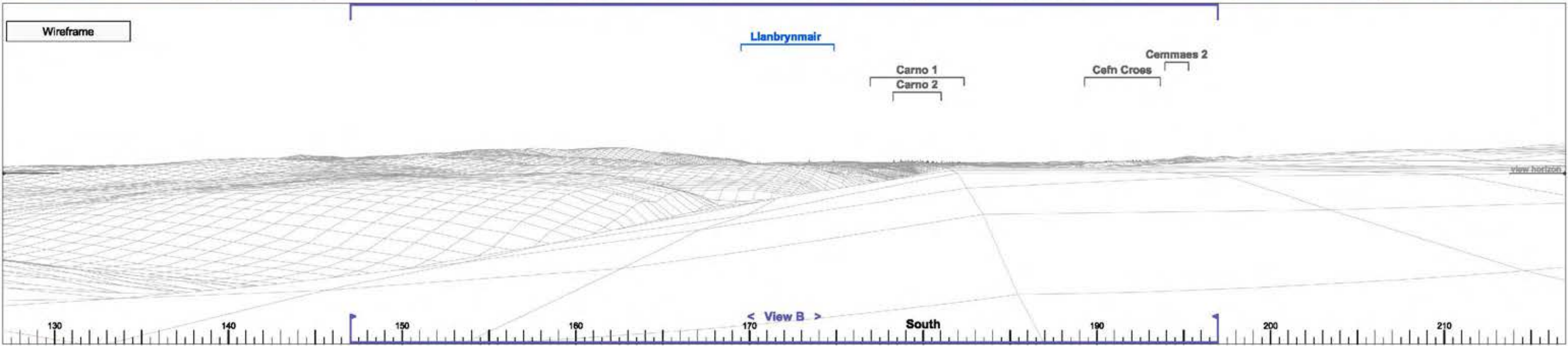
Figure 4.30



Photograph



Wireframe



Photomontage



► Viewpoint 18 Bwlch y Groes, Snowdonia National Park

View A

Bearing to centre of view:

172°

Horizontal field of view:

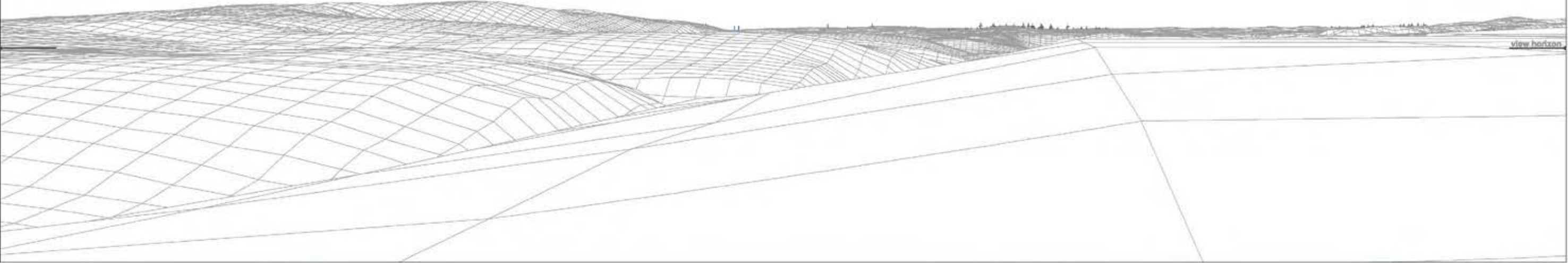
90°

Recommended viewing distance at A3:

25 cm

Figure 4.30.1

Wireframe



Photograph



► Viewpoint 18 Bwlch y Groes, Snowdonia National Park View B Bearing to centre of view: 172° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.30.2

16 1312 8 8 7

Photomontage



► Viewpoint 18 Bwlch y Groes, Snowdonia National Park

View B

Bearing to centre of view:

172°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.30.3



► Viewpoint 19: Aran Fawddwy in Snowdonia National Park

Viewpoint Location

OS Reference:	286258, 322374
Terrain height AOD (from model) :	897 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	16,458 m
Potential No of turbine hubs visible:	30
Potential No of turbine tips visible:	30

Photography information

Date:	25th June 2013
Time:	18:00
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

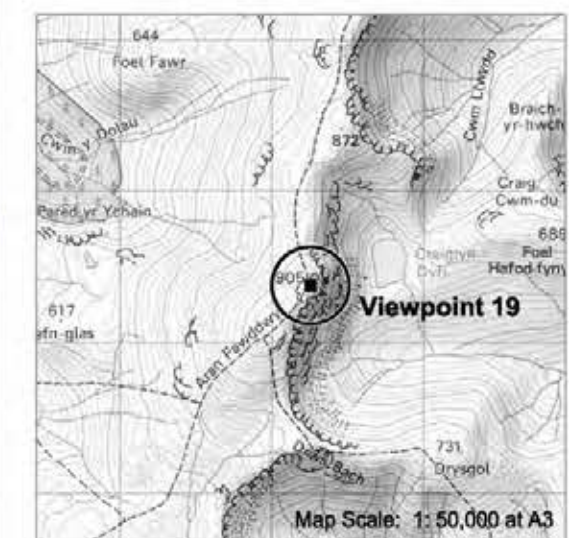
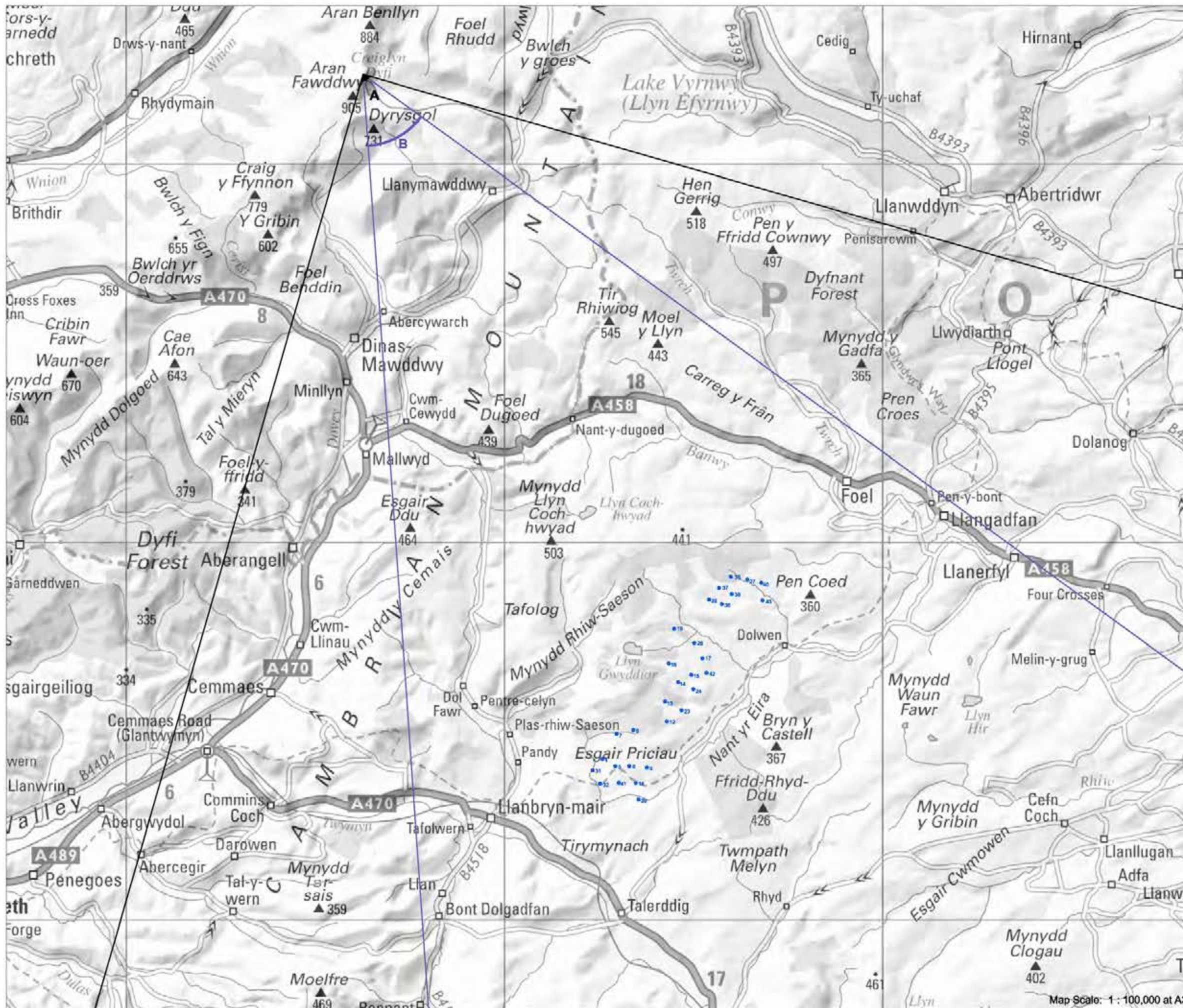


Figure 4.31

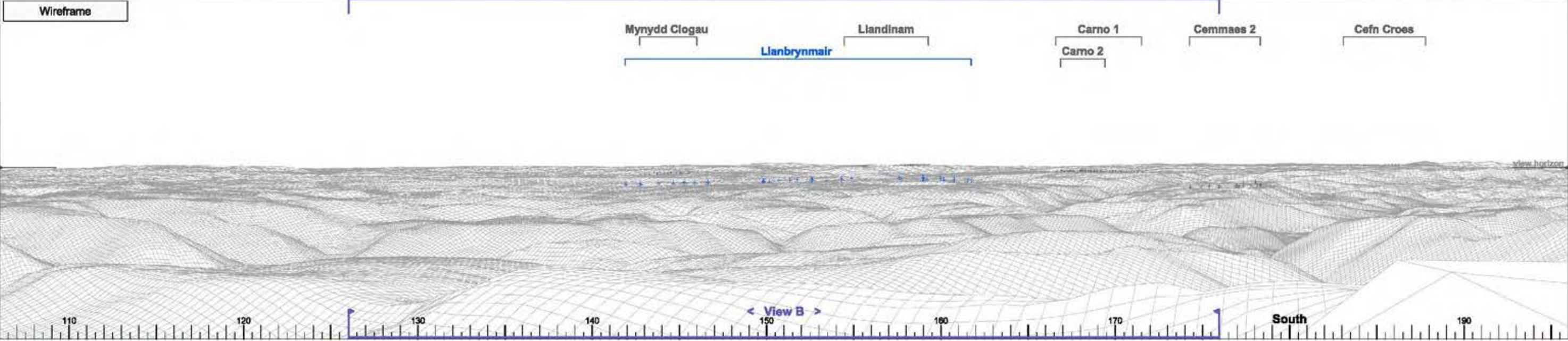


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Photograph



Wireframe



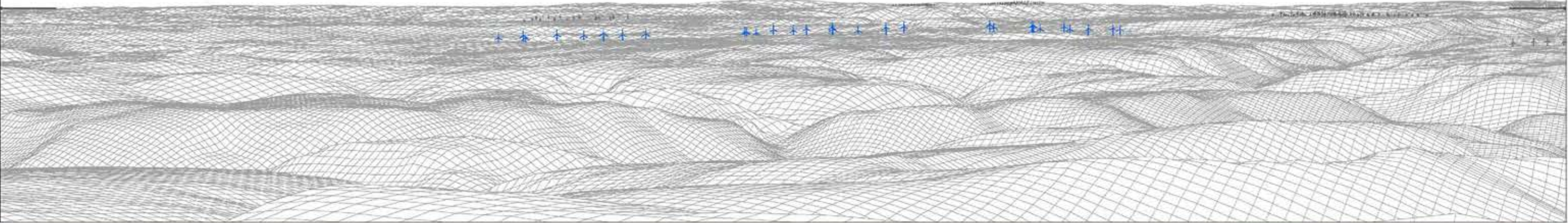
Photomontage



► Viewpoint 19 Aran Fawddwy in Snowdonia National Park View A Bearing to centre of view: 151° Horizontal field of view: 90° Recommended viewing distance at A3: 25 cm Figure 4.31.1

40 27 26 38 37 36 35 17 14 25 42 19 15 24 16 23 13 12 8 9 6 7 18 39 541 4 32 31

Wireframe



Photograph



► Viewpoint 19 Aran Fawddwy in Snowdonia National Park

View B

Bearing to centre of view: 151°

Horizontal field of view: 50°

Recommended viewing distance at A3: 45 cm

Figure 4.31.2

40 27 43 26 38 37 38 35 17 26 42 19 15 24 14 18 23 13 12 6 7 8 9 18 39 541 4 32 31

Photomontage



► Viewpoint 19 Aran Fawddwy in Snowdonia National Park

View B

Bearing to centre of view:

151°

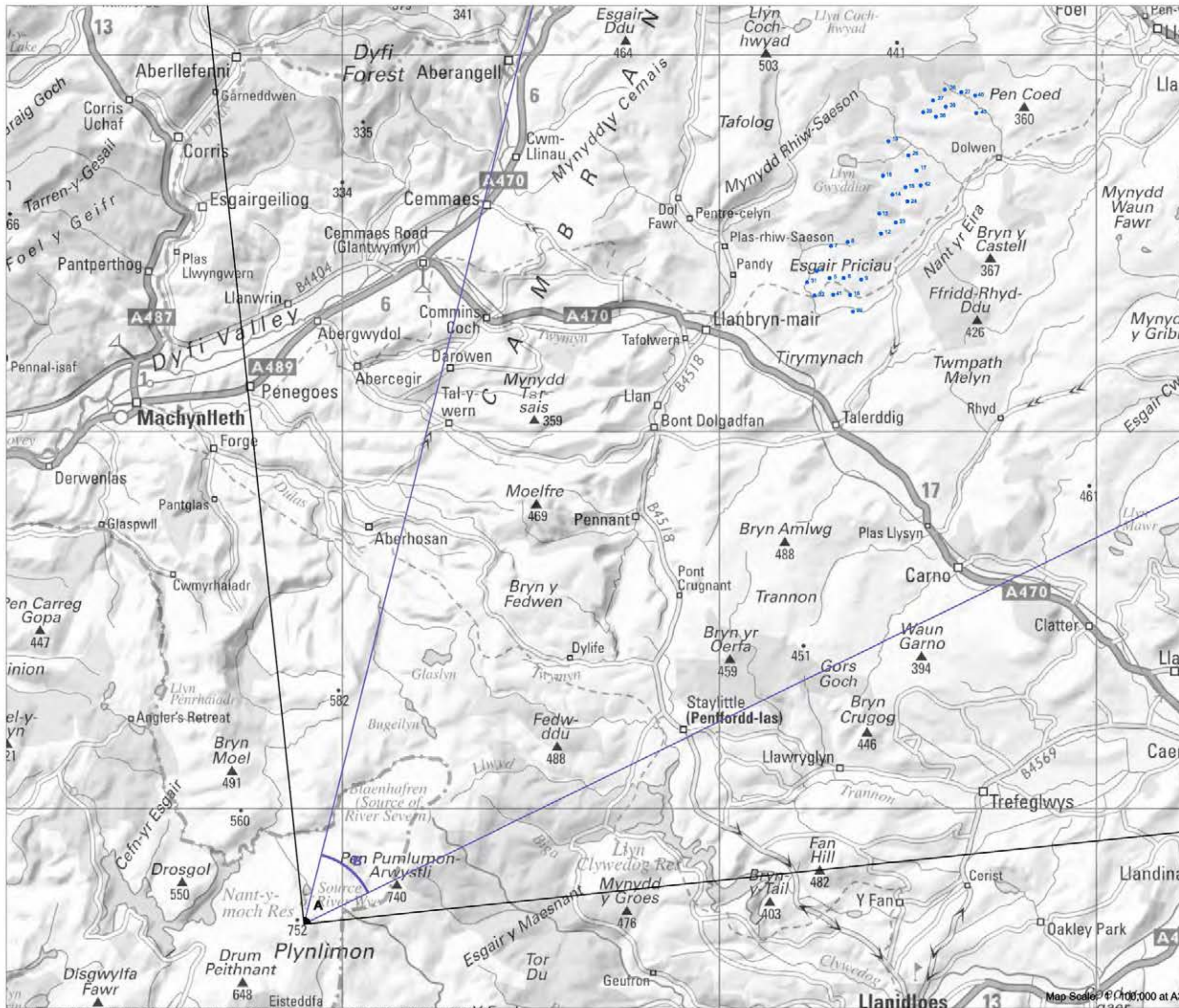
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.31.3



► Viewpoint 20: Plynlimon

Viewpoint Location

OS Reference:	278976, 286945
Terrain height AOD (from model) :	750 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	21,485 m
Potential No of turbine hubs visible:	30
Potential No of turbine tips visible:	30

Photography information

Date:	26th June 2013
Time:	13:15
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm



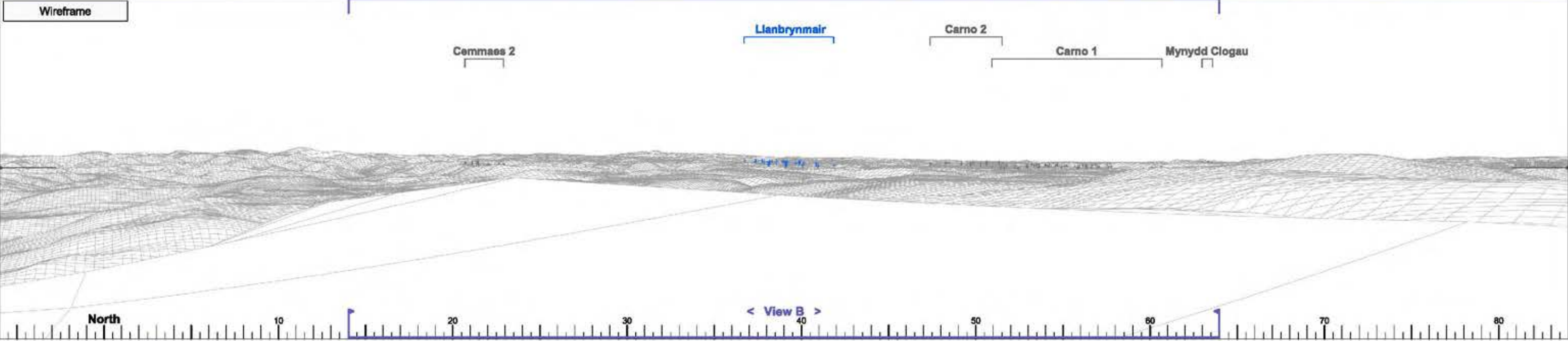
Figure 4.32



Photograph



Wireframe



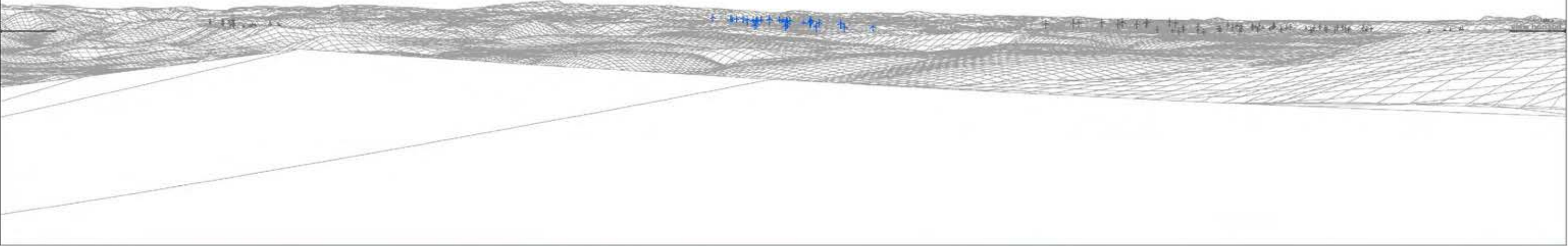
Photomontage



► Viewpoint 20 Plynlimon	View A	Bearing to centre of view:	39°	Horizontal field of view:	90°	Recommended viewing distance at A3:	25 cm	Figure 4.32.1
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19 37 16 36 38 25 6 13 32 5 43 6 41 9
35 26 7 31 4 27 14 40 17 15 24 12 23 18 39

Wireframe



Photograph



► Viewpoint 20 Plynlimon

View B

Bearing to centre of view: 39°

Horizontal field of view: 50°

Recommended viewing distance at A3: 45 cm

Figure 4.32.2

19 37 18 36 38 25 8 13 32 5 43 6 41 9
35 28 7 31 4 27 14 40 17 15 24 12 23 18 39

Photomontage



► Viewpoint 20 Plynlimon

View B

Bearing to centre of view:

39°

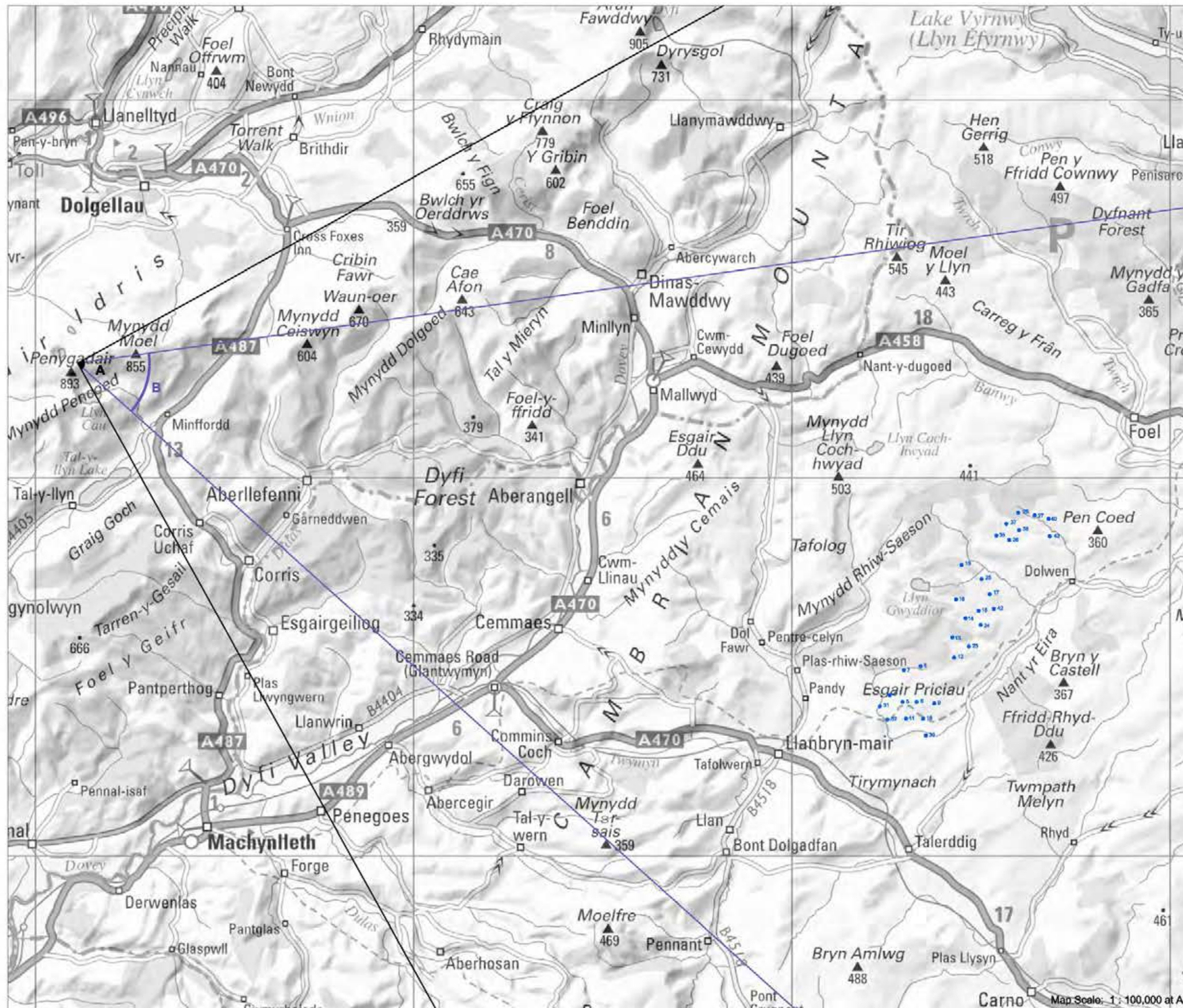
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.32.3



► **Viewpoint 21: Cadair Idris, Snowdonia National Park**

Viewpoint Location

OS Reference:	271115, 313041
Terrain height AOD (from model) :	884 m

Llanbryn-mair Wind Farm

Distance to the nearest turbine:	23,065 m
Potential No of turbine hubs visible:	27
Potential No of turbine tips visible:	30

Photography information

Date:	17th April 2008
Time:	16:10
Camera type:	Canon EOS 5D
Focal length:	50 mm
Equivalent Focal length:	50 mm

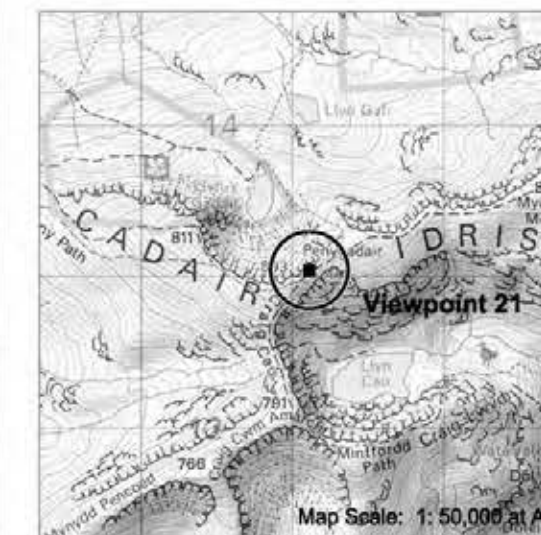
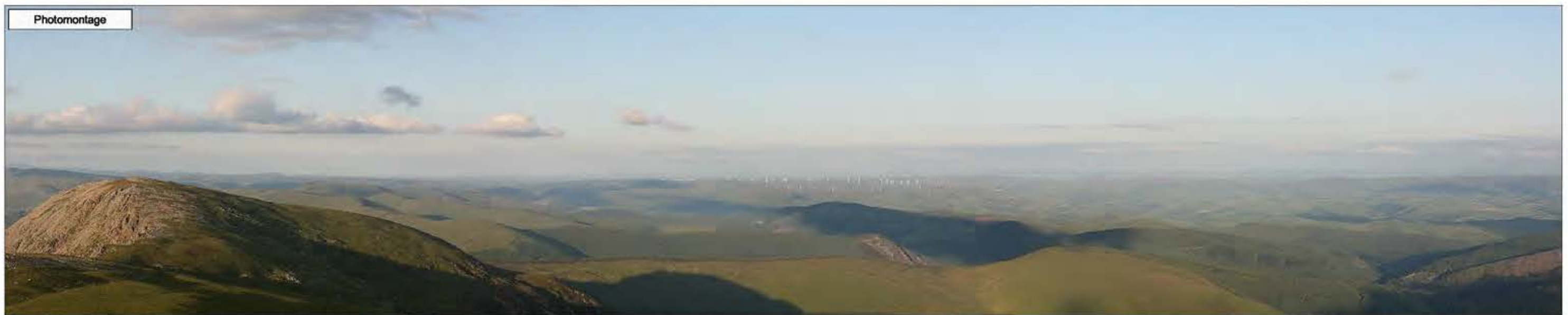
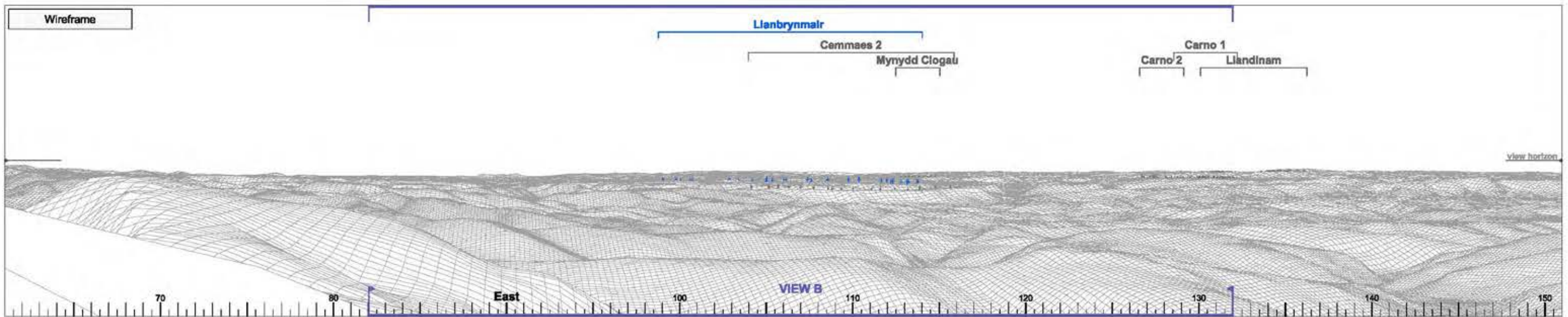
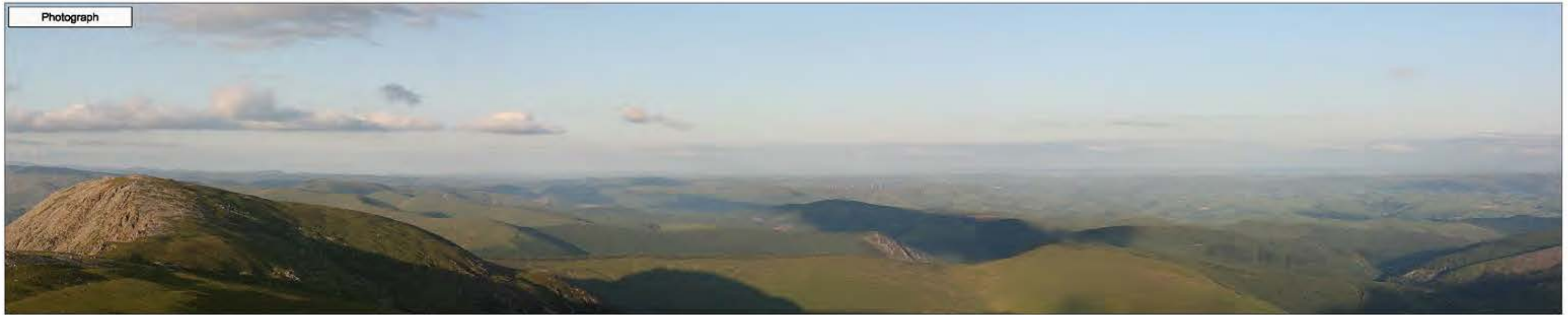


Figure 4.33





► Viewpoint 21 Cadair Idris, Snowdonia National Park

View A

Bearing to centre of view:

107°

Horizontal field of view:

90°

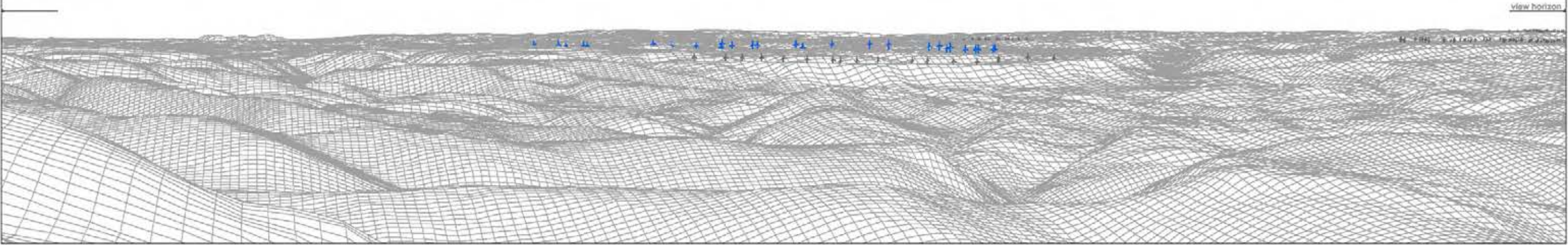
Recommended viewing distance at A3:

25 cm

Figure 4.33.1

27 28 37
40 36
43 35 36 16 17 16 15 14 13 23 12 7 6 5 31 39
8 9 4 18 41 32

Wireframe



Photograph



► Viewpoint 21 Cadair Idris, Snowdonia National Park View B Bearing to centre of view: 107° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm **Figure 4.33.2**

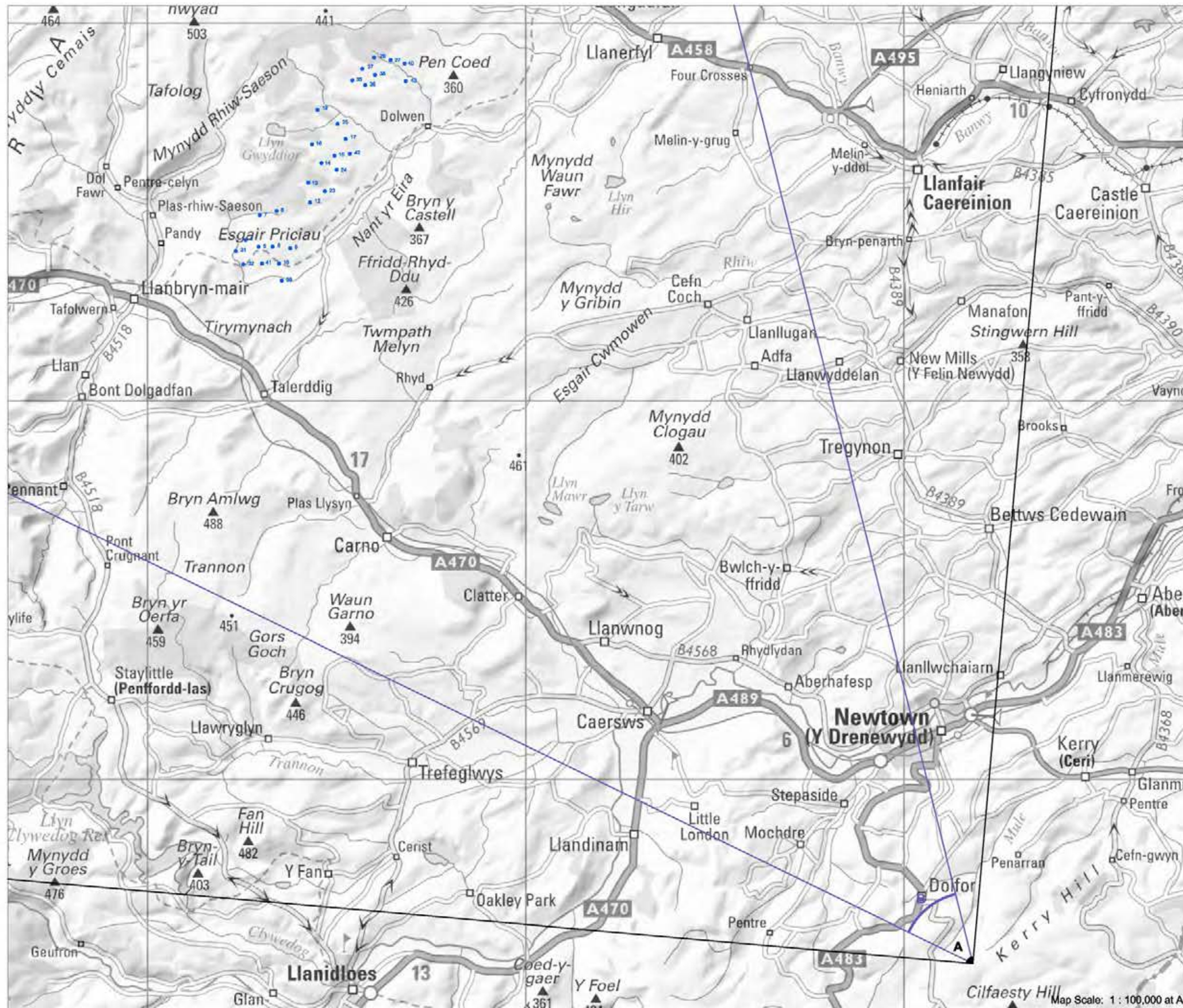
27 28 37
40 38
43 35 36 19 17 25 42 15 14
24 13 23 12 7 8 5 31 39
8 9 4 18 41 32



► Viewpoint 21 Cadair Idris, Snowdonia National Park

View B	Bearing to centre of view:	107°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.33.3



► **Viewpoint 22: Kerry Ridgeway, Two Tumps**

Viewpoint Location

OS Reference:	311818, 285139
Terrain height AOD (from model) :	504 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	25,693 m
Potential No of turbine hubs visible:	22
Potential No of turbine tips visible:	30



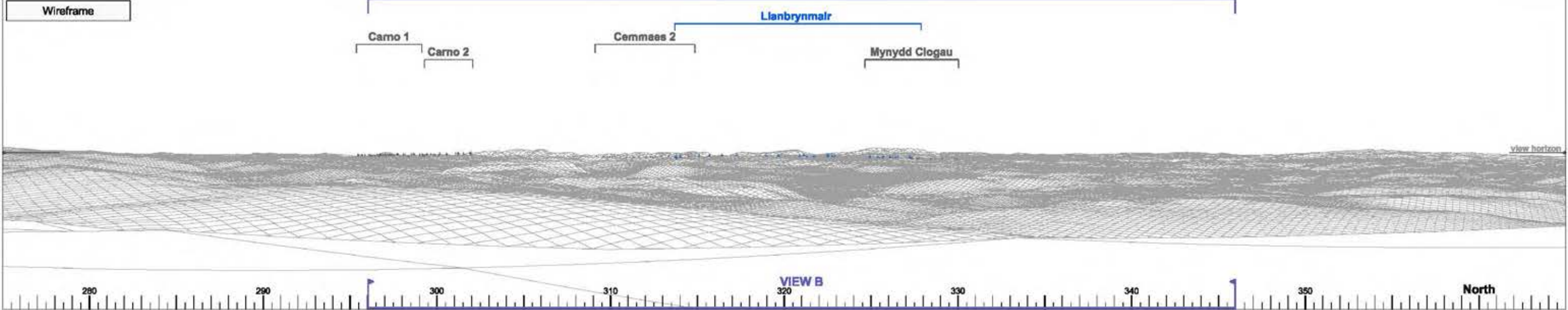
Figure 4.34



Photograph



Wireframe



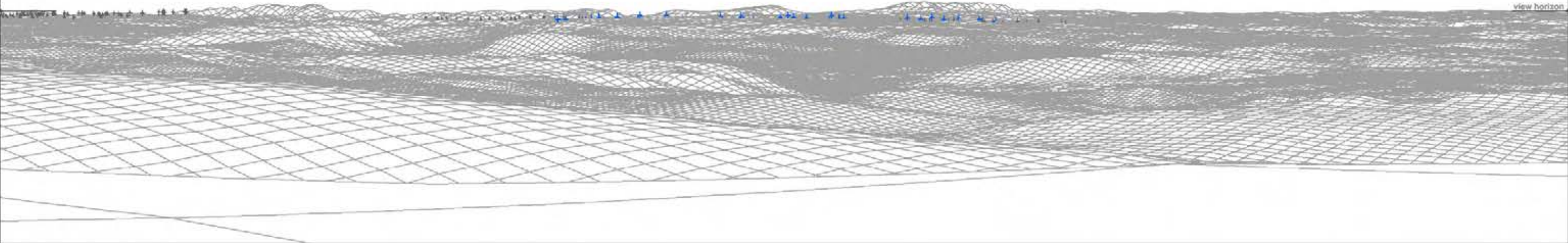
Photomontage



► Viewpoint 22 Kerry Ridgeway, Two Tumps View A Bearing to centre of view: 320° Horizontal field of view: 90° Recommended viewing distance at A3: 25 cm **Figure 4.34.1**

32 41 4 9
 |31|39|5|18|6|7|8
 12 13 23 16 42 17
 |14|24|15|19|25
 35 36 37 38 26 27 40 43

Wireframe



Photograph



► Viewpoint 22 Kerry Ridgeway, Two Tumps

View B

Bearing to centre of view:

321°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.34.2

32 41 4 8
 31 39 5 18 6 7 8
 12 13 23 14 24 15 19 25
 16 42 17
 35 36 37 38 26 27 40 43

Photomontage



► Viewpoint 22 Kerry Ridgeway, Two Tumps

View B

Bearing to centre of view:

321°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.34.3



► Viewpoint 23: Minor Rd within Nant yr Eira

Viewpoint Location

OS Reference:	299693, 307271
Terrain height AOD (from model) :	241 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	3,114 m
Potential No of turbine hubs visible:	9
Potential No of turbine tips visible:	12

Photography Information

Date:	31st May 2013
Time:	09:15
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm

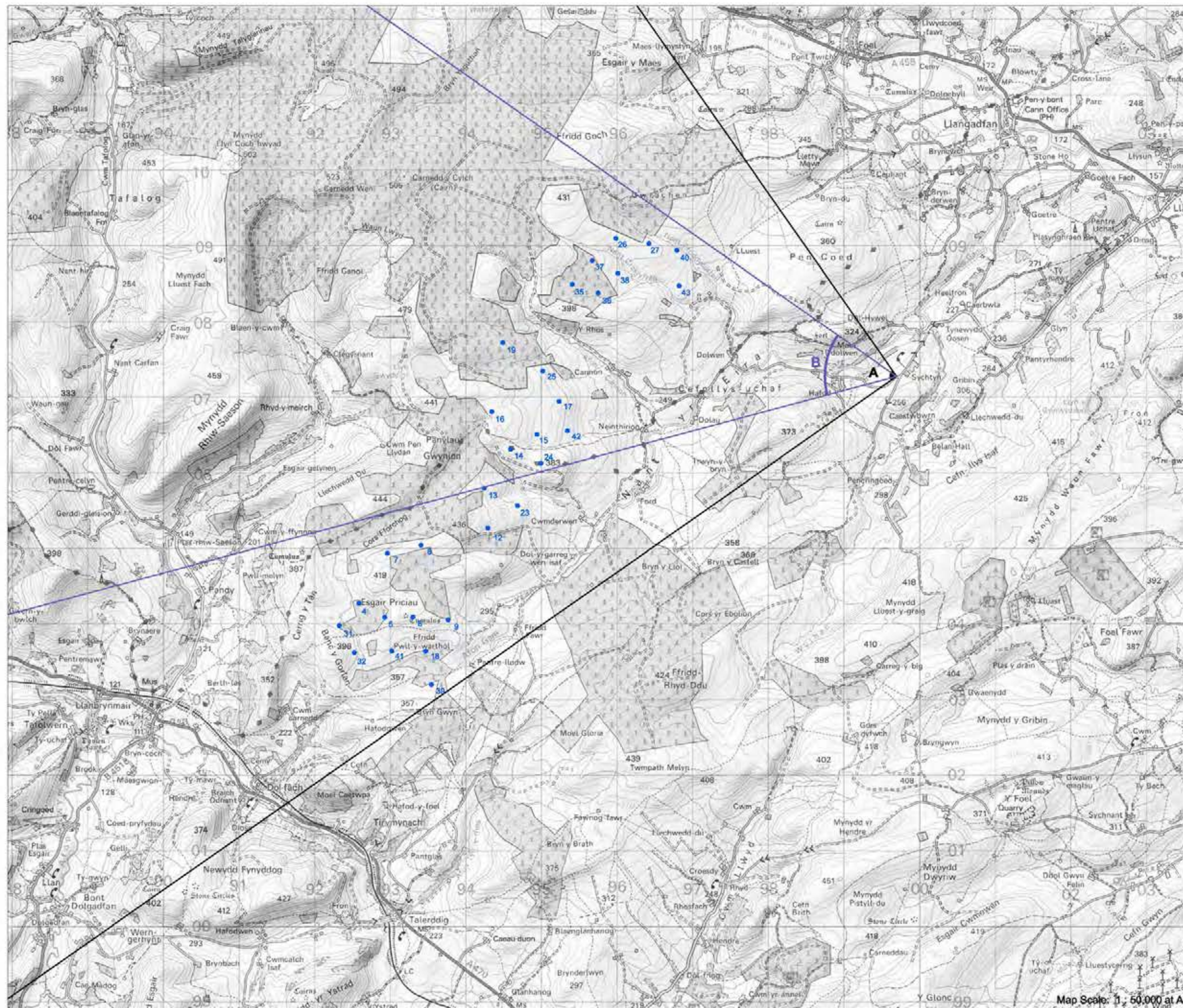
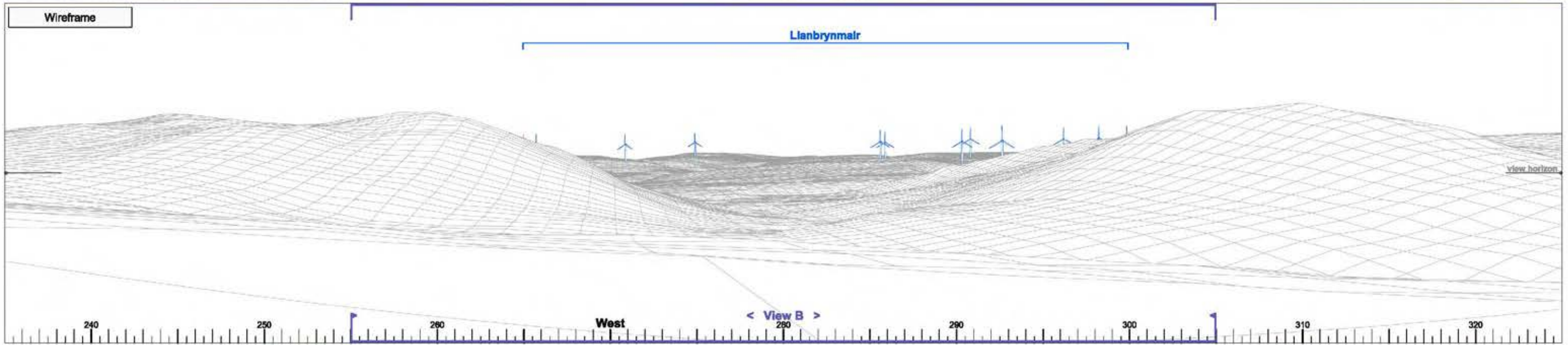


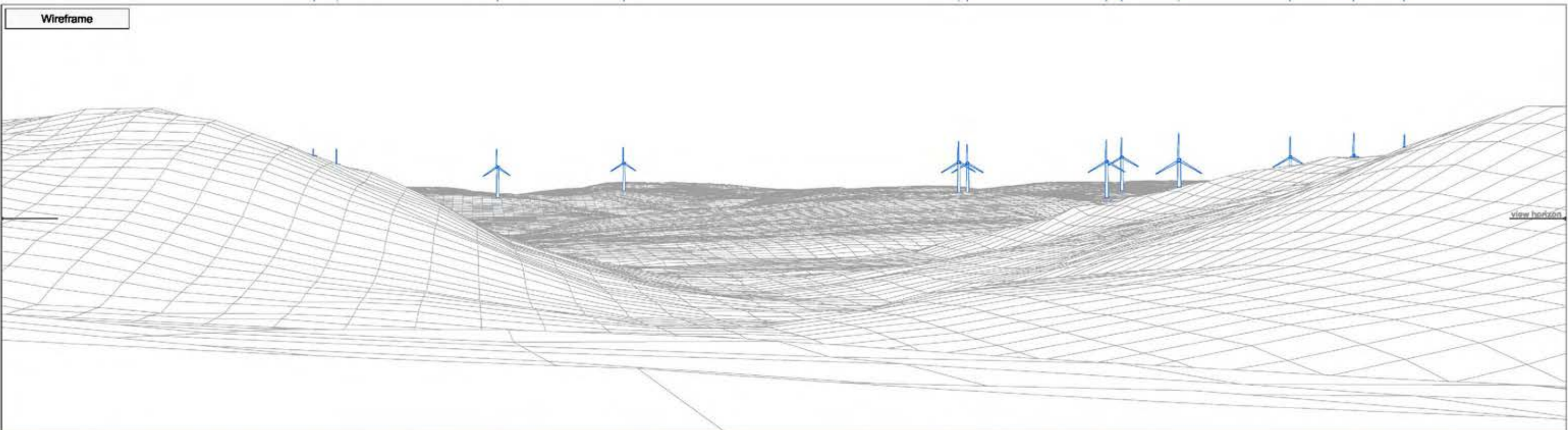
Figure 4.35





► Viewpoint 23 Minor Rd within Nant yr Eira View A Bearing to centre of view: 280° Horizontal field of view: 90° Recommended viewing distance at A3: 25 cm **Figure 4.35.1**

16 17 25 19 3835 38 37 43 26 27 40



► Viewpoint 23 Minor Rd within Nant yr Eira View B Bearing to centre of view: 280° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm Figure 4.35.2

16 17 25 19 3635 38 37 43 26 27 40



Photomontage

► Viewpoint 23 Minor Rd within Nant yr Eira

View B	Bearing to centre of view:	280°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.35.3



► Viewpoint 24: Glyndwr's Way crossing Pen Coed

Viewpoint Location

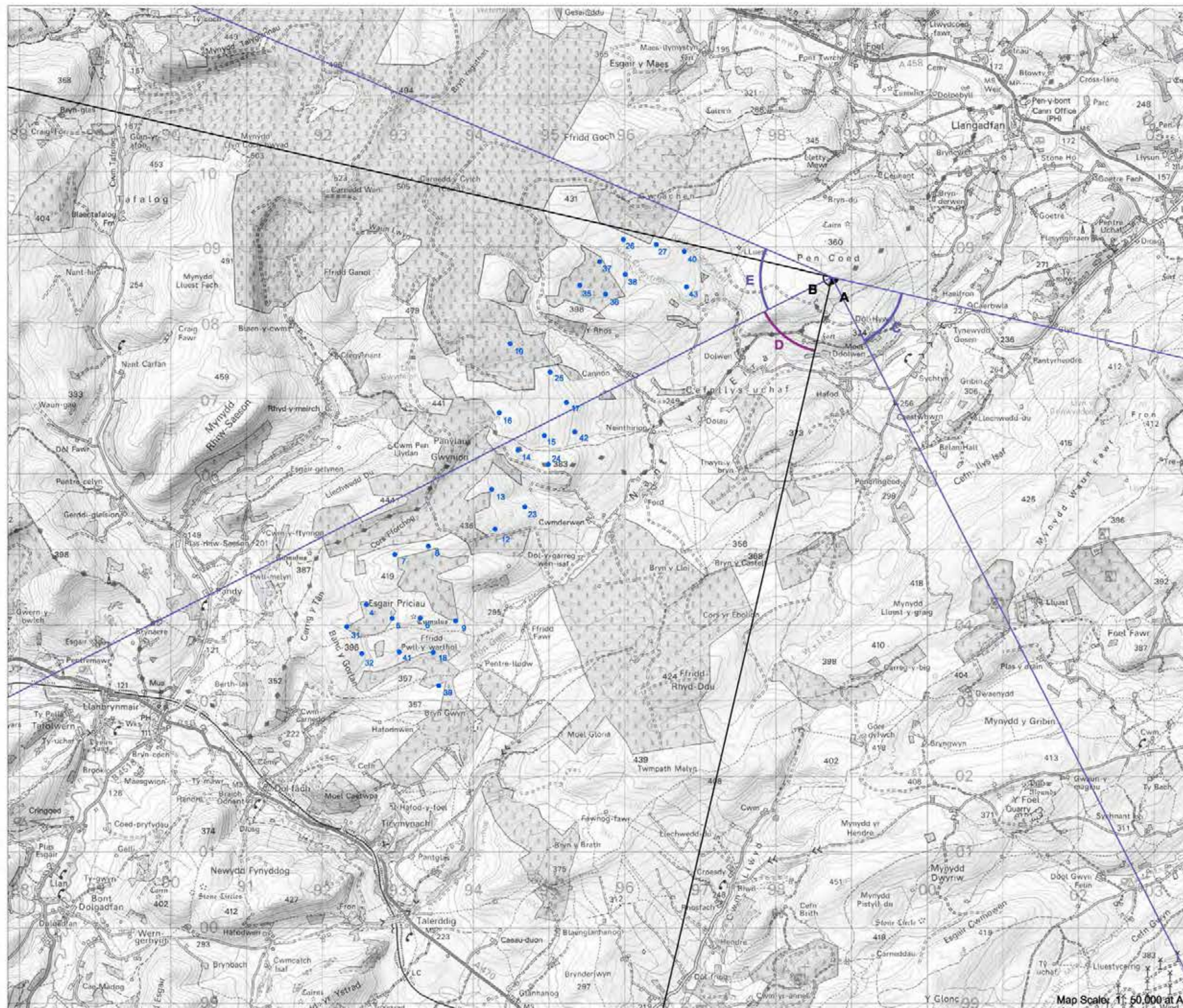
OS Reference:	298741, 308597
Terrain height AOD (from model) :	332 m

Llanbrynmair Wind Farm

Distance to the nearest turbine:	1,927 m
Potential No of turbine hubs visible:	26
Potential No of turbine tips visible:	30

Photography Information

Date:	31st May 2013
Time:	10:55
Camera type:	Nikon D700
Focal length:	50 mm
Equivalent Focal length:	50 mm



Map Scale: 1: 50,000 at A3

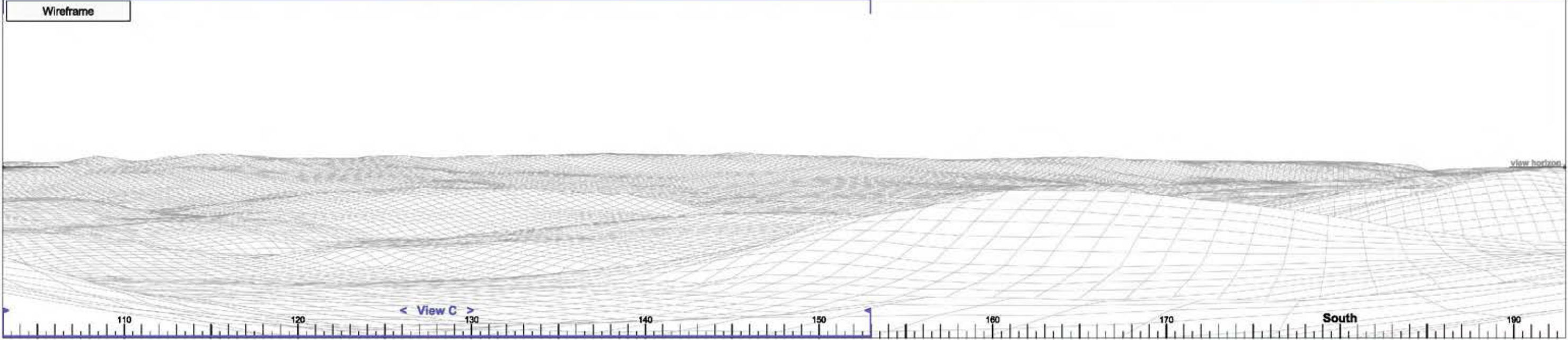
Figure 4.36



Photograph



Wireframe



Photomontage



► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View A

Bearing to centre of view:

148°

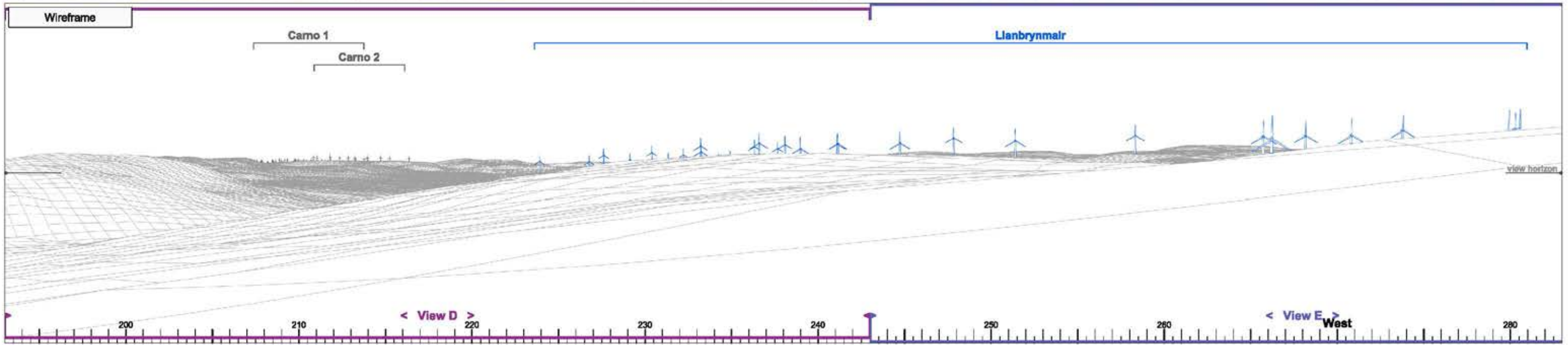
Horizontal field of view:

90°

Recommended viewing distance at A3:

25 cm

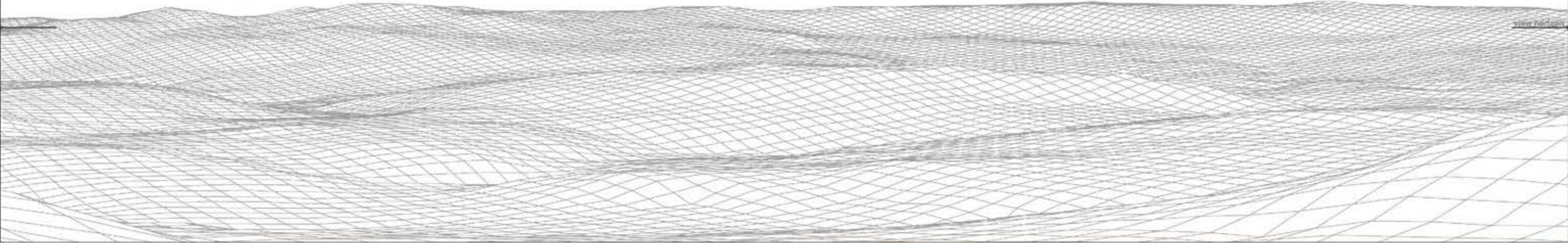
Figure 4.36.1



► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View B	Bearing to centre of view:	238°	Horizontal field of view:	90°	Recommended viewing distance at A3:	25 cm	Figure 4.36.2
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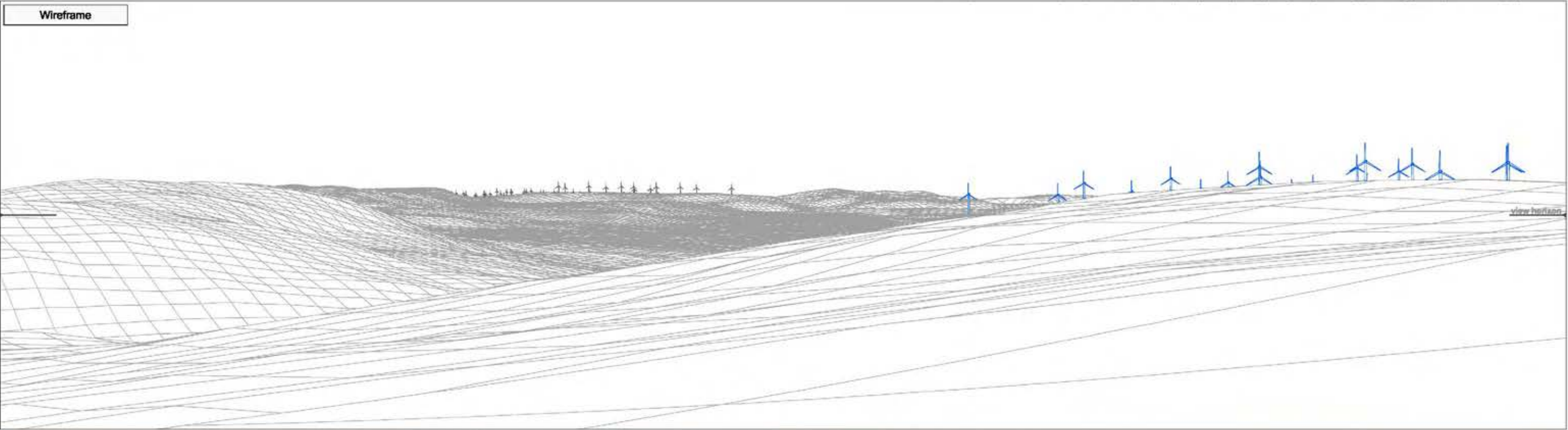
Wireframe



Photograph



► Viewpoint 24 Glyndwr's Way crossing Pen Coed View C Bearing to centre of view: 128° Horizontal field of view: 50° Recommended viewing distance at A3: 45 cm **Figure 4.36.3**



► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View D

Bearing to centre of view:

218°

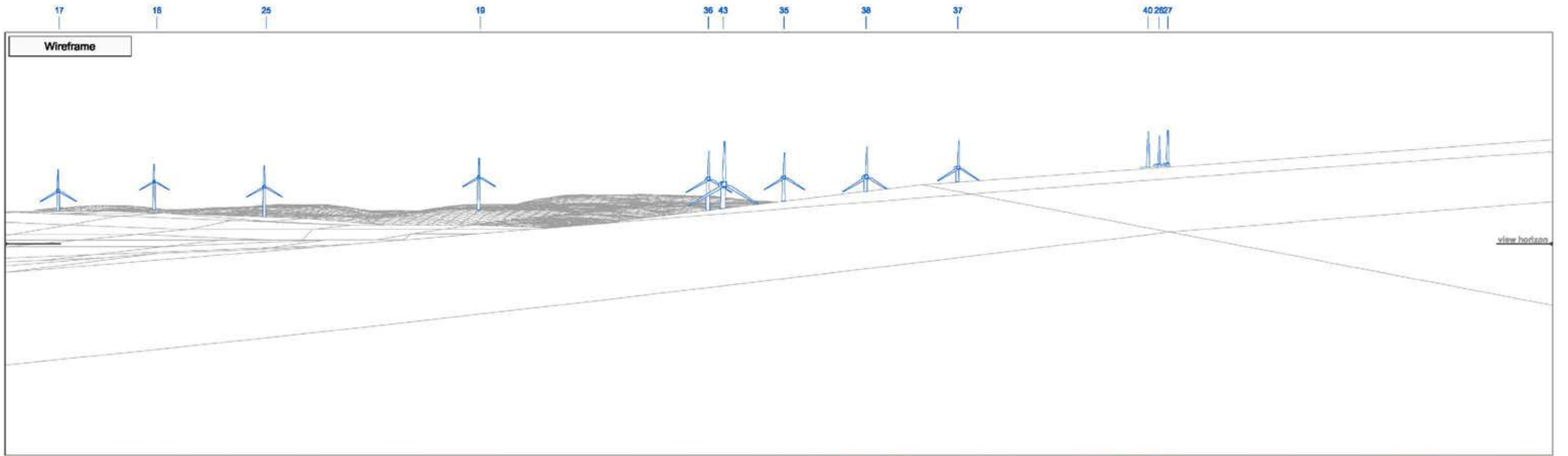
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.36.4



► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View E

Bearing to centre of view:

268°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.36.5



Photomontage Year 0

► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View C

Bearing to centre of view:

128°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.36.6



Photomontage Year 5

► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View C

Bearing to centre of view:

128°

Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.36.7

30 18 9 41 6 32 5 1223 31 4 824 7 13 42 14 15



► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View D	Bearing to centre of view:	218°	Horizontal field of view:	50°	Recommended viewing distance at A3:	45 cm
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Figure 4.36.8

17 16 25 19 36 43 35 38 37 40 26 27

Photomontage



► Viewpoint 24 Glyndwr's Way crossing Pen Coed

View E

Bearing to centre of view:

268°

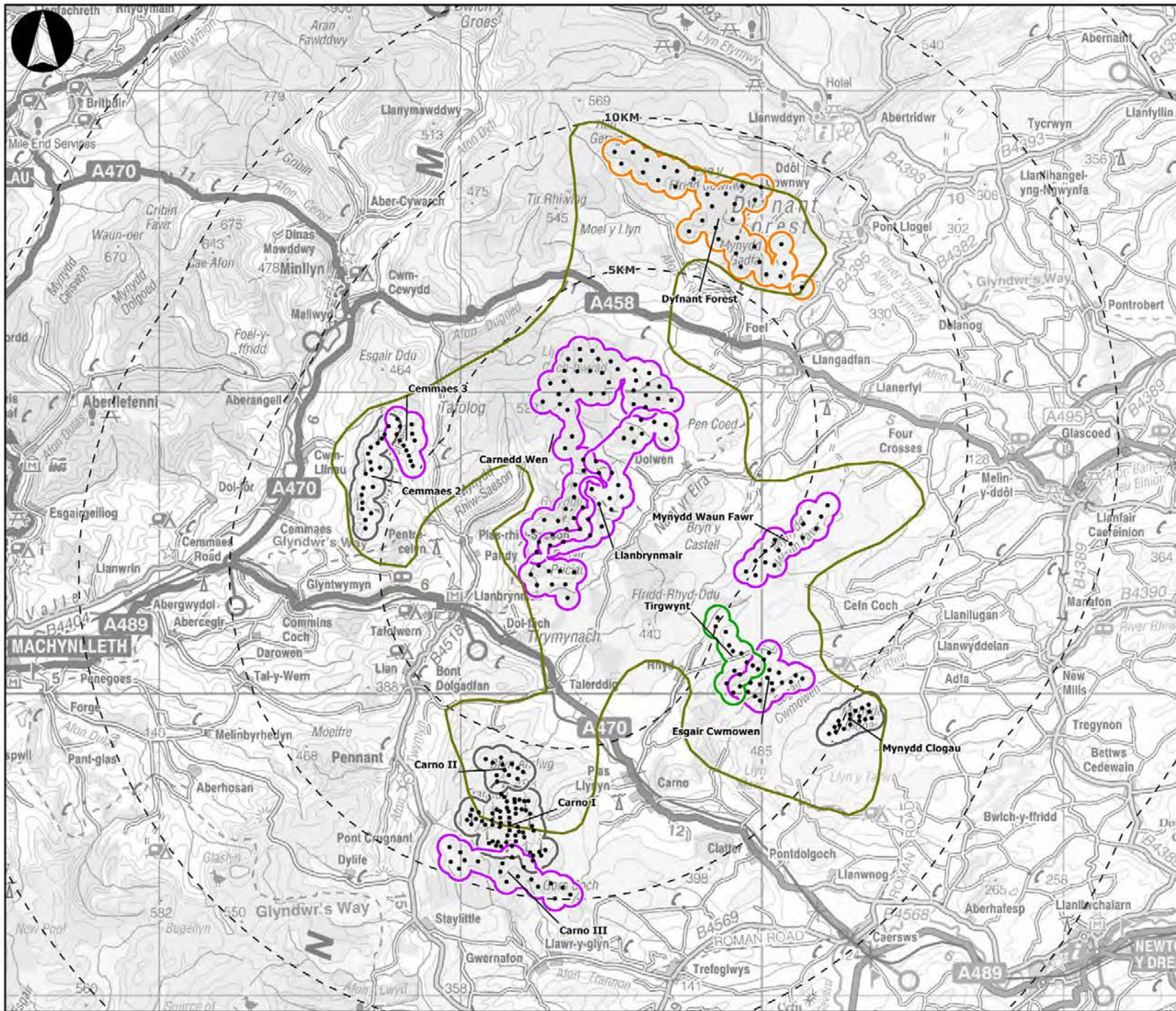
Horizontal field of view:

50°

Recommended viewing distance at A3:

45 cm

Figure 4.36.9



**LLANBRYNMAIR
WINDFARM**

FIGURE 4.37

CUMULATIVE BASE PLAN

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA
CROWN COPYRIGHT 2013. ALL RIGHTS RESERVED. LICENSE
NUMBER 0100031673

Legend

- Turbine Locations
- TAN8 Strategic Search Area B
- Wind Farm Status**
- Operational
- Consented
- Application submitted
- Pre-application

LAYOUT DATE: N/A LAYOUT NO.: N/A

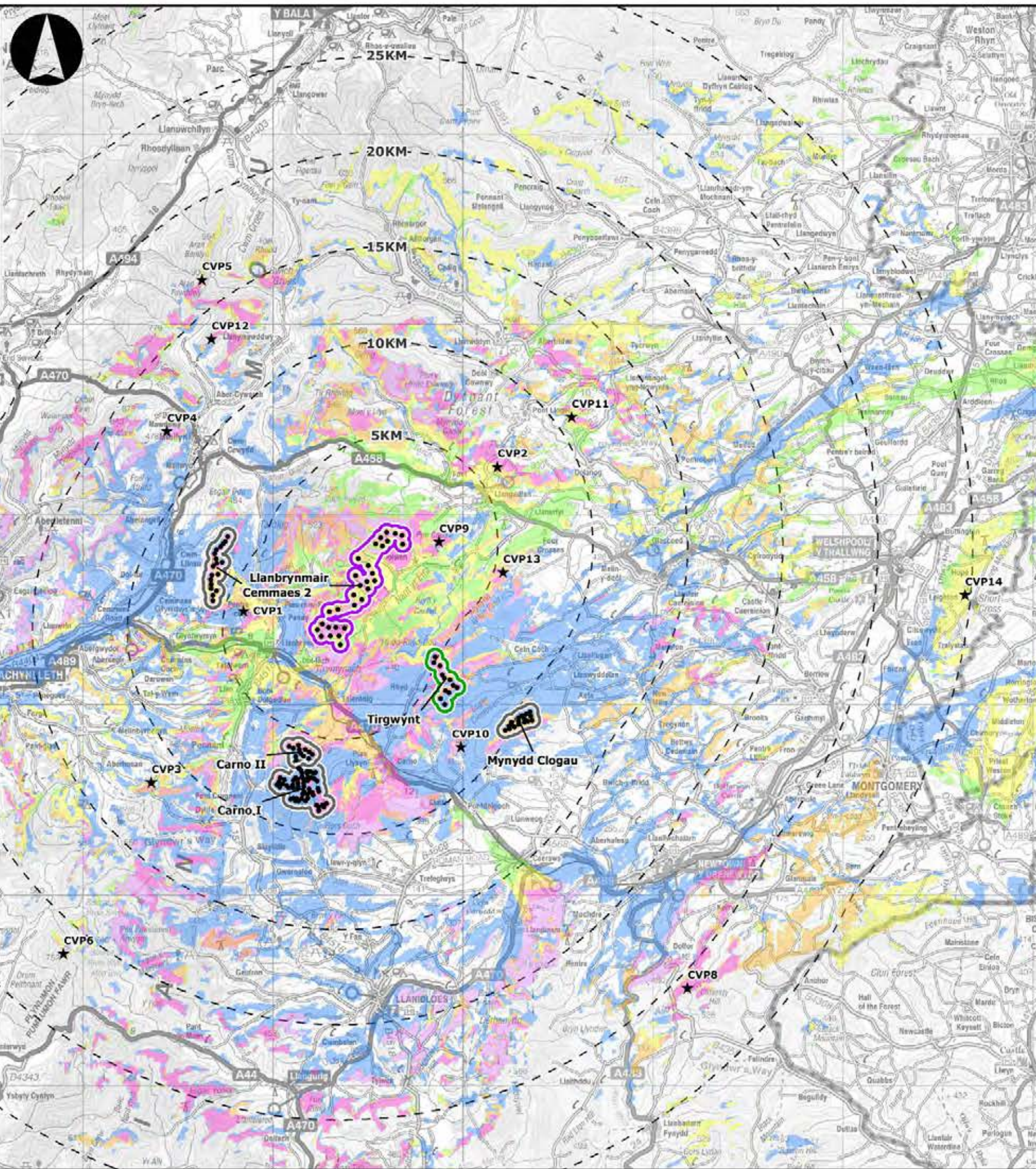
DRAWING NUMBER: **5599-01_041**

SCALE: **1:250,000**

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INFORMATION 2013**

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WHOLE OR IN PART WITHOUT PERMISSION

Viewpoint	Name	Easting	Northing
CVP1	Glyndwr's Way, Brynaere	288445	304953
CVP2	Glyndwr's Way, Penyfford	301807	312533
CVP3	Wynford Vaughan Thomas Memorial	283587	295946
CVP4	Foel Dinas in Snowdonia National Park	284404	314412
CVP5	Aran Fawddwy in Snowdonia National Park	286258	322374
CVP6	Plynlimon	278976	286945
CVP7	Cadair Idris in Snowdonia National Park	271115	313041
CVP8	Kerry Ridgeway Two Tumps	311818	285139
CVP9	Glyndwr's Way crossing Pen Coed	298741	308597
CVP10	Garreg Hir	299892	297802
CVP11	Glyndwr's Way at Pont Logel	305717	315153
CVP12	Pen yr Allt Uchaf in Snowdonia National Park	286761	319252
CVP13	North-west of Mynydd Waun Fawr: Llyn y Grinwydden open access land	302105	306994
CVP14	Beacon Ring Hillfort	326418	305802



LLANBRYNMAIR WINDFARM

FIGURE 4.38a

CUMULATIVE ZTV SCENARIO A

REPRODUCED FROM ORDNANCE SURVEY DIGITAL MAP DATA CROWN COPYRIGHT 2013. ALL RIGHTS RESERVED. LICENSE NUMBER 0100031673

Legend

- Turbine Locations
 - ★ Viewpoints
- Wind Farm Status**
- ▭ Operational
 - ▭ Consented
 - ▭ Application submitted (Llanbrynmair)
- Zone of Theoretical Visibility**
- ▭ Other Wind Farms Visible, Not Llanbrynmair
 - ▭ Only Llanbrynmair Visible
 - ▭ Llanbrynmair and 1 Wind Farm Visible
 - ▭ Llanbrynmair and 2 Wind Farms Visible
 - ▭ Llanbrynmair and 3 Wind Farms Visible
 - ▭ Llanbrynmair and 4 Wind Farms Visible
 - ▭ Llanbrynmair and 5 Wind Farms Visible

LAYOUT DATE: N/A LAYOUT NO.: N/A

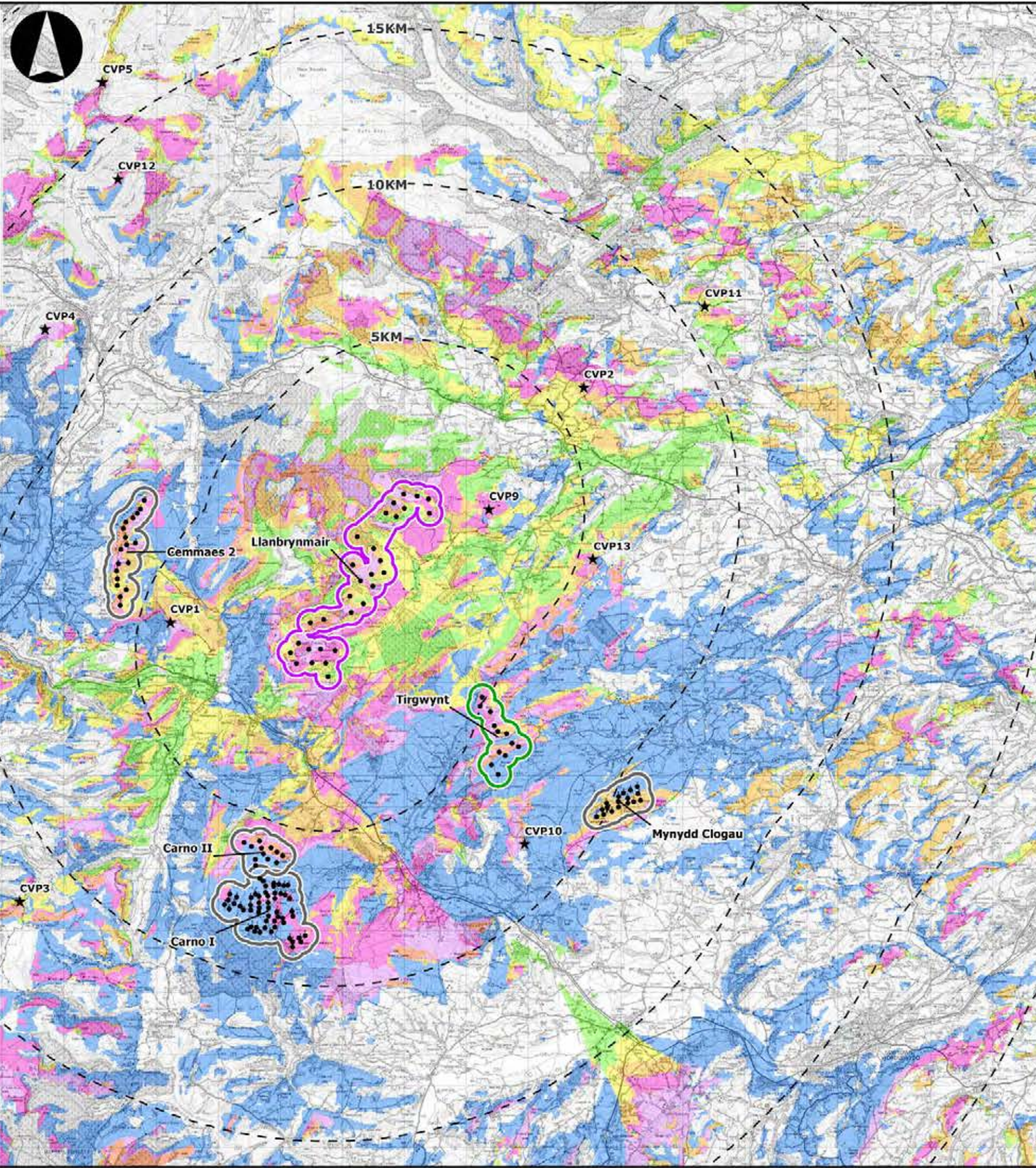
DRAWING NUMBER: 5599-01_042

SCALE: 1:220,000

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Viewpoint	Name	Easting	Northing
CVP1	Glyndwr's Way, Brynaere	288445	304953
CVP2	Glyndwr's Way, Penyfford	301807	312533
CVP3	Wynford Vaughan Thomas Memorial	283587	295946
CVP4	Foel Dinas in Snowdonia National Park	284404	314412
CVP5	Aran Fawddwy in Snowdonia National Park	286258	322374
CVP6	Plynlimon	278976	286945
CVP7	Cadair Idris in Snowdonia National Park	271115	313041
CVP8	Kerry Ridgeway Two Tumps	311818	285139
CVP9	Glyndwr's Way crossing Pen Coed	298741	308597
CVP10	Garreg Hir	299892	297802
CVP11	Glyndwr's Way at Pont Logel	305717	315153
CVP12	Pen yr Allt Uchaf in Snowdonia National Park	286761	319252
CVP13	North-west of Mynydd Waun Fawr: Llyn y Grinwydden open access land	302105	306994
CVP14	Beacon Ring Hillfort	326418	305802



LLANBRYNMAIR WINDFARM

FIGURE 4.38b

CUMULATIVE ZTV SCENARIO A WITHIN 15KM

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Legend

- Turbine Locations
- ★ Viewpoints
- Wind Farm Status**
- Operational
- Consented
- Application submitted (Llanbrynmair)
- Zone of Theoretical Visibility**
- Other Wind Farms Visible, Not Llanbrynmair
- Only Llanbrynmair Visible
- Llanbrynmair and 1 Wind Farm Visible
- Llanbrynmair and 2 Wind Farms Visible
- Llanbrynmair and 3 Wind Farms Visible
- Llanbrynmair and 4 Wind Farms Visible
- Llanbrynmair and 5 Wind Farms Visible

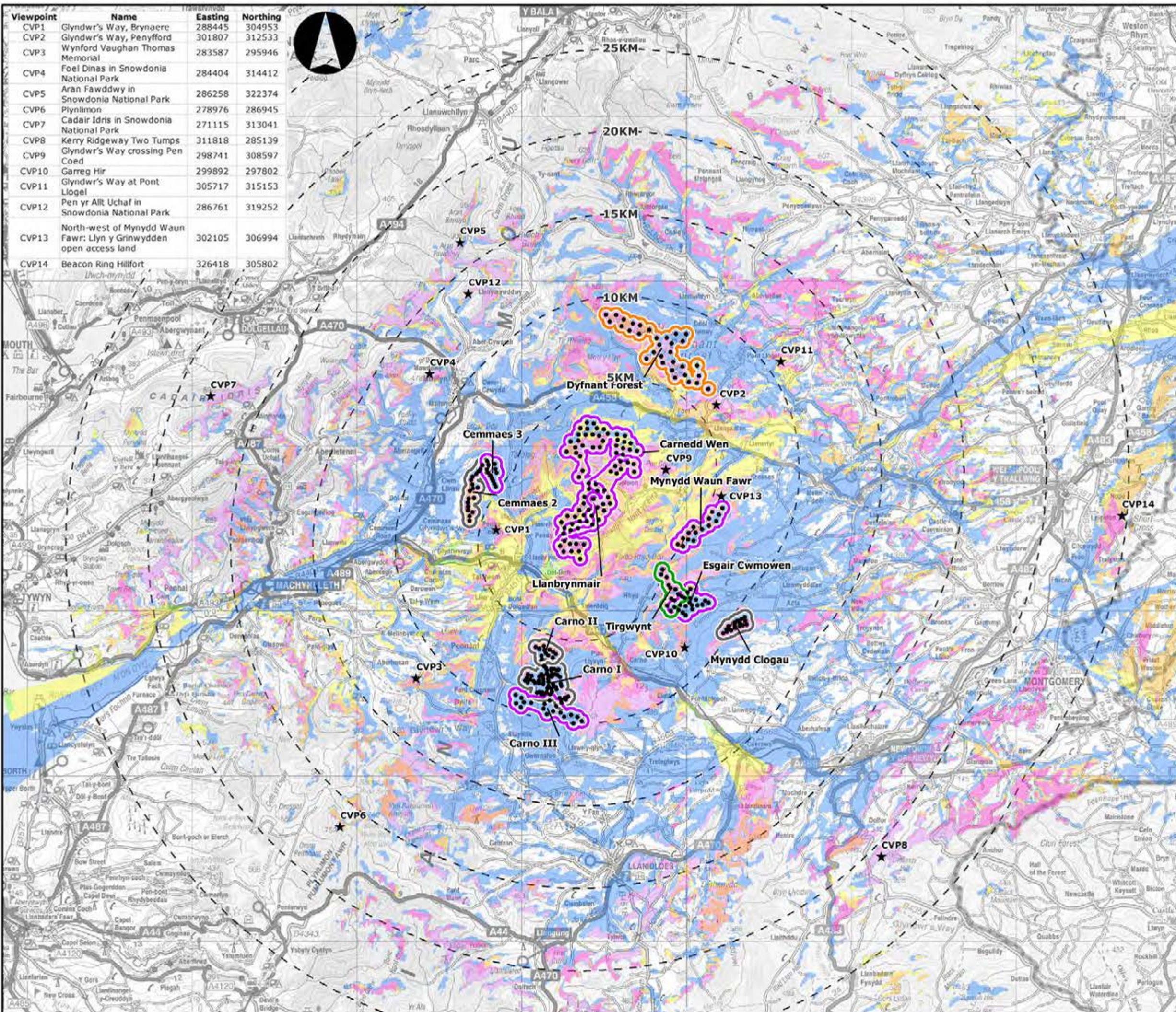
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: 5599-01_042

SCALE - 1:135000

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Viewpoint	Name	Easting	Northing
CVP1	Glyndwr's Way, Brynaere	288445	304953
CVP2	Glyndwr's Way, Penyfford	301807	312533
CVP3	Wynford Vaughan Thomas Memorial	283587	295946
CVP4	Foel Dinas in Snowdonia National Park	284404	314412
CVP5	Aran Fawddwy in Snowdonia National Park	286258	322374
CVP6	Plynlimon	278976	286945
CVP7	Cadair Idris in Snowdonia National Park	271115	313041
CVP8	Kerry Ridgeway Two Tumps	311818	285139
CVP9	Glyndwr's Way crossing Pen Coed	298741	308597
CVP10	Garreg Hir	299892	297802
CVP11	Glyndwr's Way at Pont Logel	305717	315153
CVP12	Pen yr Allt Uchaf in Snowdonia National Park	286761	319252
CVP13	North-west of Mynydd Waun Fawr: Llyn y Grinwydden open access land	302105	306994
CVP14	Beacon Ring Hillfort	326418	305802



LLANBRYNMAIR WINDFARM

FIGURE 4.39a

CUMULATIVE ZTV SCENARIO B

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Legend

- Turbine Locations
 - ★ Viewpoints
- Wind Farm Status**
- Operational
 - Consented
 - Application submitted
 - Pre-application
- Zone of Theoretical Visibility**
- Other Wind Farms Visible, Not Llanbrynmair
 - Only Llanbrynmair Visible
 - Llanbrynmair and 1 - 3 Wind Farms Visible
 - Llanbrynmair and 4 - 5 Wind Farms Visible
 - Llanbrynmair and 6 - 7 Wind Farms Visible
 - Llanbrynmair and 8 - 9 Wind Farms Visible
 - Llanbrynmair and 10 - 11 Wind Farms Visible

LAYOUT DATE: N/A LAYOUT NO.: N/A

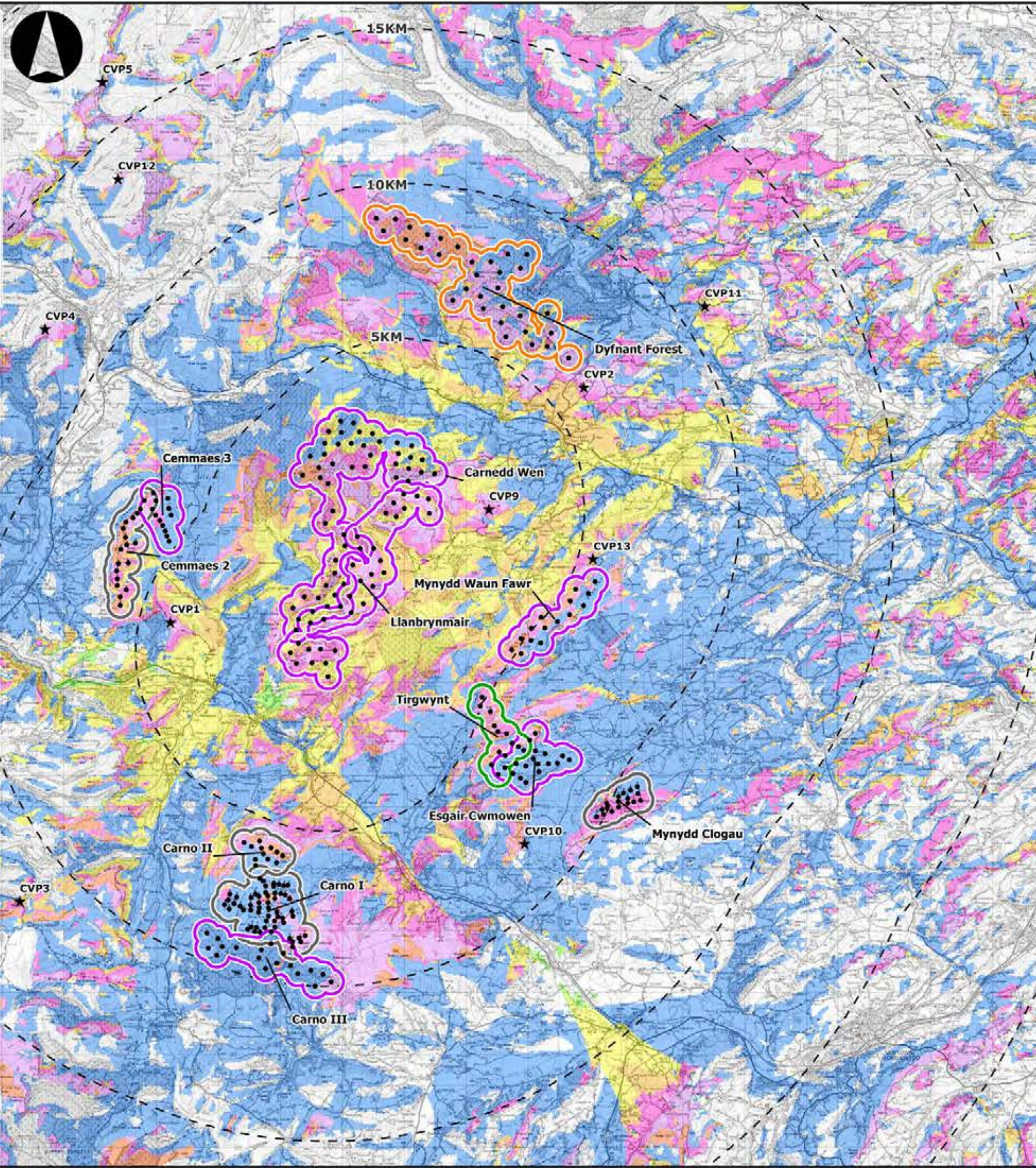
DRAWING NUMBER: 5599-01_043

SCALE: 1:220,000

SUPPLEMENTARY ENVIRONMENTAL INFORMATION 2013

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Viewpoint	Name	Easting	Northing
CVP1	Glyndwr's Way, Brynaere	288445	304953
CVP2	Glyndwr's Way, Penyfford	301807	312533
CVP3	Wynford Vaughan Thomas Memorial	283587	295946
CVP4	Foel Dinas in Snowdonia National Park	284404	314412
CVP5	Aran Fawddwy in Snowdonia National Park	286258	322374
CVP6	Plynlimon	278976	286945
CVP7	Cadair Idris in Snowdonia National Park	271115	313041
CVP8	Kerry Ridgeway Two Tumps	311818	285139
CVP9	Glyndwr's Way crossing Pen Coed	298741	308597
CVP10	Garreg Hir	299892	297802
CVP11	Glyndwr's Way at Pont Llogel	305717	315153
CVP12	Pen yr Allt Uchaf in Snowdonia National Park	286761	319252
CVP13	North-west of Mynydd Waun Fawr: Llyn y Grinwydden open access land	302105	306994
CVP14	Beacon Ring Hillfort	326418	305802



LLANBRYNMAIR WINDFARM

FIGURE 4.39b

CUMULATIVE ZTV SCENARIO B WITHIN 15KM

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Legend

- Turbine Locations
 - ★ Viewpoints
- Wind Farm Status**
- Operational
 - Consented
 - Application submitted
 - Pre-application
- Zone of Theoretical Visibility**
- Other Wind Farms Visible, Not Llanbrynmair
 - Only Llanbrynmair Visible
 - Llanbrynmair and 1 - 3 Wind Farms Visible
 - Llanbrynmair and 4 - 5 Wind Farms Visible
 - Llanbrynmair and 6 - 7 Wind Farms Visible
 - Llanbrynmair and 8 - 9 Wind Farms Visible
 - Llanbrynmair and 10 - 11 Wind Farms Visible

LAYOUT DATE: N/A LAYOUT NO.: N/A

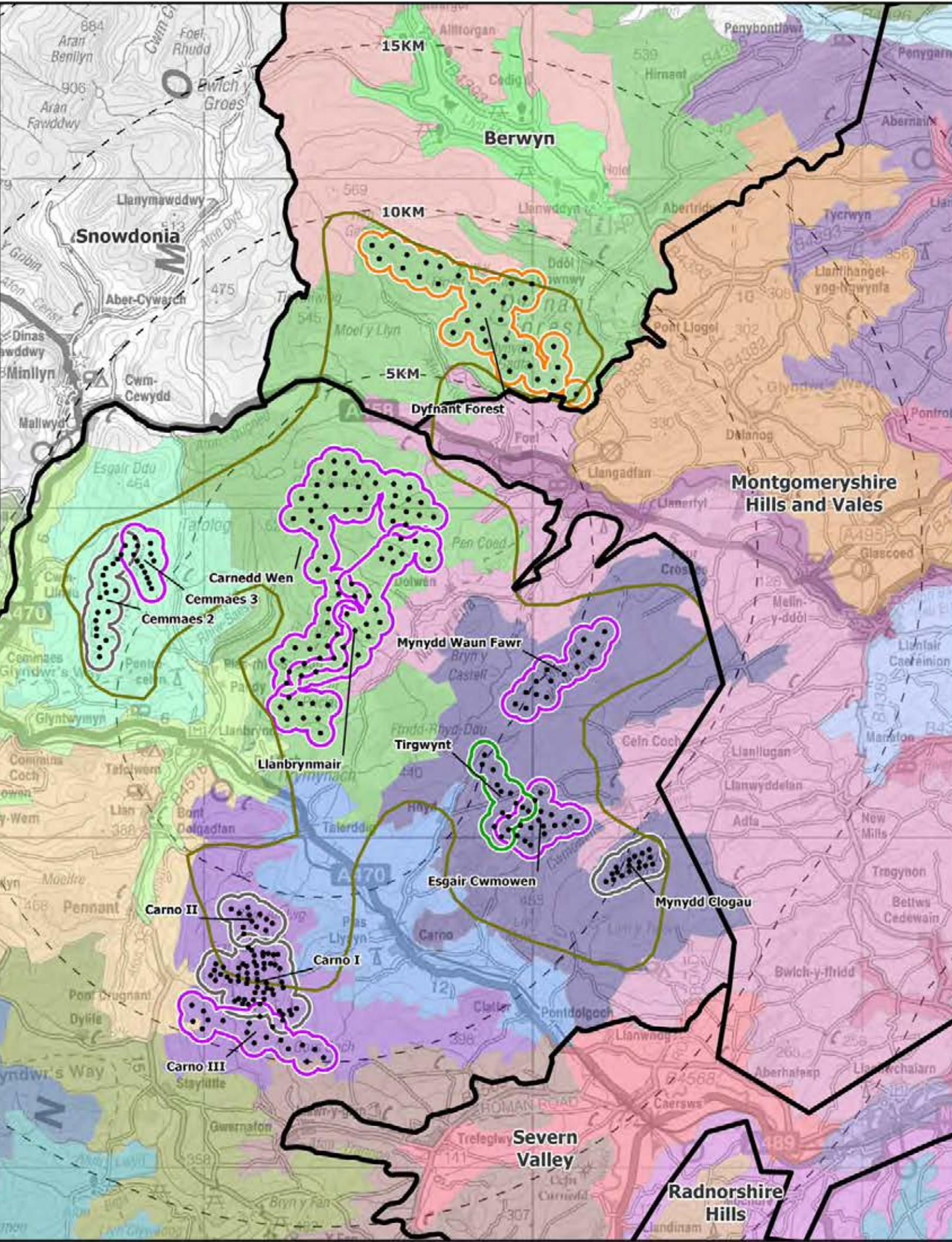
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SCALE - 1:135000

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- Powys LCA Areas**
- M1 - Berwyn Mountains
 - M3 - Llanrhaeadr
 - M4 - Tanat Valley
 - M5 - Dyfnant Forest/Llanbrymair Moors
 - M6 - Llyn Efyrrwy
 - M7 - Pont Llogel
 - M8 - Llanfyllin Farmlands
 - M9 - Severn Farmlands
 - M10 - Guilsfield
 - M11 - Mynydd y Cemmaes
 - M12 - Banwy Valley
 - M13 - Tregynon/Llanerfyl
 - M14 - Esgair Cwmowen
 - M15 - Dyfi Valley & Catchment
 - M16 - Dyfi Forest
 - M17 - Dyfi & Twymyn Hillside
 - M20 - Machynlleth
 - M21 - Plynlimon
 - M22 - Trannon
 - M23 - Carno Valley
 - M24 - Llyn Clywedog
 - M25 - Hafren Forest
 - M26 - Caersws Valleys
 - M27 - Newtown
 - M28 - Llawr-y-glyn Hillside
 - M29 - Kerry Hill
 - M31 - Llandinam to Llandyssil Hillside
 - M32 - Waun Ddubarthog



LLANBRYNMAIR WINDFARM

FIGURE 4.40

LANDSCAPE CHARACTER AREAS

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Legend

- Turbine Locations
- ▭ TAN8 Strategic Search Area B
- ▭ Wales Character Map
- Wind Farm Status**
- ▭ Operational
- ▭ Consented
- ▭ Application submitted
- ▭ Pre-application

SCALE	N/A	SCALE	N/A
DRAWING NUMBER	5599-01_041		
SCALE - 1:135000			
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CHAPTER 5: ECOLOGICAL ASSESSMENT FIGURES

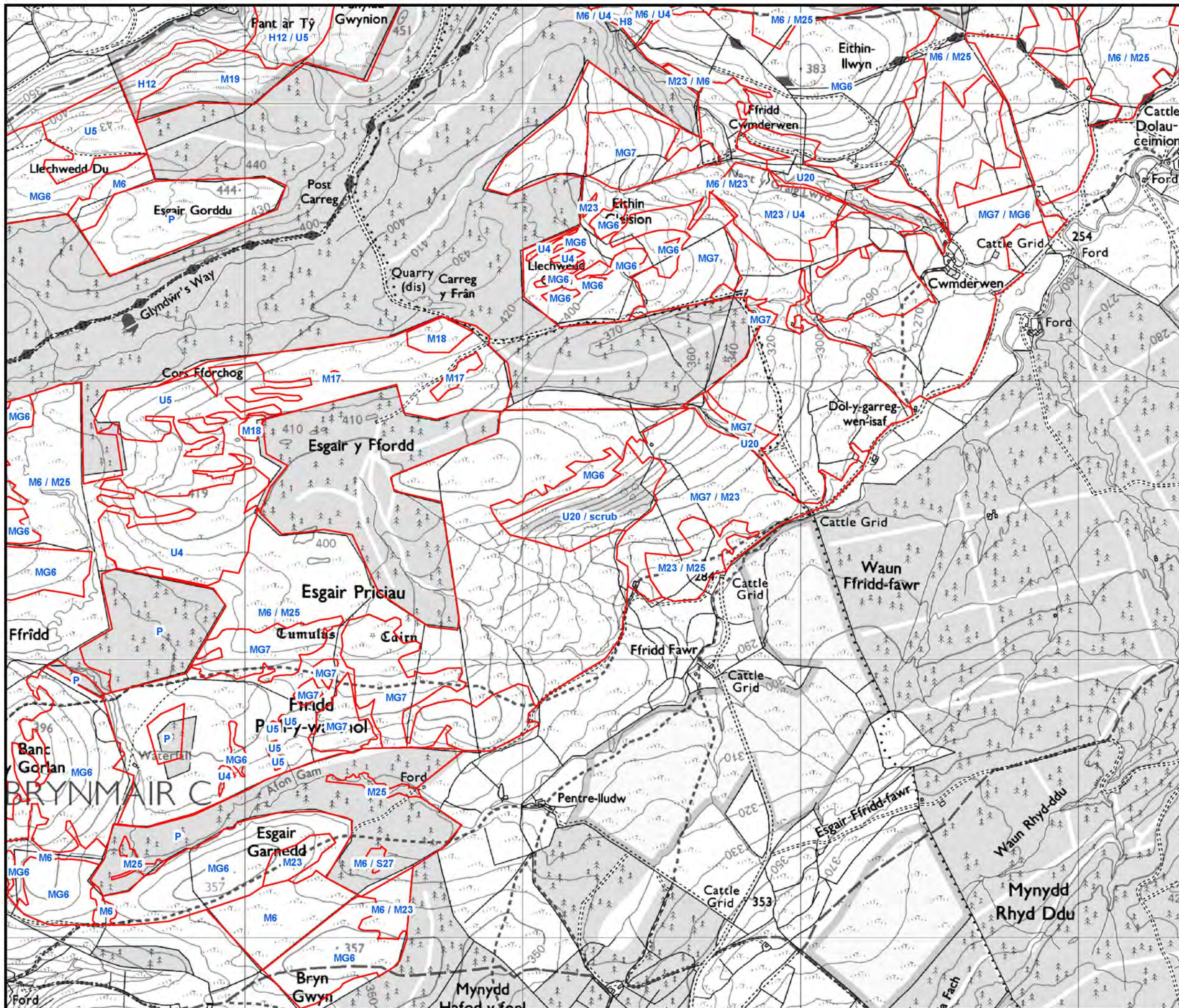


**LLANBRYNMAIR
WIND FARM**

FIGURE 5.1b

**NATIONAL VEGETATION
CLASSIFICATION REGIONS**

Map shows main communities and boundaries are approximate.



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LAYOUT DWG: N/A LAYOUT NO: N/A

DRAWING NUMBER: 01592D6903-02

SCALE - 1:13,000

**SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013**

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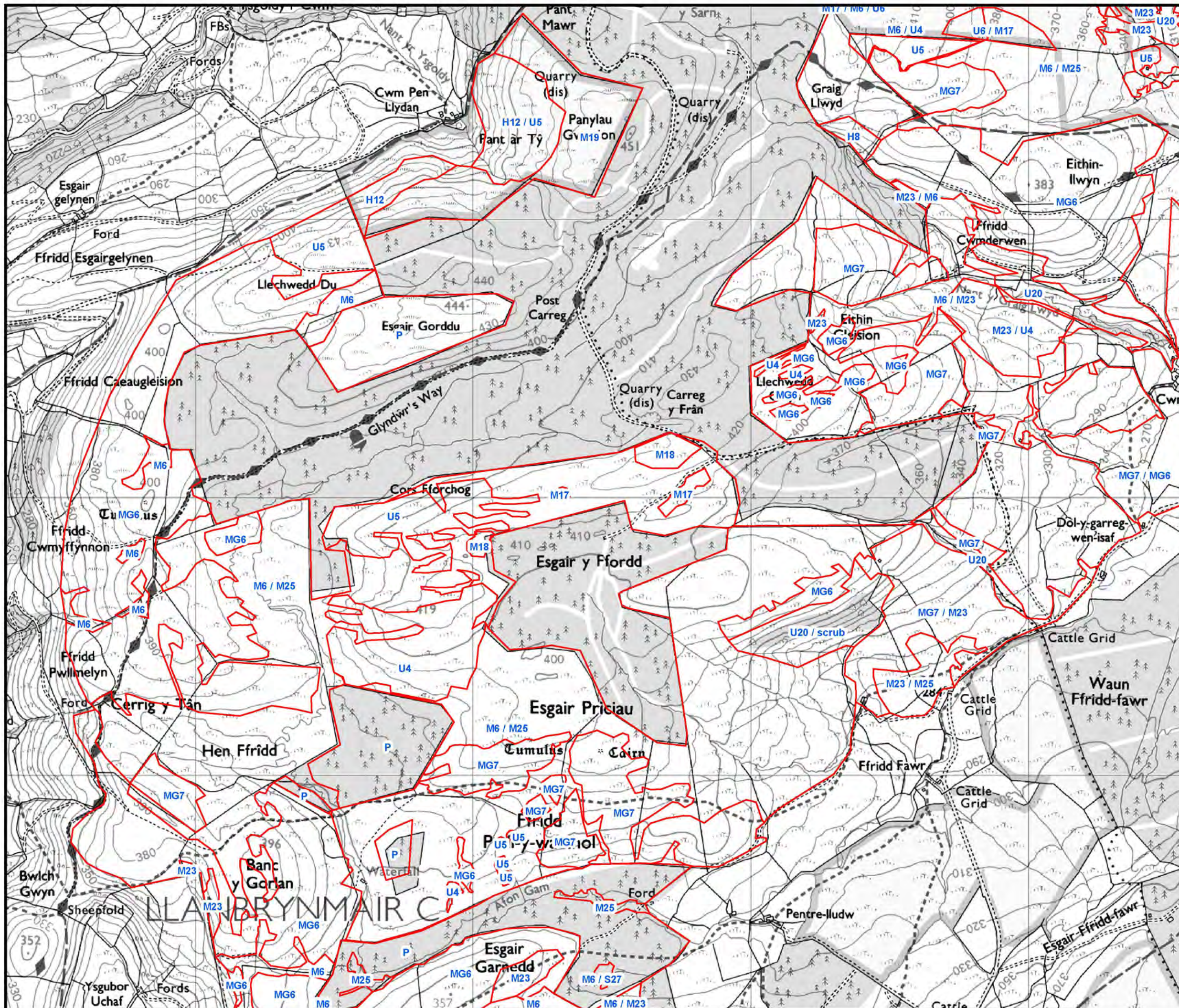


LLANBRYNMAIR WIND FARM

FIGURE 5.1c

NATIONAL VEGETATION CLASSIFICATION REGIONS

Map shows main communities and boundaries are approximate.



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LAYOUT DWG: N/A | LAYOUT NO: N/A

DRAWING NUMBER: 01592D6904-02

SCALE - 1:13,000

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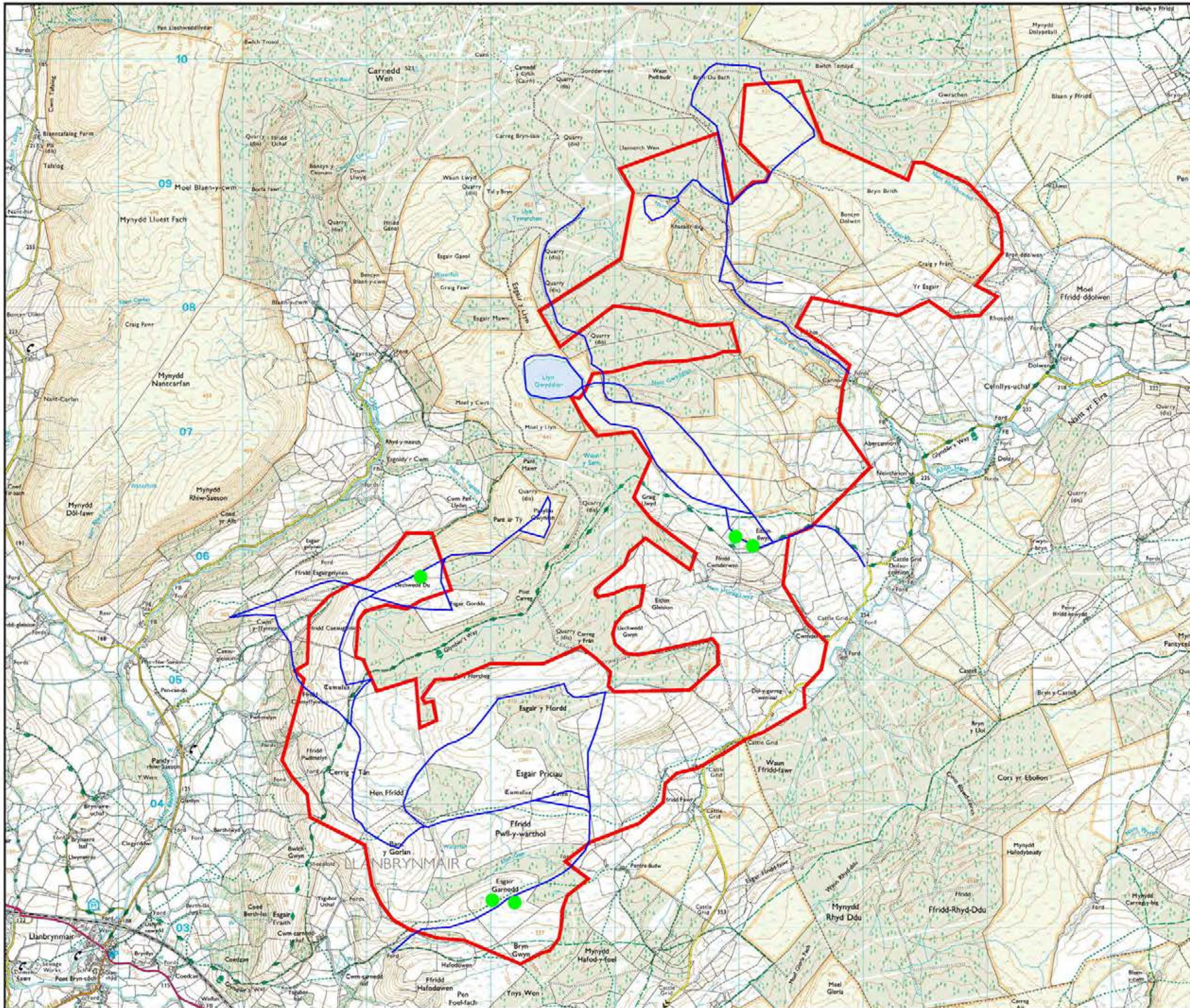


LLANBRYNMAIR WIND FARM

FIGURE 5.2

MAMMAL SURVEY AREA AND RESULTS

-  Survey boundary
-  Mammal survey routes
-  Hares



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LAYOUT DATE: N/A | LAYOUT NO.: N/A

DRAWING NUMBER: **01592D2225-02**

SCALE - 1 : 30,000

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**LLANBRYNMAIR
WIND FARM**

FIGURE 5.3

**HABITAT
MANAGEMENT
PLAN**

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KEY

-  SITE BOUNDARY
-  EX 1: EXCLUDED FROM WIND POWER PROJECT
-  HMA 1: FOREST FELLING WITH BOG RESTORATION AND BLACK GROUSE MANAGEMENT
-  HMA 2: FOREST FELLING WITH HABITAT RESTORATION AND ENHANCED CONNECTIVITY
-  HMA 3: BLACK GROUSE REFUGE
-  HMA 4: BLANKET BOG RESTORATION
-  HMA 5: CURLEW MANAGEMENT AREA
-  HMA 6: BLACK GROUSE REFUGE EXTENSION WITH BOG RESTORATION
-  HMA 7: FOREST FELLING WITH BLANKET BOG RESTORATION
-  HMA 8: BLANKET BOG PROTECTION AND IMPROVEMENT
-  HMA 9: MIRE PROTECTION AND IMPROVEMENT
-  HMA 10: POTENTIAL ADDITIONAL CURLEW MANAGEMENT AREA

NOTES

1. SITE BOUNDARY TAKEN FROM RES DRAWING 01592D2205-13.
2. INFORMATION FROM ECOLOGY MATTERS, SEE: <http://ecm1/livelink/lisapi.dll/open/8004108>

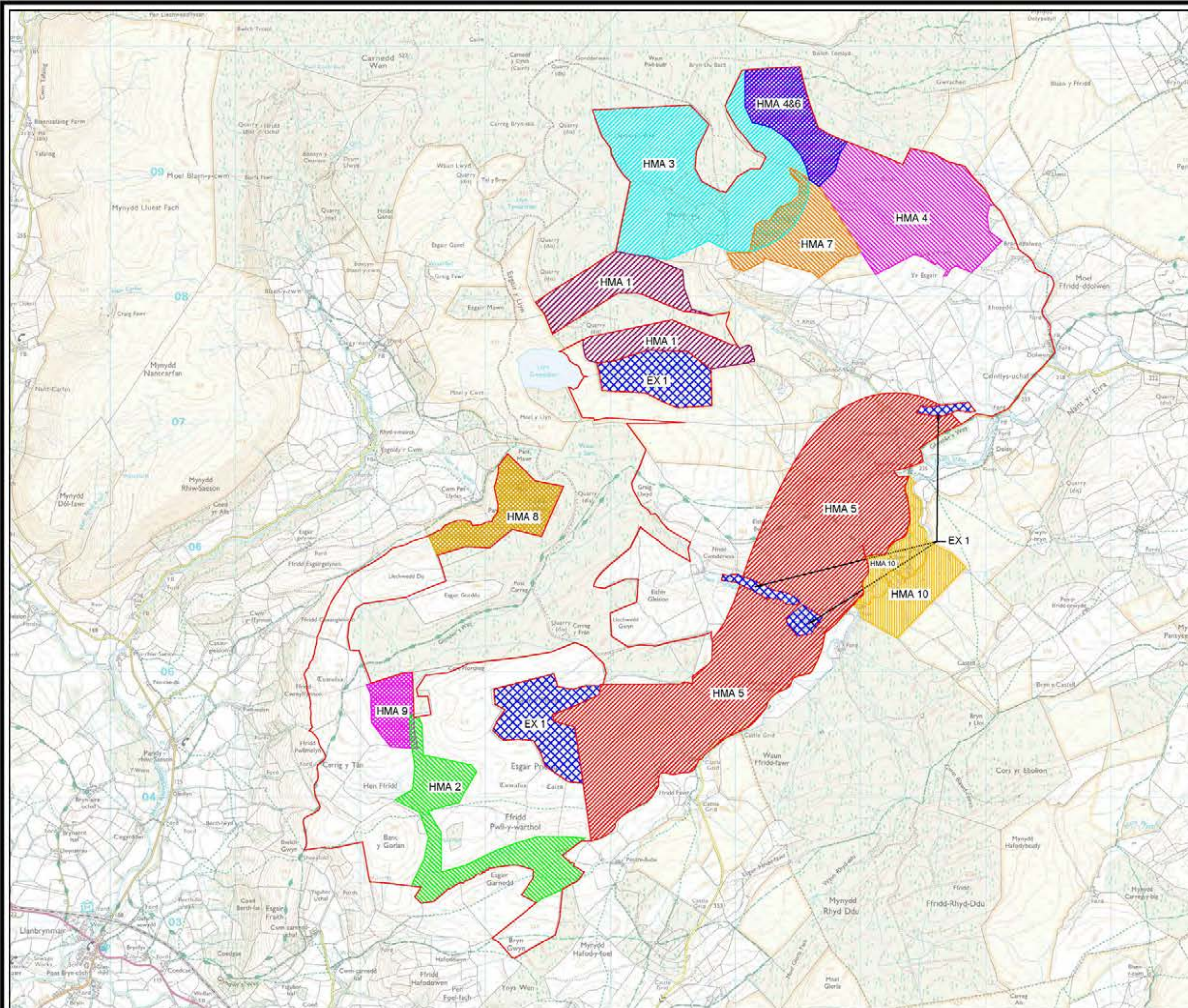
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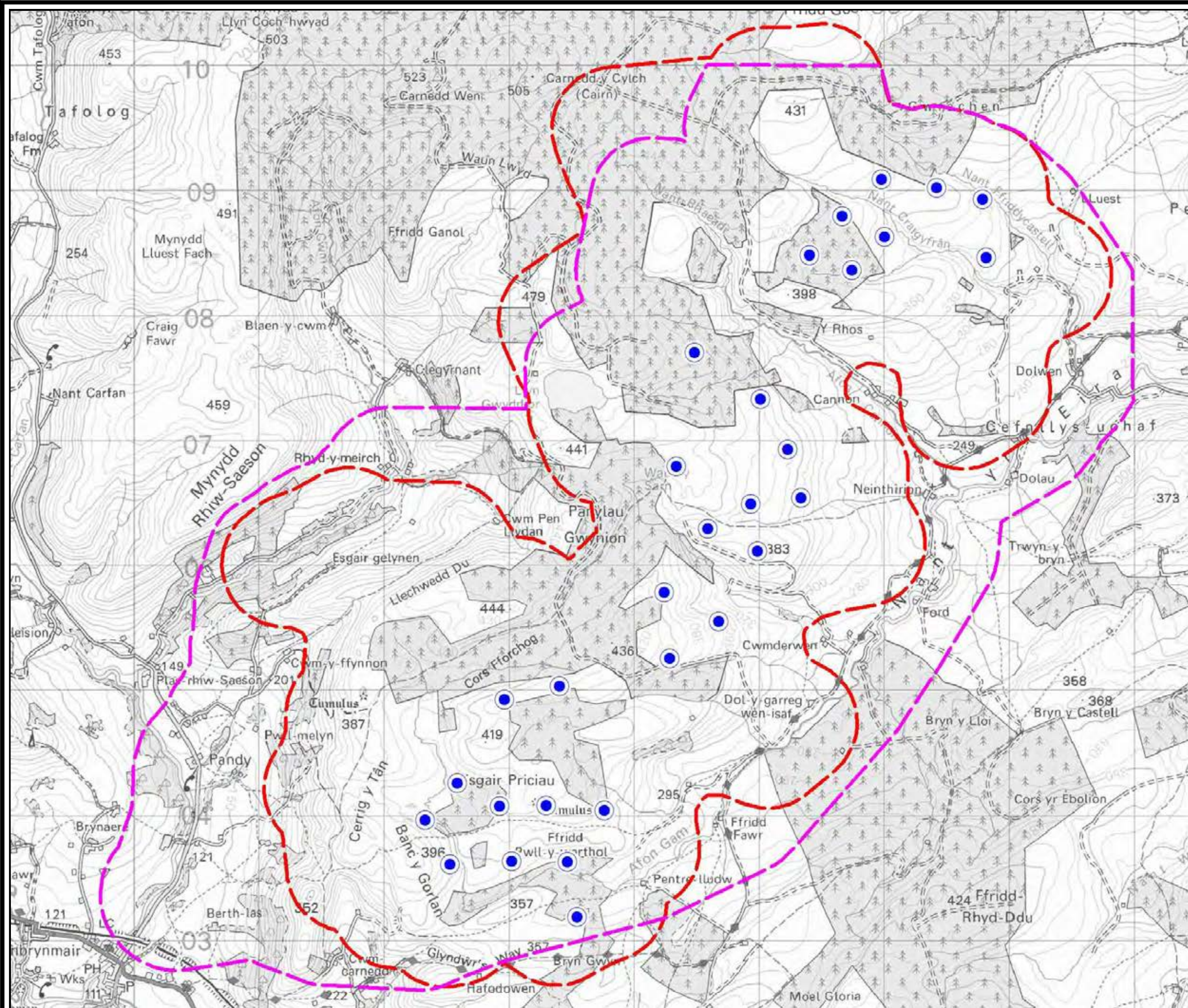
CHAPTER 6: ORNITHOLOGICAL ASSESSMENT FIGURES



LLANBRYNMAIR WIND FARM

FIGURE 6.1

STUDY AREAS



KEY:

- Proposed wind turbines
- Breeding season 2006 and 2005-06 winter study area
- Breeding season 2005 study area



LAYOUT DWG	N/A	LAYOUT NO.	N/A
DRAWING NUMBER	01592D2258-01		
SCALE	1:30,000		
SUPPLEMENTARY ENVIRONMENTAL INFORMATION 2013			
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LLANBRYNMAIR WIND FARM

FIGURE 6.2

ZTV SHOWING VISIBILITY FROM SELECTED VANTAGE POINTS

- Site boundary
- ⊗ Turbine positions (with 50m micro-siting buffer)
- Vantage points (2m above ground level)
- 2km buffer around each vantage point

Number of vantage points visible from 33m above ground level (up to maximum of 2km from each vantage point):

- 1
- 2
- 3
- 4

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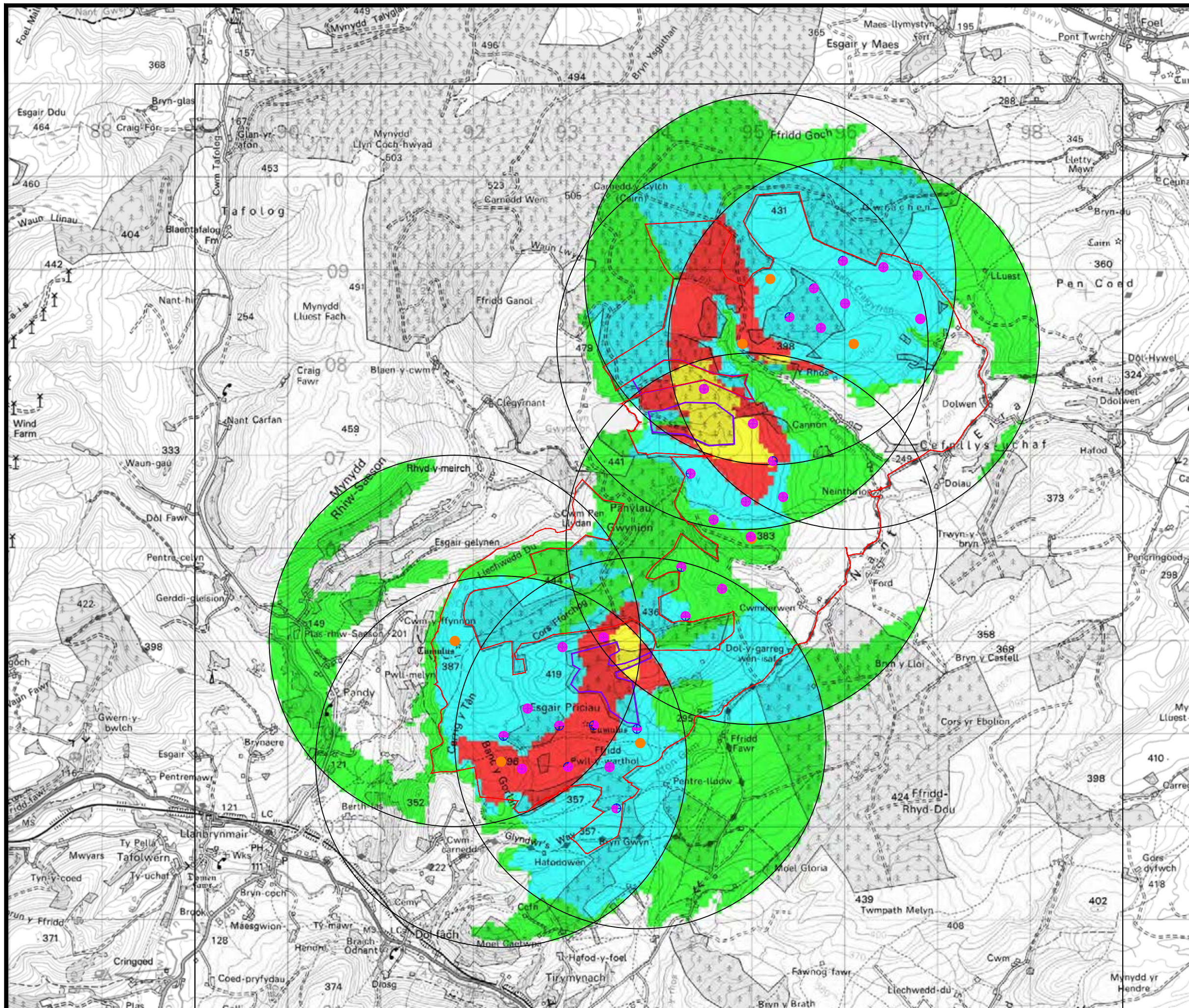
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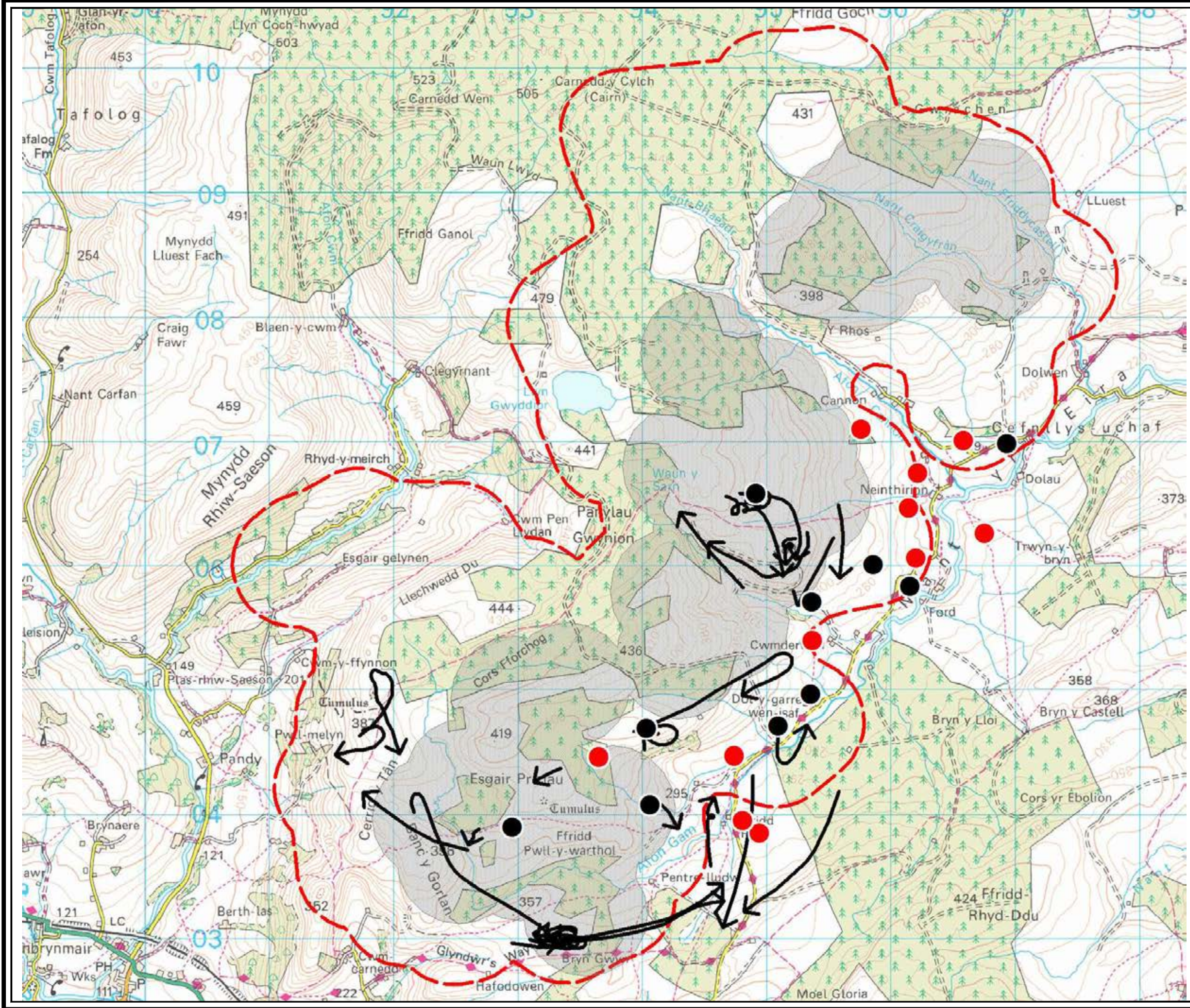




LLANBRYNMAIR WIND FARM

FIGURE 6.3a

CURLEW 2005 & 2006



- KEY:**
- 2005
 - 2006
 - Curlew flight lines: 2006 VP survey
 - Proposed wind turbine 500m buffer
 - Main bird survey area



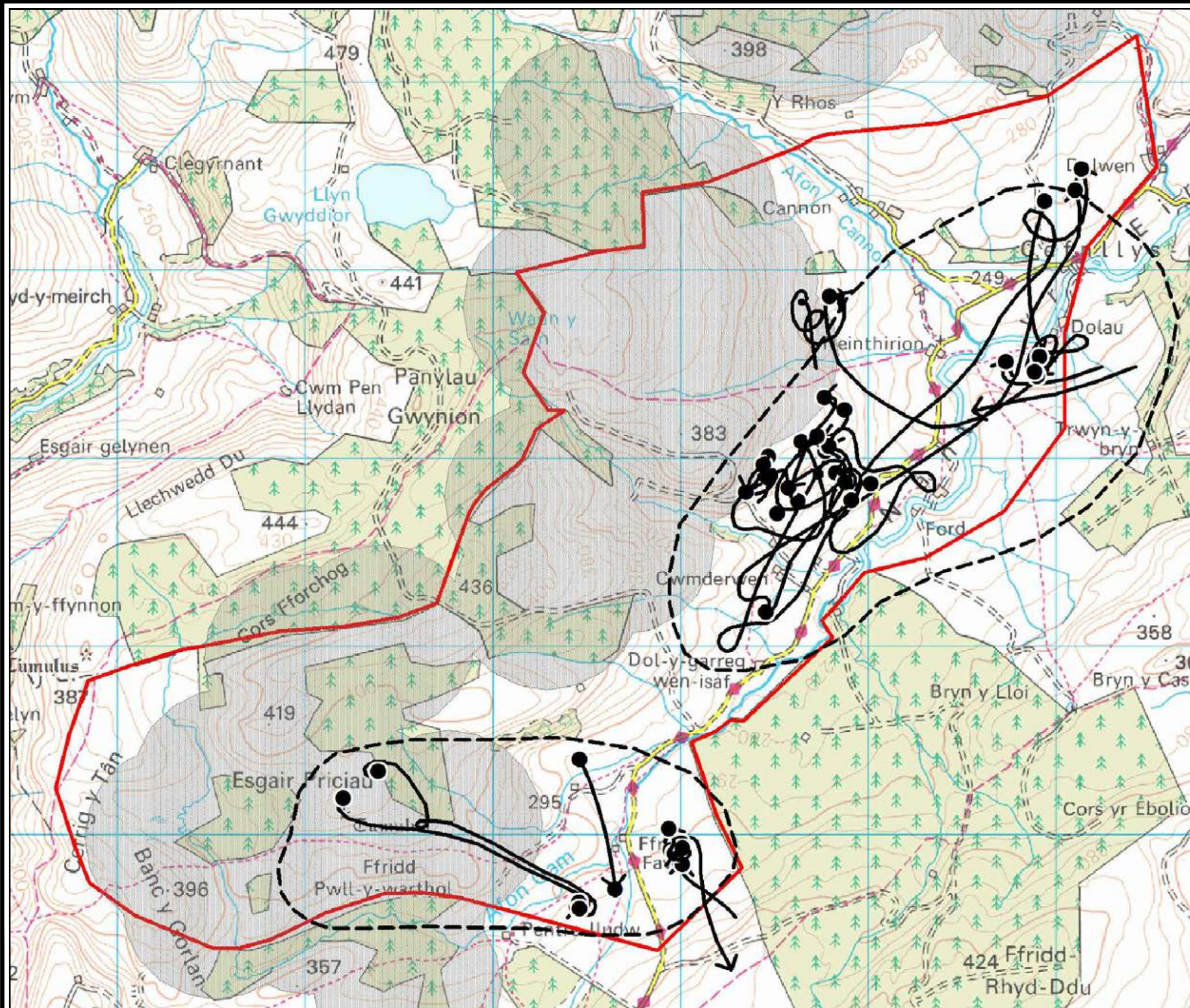
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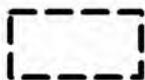
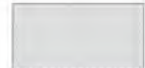

LLANBRYNMAIR
WIND FARM

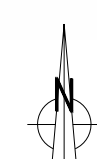
FIGURE 6.3b

CURLEW 2011



KEY:

-  Ground records
-  Flight lines
-  Approximate curlew territory
-  Proposed wind turbine 500m buffer
-  Curlew survey area



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2260-01

SCALE - 1:20,000

SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013

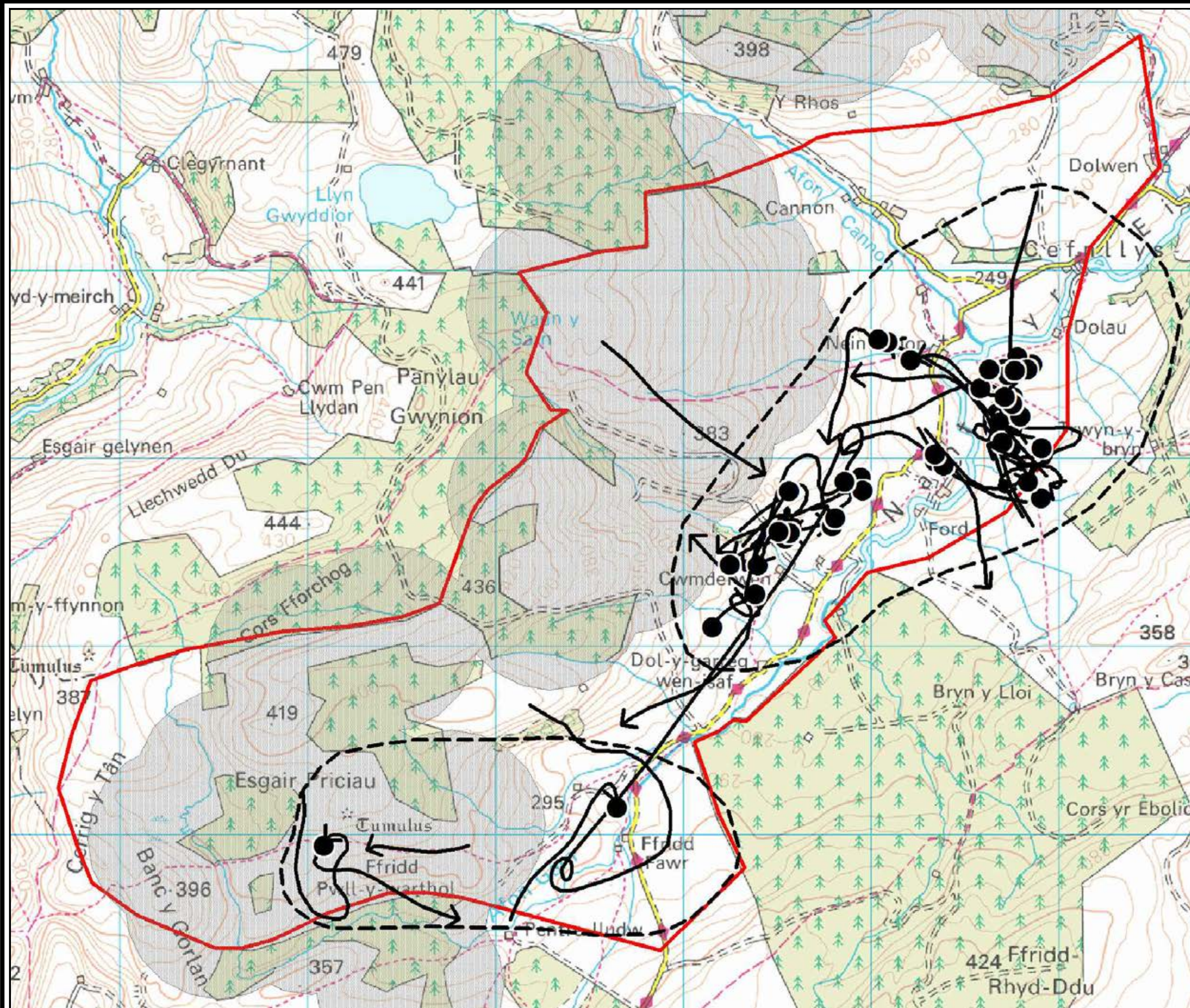
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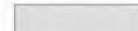

LLANBRYNMAIR
WIND FARM

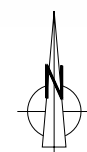
FIGURE 6.3c

CURLEW 2012



KEY:

-  Ground records
-  Flight lines
-  Approximate curlew territory
-  Proposed wind turbine 500m buffer
-  Curlew survey area



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2261-01

SCALE - 1:20,000

SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013

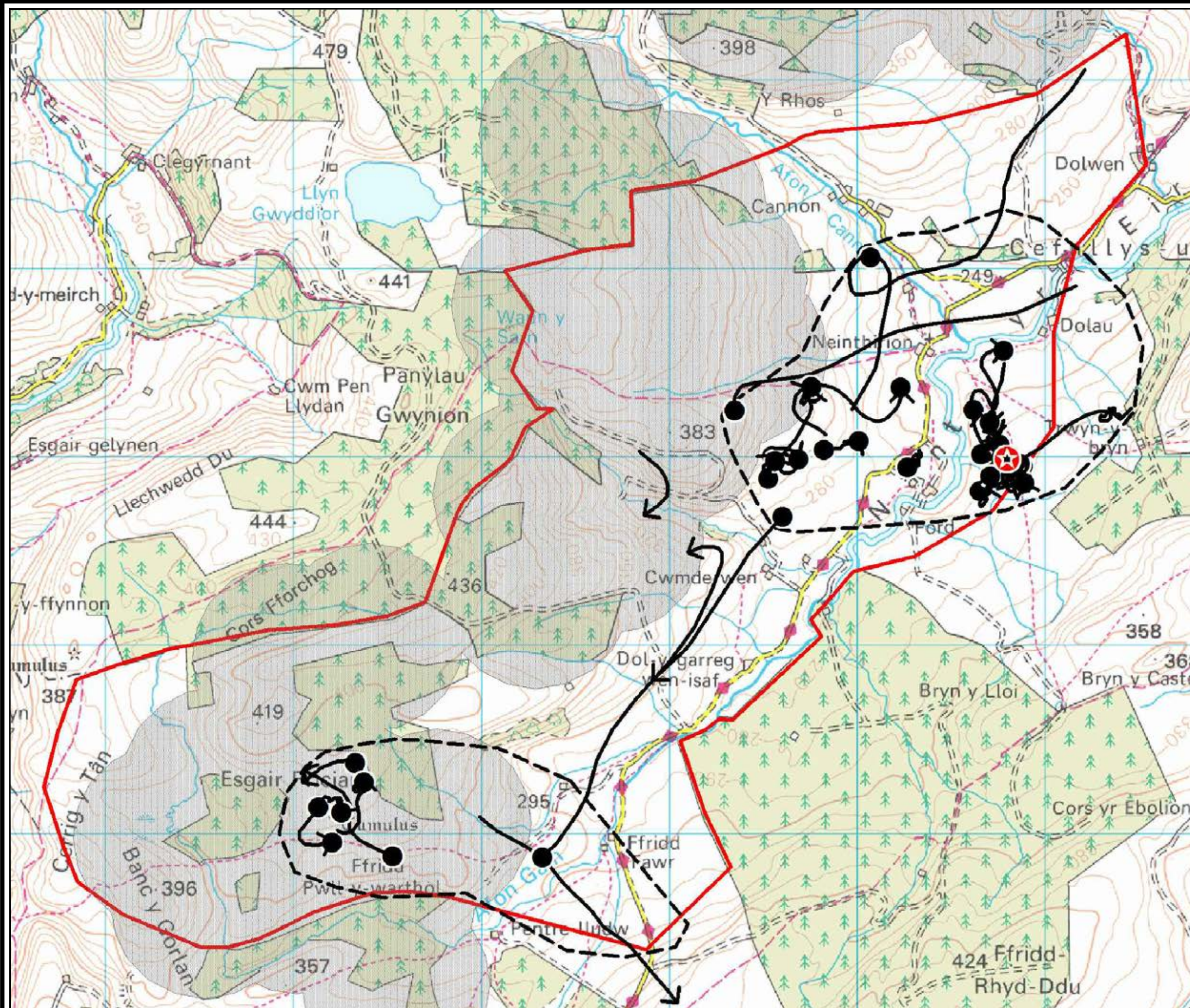
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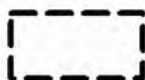



LLANBRYNMAIR
WIND FARM

FIGURE 6.3d

CURLEW RECORDS 2013
AND PROPOSED
WIND FARM LAYOUT



KEY:

-  Ground records
-  Flight lines
-  Approximate curlew territory
-  Confirmed nest location
-  Proposed wind turbine 500m buffer
-  Curlew survey area



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2273-01

SCALE - 1:20,000

SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013

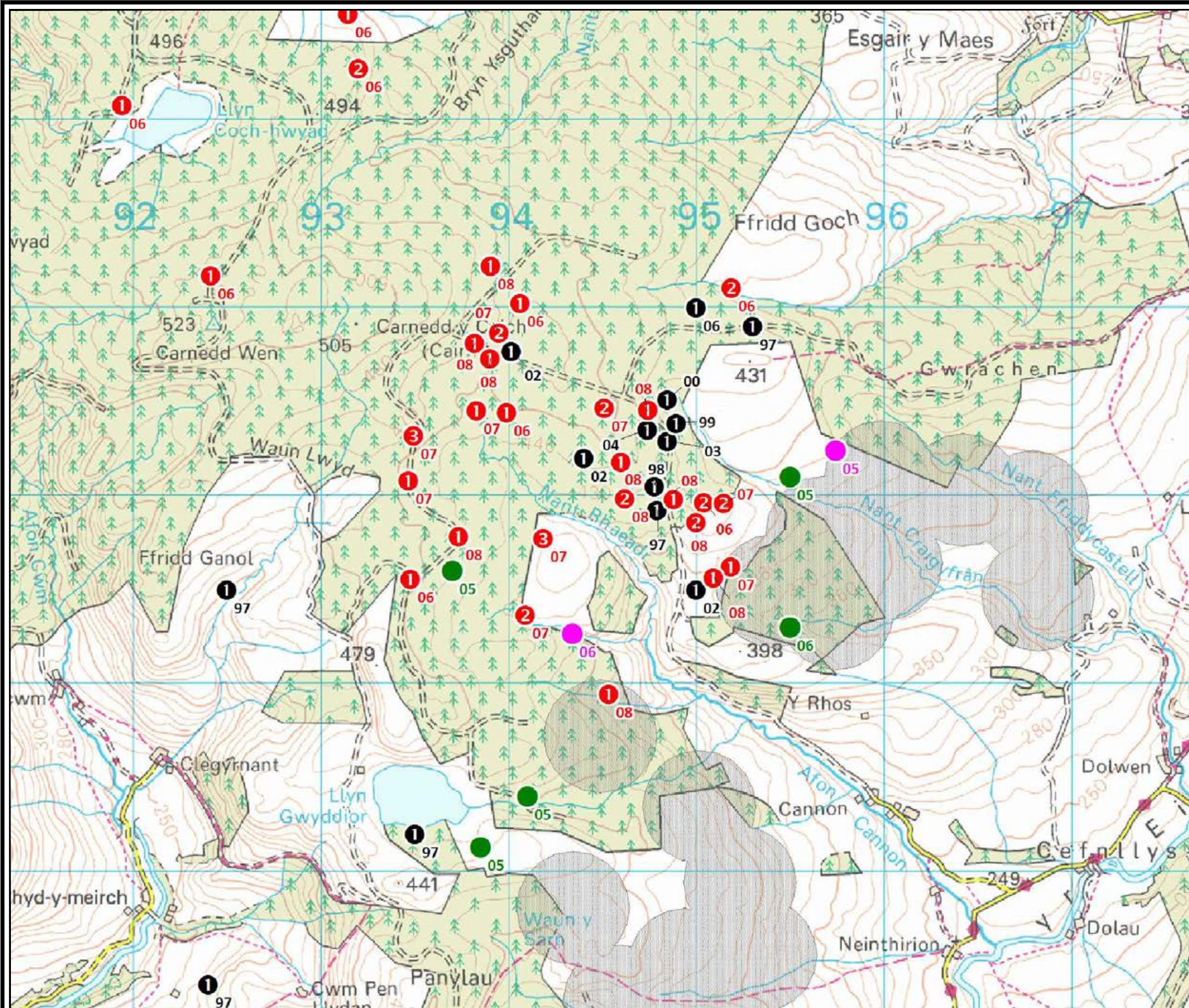
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LLANBRYNMAIR
WIND FARM


FIGURE 6.4

BLACK GROUSE



KEY: Black grouse

-  Lek - single male (RSPB/RES)
-  RES non-lek record (summer)
-  RES non-lek record (winter)
-  Lek - 2 males (RWE data)
-  Lek - single male (RWE data)
-  Lek - 3 males (RWE data)

 Proposed wind turbine 300m buffer



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2262-01

SCALE - 1:20,000

SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013

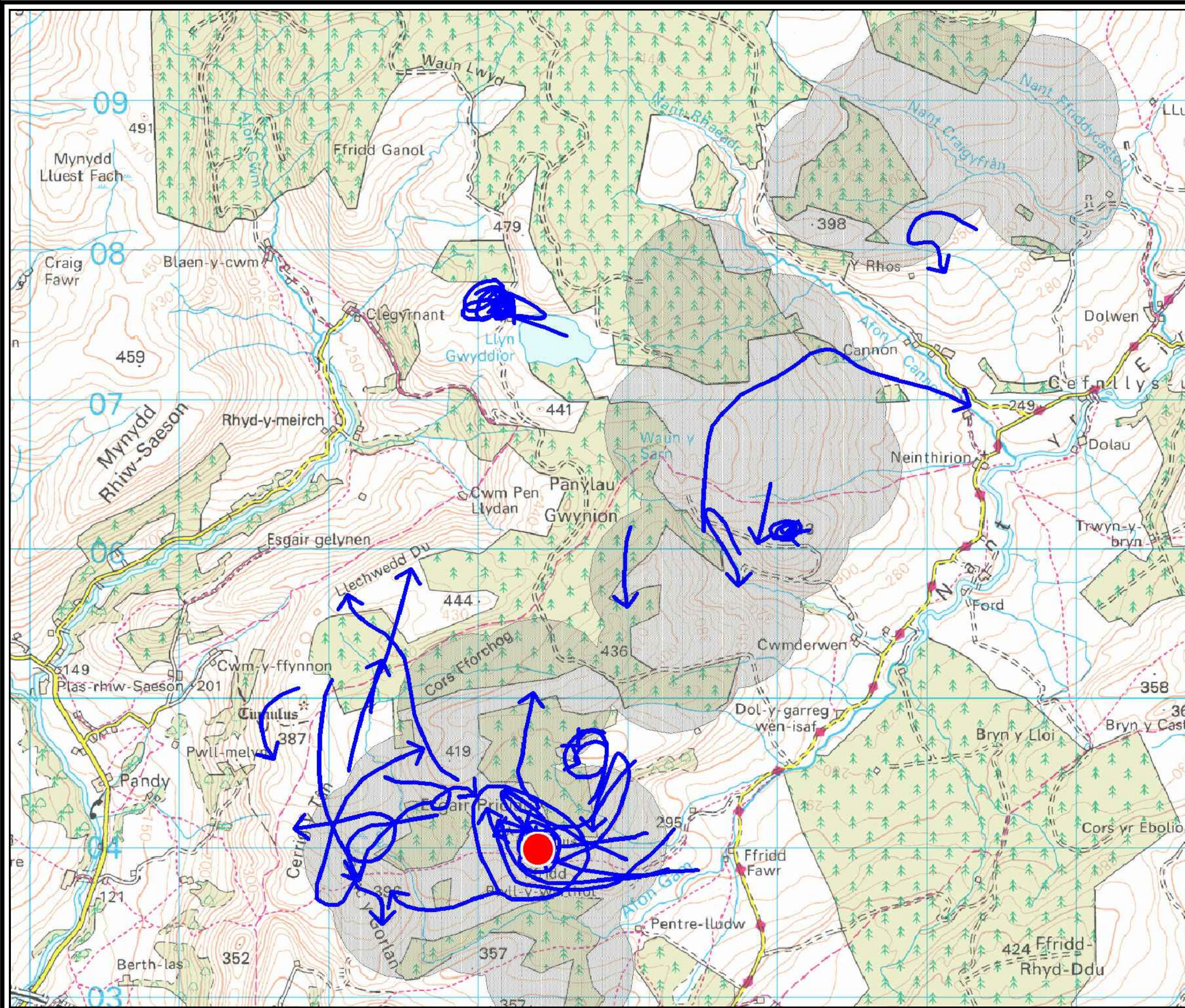
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LLANBRYNMAIR
WIND FARM

FIGURE 6.5

GOLDEN PLOVER



KEY: Golden plover
Winter 2005-06

● Ground record
[63 on 25/10]

→ Flight line

■ Proposed wind turbine
500m buffer



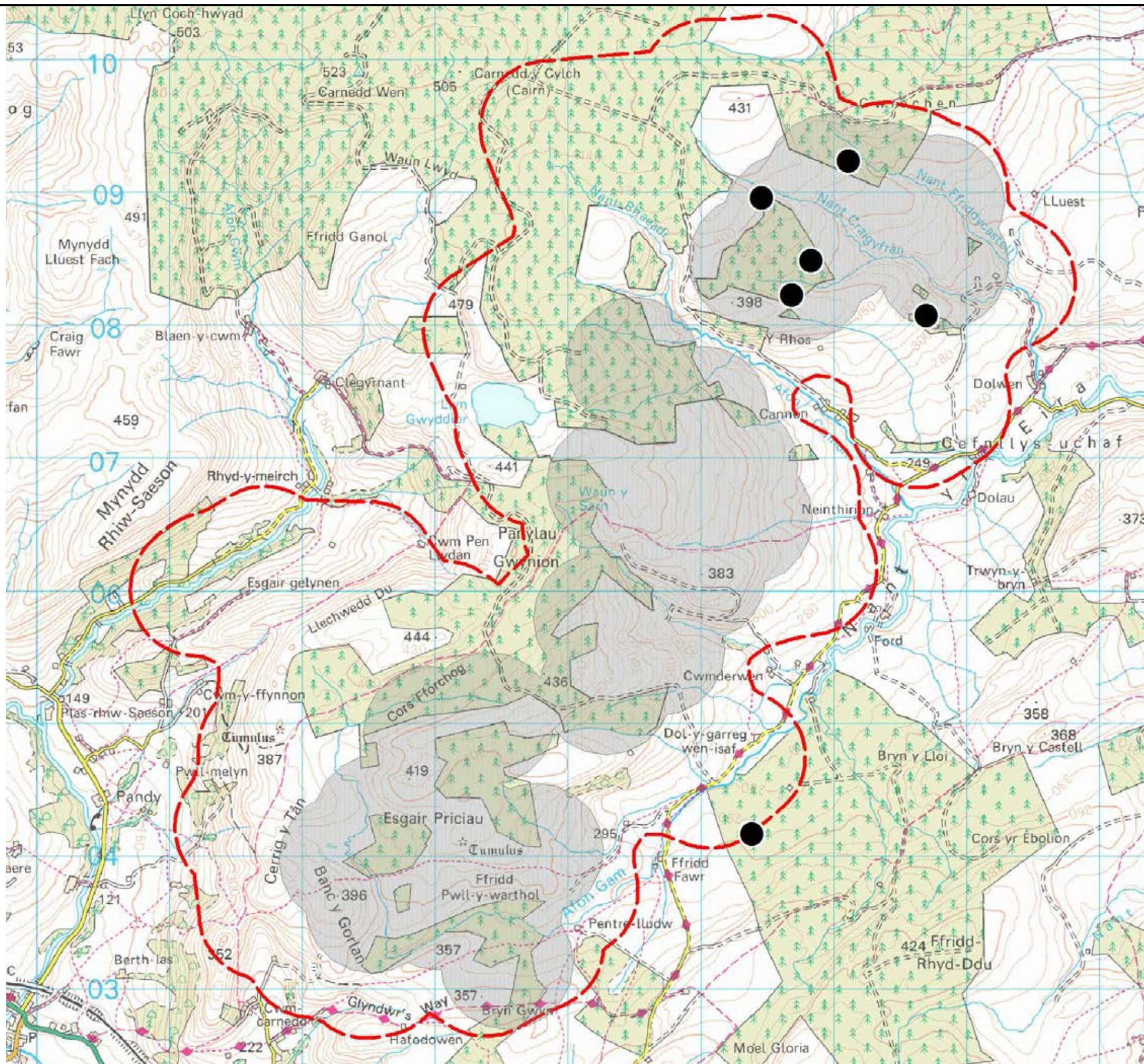
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SUPPLEMENTARY ENVIRONMENTAL INFORMATION 2013			
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LLANBRYNMAIR WIND FARM

FIGURE 6.6

CROSSBILL



KEY:

Crossbill records



Proposed wind turbine
500m buffer



Main bird
survey area



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER
01592D2264-01

SCALE - 1:30,000

SUPPLEMENTARY ENVIRONMENTAL
INFORMATION 2013

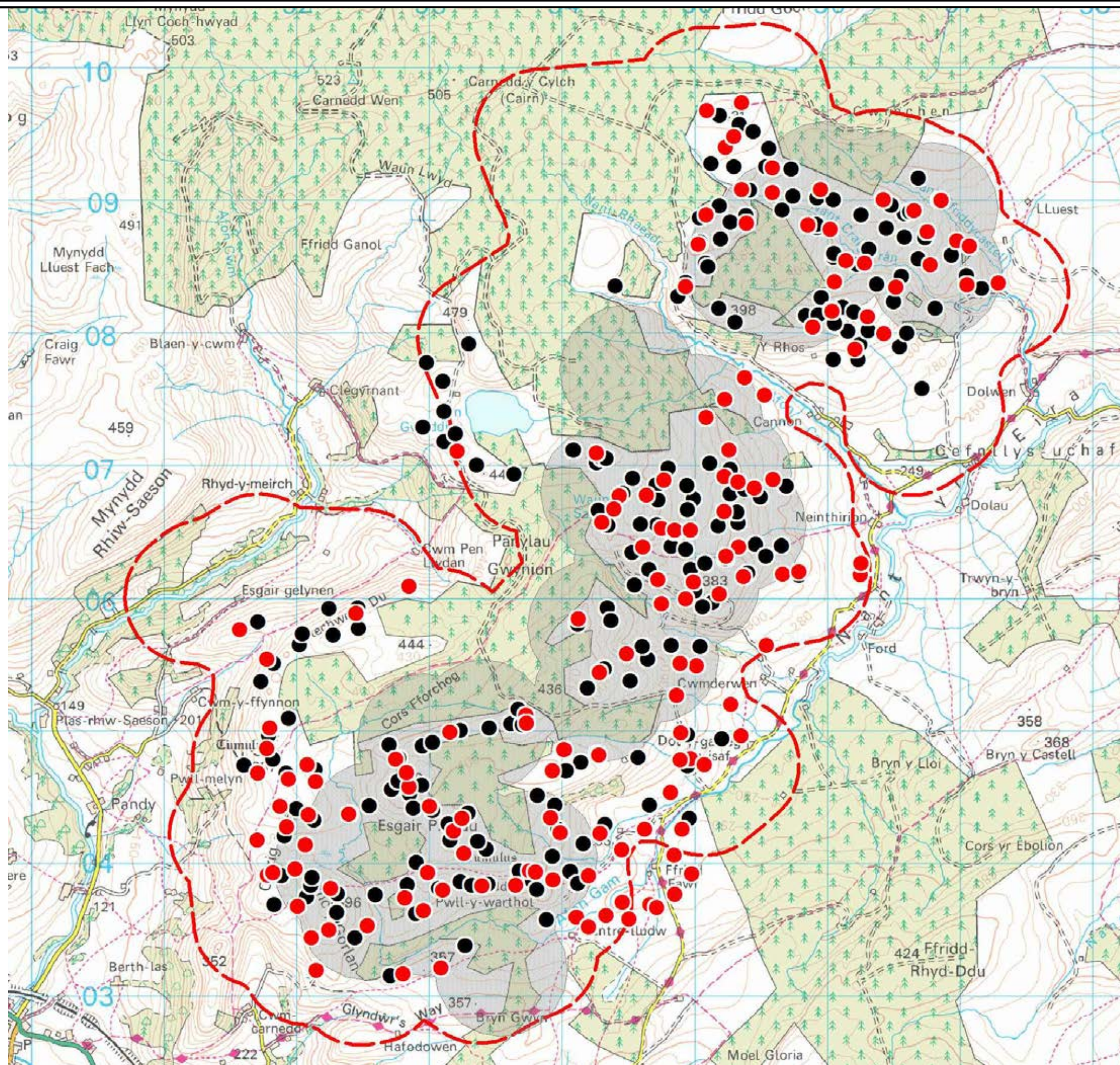
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LLANBRYNMAIR WIND FARM

FIGURE 6.7

SKYLARK



KEY:

Skylark Breeding

● 2006

● 2005

▭ Main bird survey area

▭ Proposed wind turbine 500m buffer



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2265-01

SCALE - 1:30,000

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LLANBRYNMAIR WIND FARM

FIGURE 6.8

DUNNOCK

KEY:

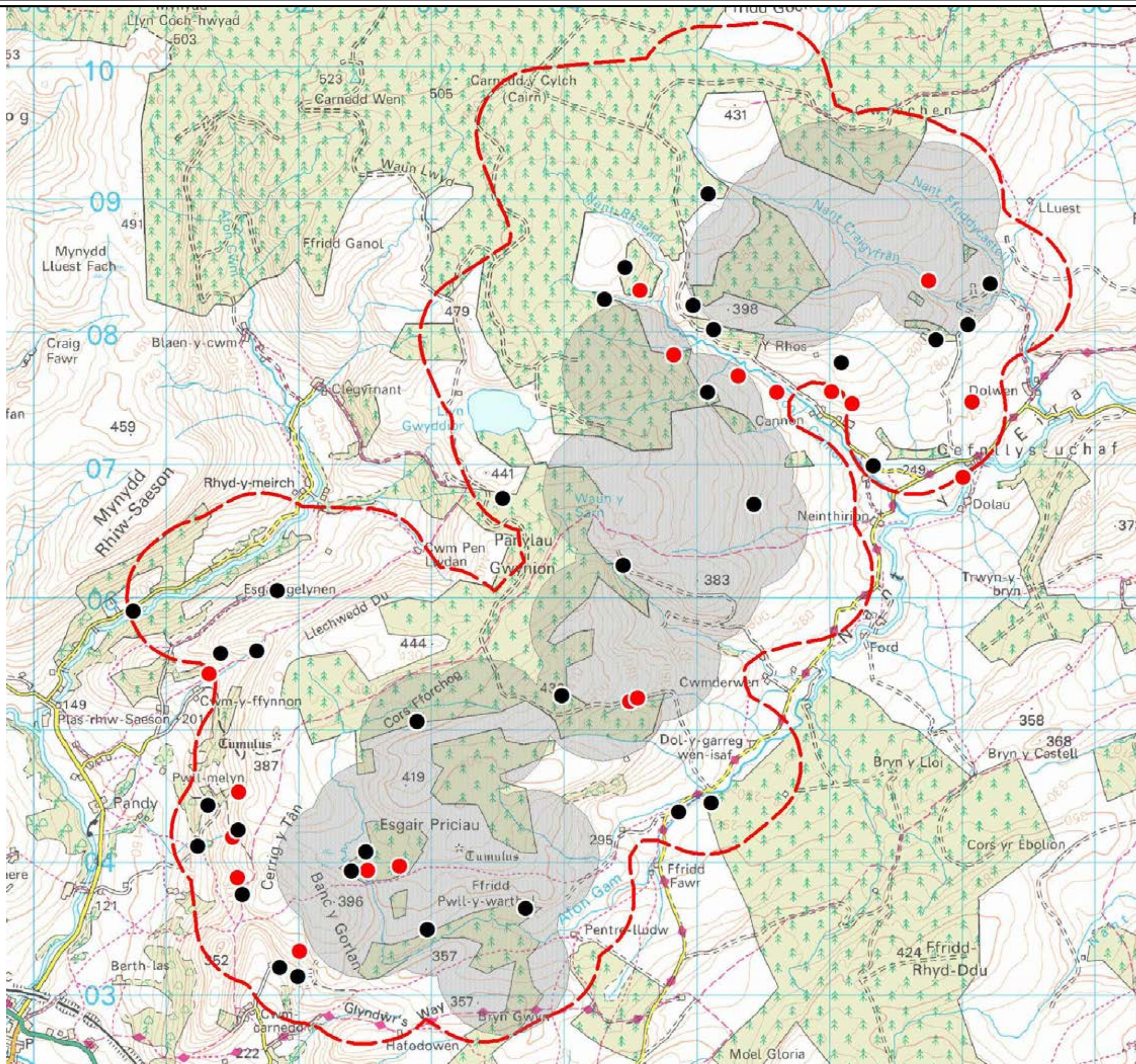
Dunnock Breeding

● 2006

● 2005

▭ Main bird survey area

▭ Proposed wind turbine 500m buffer



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2266-01

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LLANBRYNMAIR
WIND FARM

FIGURE 6.9a

OTHER SPECIES 2005



KEY:

- Breeding bird survey area 2005
- Proposed wind turbine 500m buffer

- KEY**
- K - Kestrel
 - RG - Red grouse
 - SN - Snipe
 - CK - Cuckoo
 - TP - Tree pipit
 - GH - Grasshopper warbler
 - WO - Wood warbler
 - SF - Spotted flycatcher
 - PF - Pied flycatcher
 - SG - Starling
 - HS - House sparrow
 - BF - Bullfinch
 - RB - Reed bunting



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2267-01

SCALE - 1:30,000

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LLANBRYNMAIR WIND FARM

FIGURE 6.9b

OTHER SPECIES 2006



KEY:

- Breeding bird survey area 2006
- Proposed wind turbine 500m buffer

- KEY**
- K - Kestrel
 - RG - Red grouse
 - SN - Snipe
 - CK - Cuckoo
 - TP - Tree pipit
 - GH - Grasshopper warbler
 - WO - Wood warbler
 - SF - Spotted flycatcher
 - PF - Pied flycatcher
 - SG - Starling
 - HS - House sparrow
 - BF - Bullfinch
 - RB - Reed bunting



LAYOUT DWG N/A T-LAYOUT NO. N/A

DRAWING NUMBER 01592D2268-01

SCALE - 1:30,000

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CHAPTER 7: CULTURAL HERITAGE ASSESSMENT FIGURES



LLANBRYNMAIR WINDFARM

FIGURE 7.1

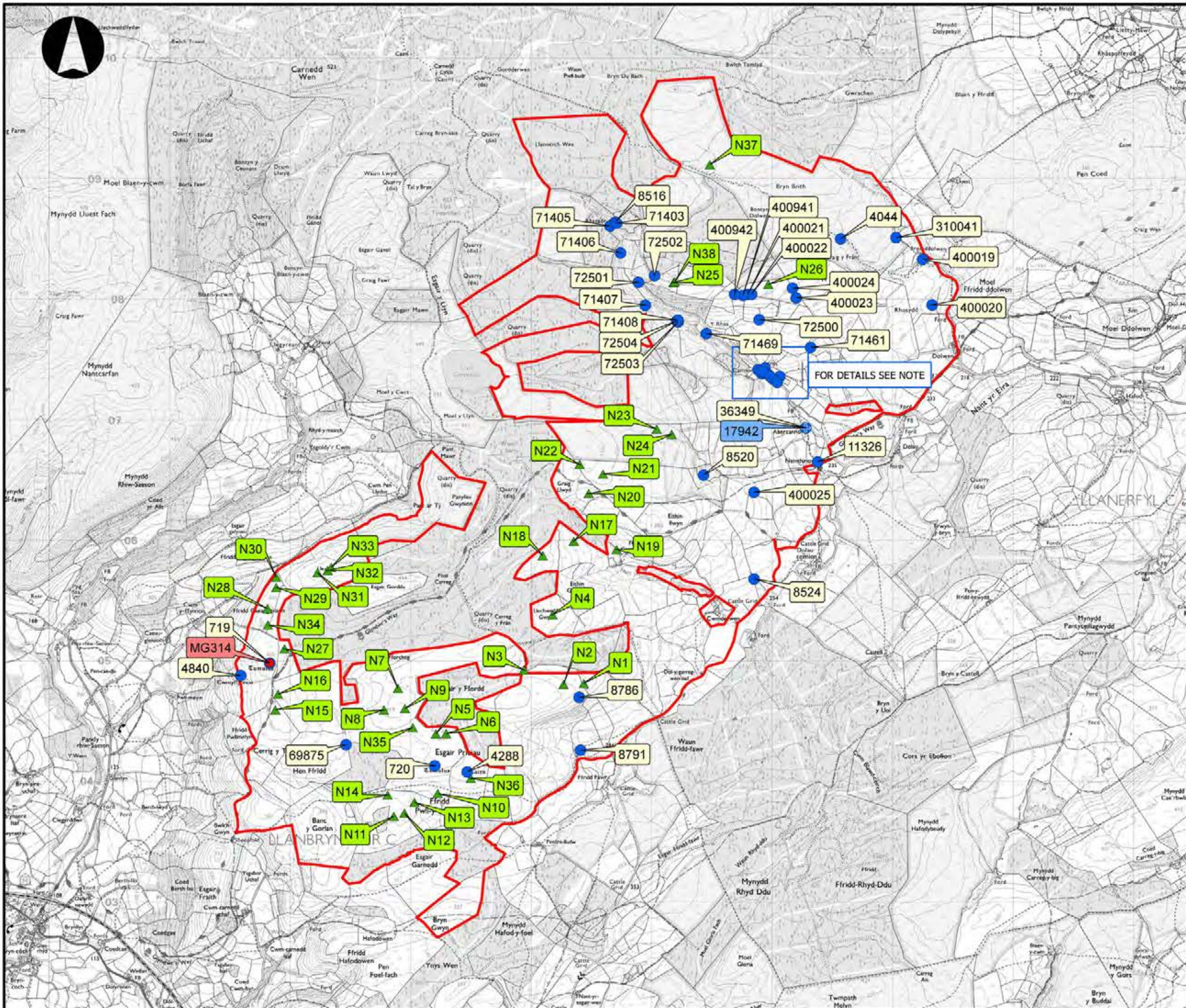
HISTORIC ASSETS WITHIN SITE BOUNDARY

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NUMBER 0100031673

Legend

- Scheduled Ancient Monument
- Grade II Listed Building
- Previously recorded archaeological site
- Archaeological site recorded on site visit
- Application Site

NOTE: 12 previously recorded archaeological sites; ID numbers 71346-71350, 71400, 71462-71467



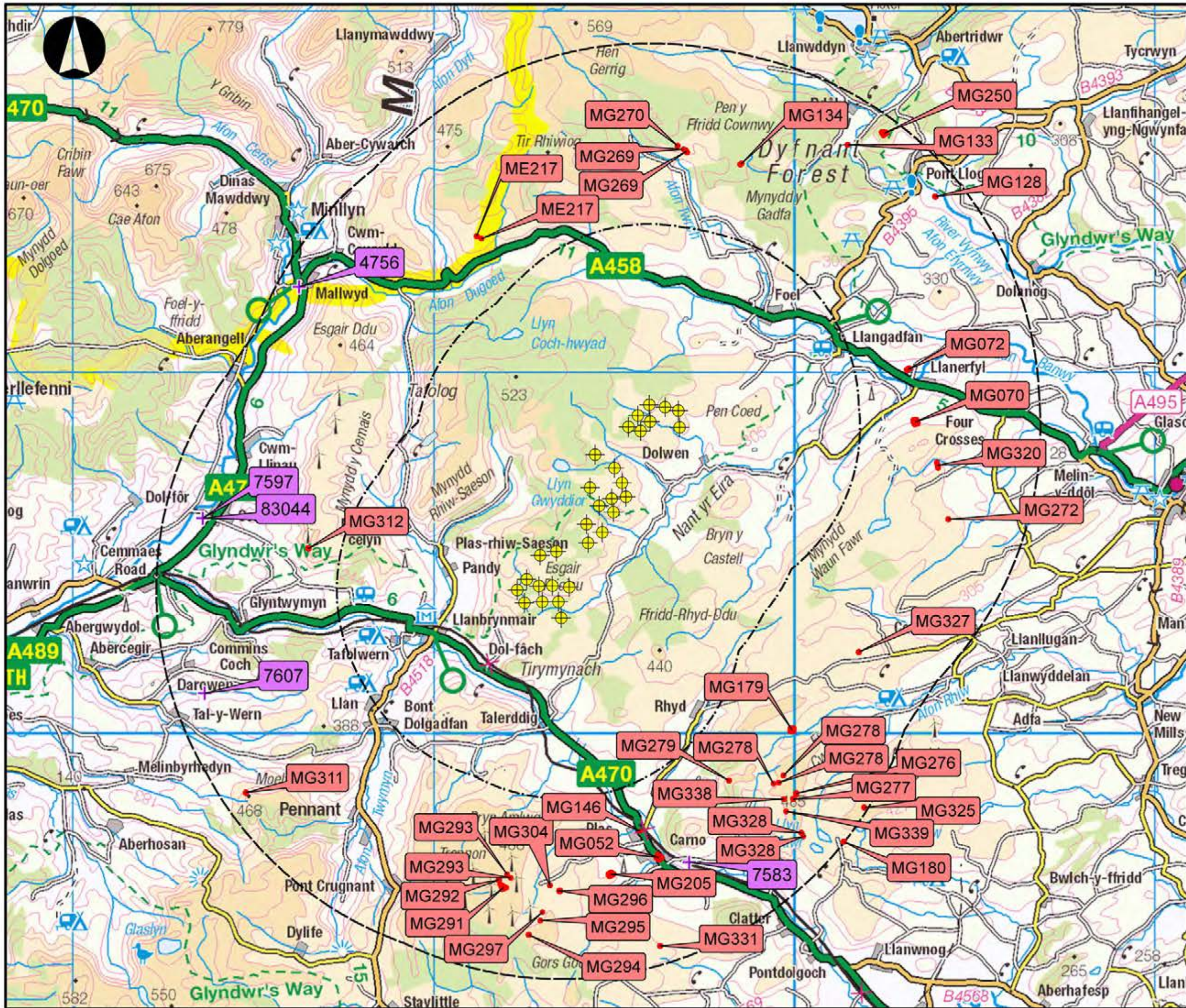
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DRAWING NUMBER: N/A

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LLANBRYNMAIR WINDFARM

FIGURE 7.3

SELECTED DESIGNATED HISTORIC ASSETS WITHIN 5-10KM OF A WIND TURBINE

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NUMBER 0100031673

Legend

- Scheduled Monument
- + Grade II* Listed Building
- ⊕ Turbine
- 5km Buffer
- 10km Buffer

LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:100,000

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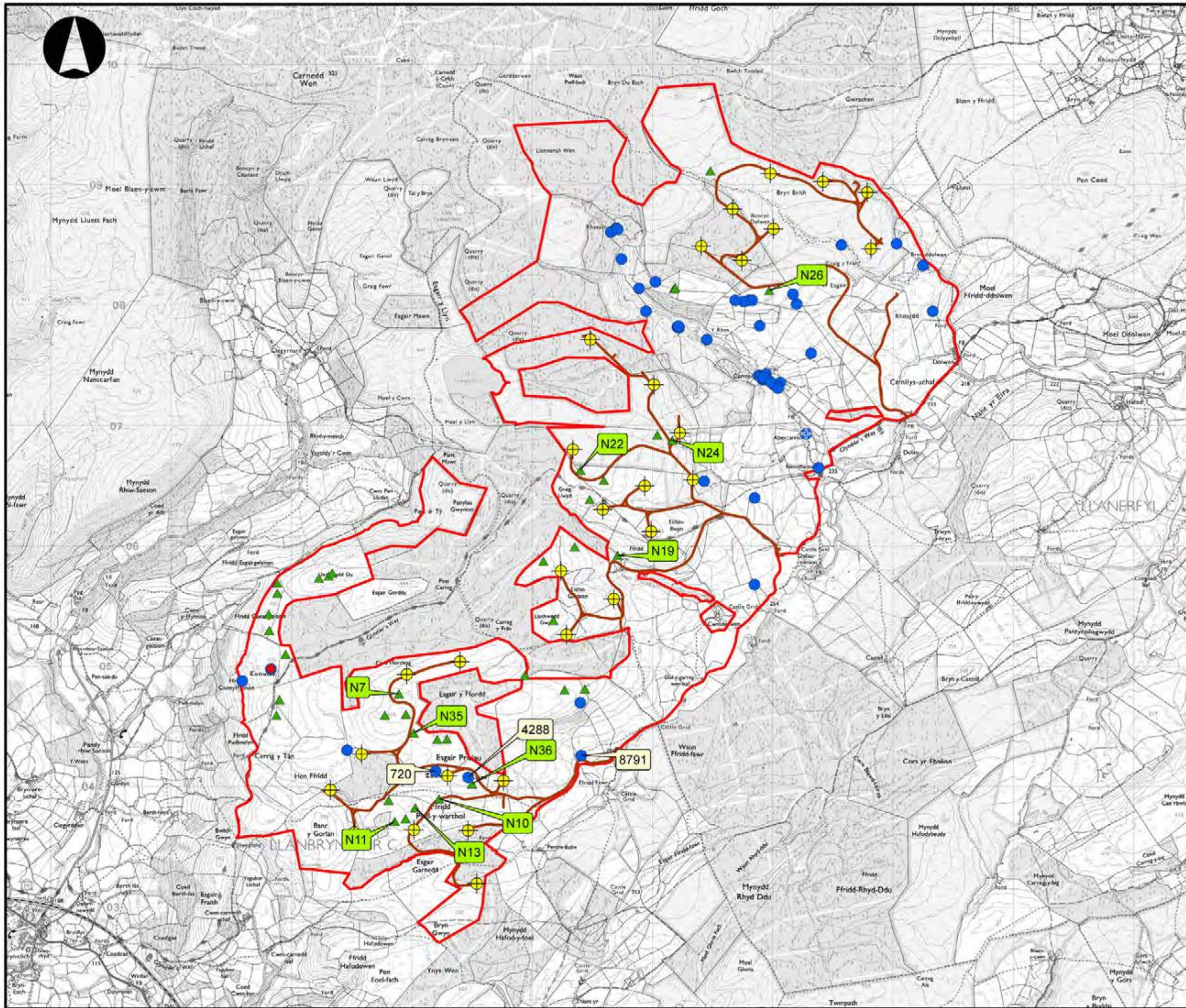
LLANBRYNMAIR WINDFARM

FIGURE 7.4 HISTORIC ASSETS WITHIN SITE BOUNDARY IN RELATION TO THE PROPOSED LAYOUT

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NUMBER 0100031673

Legend

- Scheduled Ancient Monument
- + Grade II Listed Building
- Previously recorded archaeological site
- ▲ Archaeological site recorded on site visit
- ⊕ Turbine
- Tracks
- Application Site



LAYOUT DATE: N/A

LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:30000

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LLANBRYNMAIR WINDFARM

FIGURE 7.5

DESIGNATED HISTORIC ASSETS UP TO 5KM IN RELATION TO THE ZTV

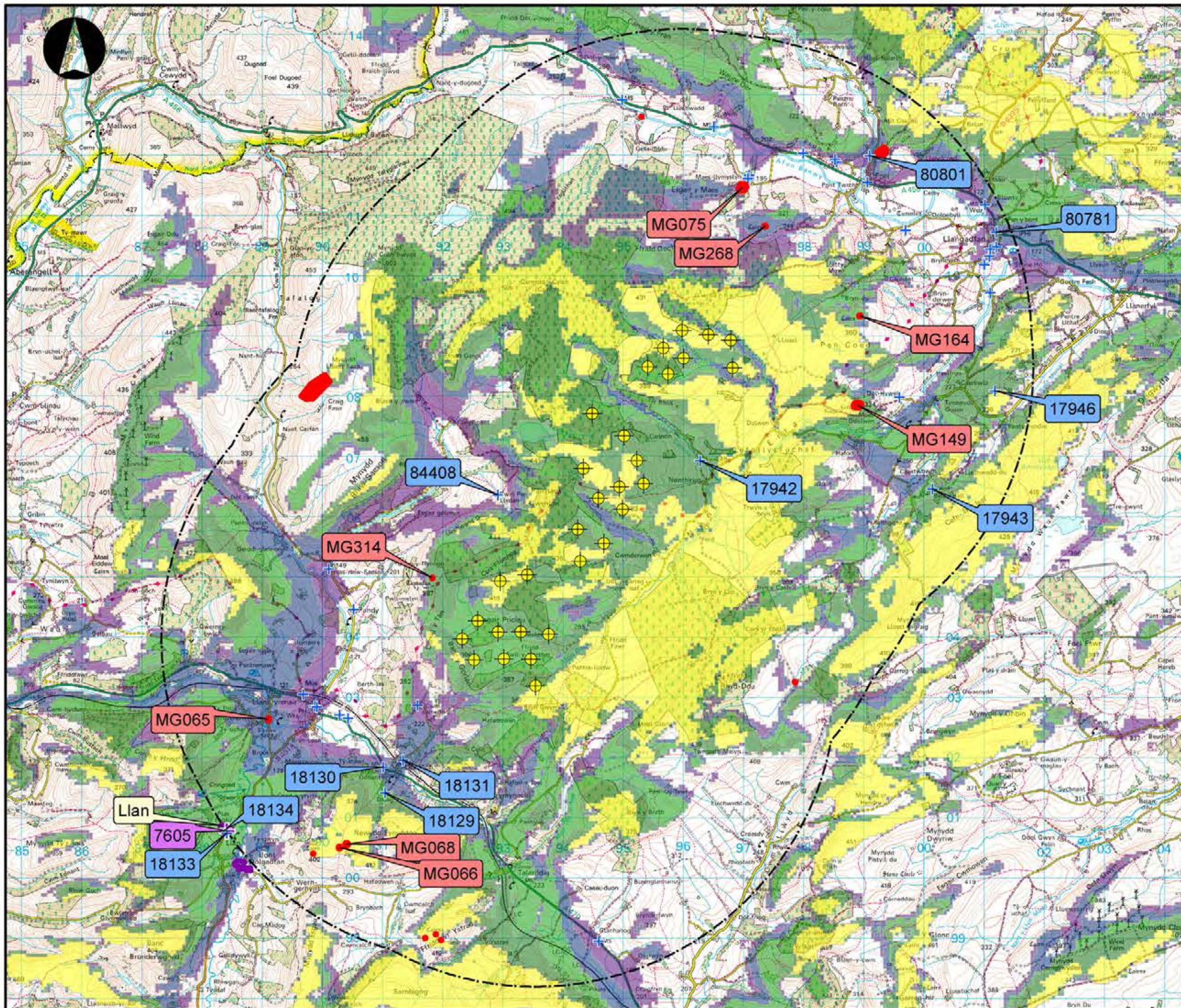
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NUMBER 0100031673

Legend

- Scheduled Monument
- Grade II* Listed Building
- Grade II Listed Building
- Conservation Areas
- Turbine
- 5km Buffer

Number of turbines visible

- 1-3
- 4-8
- 9-14
- 15-23
- 24-30



LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:60000

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FIGURE 7.6

SELECTED DESIGNATED HISTORIC ASSETS 5-10KM IN RELATION TO THE ZTV

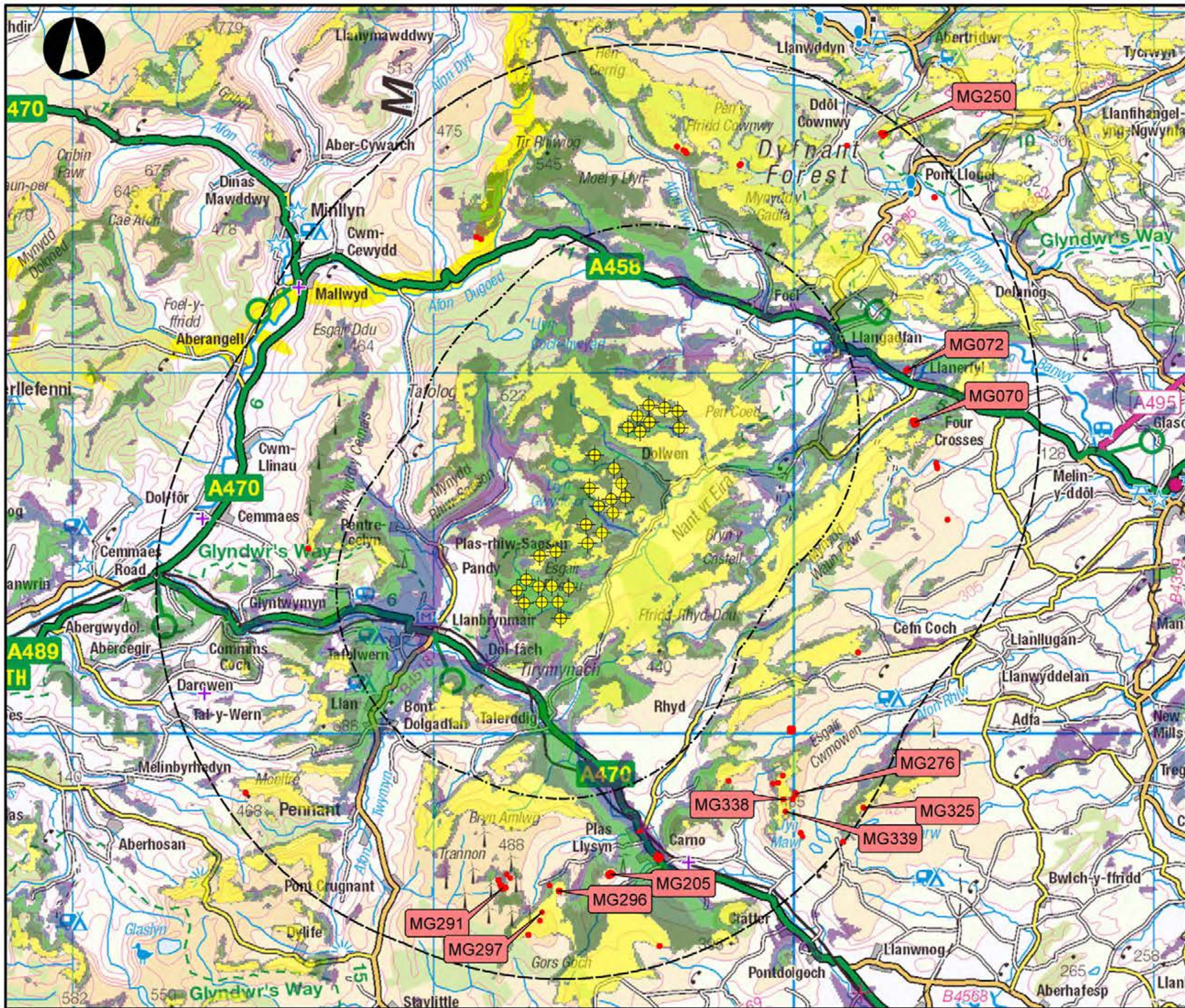
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NUMBER 0100031673

Legend

- Scheduled Monument
- Grade II* Listed Building
- Turbine
- 5km Buffer
- 10km Buffer

Number of turbines visible

- 1-3
- 4-8
- 9-14
- 15-23
- 24-30



LAYOUT DATE: N/A | LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:100000

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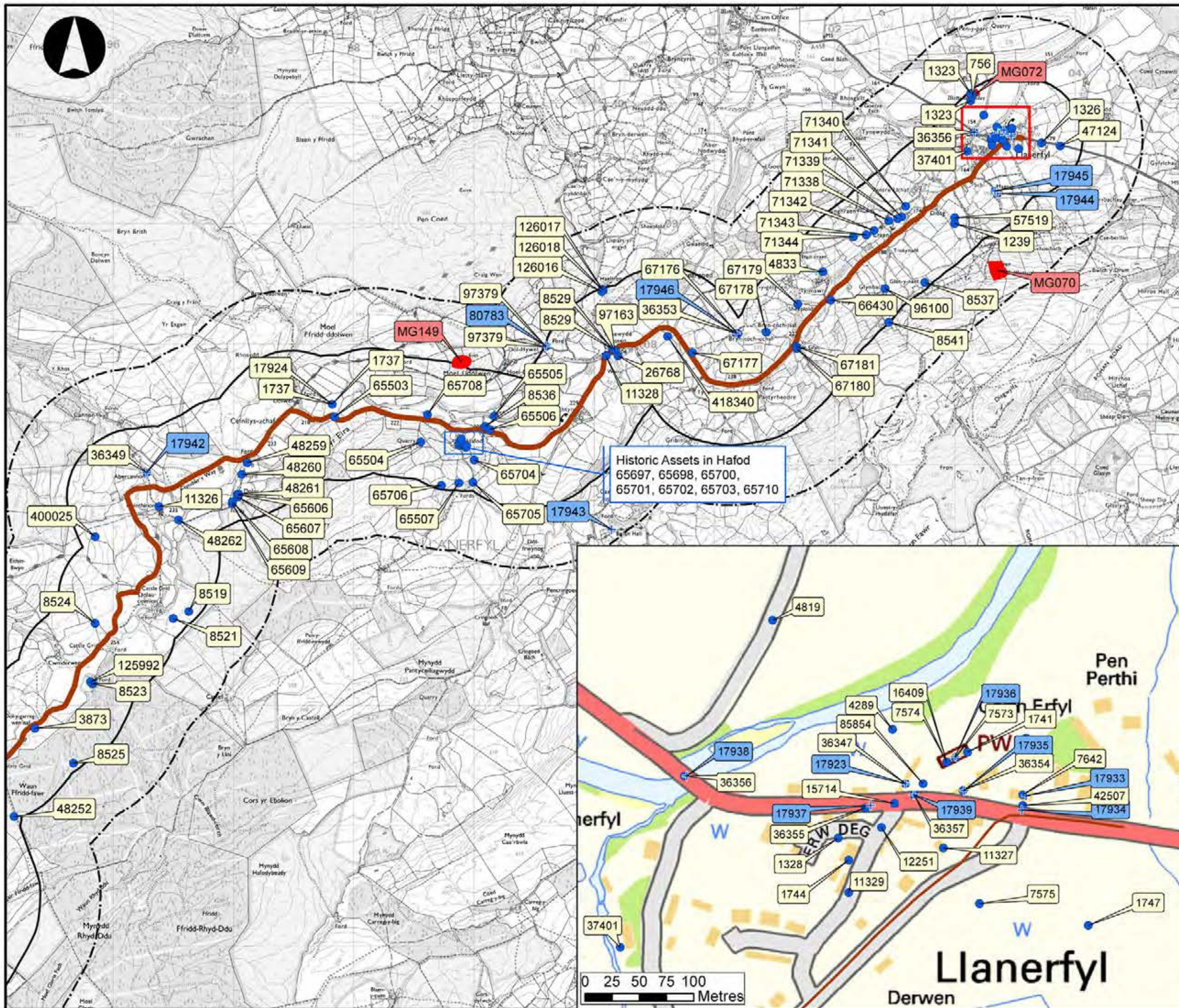
LLANBRYNMAIR WINDFARM

FIGURE 7.7a
HERITAGE ASSETS
IN RELATION TO
OFF SITE HIGHWAYS WORKS
NORTH (LLANERFYL)

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 NUMBER 0100031673

Legend

- Scheduled Monument
- + Grade II Listed Building
- Undesignated Heritage Asset
- Off Site Highways Works
- 500m Buffer
- 1km Buffer



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 on the Ancient and Historical Monuments of Wales

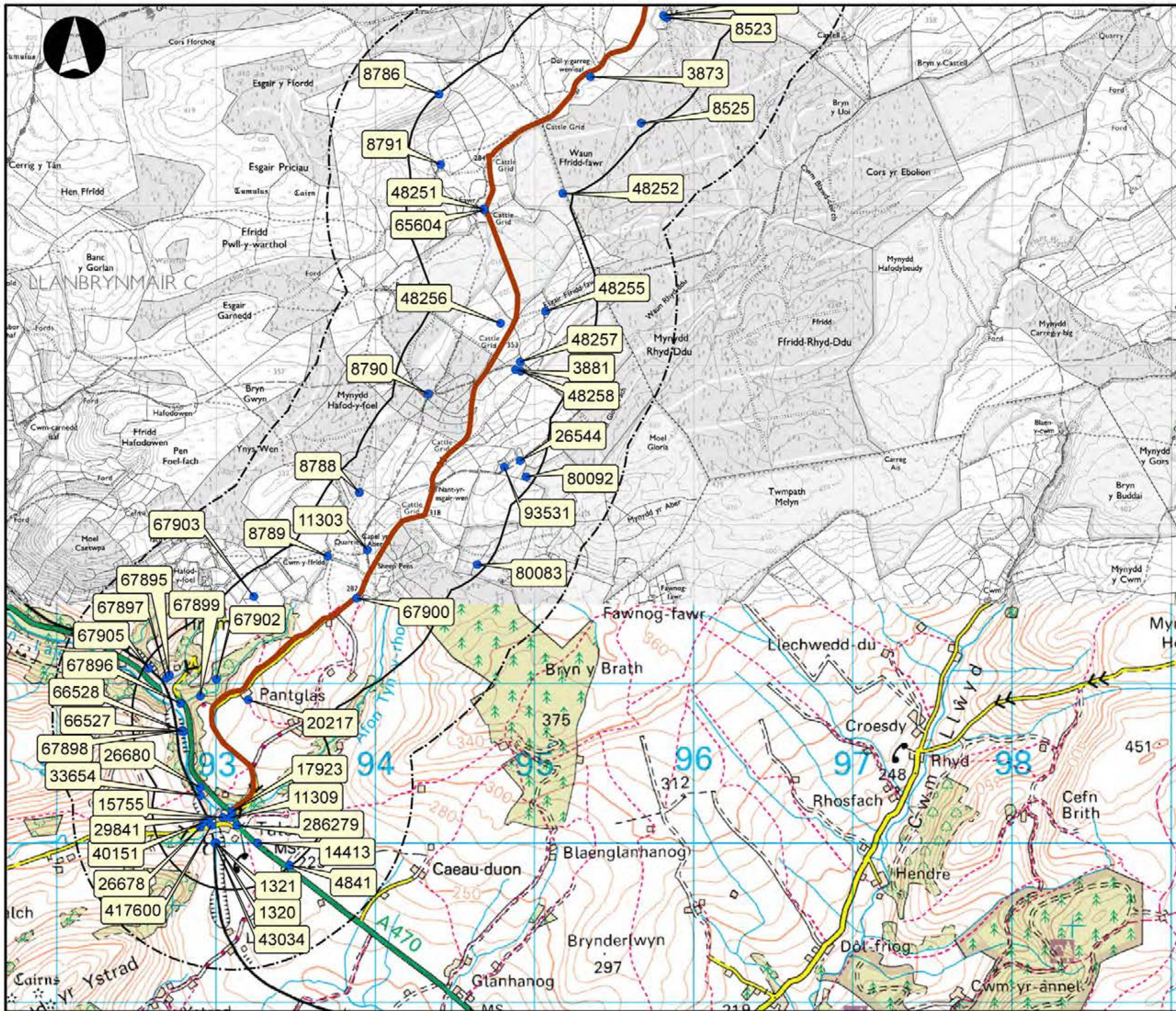
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:30000

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LLANBRYNMAIR WINDFARM

**FIGURE 7.7b
HERITAGE ASSETS
IN RELATION TO
OFF SITE HIGHWAYS WORKS
SOUTH (TALLERDIG)**

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Legend

- Scheduled Monument
- Grade II Listed Building
- Undesignated Heritage Asset
- Off Site Highways Works
- 500m Buffer
- 1km Buffer

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on the Ancient and Historical Monuments of Wales

LAYOUT DATE: N/A LAYOUT NO.: N/A

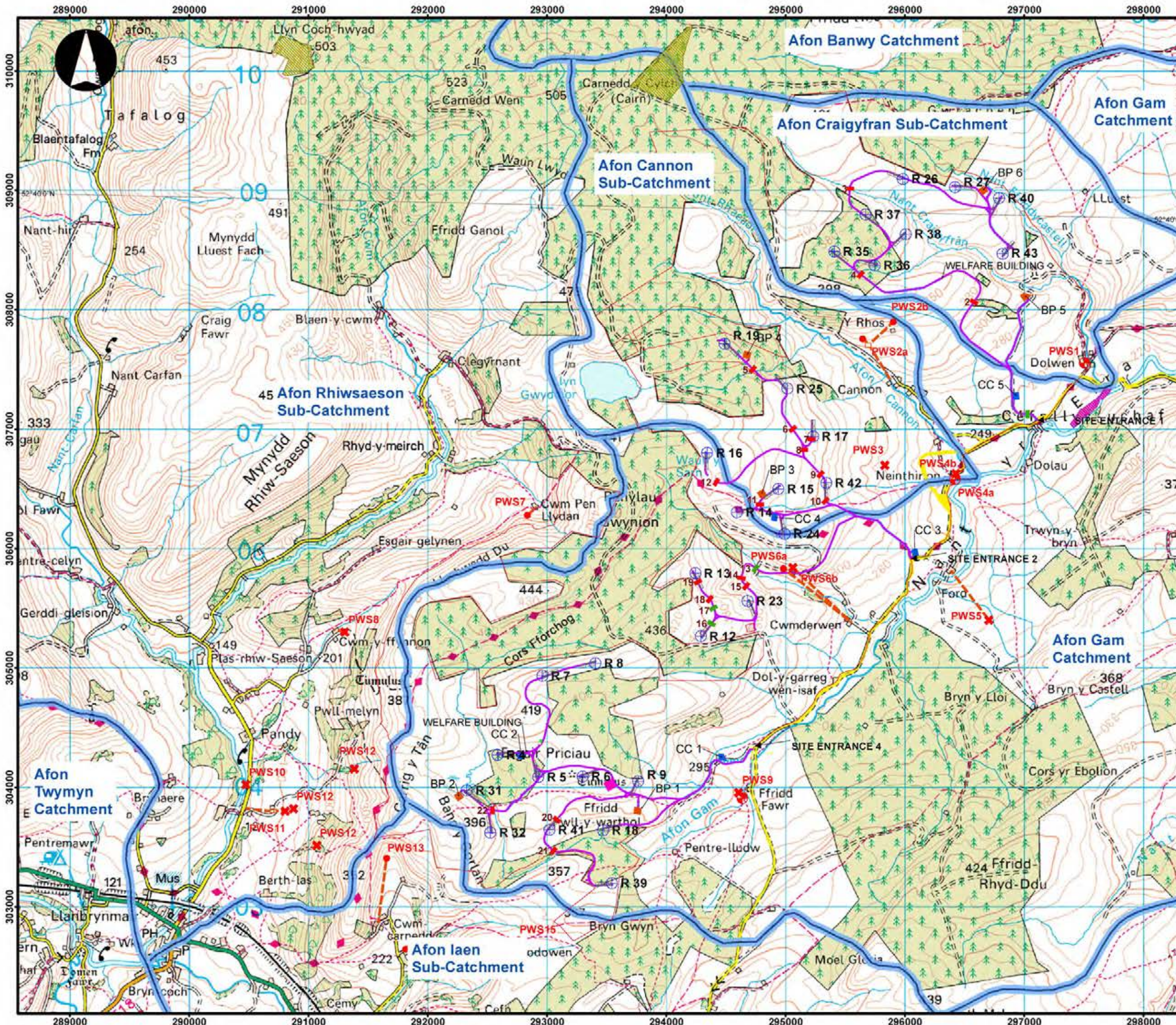
DRAWING NUMBER: N/A

SCALE - 1:30000

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CHAPTER 8: GEOLOGY, HYDROLOGY AND HYDROGEOLOGY FIGURES



LLANBRYNMAIR WINDFARM

FIGURE 8.1

WATER FEATURES MAP

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NUMBER 0100031673

- KEY:**
- WIND TURBINE
 - HARDSTANDING
 - SITE ACCESS TRACK
 - EXISTING TRACK
 - BORROW PIT
 - CONSTRUCTION COMPOUND
 - SUBSTATION
 - BATCHING PLANT
 - WELFARE BUILDING
 - PERMANENT MAST
 - SITE BOUNDARY
 - TRANSPORT ROUTE
 - WATER CROSSING EXISTING
 - WATER CROSSING NEW
 - BOREHOLE PRIVATE WATER SUPPLY
 - SPRING PRIVATE WATER SUPPLY
 - WELL PRIVATE WATER SUPPLY
 - CORSYDD LLANBRYNMAIR
 - GWEUNYDD DOLWEN
 - SURFACE WATER CATCHMENT BOUNDARY

LAYOUT DATE: N/A | LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:30000

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292000

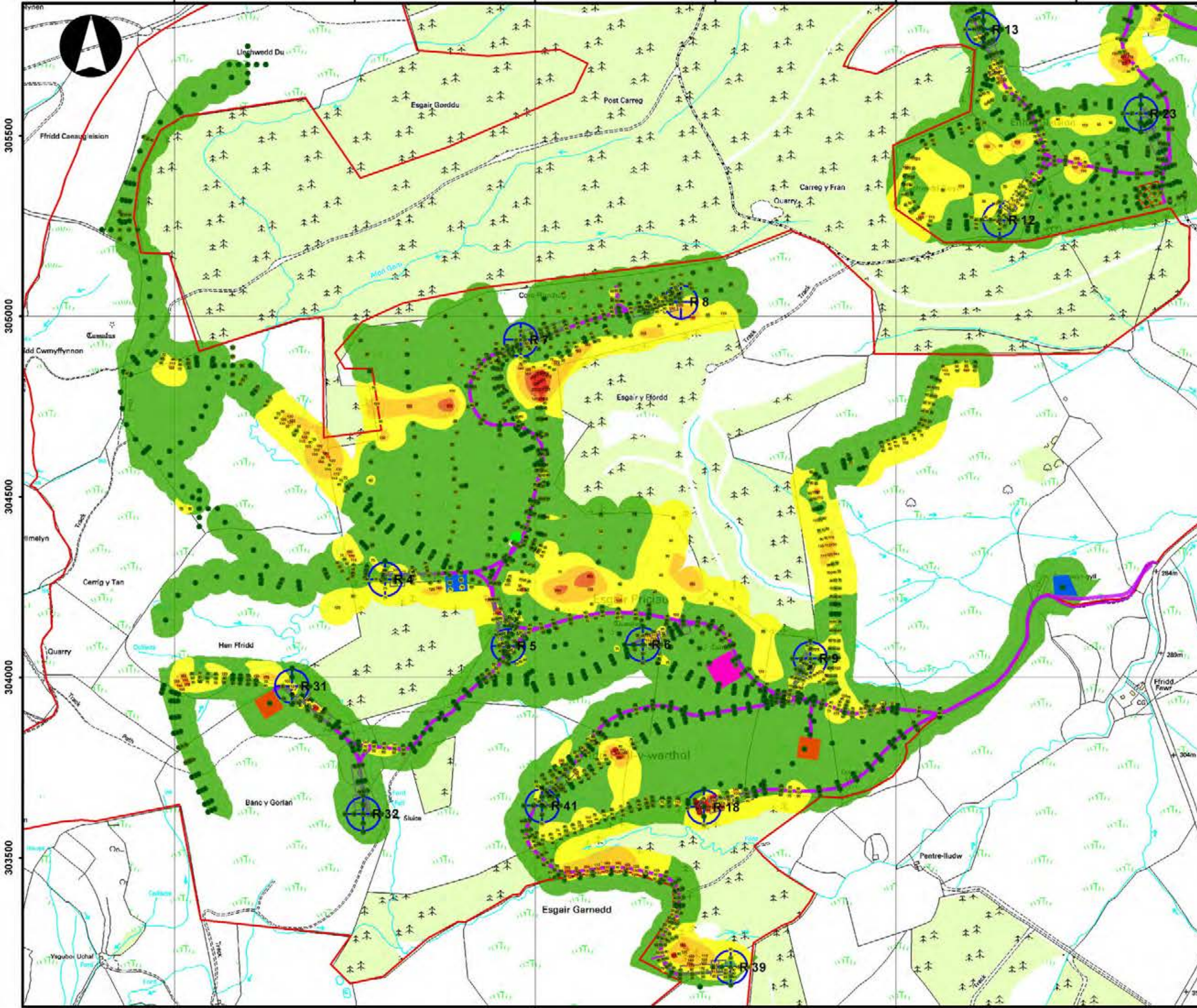
292500

293000

293500

294000

294500



LLANBRYNMAIR WINDFARM

FIGURE 8.2A

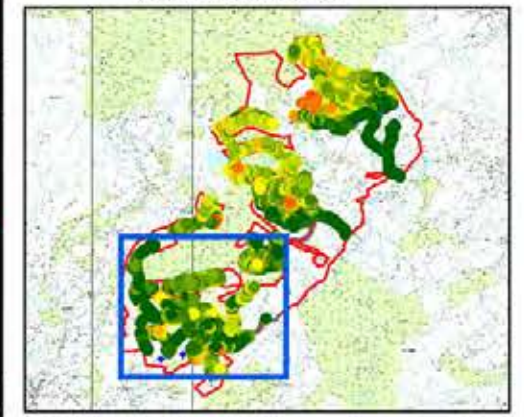
MAXIMUM PEAT DEPTH CONTOUR PLAN

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NUMBER 0100031673

- KEY:**
- WIND TURBINE
 - HARDSTANDING
 - SITE ACCESS TRACK
 - BORROW PIT
 - CONSTRUCTION COMPOUND
 - WELFARE BUILDING
 - SUBSTATION
 - BATCHING PLANT
 - PERMANENT MAST
 - SITE BOUNDARY

- PEAT DEPTH (METRES)**
- 0 - 50
 - 50 - 100
 - 100 - 150
 - 150 - 200
 - 200+

NOTE: DEPTHS PRESENTED ARE PROBE PENETRATION DEPTHS AND THEREFORE ARE MAXIMUM POSSIBLE DEPTHS



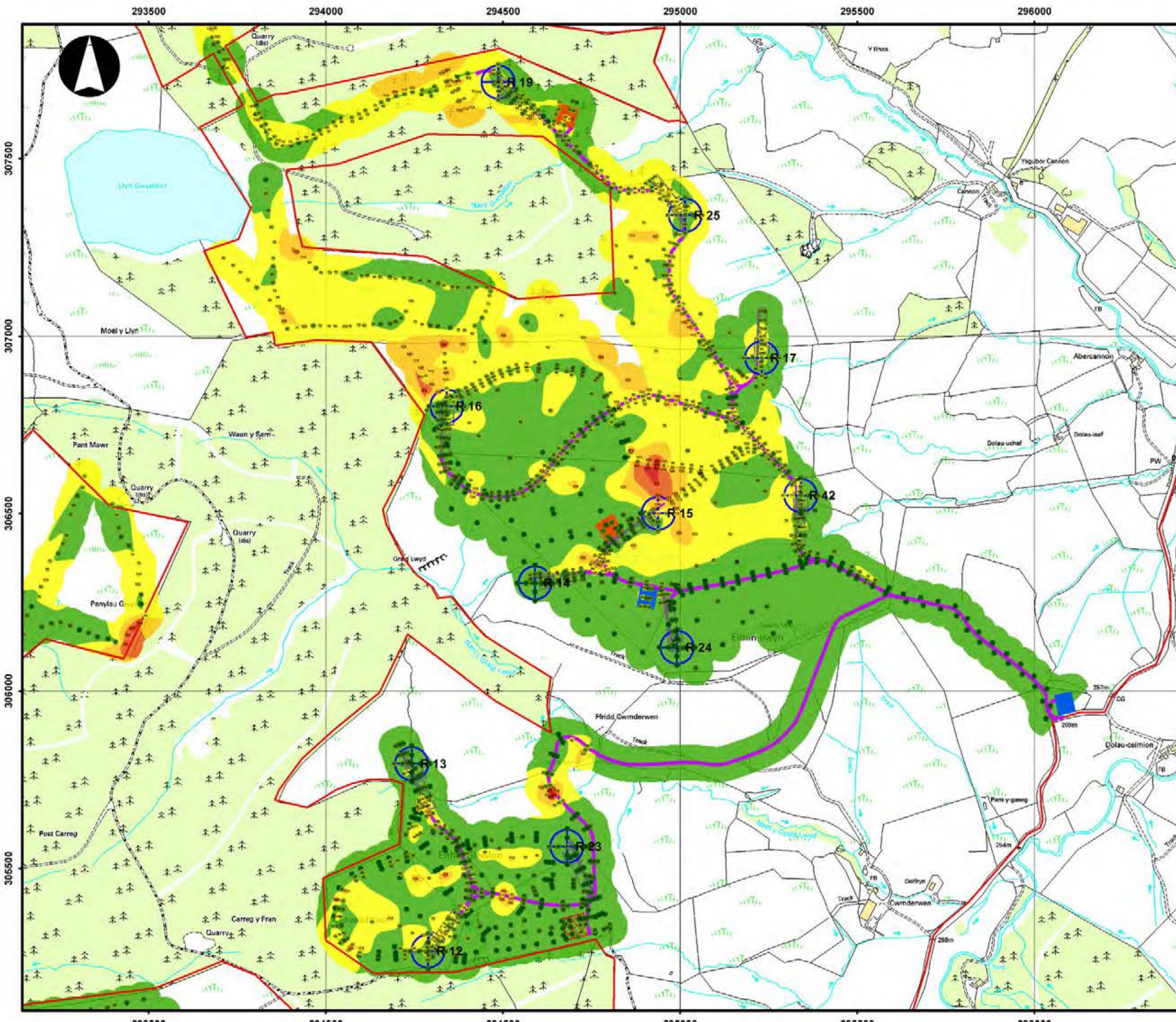
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:10000

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LLANBRYNMAIR WINDFARM

FIGURE 8.2B

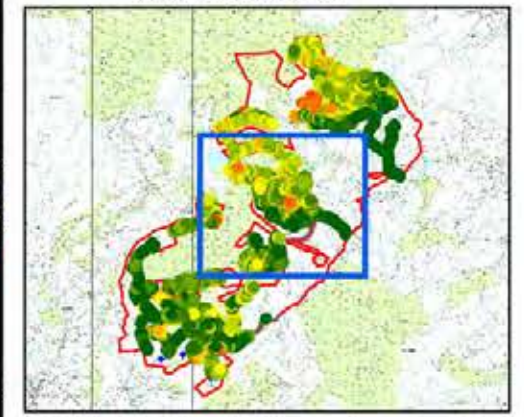
MAXIMUM PEAT DEPTH CONTOUR PLAN

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- KEY:**
- WIND TURBINE
 - HARDSTANDING
 - SITE ACCESS TRACK
 - BORROW PIT
 - CONSTRUCTION COMPOUND
 - WELFARE BUILDING
 - SUBSTATION
 - BATCHING PLANT
 - PERMANENT MAST
 - SITE BOUNDARY

- PEAT DEPTH (METRES)**
- 0 - 50
 - 50 - 100
 - 100 - 150
 - 150 - 200
 - 200+

NOTE: DEPTHS PRESENTED ARE PROBE PENETRATION DEPTHS AND THEREFORE ARE MAXIMUM POSSIBLE DEPTHS



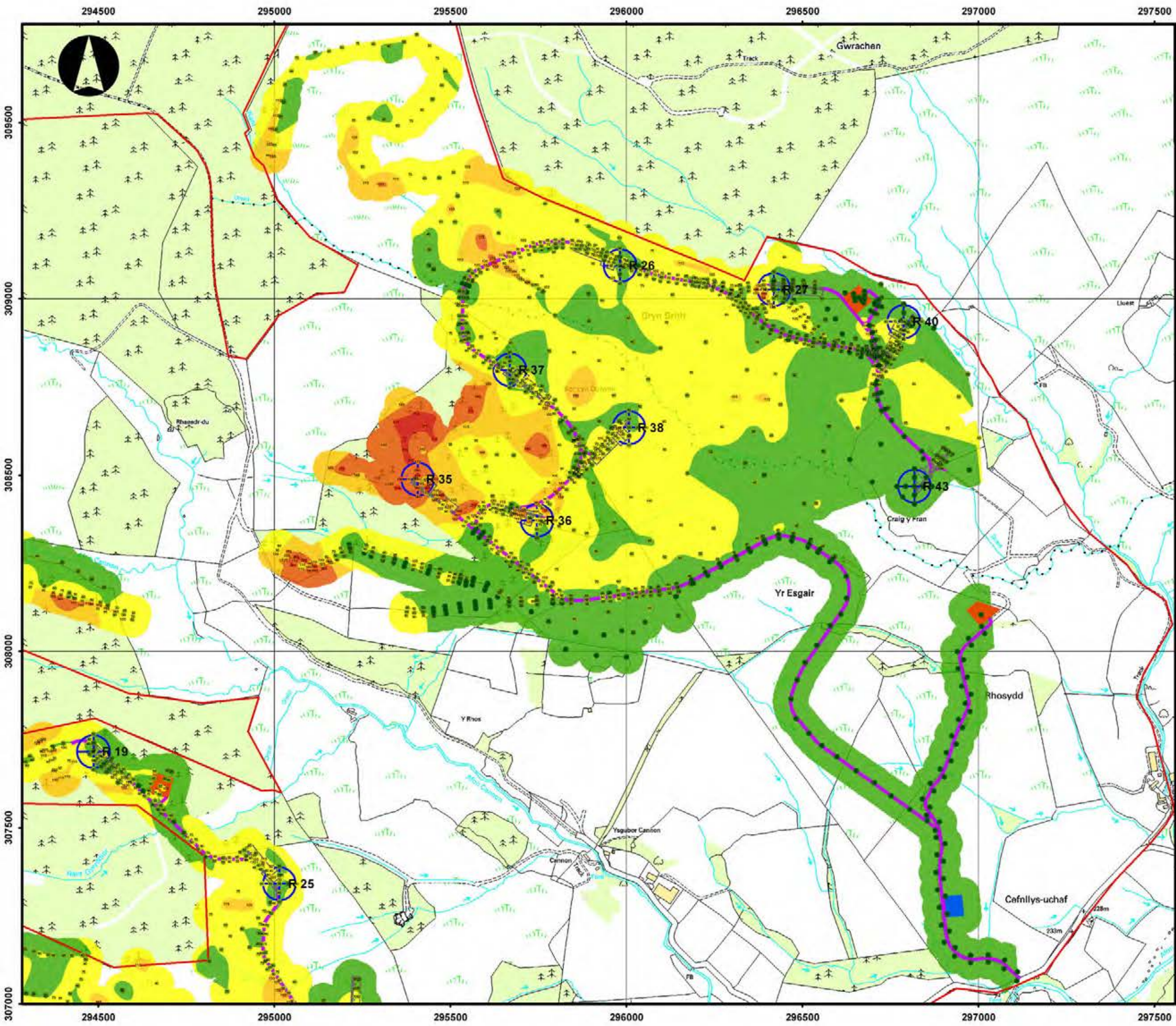
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:10000

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LLANBRYNMAIR WINDFARM

FIGURE 8.2C

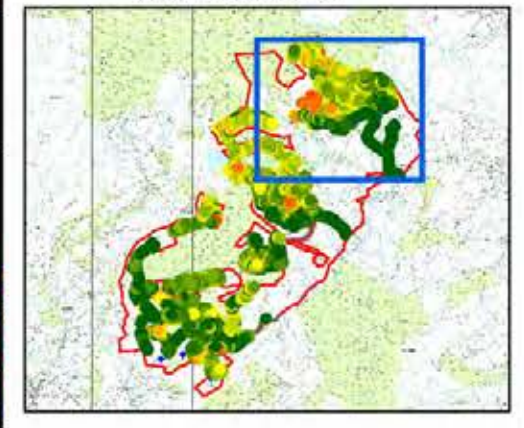
MAXIMUM PEAT DEPTH CONTOUR PLAN

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- KEY:**
- WIND TURBINE
 - HARDSTANDING
 - SITE ACCESS TRACK
 - BORROW PIT
 - CONSTRUCTION COMPOUND
 - WELFARE BUILDING
 - SUBSTATION
 - BATCHING PLANT
 - PERMANENT MAST
 - SITE BOUNDARY

- PEAT DEPTH (METRES)**
- 0 - 50
 - 50 - 100
 - 100 - 150
 - 150 - 200
 - 200+

NOTE: DEPTHS PRESENTED ARE PROBE PENETRATION DEPTHS AND THEREFORE ARE MAXIMUM POSSIBLE DEPTHS



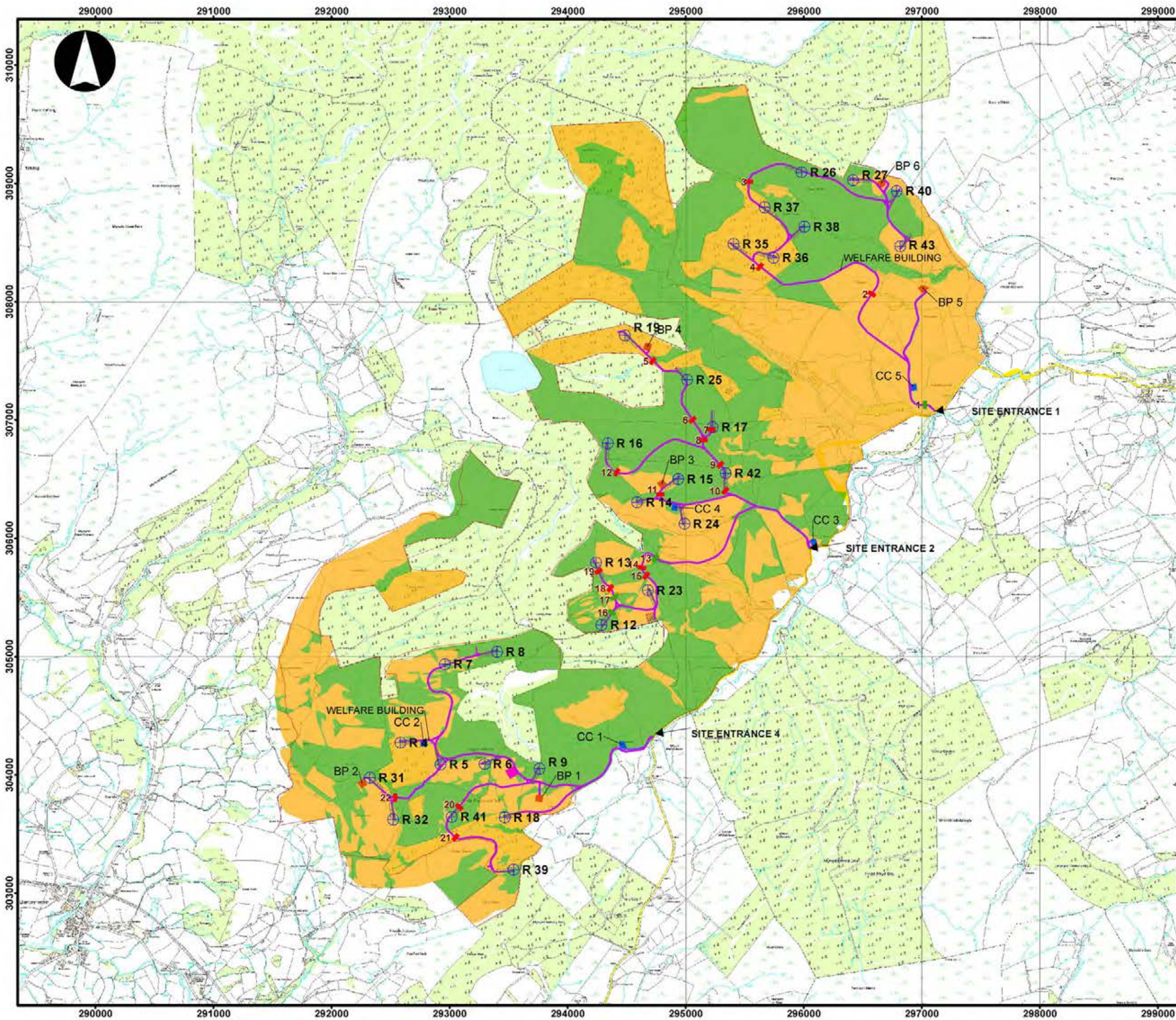
LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:10000

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**LLANBRYNMAIR
WINDFARM**

FIGURE 8.3

**INTERPRETED GROUND
WATER LEVEL**

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NUMBER 0100031673

KEY:

- WIND TURBINE
- HARDSTANDING
- SITE ACCESS TRACK
- BORROW PIT
- CONSTRUCTION COMPOUND
- SUBSTATION
- BATCHING PLANT
- WELFARE BUILDING
- PERMANENT MAST
- SITE BOUNDARY
- TRANSPORT ROUTE
- EXISTING TRACK
- WATER CROSSING EXISTING
- WATER CROSSING NEW

Ground Water Level

- 0 m BELOW GROUNDWATER LEVEL (bgl)
- 0.2 m BELOW GROUNDWATER LEVEL (bgl)

LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:30000

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LLANBRYNMAIR WINDFARM

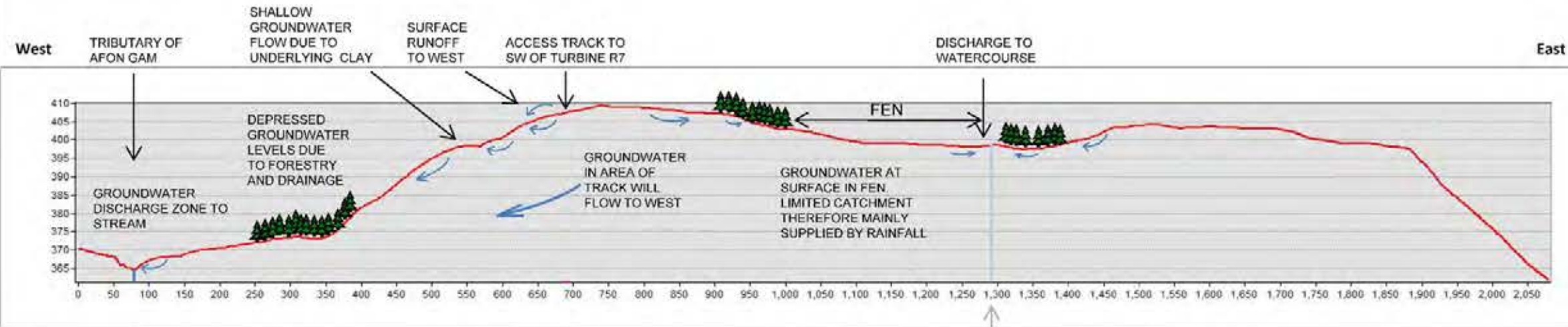
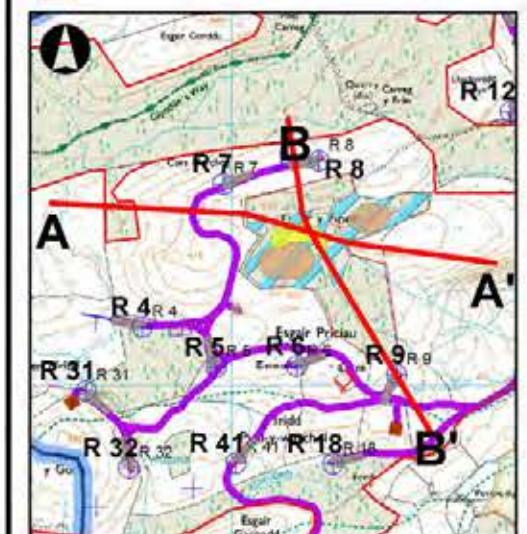
FIGURE 8.4

CROSS SECTION OF SOLIGENOUS FEN

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NUMBER 0100031673

KEY:

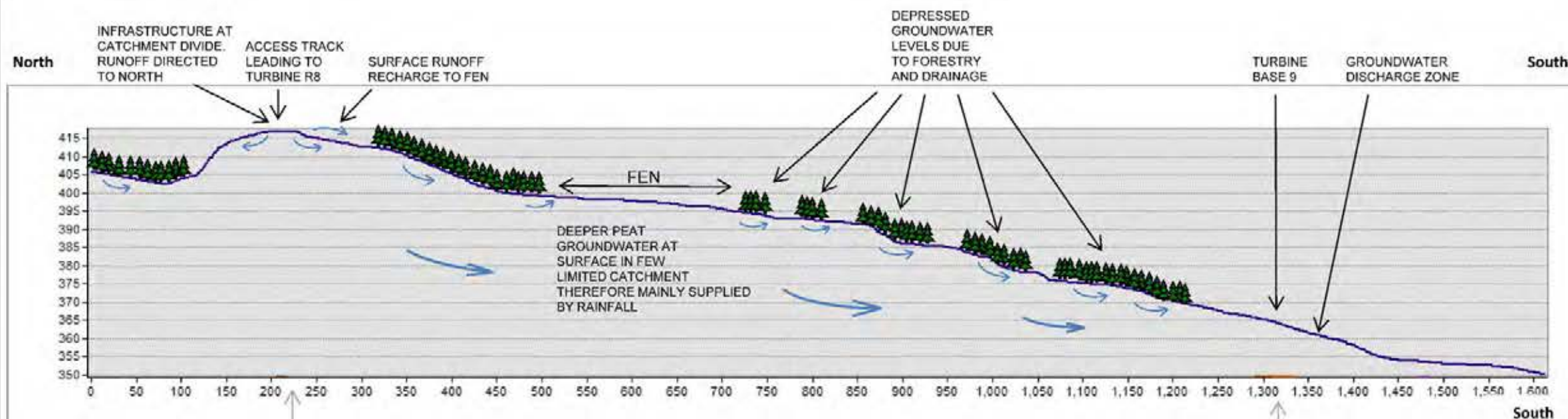
- WIND TURBINE
- HARDSTANDING
- SITE TRACK
- CROSS SECTIONS
- ESGAIR Y FFFORDD
- FEN
- RAISED MIRE



Section A-A'

NOTE: THIN, PATCHY PEAT OVER CLAY AND LOW PERMEABILITY BEDROCK. EXCEPT IN AREA OF SOLIGENOUS FEN WHERE PEAT IS >3 METRES DEEP

Stream location
From Raster 10000



Section B-B'

NOTE: THIN, PATCHY PEAT OVER CLAY AND LOW PERMEABILITY BEDROCK. EXCEPT IN AREA OF SOLIGENOUS FEN WHERE PEAT IS >3 METRES DEEP

INFRASTRUCTURE
Turbine R8

INFRASTRUCTURE
Turbine R9

LAYOUT DATE: N/A LAYOUT NO.: N/A

DRAWING NUMBER: N/A

SCALE - 1:35,000

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CHAPTER 12: SOCIO-ECONOMIC ASSESSMENT FIGURES



LLANBRYNMAIR WIND FARM

FIGURE 12.1

RIGHTS OF WAY IMPROVEMENTS

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KEY

-  TURBINE LOCATION
-  ROADSIDE VERGE TO BE IMPROVED USING GRASS REINFORCEMENT FOR WALKERS AND HORSE RIDERS.
-  SECTION RETAINED
-  GLYNDWRS WAY TO BE UPGRADED AND USED AS ACCESS TRACK
-  NEW PERMISSIVE ROUTE
-  UPGRADED BRIDLEWAY



LAWR EWS 01592D0005-01 | LLAUENL PVALIa087

DRAWING NUMBER
01592D2421-02

SCALE - 1:15,000@A3

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