

Client: **Mr Adam Twine**
 Project: **Westmill Solar Farm, Watchfield, Oxfordshire.**

Drawing Title: **Solar Panel Elevations and Details**
 Drawing No.: **C22169/10/02**

Scale: **NTS**
 Date: **16.12.2010** Issuing Officer: **Swindon**
 Drawn By: **FJH** Checked By: **TAG**

Vale of White Horse
 - 4 JAN 2011
 District Council

WAT/1611/16

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CONSULTING


Town Planning
 Development
 Environment
 Architecture
 Urban Design
 Landscape Design
 Project Management

Westmill Solar Farm
Watchfield Oxfordshire

Figure 2.2
PV Array Sample Photograph



APPENDIX 3

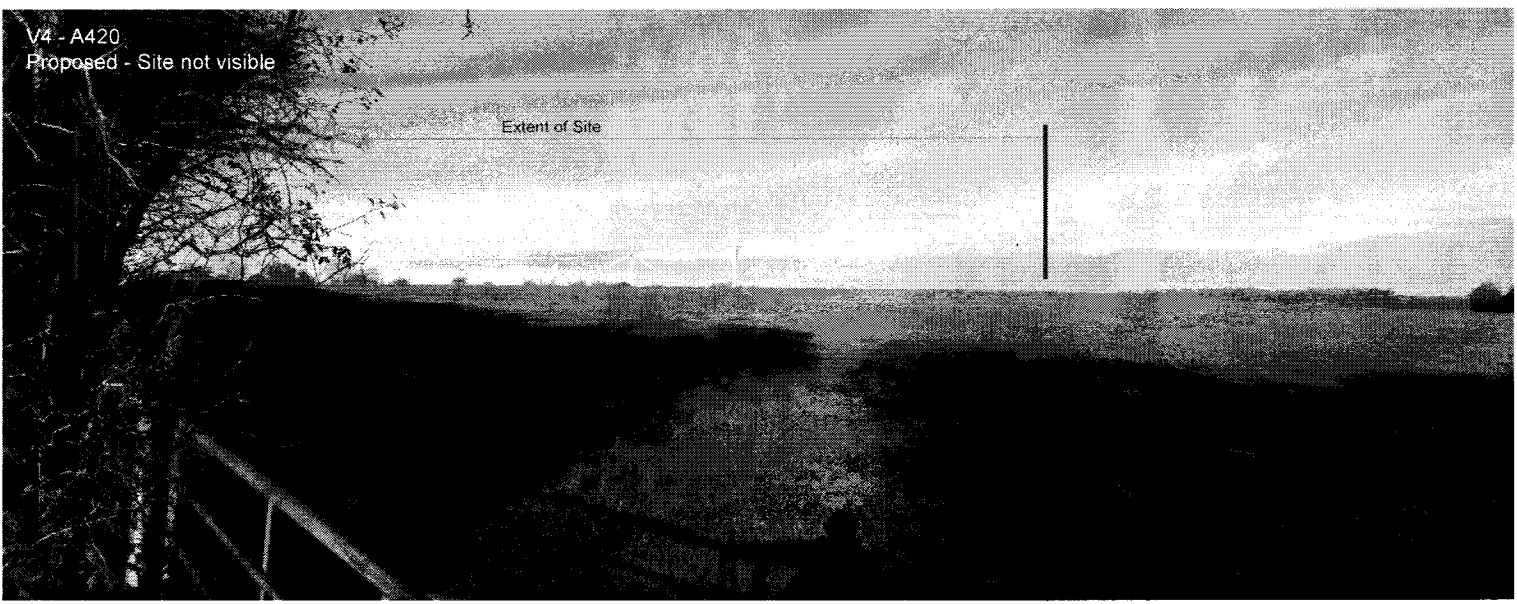
Not to Scale	Source: P.V. Array
Date: 15.12.10	
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Checked by: MS	 NORTH



**Westmill Solar Farm
Watchfield Oxfordshire**

**Figure 4.5
Verified View 4**

NGR: 907 251
103.9m AOD
Camera +1.6



APPENDIX 4

Not to Scale	Source: P.V Array
Date: 02.12.10	
Drawn by: NAH/PJH	
Issuing Office: Swindon	
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Figure 4.7
Verified View 6

NGR: 865 430
229.84m AOD
Camera +1.6

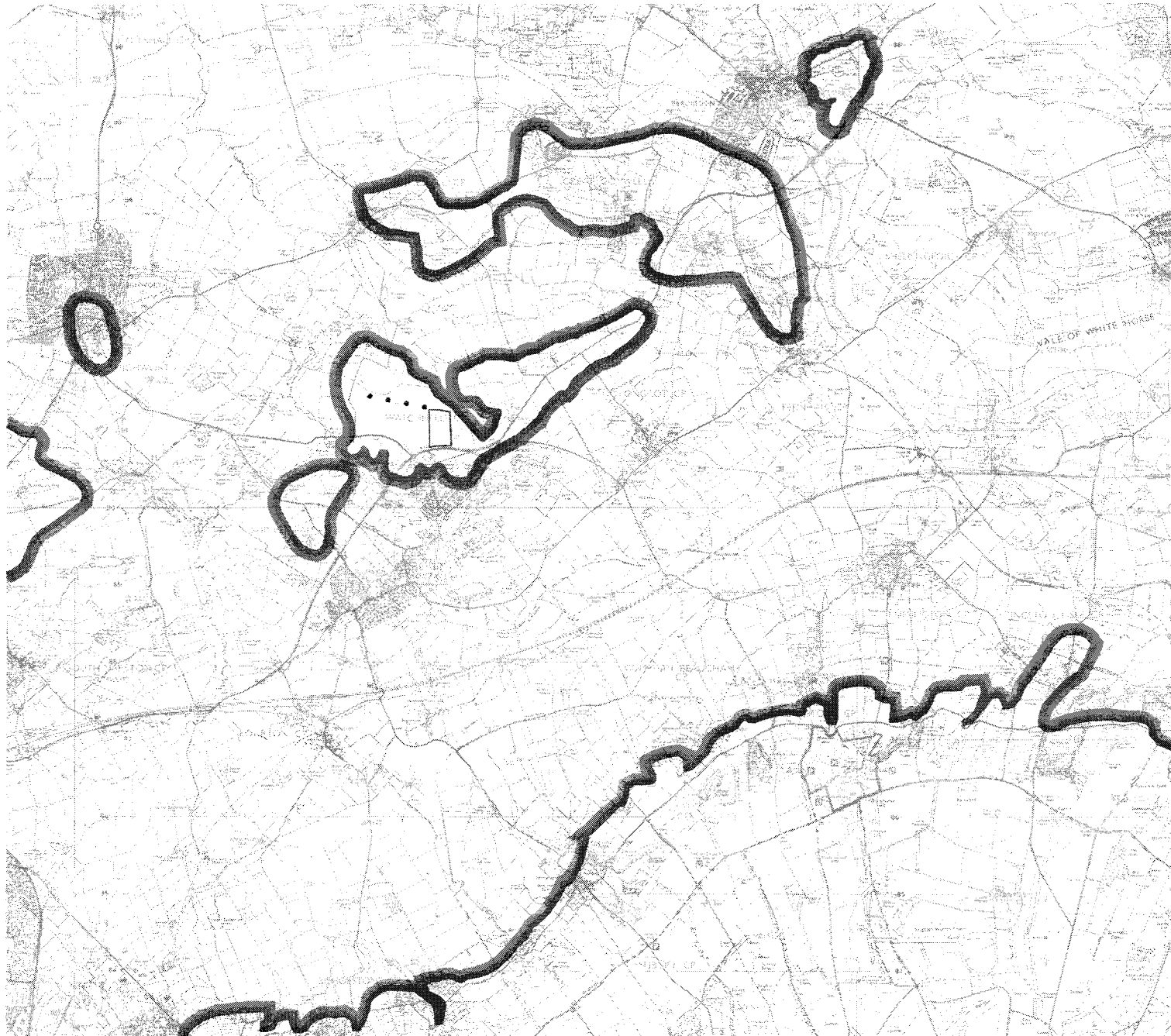





APPENDIX 5

Not to Scale	Source: P.V. Array
Date: 02.12.10	
Drawn by: NAH/PJH	
Issuing Office: Swindon	
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Westmill Solar Farm Watchfield Oxfordshire

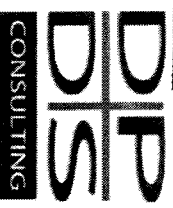
Figure 3.6
Zones of Visual Influence



-  Existing turbines
-  Site boundary
-  Zone of visual influence

APPENDIX 6

<p>Not to Scale Date: 02.12.10 Drawn by: NAH/PJH Issuing Office: Swindon Checked by: MS</p>	<p>Note: Reproduced from Ordnance Survey Explorer 1:25,000 mapping with the sanction of the Controller of H. M. Stationary Office. Crown Copyright Reserved. DPDS Consulting Group, 5, Devises Road, Old Town, Swindon, Wiltshire. Licence No AL100018537</p> <p style="text-align: right;"> NORTH</p>
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- Town Planning
- Development
- Environment
- Architecture
- Urban Design
- Landscape Design
- Project Management

Please Reply to: Swindon

Our Ref: TAG/ww/C22169

Your Ref:

3 February 2011

Date:

Mr D Rothery
 Planning Department
 Vale of White Horse District Council
 Abbey House
 Abingdon
 OX14 3JE

Dear Mr Rothery

Planning application for installation of photovoltaic array at Westmill Farm, Watchfield .Application ref: WAT/1611/16 (11/00077/FUL)

I refer to our recent telephone conversation concerning the above planning application. I am enclosing a letter from the consultant who was employed to consider the issue of solar reflections and whose report "Solar Reflections Study" was submitted as part of the application.

During the course of public consultation and in discussion with Martin Deans about the Screening Opinion for this application, it was apparent that the question of glare or reflections seemed to be of concern. We think that the issue has been properly addressed, but were aware that a little more information might be helpful. The letter and drawing therefore seek to demonstrate that, because of the angles involved, and the height of the panels, the possibility of "glare" or "dazzle" is very remote and would occur on very few occasions each year. The drawing we prepared takes no account of nearby vegetation etc, and this would certainly provide a very effective screen in almost all cases.

I hope you find this useful, and if you would like the drawing electronically please let me know.

You indicated that this material would not cause you to have to re-consult and would not, therefore, cause any delay in the determination of the application. Please do let know if there is anything more you require.

On the question of the Screening Opinion, Martin Deans telephoned me to confirm that his Screening Opinion was that an EIA was not necessary, but I do not yet appear to have received a copy of the Opinion.

Yours sincerely,

Terry Gashé

Terry Gashé
Consultant
Development Planning & Design Services Ltd
 tgashe@dpps.co.uk

Enc.

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Mr Adam Twine
Colleymore Farm
Coleshill
SWINDON
SN6 7PU

1 February 2011

Dear Mr Twine

Dwellings receiving direct reflections of the sun

Following my *Solar Reflections Study* report dated 21 December 2010 for the Westmill Solar Farm, you have asked me to identify dwellings that may theoretically receive direct reflections of the sun from the PV farm.

To that end, I have conducted a further desk-based study of the map provided by DPPDS Consulting showing the zones of visual influence (ZVI) with the arcs of reflectance superimposed. For my investigation, I have examined 1:25 000 scale OS Explorer maps and public domain aerial and ground-based photography. Please find enclosed a table I have produced listing all the dwellings that may receive direct reflections of sunlight at certain times during the day at and at certain times of the year.

Please note that receptors identified may not receive any reflections at all due to intervening hedges, woods or other buildings. This is particularly the case given that all the dwellings identified are lower than 0.5° above the horizontal – even accounting for 3 or 4 storey buildings – relative to the solar farm, so it is quite possible, even likely, that the hedges to the east and south of the solar farm will block the reflections to the east and south.

If these buildings do receive any reflections, it will be generally be limited to a few minutes in the morning (for receptors to the west) or afternoon (receptors to the east) each day for a number of days only, twice a year (either side of midsummer). Furthermore, receptors close to due east or west will only receive direct reflections of the sun when the sun appears low in the sky – just after sunrise or before sunset – in almost the same direction (vertically and horizontally) as the solar farm, limiting any infringement of amenity.

The most significant receptor would be dwellings in the village of Kingston Lisle, as many dwellings appear to be both within the reflection arc and the ZVI. However, only the dwellings facing the solar farm would be affected as these would block the view to other dwellings in the village. Furthermore, at approximately 9km from the site, reflections will be weak, and almost certainly blocked by hedges around the solar farm (the vertical angle is less than 0.2° above the horizontal. As it is close to the southern limit of reflections, reflections would only be observed near midsummer (in the afternoons, as the village is east of the solar farm).

The Shrivenharn Hundred Business Park, although possibly a less sensitive receptor as it appears to be non-residential (at least the parts inside the reflections zone), should be considered now, due to its proximity to the site.

The business park would only receive reflections from the southeast and southwest corners of the site since there will be no reflections near ground level in a southerly direction. These would only occur close to midsummer, and looking at Appendix 1 on my original report (note, times are given in GMT so must be converted to BST), from the information given (and without further detailed analysis) it can be seen that there will be no morning reflections at less than 5° above horizontal after approximately 7.45am BST, nor afternoon reflections before approximately 6.30pm BST.

Although these times are approximate, the factors to consider work both ways (e.g. the low angle to the buildings moves the reflection times away from midday, whereas reflections occur from many points on the solar farm increasing the time when specific receptors get reflections), and there is a substantial buffer between these times and the 9 to 5 working day, assuming the Hundreds to be a commercial site. Therefore I can state with confidence that it will not receive reflections between 9am and 5pm.

At the end of the table I have included additional map features that may also be of interest: Sandhill Farm – this is a short way outside the arc of reflection so although within the ZVI, will not receive direct reflections of the sun; some buildings only seen on the map – not on photographs – which appears not to exist anymore.

The Berkshire Downs to the south and southeast including the Ridgeway and the White Horse will not receive direct reflections from the solar farm at any time of the year.

More detailed analysis can be conducted in order to specify times when each receptor will receive direct solar reflections, and a site visit would enable the effects of intervening hedges, etc., to be quantified. However, given the limited number of dwellings that may be affected, the short time period, the low angles of reflection necessary (hence the likelihood of intervening hedges, etc.), I consider such further work to be unnecessary and excessive.

I hope this answers your questions satisfactorily.

Yours sincerely



Charles Morelli BEng
Managing Director
AARDVAARC Ltd

Encl.








Table of Dwelling Receptors

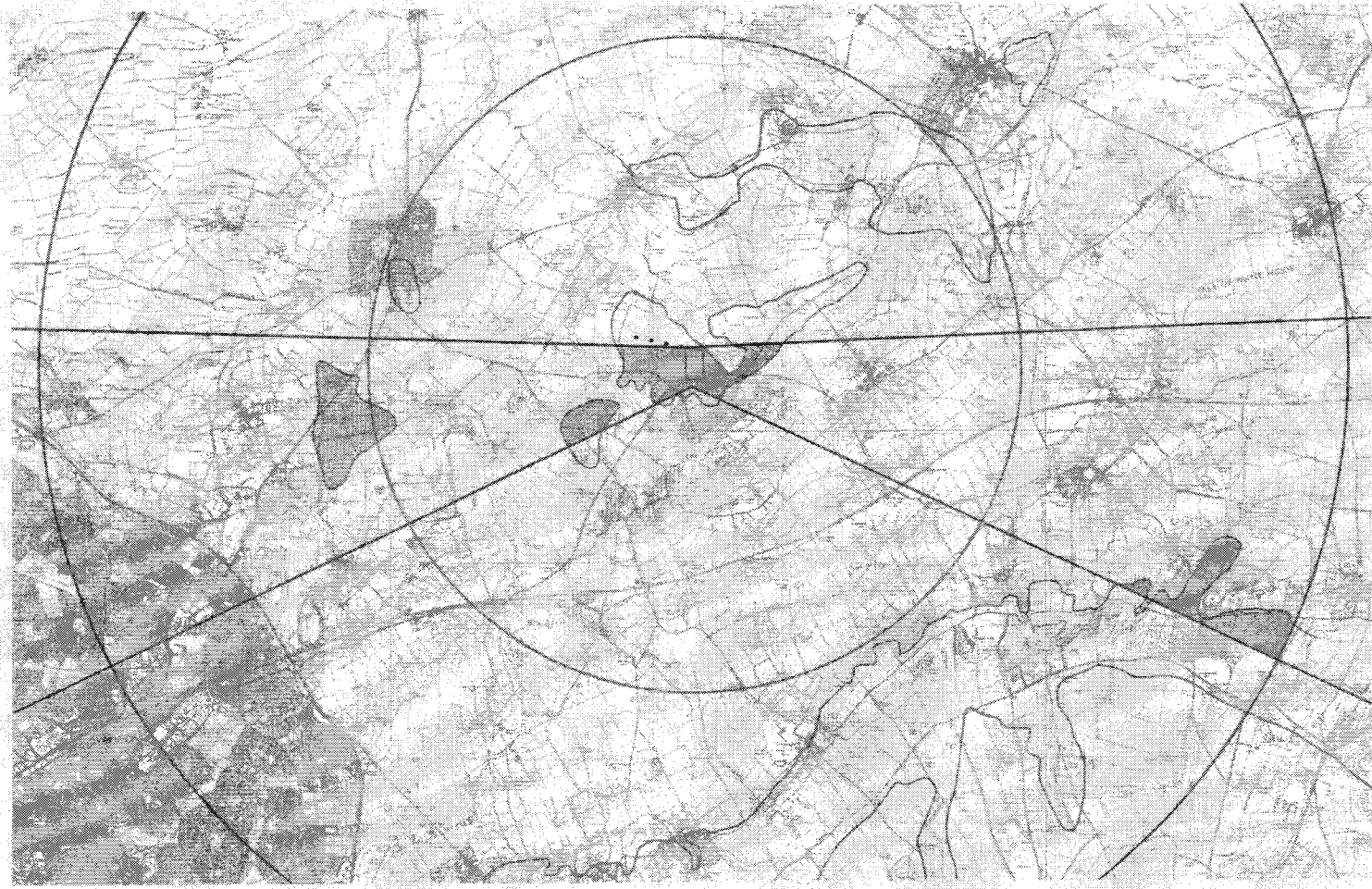
Table of Dwelling Receptors

Receptor	NGR	Direction	Distance	Notes
Shrivenham Hundreds (many buildings adjacent to solar farm south of A420)	SU246907	South	>0.5km	These buildings appear not to be dwellings.
Southdown Farm, complex of multiple dwellings	SU255911	East	1km	This appears to be a hamlet, labelled on the map as Southdown Farm.
Queenlaines Farm & Maranatha Christian School	SU193902	West	5km	There appears to be at least one dwelling in this complex.
House near Copse Corner	SU190905	West	5km	Appears well screened by trees surrounding the property.
Kingstone Lisle, several dwellings	SU325875	East-southeast	9km	In practice, few dwellings would have sight of solar farm due to other buildings and trees in Kingston Lisle, tree lines, hedges and fences.
Sandhill Farm	SU229895	West-southwest	2km	These farm buildings are outside the arcs of reflection and so will not receive direct reflections of the sun.
Possible buildings	SU190908	West	5km	Identified from inspection of 1:25 000 scale Explorer map – not visible on aerial photography. If buildings exist they are likely to be barns.
The Downs ('Ridgeway')	-	South and southeast	5+km	The Downs to the south and southeast (understood to be known as the Ridgeway) will not receive direct reflections of the sun from the site at any time as they are outside the arcs of reflection.

**Westmill Solar Farm
Watchfield Oxfordshire**

**Zones of Visual Influence and
Arc of Reflection**

-  Existing turbines
-  Site boundary
-  Zone of visual influence
-  Arc of reflection
-  Areas where reflection may be visible at ground level (if not screened)
-  5km radius
-  10km radius



Not to Scale
 Date: 14.01.11
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 Issuing Office: Swindon

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Checked by: MFL

