

# Prosiect Maen Hir

Solar a Storio Ynni



## Preliminary Environmental Information Report

### Volume III

Appendix 15-8: Glint and Glare Study

Prosiect Maen Hir - September 2024

lightsource bp





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# 1. EXECUTIVE SUMMARY

- 1.1. This assessment considers the potential impacts on ground-based receptors such as roads and residential dwellings as well as aviation assets. A 1km study area around the Solar PV Site is considered adequate for the assessment of ground-based (residential and road) receptors, whilst a 30km study area is chosen for aviation receptors. Within the ground-based study areas of the Solar PV Site, there are 461 residential receptors and 328 road receptors that were considered. No rail receptors were located within the 1km study area. As per the methodology section, where there are several residential receptors within close proximity, a representative dwelling or dwellings is/are chosen for full assessment as the impacts will not vary to any significant degree. Where small groups of receptors have been evident, the receptors on either end of the group have been assessed in detail. 42 residential and 37 road receptors were dismissed as they are located within the no reflection zones (see paragraph 5.5). Five aerodromes are located within the 30km study area; however, only RAF Mona required a detailed assessment as the Solar PV Site is located within their respective safeguarding buffer zones. The other four aerodromes did not require a detailed assessment due to their size and/or orientation in relation to the Solar PV Site.
- 1.2. Geometric analysis was conducted at 419 individual residential receptors and 291 road receptors. Also, geometric analysis was conducted at two runway approach paths and one Air Traffic Control Tower (ATCT) at RAF Mona.
- 1.3. The assessment concludes that:
- Solar reflections are possible at 346 of the 419 residential receptors assessed within the 1km study area. The initial bald-earth scenario identified potential impacts as **High** at 170 receptors, **Medium** at 40 receptors, **Low** at 136 receptors and **None** at 73 receptors. Upon reviewing the actual visibility of the receptors, impacts remain **High** at 11 receptors, reduce to **Low** at 53 receptors and **None** at 355 receptors. Once mitigation measures were considered, impacts reduce to **Low** at 53 receptors and **None** at 366 receptors. Therefore, overall impacts on residential receptors are **Low**.

- Solar reflections are possible at 284 of the 326 road receptors assessed within the 1km study area. The initial bald-earth scenario identified potential impacts as **High** at 250 receptors, **Low** at 34 receptors and **None** at the remaining 42 receptors. Upon reviewing the actual visibility of the receptors, impacts remain **High** at 62 receptors and reduced to **None** at all remaining receptors. Once mitigation measures were considered, impacts reduce to **None** at all remaining receptors. Therefore, overall impacts on residential receptors are **None**.
  - Two runway approach paths and one ATCT was assessed in detailed at RAF Mona. Only Green **No impacts were predicted to occur**. Overall aviation impacts are **None**.
- 1.4. Mitigation measures have been included to screen the **High** impact views from 11 residential receptors and 62 road receptors. These measures include planting/infilling of native hedgerows to a height of at least 3m at the areas clearly outlined on the **Mitigation Plan (Figure 5 and 6: Appendix A)**.
- 1.5. The effects of glint and glare and their impact on local receptors has been analysed in detail and there is predicted to be **No impacts** upon aviation receptors. Impacts upon ground-based receptors are predicted to be **Low** and therefore, **Not Significant**.



## 2. INTRODUCTION

### SCOPE OF REPORT

- 2.1. Although there may be small amounts of glint and glare from the metal structures associated with the solar PV panels, this is not likely to be significant and the main source of glint and glare will be from the solar PV panels themselves and this will be the focus of this assessment. Since the Cable Route Corridor comprises below ground infrastructure and does not comprise of reflective surfaces, there is no potential for glint and glare effects, therefore this is not considered further in this assessment.
- 2.2. Solar PV panels are designed to absorb as much light as possible and not to reflect it. However, glint can be produced as a reflection of the sun from the surface of the solar PV panel. This can also be described as a momentary flash. This may be an issue due to visual impact and viewer distraction on ground-based receptors and on aviation.
- 2.3. Glare is significantly less intense in comparison to glint and can be described as a continuous source of bright light, relative to diffused lighting. This is not a direct reflection of the sun, but a reflection of the sky around the sun.
- 2.4. This report focusses on the effects of glint and glare and its impact on local receptors and will be supported with the following Figures and Appendices.
  - Appendix A: Figures
    - Figure 1: North Residential Receptor Map
    - Figure 2: North Road Receptor Map
    - Figure 3: South Residential Receptor Map
    - Figure 4: South Road Receptor Map
    - Figure 5: North Mitigation Plan Map
    - Figure 6: South Mitigation Plan Map

- Figure 7: PEIR Boundary
- Figure 8: RAF Mona Aerodrome Chart
- Appendix B1 - B9: North Residential Receptor Glare Results
- Appendix C1 - C9: South Residential Receptor Glare Results
- Appendix D1 – D9: North Road Receptor Glare Results
- Appendix E1 – E9: South Road Receptor Glare Results
- Appendix F1 – F3: Aviation Receptor Glare Results
- Appendix G: Visibility Assessment Evidence
- Appendix H: Solar Module Glare and Reflectance Technical Memo

## STATEMENT OF COMPETENCE

2.5. This Glint and Glare Assessment has been produced by David Thomson, Tom Saddington and Michael McGhee of Neo Environmental. Having completed a civil engineering degree in 2012, Michael has produced Glint and Glare assessments for over 1GW of solar farm developments across the UK and Ireland. Tom has an undergraduate degree in Bioengineering and graduated with an MSc in Environmental and Energy Engineering in January 2020. He has been working on various technical assessments including glint and glare reports for numerous solar farms (including a number of NSIPs) in Ireland and the UK. David has an undergraduate degree in physics, an MSc in sensor design, an MSc in nanoscience and nanotechnology and a Diploma in acoustics and noise control. He has worked on numerous glint and glare reports for solar farms across the UK and Ireland.

## DEFINITIONS

2.6. This study examined the potential hazard and nuisance effects of glint and glare in relation to ground-based receptors, which includes the occupants of surrounding dwellings as well as road users. The US Federal Aviation Administration (FAA) in their *“Technical Guidance for Evaluating Selected Solar Technologies on Airports”*<sup>1</sup> have defined the terms ‘Glint’ and ‘Glare’ as meaning;

- Glint – *“A momentary flash of bright light”*

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<sup>1</sup> Harris, Miller, Miller & Hanson Inc. (November 2010). Technical Guidance for Evaluating Selected Solar Technologies on Airports; 3.1.2 Reflectivity. Technical Guidance for Evaluating Selected Solar Technologies on Airports. Available at:

[https://www.faa.gov/airports/environmental/policy\\_guidance/media/airport-solar-guide.pdf](https://www.faa.gov/airports/environmental/policy_guidance/media/airport-solar-guide.pdf)

- Glare – “A continuous source of bright light”

- 2.7. Glint and glare are essentially the unwanted reflection of sunlight from reflective surfaces. This study used a multi-step process of elimination to determine which receptors have the potential to experience the effects of glint and glare. It then examined, using a computer-generated geometric model, the times of the year and the times of the day such effects could occur. This is based on the relative angles between the sun, the panels, and the receptor throughout the year.
- 2.8. The ocular impact upon a receptor will be assessed and used as the basis of categorising the magnitude of impact at each receptor. For the avoidance of doubt specular impact is a term that refers to the impact produced by the PV panels, whilst ocular impact is the impact observed by the observer.

## General Nature of Reflectance from Photovoltaic Panels

- 2.9. In terms of reflectance, solar PV panels are by no means a highly reflective surface. They are designed to absorb sunlight and not to reflect it. Nonetheless, solar PV panels have a flat polished surface that omit ‘specular’ reflectance rather than a ‘diffuse’ reflectance, which would occur from a rough surface. Several studies have shown that solar PV panels (as opposed to Concentrated Solar Power) have similar reflectance characteristics to water, which is much lower than the likes of glass, steel, snow and white concrete by comparison (**See Appendix H**). Similar levels of reflectance can be found in rural environments from the likes of shed roofs and the lines of plastic mulch used in cropping. In terms of the potential for reflectance from solar PV panels to cause hazard and/ or nuisance effects, there have been a number of studies undertaken in respect of schemes in close proximity to airports. The most recent of these was compiled by the Solar Trade Association (STA) in April 2016 and used a number of case studies and expert opinions, including that from Neo. The summary of this report states that “*the STA does not believe that there is cause for concern in relation to the impact of glint and glare from solar PV on aviation and airports...*”<sup>2</sup>.

## Time Zones / Datums

- 2.10. Locations in this report are given in Eastings and Northings using the ‘British National Grid’ grid reference system unless otherwise stated.
- 2.11. Wales uses British Summer Time (BST, UTC + 01:00) in the summer months and Greenwich Mean Time (UTC+0) in the winter period. For the purposes of this report all time references are in GMT.

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<sup>2</sup> Solar Trade Association. (April 2016). Summary of evidence compiled by the Solar Trade Association to help inform the debate around permitted development for non - domestic solar PV in Scotland. Impact of solar PV on aviation and airports. Available at: <http://www.solar-trade.org.uk/wp-content/uploads/2016/04/STA-glint-and-glare-briefing-April-2016-v3.pdf>

### 3. LEGISLATION AND GUIDANCE

- 3.1. There is no legislation and limited guidance or policy available in the UK at present in relation to the assessment of glint and glare from Project developments. Available UK guidance is reviewed below, in addition to references to international guidance where deemed suitable.

#### FUTURE WALES – THE NATIONAL PLAN 2040<sup>3</sup>

- 3.2. Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure sets out the planning considerations that relate to large scale renewable energy infrastructure. With the policy specifically mentioning the following about visual impacts:

*‘New strategic grid infrastructure for the transmission and distribution of energy should be designed to minimise visual impact on nearby communities.’*

- 3.3. Although there is no specific mention of Glint and Glare impacts, there will be a consideration towards the visual impact from a Glint and Glare perspective throughout this assessment.

#### PLANNING POLICY WALES (PPW): EDITION 11<sup>4</sup>

- 3.4. Planning Policy Wales (‘PPW’) Edition 11 was adopted by the Welsh Government in February 2021. This replaced the previously adopted PPW and sets out the land use planning policy for Wales. Chapter 5 of the PPW outlines the planning policy in relation to ‘Renewable and Low Carbon Energy’. With regards to Glint and Glare, it states:

*‘Planning authorities should also identify and require suitable ways to avoid, mitigate or compensate adverse impacts of renewable and low carbon energy development. The construction, operation, decommissioning, remediation and aftercare of proposals should take into account:*

- *the need to minimise impacts on local communities, such as from noise and air pollution, to safeguard quality of life for existing and future generations’*

- 3.5. Although there is no specific mention of Glint and Glare impacts, there will be a consideration towards the impact on local communities from a Glint and Glare perspective throughout this assessment.

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<sup>3</sup> Wales Government (2021) Future Wales: The national Plan 2040. Available at: <https://gov.wales/sites/default/files/publications/2021-02/future-wales-the-national-plan-2040.pdf>

<sup>4</sup> Wales Government (2021) Planning Policy Wales -Edition 11. Available at: [https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11\\_0.pdf](https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf)

## NATIONAL PLANNING POLICY GUIDANCE (NPPG) ON RENEWABLE AND LOW CARBON ENERGY (UK) <sup>5</sup>

3.6. Paragraph 013 (Reference ID: 5-013-20150327) sets out planning considerations that relate to large scale ground-mounted solar PV farms. This determines that the deployment of large-scale solar farms can have a negative impact on the rural environment, particularly in undulating landscapes. However, the visual impact of a well-planned and well-screened solar farm can be properly addressed within the landscape if planned sensitively. Considerations to be taken into account by local planning authorities are:

- *“The proposal’s visual impact, the effect on landscape of glint and glare and on neighbouring uses and aircraft safety;*
- *I extent to which there may be additional impacts if solar arrays follow the daily movement of the sun.”*

## NATIONAL POLICY STATEMENT FOR RENEWABLE ENERGY INFRASTRUCTURE, NOVEMBER 2023

3.7. Section 2.10 of the EN-3 provides the following commentary in relation to Glint and Glare impacts:

*“2.10.102 Solar panels are specifically designed to absorb, not reflect, irradiation. However, solar panels may reflect the sun’s rays at certain angles, causing glint and glare. Glint is defined as a momentary flash of light that may be produced as a direct reflection of the sun in the solar panel. Glare is a continuous source of excessive brightness experienced by a stationary observer located in the path of reflected sunlight from the face of the panel. The effect occurs when the solar panel is stationed between or at an angle of the sun and the receptor.*

*2.10.103 Applicants should map receptors to qualitatively identify potential glint and glare issues and determine if a glint and glare assessment is necessary as part of the application.*

*2.10.104 When a quantitative glint and glare assessment is necessary, applicants are expected to consider the geometric possibility of glint and glare affecting nearby receptors and provide an assessment of potential impact and impairment based on the angle and duration of incidence and the intensity of the reflection.*

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<sup>5</sup> NPPG Renewable and Low Carbon Energy. Available at: [http://planningguidance.communities.gov.uk/blog/guidance/renewable-and-low-carbon-energy/particular-planning-considerations-for-hydropower-active-solar-technology-solar-farms-and-wind-turbines/#paragraph\\_012](http://planningguidance.communities.gov.uk/blog/guidance/renewable-and-low-carbon-energy/particular-planning-considerations-for-hydropower-active-solar-technology-solar-farms-and-wind-turbines/#paragraph_012)

*2.10.105 The extent of reflectivity analysis required to assess potential impacts will depend on the specific project site and design. This may need to account for ‘tracking’ panels if they are proposed as these may cause differential diurnal and/or seasonal impacts.*

*2.10.106 When a glint and glare assessment is undertaken, the potential for solar PV panels, frames and supports to have a combined reflective quality may need to be assessed, although the glint and glare of the frames and supports is likely to be significantly less than the panels.”*

*“2.10.134 Applicants should consider using, and in some cases the Secretary of State may require, solar panels to comprise of (or be covered with) anti-glare/anti-reflective coating with a specified angle of maximum reflection attenuation for the lifetime of the permission.*

*2.10.135 Applicants may consider using screening between potentially affected receptors and the reflecting panels to mitigate the effects.*

*2.10.136 Applicants may consider adjusting the azimuth alignment of or changing the elevation tilt angle of a solar panel, within the economically viable range, to alter the angle of incidence. In practice this is unlikely to remove the potential impact altogether but in marginal cases may contribute to a mitigation strategy.”*

*“2.10.158 Solar PV panels are designed to absorb, not reflect, irradiation. However, the Secretary of State should assess the potential impact of glint and glare on nearby homes, motorists, public rights of way, and aviation infrastructure (including aircraft departure and arrival flight paths).*

*2.10.159 Whilst there is some evidence that glint and glare from solar farms can be experienced by pilots and air traffic controllers in certain conditions, there is no evidence that glint and glare from solar farms results in significant impairment on aircraft safety. Therefore, unless a significant impairment can be demonstrated, the Secretary of State is unlikely to give any more than limited weight to claims of aviation interference because of glint and glare from solar farms.”*

- 3.8. This Glint and Glare Assessment will be taking account of impacts upon nearby homes, motorists, and aviation receptors. Due to assuming complete coverage in the area where solar panels are located within the Solar PV Site, glint and glare impacts from frames and supports are considered within this assessment.

## PLANNING GUIDANCE FOR THE DEVELOPMENT OF LARGE-SCALE GROUND MOUNTED SOLAR PV SYSTEMS

- 3.9. As outlined within the BRE document ‘Planning Guidance for the Development of Large-Scale Ground Mounted Solar PV Systems’<sup>6</sup>:

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<sup>6</sup> BRE (2013) *Planning Guidance for the Development of Large Scale Ground Mounted Solar PV Systems*. Available at: [https://www.bre.co.uk/filelibrary/pdf/other\\_pdfs/KN5524\\_Planning\\_Guidance\\_reduced.pdf](https://www.bre.co.uk/filelibrary/pdf/other_pdfs/KN5524_Planning_Guidance_reduced.pdf)

*“Glint may be produced as a direct reflection of the sun in the surface of the solar PV panel. It may be the source of the visual issues regarding viewer distraction. Glare is a continuous source of brightness, relative to diffused lighting. This is not a direct reflection of the sun, but rather a reflection of the bright sky around the sun. Glare is significantly less intense than glint.*

*Solar PV panels are designed to absorb, not reflect, irradiation. However, the sensitivities associated with glint and glare, and the landscape/ visual impact and the potential impact on aircraft safety, should be a consideration. In some instances, it may be necessary to seek a glint and glare assessment as part of a planning application. This may be particularly important if ‘tracking’ panels are proposed as these may cause differential diurnal and/or seasonal impacts.*

*The potential for solar PV panels, frames and supports to have a combined reflective quality should be assessed. This assessment needs to consider the likely reflective capacity of all of the materials used in the construction of the solar PV farm.”*

- 3.10. This Glint and Glare Assessment will be taking account of impacts upon nearby homes, motorists, and aviation receptors. Due to assuming complete coverage in the area where solar panels are located within the Solar PV Site, glint and glare impacts from frames and supports are considered within this assessment.

## INTERIM CAA GUIDANCE – SOLAR PHOTOVOLTAIC SYSTEMS (2010)

- 3.11. There is little guidance on the assessment of glint and glare from solar farms with regards to aviation safety. The Civil Aviation Authority (CAA) has published interim guidance on ‘Solar Photovoltaic Systems’<sup>7</sup>, they also intend to undertake a review of the potential impacts of solar PV developments upon aviation, however this is yet to be published.
- 3.12. The interim guidance identifies the key safety issues with regards to aviation, including *“glare, dazzling pilots leading them to confuse reflections with aeronautical lights.”* It is outlined that solar farm developers should be aware of the requirements to comply with the Air Navigation Order (ANO), published in 2016 and amended in 2022. In particular, developers should be cognisant of the following articles of the ANO<sup>8</sup>, including:
- **Article 240** – *Endangering safety of an aircraft* – “A person must not recklessly or negligently act in a manner likely to endanger an aircraft, or any person in an aircraft.”
  - **Article –24** - *Lights liable to endanger* – “A person must not exhibit in the United Kingdom any light which:

<sup>7</sup> CAA (2010) Interim CAA Guidance – Solar Photovoltaic Systems. Available at: <https://publicapps.caa.co.uk/modalapplication.aspx?catid=1&appid=11&mode=detail&id=4370>

<sup>8</sup> CAA (2016) Air Navigation: The Order and Regulations. Available at: <https://www.caa.co.uk/media/1a2cigrq/air-navigation-order-2016-amended-april-2022-version.pdf>

- a) by reason of its glare is liable to endanger aircraft taking off or from landing at an aerodrome; or
  - b) by reason of its liability to be mistaken for an aeronautical ground light liable to endanger aircraft.”
  - **Article 225**– Lights which dazzle or distract – “A person must not in the United Kingdom direct or shine any light at any aircraft in flight so as to dazzle or distract the pilot of the aircraft.”
- 3.13. Relevant studies generally agree that there is potential for glint and glare from photovoltaic panels to cause a hazard or nuisance for surrounding receptors, but that the intensity of such reflections is similar to that emanating from still water. This is considerably lower than for other manmade materials such as glass, steel or white concrete (SunPower – 2009).
- 3.14. These Articles are considered within the assessment of glint and glare for the Project.

## CAA – CAP738: SAFEGUARDING OF AERODROMES 3<sup>RD</sup> EDITION<sup>9</sup>

- 3.15. In 2003, the CAA first introduced the CAP738 document to help provide advice and guidance to ensure aerodrome safeguarding. Subsequently, there have been two updates to this document in 2006 and 2020.
- 3.16. Within the latest edition of CAP738, it outlines that the purpose of the document is to protect an aerodrome and to ensure safe operation. Specifically stating:
- “Its purpose is to protect:*
- Aircraft from the risk of glint and glare e.g. solar panels.”*
- 3.17. Within the section named as “Appendix B1 and B4 – Solar Photovoltaic Cells”, the following is stated:

### *“Policy*

*1. In 2010 the CAA published interim guidance on Solar Photovoltaic Cells (SPCs). At that time, it was agreed that we would review our policy based on research carried out by the Federal Aviation Authorities (FAA) in the United States, in addition to reviewing guidance issued by other National Aviation Authorities. New information and field experience, particularly with respect to compatibility and glare, has resulted in the FAA reviewing its original document ‘Technical Guidance for Evaluating Selected Solar Technologies on Airports’, which is likely to be subject to change, see [link](#);*

<sup>9</sup> Civil Aviation Authority (2020). CAP738 – Safeguarding of Aerodromes 3<sup>rd</sup> Edition. Available at: <https://publicapps.caa.co.uk/docs/33/CAP738%20Issue%203.pdf>



<https://www.federalregister.gov/documents/2013/10/23/2013-24729/interimpolicy-faa-review-of-solar-energy-system-projects-on-federally-obligated-airports>

*2. In the United Kingdom there has been a further increase in SPV cells, including some located close to aerodrome boundaries; to date the CAA has not received any detrimental comments or issues of glare at these established sites. Whilst this early indication is encouraging, those responsible for safeguarding should remain vigilant to the possibility.”*

- 3.18. In summary, the above is stating that to date, there has not been any complications on airfields due to glare originating from solar farms across the UK.

## US FEDERAL AVIATION ADMINISTRATION POLICY

- 3.19. The US Federal Aviation Administration (FAA) in their Solar Guide (Federal Aviation Authority, 2010)<sup>10</sup> incorporates a chapter on the impact and assessment of glint from solar panels. It concludes that (although subject to revision):

*“...evidence suggests that either significant glare is not occurring during times of operation or if glare is occurring, it is not a negative effect and is a minor part of the landscape to which pilots and tower personnel are exposed.”*

- 3.20. The interim policy (Federal Register, 2013)<sup>11</sup> demands that an ocular impact assessment must be assessed at 1-minute intervals from when the sun rises above the horizon until the sun sets below the horizon. Specifically, the developer must use the ‘Solar Glare Hazard Analysis Tool’ (SGHAT) tool specifically and reference its results as this was developed by the FAA and Sandia National Laboratories as a standard and approved methodology for assessing potential impacts on aviation interests, although it notes other assessment methods may be considered. The SGHAT tool has since been licensed to a private organisation who were also involved in its development and it is the software model used in this assessment.
- 3.21. Crucially, the policy provides a quantitative threshold that is lacking in the English guidance. This outlines that a solar development will not automatically receive an objection on glint grounds if low intensity glint is visible to pilots on final approach. In other words, low intensity glint with a low potential to form a temporary after-image (Green Glare) would be considered acceptable under US guidance. Due to the lack of legislation and guidance within England, this US document has been utilised as guidance for this report, which is accepted as best practice in the UK with the absence of quantitative guidance.

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<sup>10</sup> FAA (2010), Technical Guidance for Evaluating Selected Solar Technologies on Airports. Available at [https://www.faa.gov/airports/environmental/policy\\_guidance/media/airport-solar-guide-print.pdf](https://www.faa.gov/airports/environmental/policy_guidance/media/airport-solar-guide-print.pdf)

<sup>11</sup> FAA (2013), Interim Policy, *FAA Review of Solar Energy System Projects on Federally Obligated Airports*. Available at <https://www.federalregister.gov/documents/2013/10/23/2013-24729/interim-policy-faa-review-of-solar-energy-system-projects-on-federally-obligated-airports>

- 3.22. The FAA guidance states that for a solar PV development to obtain FAA approval or to receive no objection, the following two criteria must be met:
- No potential for glint or glare in the existing or planned Air Traffic Control Tower (ATCT); and
  - No potential for glare (glint) or “low potential for after-image” (Green Glare) along the final approach path for any existing or future runway landing thresholds (including planned or interim phases), as shown by the approved layout plan (ALP). The final approach path is defined as 2 miles from 50 feet above the landing threshold using a standard 3-degree glide path.
- 3.23. The geometric analysis included later in this report, which defines the extent and time at which glint may occur, is required by the FAA as the methodology to be used when assessing glint and glare impacts on aviation receptors. This report follows the methodology required by the FAA as it offers the most robust assessment method currently available.

## FAA POLICY: REVIEW OF SOLAR ENERGY SYSTEMS PROJECTS ON FEDERALLY - OBLIGATED AIRPORTS<sup>12</sup>

- 3.24. The FAA updated their Interim Policy from 2013 as part of their commitment to “*update policies and procedures as part of an iterative process as new information and technologies become available.*” The main development regarding Glint and Glare since the Interim Policy is the following:
- “Initially, FAA believed that solar energy systems could introduce a novel glint and glare effect to pilots on final approach. FAA has subsequently concluded that in most cases, the glint and glare from solar energy systems to pilots on final approach is similar to glint and glare pilots routinely experience from water bodies, glass-façade buildings, parking lots, and similar features. However, FAA has continued to receive reports of potential glint and glare from on-airport solar energy systems on personnel working in ATCT cabs.”*
- 3.25. This is outlining that solar panels are similar to nuisances that are already caused by other existing infrastructure, such as car parks, glass buildings and water bodies. Furthermore, the ATCT has been outlined as the key receptor to be assessed when determining Glint and Glare impacts from a solar farm.
- 3.26. Again, in respect of an absence of UK guidance, this is used as the best practice when assessing aviation receptors.

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<sup>12</sup> FAA (2021). FAA Policy: Review of Solar Energy Systems Projects on Federally – Obligated Airports. Available at: <https://www.federalregister.gov/documents/2021/05/11/2021-09862/federal-aviation-administration-policy-review-of-solar-energy-system-projects-on-federally-obligated>

## REVIEW OF LOCAL PLAN

### Joint Anglesey and Gwynedd Local Development Plan 2011 - 2025

- 3.27. The Joint Local Development Plan<sup>13</sup> ('JLDP') was adopted on the 31<sup>st</sup> July 2017 and concentrates on sustainable development. The JLDP contains a variety of policies that contribute to the wider society across Anglesey and Gwynedd, one of which is relevant to Glint and Glare:

*'POLICY ADN 2: PV SOLAR ENERGY*

*Proposals for Solar PV Farms of 5MW or more should be directed to the potential search areas shown on the Proposals Map. Proposals of this scale will only be permitted in other locations in exceptional circumstances when the need for a scheme can be justified and there are specific locational circumstances.*

*Proposals for Solar PV Farms of 5MW or more and other solar schemes of up to 5MW will be permitted provided that the proposal conforms to the following criteria:*

...

*2. The proposal will not result in significant harm to the safety or amenity of sensitive receptors including effect from glint and glare and will not have an unacceptable impact on roads, rail or aviation safety;'*

- 3.28. This Glint and Glare Assessment will ensure **Policy ADN 2** is adhered to so that there are not unacceptable Glint and Glare impacts.

## 4. METHODOLOGY

- 4.1. A desk-based assessment was undertaken to identify when and where glint and glare may be visible at receptors within the vicinity of the Project, throughout the day and the year.

### SUN POSITION AND REFLECTION MODEL

#### Sun Data Model

- 4.2. The calculations in the solar position calculator are based on equations from Astronomical Algorithms<sup>14</sup>. The sunrise and sunset results are theoretically accurate to within a minute for

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<sup>13</sup> Joint Anglesey and Gwynedd Local Development Plan 2011 - 2025, available at: <https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Strategies-and-policies/Environment-and-planning/Planning-policy/Anglesey-and-Gwynedd-Joint-Local-Development-Plan-Written-Statement.pdf>

<sup>14</sup> Jean Meeus, Astronomical Algorithms (Second Edition), 1999

locations between +/- 72° latitude, and within 10 minutes outside of those latitudes. However, due to variations in atmospheric composition, temperature, pressure and conditions, observed values may vary from calculations.

## Solar Reflection Model

- 4.3. The position of the sun is calculated at one-minute intervals of a typical year.
- 4.4. In order to determine if a solar reflection will reach a receptor, the following variables are required:
  - Sun position;
  - Observer location; and
  - Tilt, orientation, and extent of the modules in the solar array.
- 4.5. The model assumes that the azimuth and horizontal angle of the sun is the same across the whole Solar PV Site. This is considered acceptable due to the distance of the sun from the Project and the miniscule differences in location of the sun over the Solar PV Site.
- 4.6. Once the position of the sun is known for each time interval, a vector reflection equation determines the reflected sun vector, based on the normal vector of the solar array panels. This assumes that the angle of reflection is equal to the angle of incidence reflected across a normal plane. In this instance, the plane being the vector which the solar panels are facing.
- 4.7. On knowing the vector of the solar reflection, the azimuth is calculated and the horizontal reflection from multiple points within the Solar PV Site. These are then compared with the azimuth and horizontal angle of the receptor from the Solar PV Site to determine if it is within range to receive solar reflections.
- 4.8. The solar reflection in the model is considered to be specular as a worst-case scenario. In practice, the light from the sun will not be fully reflected as solar panels are designed to absorb light rather than reflect it. The text above and **Appendix H** outlines the reflective properties of solar glass and compares it to other reflective surfaces. Although the exact figures in this report could contain a margin of error, it is included as a visual guide and it agrees with most other reports, in that solar glass has less reflective properties than other types of glass, bodies of water and snow, and that the amount of reflective energy drops as the angle of incidence decreases.
- 4.9. Most modern solar PV panels have a slight surface texture which should have a small effect on diffusing the solar radiation further. Although, this has not been modelled to conform with the worst-case scenario assessment.
- 4.10. The panel reflectivity has been modelled to assume an anti-reflective coating (ARC), which is the industry standard for solar PV panels and further reduces the reflective properties of the solar PV panels.

## Determination of Ocular Impact

- 4.11. The software used for this assessment is based on the Sandia Laboratories Solar Glare Hazard Analysis Tool (SGHAT). This tool is specifically mentioned in the FAA guidance as the software that should be used in this type of assessment. Again, this is following the current best practice available due to the lack of UK guidance.
- 4.12. Determination of the ocular impact requires knowledge of the direct normal irradiance, solar PV panel reflectance, size and orientation of the array, optical properties of the PV module, and ocular parameters. These values are used to determine the retinal irradiance and subtended source angle used in the ocular hazard plot.
- 4.13. The ocular impact<sup>15</sup> of viewed glare can be classified into three levels based on the retinal irradiance and subtended source angle: low potential for after-image (green), potential for after-image (yellow), and potential for permanent eye damage (red).
- 4.14. Green glare can be ignored when looking at ground based and some aviation receptors. Green glare does not cause temporary flash blindness and happens at an instant with very slight disturbance. As per FAA guidelines, mitigation is only required for green glare when affecting an Air Traffic Control Tower, but not for when affecting pilots. Therefore, it can be assumed that green glare is acceptable for ground-based receptors.
- 4.15. The subtended source angle represents the size of the glare viewed by an observer, while the retinal irradiance determines the amount of energy impacting the retina of the observer. Larger source angles can result in glare of high intensity, even if the retinal irradiance is low.
- 4.16. The modelling software outputs a hazard plot for each receptor predicted to be impacted by glare from the PV array. An orange dot is plotted for each minute of glare indicating the irradiance (power density) of the reflected solar light. A yellow dot is plotted to show the irradiance of the Sun when it is viewed directly. The hazard plot shows that the irradiance of the Sun is approximately three orders of magnitude greater than the reflected irradiance, i.e., the power density of solar reflections from photovoltaic panels are approximately 0.1% that of viewing the Sun. Due to the disparity in irradiance, whenever the Sun is observed in the same frame as solar reflections from a PV array, the Sun will be main source of glare impacts upon the observer. In such a case, the impact is deemed to be **Low** as a worst-case scenario.

## Relevant Parameters of the Project

- 4.17. The photovoltaic panels have the potential to be either fixed tilt or tracker panels. The fixed tilt panel is oriented in a southwards direction to maximise solar gain and will remain in a fixed position throughout the day and during the year (i.e. they will not rotate to track the movement of the sun). The panels will face southwards and will be inclined at an angle of between 15 and

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<sup>15</sup> Ho, C.K., C.M. Ghanbari, and R.B. Diver, 2011, Methodology to Assess Potential Glint and Glare Hazards From Concentrating Solar Power Plants: Analytical Models and Experimental Validation, Journal of Solar Energy Engineering-Transactions of the Asme, 133(3).

25 degrees. Whilst the tracker panels will be facing in an east-west direction and track the movement of the sun throughout the day through, with the tilt angle altering +/- 60 degrees in each direction.

- 4.18. The height of the panels above ground level is a maximum of 3.5 m and points at the top of the panels are used to determine the potential for glint and glare generation.

## IDENTIFICATION OF RECEPTORS

### Ground Based Receptors

- 4.19. Glint is most likely to impact upon a ground-based receptor close to dusk and dawn, when the sun is at its lowest in the sky. Therefore, any effect would likely occur early in the day or late in the day, reflected to the west at dawn and east at dusk.
- 4.20. A 1km Study Area from the panels was deemed appropriate for the assessment of ground-based receptors as this seemed to contain a good spread of residential and road receptors in most directions from the Solar PV Site. The further distance a receptor is from a solar farm, the less chance it has of being affected by glint and glare due to scattering of the reflected beam and atmospheric attenuation, in addition to obstructions from ground sources, such as any intervening vegetation or buildings. This is based on best practice and our experience of completing Glint and Glare Assessments across the UK and Ireland.
- 4.21. An observer height of 2m was utilised for residential receptors, as this is a typical height for a ground-floor window. With regards to road users, a receptor height of 1.5m was employed as this is typical of eye level. Rail driver's eye level was assumed to be 2.75m above the rail for signal signing purposes and therefore this is the height used for assessment purposes. Horse rider eye level has been assumed to be 2.5m above ground level for bridleway receptors.
- 4.22. An assessment was undertaken to determine zones where solar reflections will never be directed near ground level.
- 4.23. Where there are several residential receptors within close proximity, a representative dwelling or dwellings is/are chosen for full assessment as the impacts will not vary to any significant degree. Where small groups of receptors have been evident, the receptors on either end of the group have been analysed in detail with the worst-case impacts attributed to that receptor.

### Aviation

- 4.24. Glint is only considered to be an issue with regards to aviation safety when the solar farm lies within close proximity to a runway, particularly when the aircraft is descending to land. This is outlined within the FAA guidance as being the key aviation receptors to assess and is considered best practice in the absence of UK guidance.

- 4.25. Should a solar farm be proposed within the safeguarded zone of an aerodrome, then a full geometric study may be required which would determine if there is potential for glint and glare at key locations, most likely on the descent to land.
- 4.26. Buffer zones to identify aviation assets vary depending on the safeguarding criteria of that asset. All aerodromes within 30 km will be identified, however, generally the detailed assessments are only required within: 20 km for large international aerodromes, 10km for military aerodromes and 5 km for small aerodromes.

## MAGNITUDE OF IMPACT

### Static Receptors

- 4.27. Although there is no specific guidance set out to identify the magnitude of impact from solar reflections, the following criteria has been set out for the purposes of this report and has been accepted for assessing numerous solar farms across the UK and Ireland:
- **High** - Solar reflections impacts of over 30 hours per year or over 30 minutes per day.
  - **Medium** - Solar reflections impacts between 20 and 30 hours per year or between 20 minutes and 30 minutes per day.
  - **Low** - Solar reflections impacts up to 20 hours per year or up to 20 minutes per day.
  - **None** - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening

### Moving Receptors (Road and Rail)

- 4.28. Again, no specific guidance is available to identify the magnitude of impact from solar reflections on moving receptors except in aviation, however, it is thought that a similar approach should be applied to moving receptors as aviation, based on the ocular impact and the potential for after-image.
- 4.29. The FAA guidance states that for a solar PV development to obtain FAA approval or to receive no objection, the following criteria must be met:
- No potential for glare (glint) or "*low potential for after-image*" along the final approach path for any existing or future runway landing thresholds (including planned or interim phases), as shown by the approved layout plan (ALP).
- 4.30. The following criteria has been set out for the purposes of this report:
- **High** - Solar reflections impacts consisting of any amount of yellow glare.

- **Low** - Solar reflections impacts consisting of any amount of only green glare.
- **None** - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening.

4.31. The FAA produced an evaluation of glare as a hazard and concluded in their report<sup>16</sup> that:

*“The more forward the glare is and the longer the glare duration, the greater the impairment to the pilots’ ability to see their instruments and to fly the aircraft. These results taken together suggest that any sources of glare at an airport may be potentially mitigated if the angle of the glare is greater than 25 deg from the direction that the pilot is looking in. We therefore recommend that the design of any solar installation at an airport consider the approach of pilots and ensure that any solar installation that is developed is placed such that they will not have to face glare that is straight ahead of them or within 25 deg of straight ahead during final approach.”*

4.32. It is reasonable to assume that although this report is assessing pilots vision impairment, it can also be applied to drivers of other road and rail vehicles. Therefore, the driver’s field of view will also be analysed where required and if the glare is out with 25 degrees either side of their line of sight then any impacts will reduce to **None**.

## Moving Receptors (Aviation)

### Approach Paths

- 4.33. Each final approach path which has the potential to receive glint is assessed using the SGHAT model. The model assumes an approach bearing on the runway centreline, a 3-degree glide path with the origin 50 ft (15.24 m) above the runway threshold.
- 4.34. The computer model considers the pilots field of view. The azimuthal field of view (AFOV) or horizontal field of view (HFOV) as it is sometimes referred, refers to the extents of the pilot’s horizontal field of view measured in degrees left and right from directly in front of the cockpit. The vertical field of view (VFOV) refers to the extents of the pilot’s vertical field of view measured in degrees from directly in front of the cockpit. The HFOV is modelled at 50 degrees left and right from the front of the cockpit whilst the VFOV is modelled at 30 degrees.
- 4.35. The FAA guidance states that there should be no potential for glare or ‘*low potential for after-image*’ at any existing or future planned runway landing thresholds for the Project to be acceptable. Given the FAA guidance and commentary on impacts, the following criteria has been set out for the purposes of this report:
- **High** - Solar reflections impacts consisting of any amount of yellow glare.

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<sup>16</sup> Federal Aviation Authority, Evaluation of Glare as a Hazard for General Aviation Pilots on Final Approach (2015), Available at <https://libraryonline.erau.edu/online-full-text/faa-aviation-medicine-reports/AM15-12.pdf>



- **Low** - Solar reflections impacts consisting of any amount of only green glare.
- **None** - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening.

### Air Traffic Control Tower (ATCT)

- 4.36. An air traffic controller uses the visual control room to monitor and direct aircraft on the ground, approaching and departing the aerodrome. It is essential that air traffic controllers have a clear unobstructed view of the aviation activity. The key areas on an aerodrome are the views towards the runway thresholds, taxiways and aircraft bays.
- 4.37. The FAA guidance states that no solar reflection towards the ATCT should be produced by a proposed solar development, however, this should be assessed on a site by site case and will depend on the operations at a particular aerodrome.
- 4.38. In order to determine the impact on the ATCT, the location and height of the tower will need to be fed into the SGHAT model and where there is a potential for 'low potential for After-Image' or more, then mitigation measures will be required.

### Assessment Limitations

- 4.39. Below is a list of assumptions and limitations of the model and methods used within this report:
- The model does not consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, vegetation, hills, buildings, etc (that is, it calculates a "bare-earth" scenario);
  - The model does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results;
  - Due to variations in atmospheric composition, temperature, pressure and conditions, observed values may vary slightly from calculated positions;
  - The model does not account for the effects of diffraction; however, buffers are applied as a factor of safety; and
  - The model assumes clear skies at all times and does not account for meteorological effects such as cloud cover, fog, or any other weather event which may screen the sun.
- 4.40. Due to these assumptions and limitations the model overestimates the number of minutes of glint and glare which are possible at each receptor and presents the worst-case scenario.

Where glint and glare are predicted a visibility assessment is carried out to determine a more accurate, real-world prediction of the impacts.

## 5. BASELINE CONDITIONS

### GROUND BASED RECEPTORS REFLECTION ZONES

- 5.1. For the purposes of this report, the Maen Hir Solar Project has been assessed as two separate sites due to the distance between the solar panel areas in the northern and southern parcels. Cumulative effects between these parcels have been dismissed as the distance between them is greater than 2km, and cumulative effects are only likely to occur where the solar areas are located east or west of each other.
- 5.2. Based on the relatively flat topography in the area, solar reflections between five degrees below the horizontal plane to five degrees above it are described as near horizontal. Reflections from the Project within this arc have the potential to be seen by receptors at or near ground level.
- 5.3. Further analysis showed that this will only occur between the azimuth of 238.92 degrees and 298.18 degrees in the western direction (late day reflections) and 64.36 degrees and 129.27 degrees in the eastern direction (morning reflections) and therefore any ground-based receptor outside these arcs will not have any impact from solar reflections.

- 5.4. **Figure 1 – 4 of Appendix A** show the respective study areas whilst also subtracting from this the areas where solar reflections will not impact on ground-based receptors due to the reasons set out in **paragraphs 5.1 to 5.2**.

### North Residential Receptors

- 5.5. Residential receptors located within 1km of the Solar PV Site have been identified (**Table 5-1**). Glint was assumed to be possible if the receptor is located within the ground-based receptor zones as outlined previously.
- 5.6. There are 19 north residential receptors (Receptors 231 - 249) which are within the no-reflection zones and are clearly identifiable in **Figure 1: Appendix A**. The process of how these are calculated is explained in **paragraphs 5.1 to 5.2** of this report.
- 5.7. As per the methodology section, where there are a number of residential receptors within close proximity, a representative dwelling or dwellings is/are chosen for detailed analysis as the impacts will not vary to any significant degree. Where small groups of receptors are evident, the receptors on either end of the group have been assessed in detail.

**Table 5-1: North Residential Receptors**

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 1        | 243223  | 392651   | Yes                      |
| 2        | 243388  | 392531   | Yes                      |
| 3        | 243374  | 392492   | Yes                      |
| 4        | 243203  | 392416   | Yes                      |
| 5        | 243250  | 392355   | Yes                      |
| 6        | 243384  | 392273   | Yes                      |
| 7        | 243374  | 392250   | Yes                      |
| 8        | 243402  | 392234   | Yes                      |
| 9        | 243088  | 392229   | Yes                      |
| 10       | 243128  | 392226   | Yes                      |
| 11       | 243182  | 392231   | Yes                      |
| 12       | 242896  | 392131   | Yes                      |
| 13       | 242955  | 392103   | Yes                      |
| 14       | 242889  | 392083   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 15       | 242895  | 392010   | Yes                      |
| 16       | 242917  | 391993   | Yes                      |
| 17       | 242689  | 391981   | Yes                      |
| 18       | 242813  | 391869   | Yes                      |
| 19       | 242837  | 391849   | Yes                      |
| 20       | 242494  | 391796   | Yes                      |
| 21       | 242203  | 391688   | Yes                      |
| 22       | 242809  | 391754   | Yes                      |
| 23       | 242777  | 391663   | Yes                      |
| 24       | 242942  | 391764   | Yes                      |
| 25       | 243325  | 391777   | Yes                      |
| 26       | 243393  | 391768   | Yes                      |
| 27       | 243483  | 391555   | Yes                      |
| 28       | 242229  | 391457   | Yes                      |
| 29       | 242261  | 391411   | Yes                      |
| 30       | 242750  | 391454   | Yes                      |
| 31       | 242773  | 391440   | Yes                      |
| 32       | 242966  | 391381   | Yes                      |
| 33       | 242990  | 391331   | Yes                      |
| 34       | 242925  | 391290   | Yes                      |
| 35       | 242733  | 391228   | Yes                      |
| 36       | 242513  | 390503   | Yes                      |
| 37       | 242435  | 390436   | Yes                      |
| 38       | 242497  | 390441   | Yes                      |
| 39       | 242561  | 390430   | Yes                      |
| 40       | 241968  | 390317   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 41       | 241770  | 390116   | Yes                      |
| 42       | 242565  | 390135   | Yes                      |
| 43       | 242475  | 389916   | Yes                      |
| 44       | 242452  | 389898   | Yes                      |
| 45       | 242558  | 389794   | Yes                      |
| 46       | 242455  | 389635   | Yes                      |
| 47       | 242503  | 389634   | Yes                      |
| 48       | 242499  | 389541   | Yes                      |
| 49       | 242412  | 389513   | Yes                      |
| 50       | 242462  | 389369   | Yes                      |
| 51       | 242466  | 389310   | Yes                      |
| 52       | 242436  | 389232   | Yes                      |
| 53       | 241199  | 389916   | Yes                      |
| 54       | 241697  | 389853   | Yes                      |
| 55       | 241386  | 389568   | Yes                      |
| 56       | 241317  | 389531   | Yes                      |
| 57       | 241306  | 389482   | Yes                      |
| 58       | 241154  | 389454   | Yes                      |
| 59       | 241050  | 389356   | Yes                      |
| 60       | 241030  | 389229   | Yes                      |
| 61       | 240931  | 389245   | Yes                      |
| 62       | 240842  | 389178   | Yes                      |
| 63       | 240967  | 389112   | Yes                      |
| 64       | 241580  | 389165   | Yes                      |
| 65       | 241609  | 389084   | Yes                      |
| 66       | 241819  | 388923   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 67       | 241860  | 388950   | Yes                      |
| 68       | 242352  | 388891   | Yes                      |
| 69       | 242343  | 388829   | Yes                      |
| 70       | 242330  | 388809   | Yes                      |
| 71       | 242221  | 388613   | Yes                      |
| 72       | 242177  | 388561   | Yes                      |
| 73       | 242143  | 388460   | Yes                      |
| 74       | 242111  | 388386   | Yes                      |
| 75       | 241511  | 388453   | Yes                      |
| 76       | 241653  | 388395   | Yes                      |
| 77       | 241758  | 388265   | Yes                      |
| 78       | 241369  | 388170   | Yes                      |
| 79       | 241388  | 388112   | Yes                      |
| 80       | 242009  | 388292   | Yes                      |
| 81       | 242494  | 388311   | Yes                      |
| 82       | 242352  | 388353   | Yes                      |
| 83       | 242319  | 388279   | Yes                      |
| 84       | 242410  | 388247   | Yes                      |
| 85       | 242434  | 388145   | Yes                      |
| 86       | 242485  | 388075   | Yes                      |
| 87       | 242460  | 387986   | Yes                      |
| 88       | 242466  | 387880   | Yes                      |
| 89       | 242421  | 387845   | Yes                      |
| 90       | 242462  | 387740   | Yes                      |
| 91       | 242542  | 387748   | Yes                      |
| 92       | 242591  | 387717   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 93       | 242227  | 387958   | Yes                      |
| 94       | 241973  | 387850   | Yes                      |
| 95       | 241938  | 387817   | Yes                      |
| 96       | 241968  | 387741   | Yes                      |
| 97       | 242053  | 387639   | Yes                      |
| 98       | 241956  | 387549   | Yes                      |
| 99       | 242516  | 387558   | Yes                      |
| 100      | 242416  | 387017   | Yes                      |
| 101      | 241458  | 386554   | Yes                      |
| 102      | 241408  | 386274   | Yes                      |
| 103      | 240615  | 386635   | Yes                      |
| 104      | 240625  | 386554   | Yes                      |
| 105      | 239234  | 387463   | Yes                      |
| 106      | 239210  | 387448   | Yes                      |
| 107      | 239017  | 387297   | Yes                      |
| 108      | 238566  | 387108   | Yes                      |
| 109      | 238277  | 387230   | Yes                      |
| 110      | 238182  | 386769   | Yes                      |
| 111      | 237953  | 386980   | Yes                      |
| 112      | 237882  | 387090   | Yes                      |
| 113      | 237844  | 387040   | Yes                      |
| 114      | 236893  | 386742   | Yes                      |
| 115      | 236668  | 386759   | Yes                      |
| 116      | 236037  | 387956   | Yes                      |
| 117      | 236178  | 388822   | Yes                      |
| 118      | 236552  | 388755   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 119      | 236481  | 388643   | Yes                      |
| 120      | 236301  | 388515   | Yes                      |
| 121      | 236635  | 388490   | Yes                      |
| 122      | 237135  | 389157   | Yes                      |
| 123      | 237217  | 389051   | Yes                      |
| 124      | 237242  | 389075   | Yes                      |
| 125      | 237563  | 388451   | Yes                      |
| 126      | 237505  | 387987   | Yes                      |
| 127      | 237629  | 389069   | Yes                      |
| 128      | 237900  | 389104   | Yes                      |
| 129      | 237921  | 389084   | Yes                      |
| 130      | 238216  | 389078   | Yes                      |
| 131      | 238316  | 389063   | Yes                      |
| 132      | 238326  | 388969   | Yes                      |
| 133      | 238276  | 388872   | Yes                      |
| 134      | 238178  | 388868   | Yes                      |
| 135      | 238327  | 388760   | Yes                      |
| 136      | 238285  | 388686   | Yes                      |
| 137      | 238337  | 388662   | Yes                      |
| 138      | 238600  | 388979   | Yes                      |
| 139      | 238592  | 388936   | Yes                      |
| 140      | 238738  | 388509   | Yes                      |
| 141      | 238741  | 388444   | Yes                      |
| 142      | 238644  | 388356   | Yes                      |
| 143      | 238389  | 388188   | Yes                      |
| 144      | 238885  | 387892   | Yes                      |



| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 145      | 239614  | 387882   | Yes                      |
| 146      | 239686  | 388107   | Yes                      |
| 147      | 239591  | 388439   | Yes                      |
| 148      | 240253  | 388112   | Yes                      |
| 149      | 239943  | 388423   | Yes                      |
| 150      | 239940  | 388524   | Yes                      |
| 151      | 240031  | 388609   | Yes                      |
| 152      | 240117  | 388672   | Yes                      |
| 153      | 240184  | 388739   | Yes                      |
| 154      | 240562  | 388834   | Yes                      |
| 155      | 240796  | 389104   | Yes                      |
| 156      | 240677  | 388980   | Yes                      |
| 157      | 240635  | 389075   | Yes                      |
| 158      | 240507  | 389089   | Yes                      |
| 159      | 240354  | 389209   | Yes                      |
| 160      | 240382  | 389026   | Yes                      |
| 161      | 240404  | 388984   | Yes                      |
| 162      | 240314  | 388930   | Yes                      |
| 163      | 240201  | 388997   | Yes                      |
| 164      | 240112  | 389077   | Yes                      |
| 165      | 240052  | 389188   | Yes                      |
| 166      | 239915  | 389137   | Yes                      |
| 167      | 239860  | 389087   | Yes                      |
| 168      | 240861  | 389923   | Yes                      |
| 169      | 240767  | 389783   | Yes                      |
| 170      | 240794  | 389762   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 171      | 240625  | 389882   | Yes                      |
| 172      | 240190  | 389421   | Yes                      |
| 173      | 240131  | 389537   | Yes                      |
| 174      | 240108  | 389538   | Yes                      |
| 175      | 240012  | 389672   | Yes                      |
| 176      | 239746  | 389480   | Yes                      |
| 177      | 239539  | 389396   | Yes                      |
| 178      | 239420  | 389413   | Yes                      |
| 179      | 239329  | 389470   | Yes                      |
| 180      | 239361  | 389484   | Yes                      |
| 181      | 239226  | 389401   | Yes                      |
| 182      | 239267  | 389607   | Yes                      |
| 183      | 239086  | 389618   | Yes                      |
| 184      | 239000  | 389636   | Yes                      |
| 185      | 238990  | 389687   | Yes                      |
| 186      | 238955  | 389688   | Yes                      |
| 187      | 238878  | 389617   | Yes                      |
| 188      | 238723  | 389692   | Yes                      |
| 189      | 239397  | 389877   | Yes                      |
| 190      | 239223  | 389979   | Yes                      |
| 191      | 238929  | 390100   | Yes                      |
| 192      | 238383  | 389762   | Yes                      |
| 193      | 238045  | 389797   | Yes                      |
| 194      | 238042  | 389815   | Yes                      |
| 195      | 237923  | 389823   | Yes                      |
| 196      | 237912  | 389854   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 197      | 237808  | 389915   | Yes                      |
| 198      | 237744  | 390069   | Yes                      |
| 199      | 238199  | 390342   | Yes                      |
| 200      | 238033  | 390584   | Yes                      |
| 201      | 237817  | 390601   | Yes                      |
| 202      | 237773  | 390877   | Yes                      |
| 203      | 237662  | 390898   | Yes                      |
| 204      | 237862  | 391138   | Yes                      |
| 205      | 240019  | 390585   | Yes                      |
| 206      | 240012  | 390811   | Yes                      |
| 207      | 240014  | 390838   | Yes                      |
| 208      | 239815  | 390815   | Yes                      |
| 209      | 239830  | 390847   | Yes                      |
| 210      | 239785  | 390858   | Yes                      |
| 211      | 239730  | 391011   | Yes                      |
| 212      | 239588  | 391096   | Yes                      |
| 213      | 239590  | 391435   | Yes                      |
| 214      | 239420  | 391320   | Yes                      |
| 215      | 239439  | 391319   | Yes                      |
| 216      | 239229  | 391378   | Yes                      |
| 217      | 239143  | 391351   | Yes                      |
| 218      | 238140  | 391691   | Yes                      |
| 219      | 238285  | 391671   | Yes                      |
| 220      | 239839  | 392296   | Yes                      |
| 221      | 240453  | 391853   | Yes                      |
| 222      | 240777  | 391822   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 223      | 240808  | 391820   | Yes                      |
| 224      | 241485  | 392250   | Yes                      |
| 225      | 241538  | 392148   | Yes                      |
| 226      | 241304  | 391857   | Yes                      |
| 227      | 241798  | 391930   | Yes                      |
| 228      | 241625  | 391688   | Yes                      |
| 229      | 241809  | 391539   | Yes                      |
| 230      | 241189  | 391519   | Yes                      |
| 231      | 241340  | 392742   | No                       |
| 232      | 241575  | 392855   | No                       |
| 233      | 241584  | 392819   | No                       |
| 234      | 241710  | 393241   | No                       |
| 235      | 241905  | 393210   | No                       |
| 236      | 242123  | 393237   | No                       |
| 237      | 242328  | 393174   | No                       |
| 238      | 242391  | 393077   | No                       |
| 239      | 242460  | 393034   | No                       |
| 240      | 242590  | 392980   | No                       |
| 241      | 242678  | 392959   | No                       |
| 242      | 242768  | 392957   | No                       |
| 243      | 242777  | 392957   | No                       |
| 244      | 241979  | 392812   | No                       |
| 245      | 242243  | 392865   | No                       |
| 246      | 242705  | 392779   | No                       |
| 247      | 237631  | 386705   | No                       |
| 248      | 237439  | 386259   | No                       |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 249      | 237454  | 386223   | No                       |

## South Residential Receptors

- 5.8. Residential receptors located within 1km of the Solar PV Site have been identified (**Table 5-2**). Glint was assumed to be possible if the receptor is located within the ground-based receptor zones as outlined previously.
- 5.9. There are 23 south residential receptors (Receptors 190 - 212) which are within the no-reflection zones and are clearly identifiable in **Figure 3: Appendix A**. The process of how these are calculated is explained in **paragraphs 5.1 to 5.2** of this report.
- 5.10. As per the methodology section, where there are a number of residential receptors within close proximity, a representative dwelling or dwellings is/are chosen for detailed analysis as the impacts will not vary to any significant degree. Where small groups of receptors are evident, the receptors on either end of the group have been assessed in detail.

**Table 5-2: South Residential Receptors**

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 1        | 244575  | 386019   | Yes                      |
| 2        | 243707  | 385567   | Yes                      |
| 3        | 243893  | 385487   | Yes                      |
| 4        | 244258  | 385514   | Yes                      |
| 5        | 244315  | 385523   | Yes                      |
| 6        | 244134  | 385388   | Yes                      |
| 7        | 244154  | 385366   | Yes                      |
| 8        | 244330  | 385333   | Yes                      |
| 9        | 244358  | 385353   | Yes                      |
| 10       | 244398  | 385371   | Yes                      |
| 11       | 244583  | 385315   | Yes                      |
| 12       | 244606  | 385330   | Yes                      |
| 13       | 244767  | 385210   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 14       | 243404  | 384388   | Yes                      |
| 15       | 243477  | 384308   | Yes                      |
| 16       | 243551  | 384407   | Yes                      |
| 17       | 243636  | 384396   | Yes                      |
| 18       | 244716  | 384725   | Yes                      |
| 19       | 244733  | 384135   | Yes                      |
| 20       | 244883  | 384241   | Yes                      |
| 21       | 244906  | 384305   | Yes                      |
| 22       | 245508  | 384139   | Yes                      |
| 23       | 245512  | 384174   | Yes                      |
| 24       | 245556  | 384178   | Yes                      |
| 25       | 245580  | 384091   | Yes                      |
| 26       | 245794  | 384128   | Yes                      |
| 27       | 245920  | 384053   | Yes                      |
| 28       | 245993  | 384071   | Yes                      |
| 29       | 245948  | 384123   | Yes                      |
| 30       | 245875  | 384181   | Yes                      |
| 31       | 246067  | 384492   | Yes                      |
| 32       | 246099  | 384578   | Yes                      |
| 33       | 246336  | 384359   | Yes                      |
| 34       | 246777  | 384123   | Yes                      |
| 35       | 246319  | 383948   | Yes                      |
| 36       | 245226  | 383785   | Yes                      |
| 37       | 246019  | 383636   | Yes                      |
| 38       | 246004  | 383599   | Yes                      |
| 39       | 246900  | 383515   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 40       | 245674  | 383305   | Yes                      |
| 41       | 246020  | 383399   | Yes                      |
| 42       | 246072  | 383342   | Yes                      |
| 43       | 246096  | 383285   | Yes                      |
| 44       | 246084  | 383254   | Yes                      |
| 45       | 246090  | 383063   | Yes                      |
| 46       | 246127  | 382995   | Yes                      |
| 47       | 246119  | 382880   | Yes                      |
| 48       | 246113  | 382833   | Yes                      |
| 49       | 246209  | 382694   | Yes                      |
| 50       | 246121  | 382682   | Yes                      |
| 51       | 246099  | 382613   | Yes                      |
| 52       | 246029  | 382513   | Yes                      |
| 53       | 246037  | 382470   | Yes                      |
| 54       | 246003  | 382435   | Yes                      |
| 55       | 245944  | 382371   | Yes                      |
| 56       | 245926  | 382316   | Yes                      |
| 57       | 245899  | 382233   | Yes                      |
| 58       | 245997  | 382247   | Yes                      |
| 59       | 246209  | 382299   | Yes                      |
| 60       | 246229  | 382297   | Yes                      |
| 61       | 245651  | 382219   | Yes                      |
| 62       | 245843  | 382137   | Yes                      |
| 63       | 245809  | 382080   | Yes                      |
| 64       | 245765  | 382007   | Yes                      |
| 65       | 245823  | 381949   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 66       | 245447  | 381798   | Yes                      |
| 67       | 245772  | 381809   | Yes                      |
| 68       | 245790  | 381792   | Yes                      |
| 69       | 245809  | 381790   | Yes                      |
| 70       | 245241  | 381602   | Yes                      |
| 71       | 245654  | 381222   | Yes                      |
| 72       | 245642  | 381187   | Yes                      |
| 73       | 245607  | 381148   | Yes                      |
| 74       | 245050  | 381039   | Yes                      |
| 75       | 244888  | 380905   | Yes                      |
| 76       | 244941  | 381326   | Yes                      |
| 77       | 244670  | 381198   | Yes                      |
| 78       | 243982  | 381703   | Yes                      |
| 79       | 243773  | 381377   | Yes                      |
| 80       | 242819  | 380838   | Yes                      |
| 81       | 242415  | 380981   | Yes                      |
| 82       | 243056  | 381332   | Yes                      |
| 83       | 243058  | 381352   | Yes                      |
| 84       | 243118  | 381437   | Yes                      |
| 85       | 243093  | 381655   | Yes                      |
| 86       | 242763  | 381976   | Yes                      |
| 87       | 242800  | 381997   | Yes                      |
| 88       | 242781  | 382080   | Yes                      |
| 89       | 243100  | 382062   | Yes                      |
| 90       | 243085  | 382186   | Yes                      |
| 91       | 242635  | 382420   | Yes                      |



| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 92       | 243109  | 382382   | Yes                      |
| 93       | 243114  | 382461   | Yes                      |
| 94       | 243078  | 382552   | Yes                      |
| 95       | 243058  | 382646   | Yes                      |
| 96       | 242736  | 382633   | Yes                      |
| 97       | 242851  | 382653   | Yes                      |
| 98       | 242880  | 382718   | Yes                      |
| 99       | 243064  | 382877   | Yes                      |
| 100      | 243072  | 382976   | Yes                      |
| 101      | 243034  | 383056   | Yes                      |
| 102      | 243027  | 383071   | Yes                      |
| 103      | 242776  | 382963   | Yes                      |
| 104      | 242827  | 383042   | Yes                      |
| 105      | 242902  | 383229   | Yes                      |
| 106      | 242770  | 383282   | Yes                      |
| 107      | 242653  | 383404   | Yes                      |
| 108      | 242665  | 383539   | Yes                      |
| 109      | 242688  | 383567   | Yes                      |
| 110      | 242672  | 383562   | Yes                      |
| 111      | 242816  | 383674   | Yes                      |
| 112      | 243093  | 383646   | Yes                      |
| 113      | 243305  | 383835   | Yes                      |
| 114      | 243257  | 383833   | Yes                      |
| 115      | 243086  | 383764   | Yes                      |
| 116      | 243129  | 383863   | Yes                      |
| 117      | 243044  | 383875   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 118      | 242973  | 383812   | Yes                      |
| 119      | 242894  | 383838   | Yes                      |
| 120      | 242834  | 383855   | Yes                      |
| 121      | 243015  | 383945   | Yes                      |
| 122      | 242737  | 383866   | Yes                      |
| 123      | 242610  | 384220   | Yes                      |
| 124      | 242265  | 383508   | Yes                      |
| 125      | 242311  | 383626   | Yes                      |
| 126      | 242402  | 383786   | Yes                      |
| 127      | 242518  | 383787   | Yes                      |
| 128      | 242453  | 383846   | Yes                      |
| 129      | 242422  | 383937   | Yes                      |
| 130      | 242352  | 383919   | Yes                      |
| 131      | 242309  | 383893   | Yes                      |
| 132      | 242220  | 383916   | Yes                      |
| 133      | 241427  | 384353   | Yes                      |
| 134      | 241678  | 384175   | Yes                      |
| 135      | 241609  | 384261   | Yes                      |
| 136      | 241500  | 384265   | Yes                      |
| 137      | 241492  | 384163   | Yes                      |
| 138      | 241551  | 384087   | Yes                      |
| 139      | 241490  | 384000   | Yes                      |
| 140      | 241631  | 384031   | Yes                      |
| 141      | 241800  | 384023   | Yes                      |
| 142      | 241913  | 383961   | Yes                      |
| 143      | 242023  | 383928   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 144      | 242138  | 383893   | Yes                      |
| 145      | 242219  | 383980   | Yes                      |
| 146      | 242186  | 384023   | Yes                      |
| 147      | 242111  | 384053   | Yes                      |
| 148      | 242009  | 384099   | Yes                      |
| 149      | 242018  | 384204   | Yes                      |
| 150      | 242087  | 384219   | Yes                      |
| 151      | 242120  | 384279   | Yes                      |
| 152      | 242027  | 384271   | Yes                      |
| 153      | 241860  | 384269   | Yes                      |
| 154      | 241897  | 384313   | Yes                      |
| 155      | 241977  | 384412   | Yes                      |
| 156      | 241956  | 384454   | Yes                      |
| 157      | 241899  | 384455   | Yes                      |
| 158      | 241806  | 384461   | Yes                      |
| 159      | 241862  | 384590   | Yes                      |
| 160      | 241824  | 384638   | Yes                      |
| 161      | 241895  | 384675   | Yes                      |
| 162      | 242047  | 384662   | Yes                      |
| 163      | 241988  | 384824   | Yes                      |
| 164      | 242020  | 384886   | Yes                      |
| 165      | 241324  | 384689   | Yes                      |
| 166      | 241301  | 384752   | Yes                      |
| 167      | 241068  | 385079   | Yes                      |
| 168      | 241187  | 385066   | Yes                      |
| 169      | 241480  | 385130   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 170      | 242073  | 385225   | Yes                      |
| 171      | 242132  | 385223   | Yes                      |
| 172      | 242504  | 385017   | Yes                      |
| 173      | 242471  | 385151   | Yes                      |
| 174      | 242293  | 385599   | Yes                      |
| 175      | 242329  | 385747   | Yes                      |
| 176      | 242550  | 385554   | Yes                      |
| 177      | 242598  | 385568   | Yes                      |
| 178      | 242614  | 385598   | Yes                      |
| 179      | 242378  | 386219   | Yes                      |
| 180      | 242494  | 386120   | Yes                      |
| 181      | 242903  | 385952   | Yes                      |
| 182      | 242925  | 385945   | Yes                      |
| 183      | 242949  | 385753   | Yes                      |
| 184      | 243138  | 385550   | Yes                      |
| 185      | 243227  | 384646   | Yes                      |
| 186      | 244280  | 383401   | Yes                      |
| 187      | 244311  | 383407   | Yes                      |
| 188      | 244470  | 383038   | Yes                      |
| 189      | 244300  | 382225   | Yes                      |
| 190      | 242931  | 386413   | No                       |
| 191      | 242917  | 386388   | No                       |
| 192      | 243007  | 386383   | No                       |
| 193      | 243109  | 386293   | No                       |
| 194      | 243259  | 386066   | No                       |
| 195      | 243381  | 386148   | No                       |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 196      | 243439  | 386137   | No                       |
| 197      | 243858  | 386632   | No                       |
| 198      | 244028  | 386325   | No                       |
| 199      | 243966  | 386262   | No                       |
| 200      | 244001  | 386263   | No                       |
| 201      | 244121  | 386245   | No                       |
| 202      | 244093  | 386226   | No                       |
| 203      | 244031  | 386182   | No                       |
| 204      | 243917  | 386213   | No                       |
| 205      | 243929  | 386152   | No                       |
| 206      | 243890  | 386078   | No                       |
| 207      | 243907  | 386074   | No                       |
| 208      | 243957  | 386115   | No                       |
| 209      | 244076  | 386146   | No                       |
| 210      | 243786  | 386036   | No                       |
| 211      | 243524  | 385750   | No                       |
| 212      | 244198  | 380118   | No                       |

## Road Receptors

5.11. There are 27 roads within the 1km study area of both the north and south site area that requires a detailed Glint and Glare Assessment: Burwen Road, Bethesda Street, B5111, Lon Leidr Road, Holyhead Road, Goedwig Street, the NCR 5, and various other unnamed roads. There are some minor roads that serve dwellings; however, these have been dismissed as vehicle users of these roads will likely be travelling at low speeds and therefore, there is a negligible risk of safety impacts resulting from glint and glare of the Project.

## North Road Receptors

5.12. The ground receptor no-reflection zones are clearly identifiable on **Figure 2: Appendix A** and the process of how these are calculated is explained in **paragraphs 5.1 to 5.2** of this report.

5.13. **Table 5-3** shows a list of receptors points within the study area which are 200m apart.

**Table 5-3: North Road Based Receptors**

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 1        | 243165  | 392777   | Yes                      |
| 2        | 241407  | 392444   | Yes                      |
| 3        | 241466  | 392254   | Yes                      |
| 4        | 241495  | 392062   | Yes                      |
| 5        | 241408  | 391882   | Yes                      |
| 6        | 241511  | 391747   | Yes                      |
| 7        | 241694  | 391670   | Yes                      |
| 8        | 241839  | 391532   | Yes                      |
| 9        | 241943  | 391362   | Yes                      |
| 10       | 241939  | 391164   | Yes                      |
| 11       | 242083  | 391048   | Yes                      |
| 12       | 242357  | 390767   | Yes                      |
| 13       | 242502  | 390634   | Yes                      |
| 14       | 242545  | 390441   | Yes                      |
| 15       | 242511  | 390259   | Yes                      |
| 16       | 242505  | 390061   | Yes                      |
| 17       | 242463  | 389866   | Yes                      |
| 18       | 242494  | 389670   | Yes                      |
| 19       | 242534  | 389475   | Yes                      |
| 20       | 242549  | 389277   | Yes                      |
| 21       | 241212  | 391842   | Yes                      |
| 22       | 241013  | 391855   | Yes                      |
| 23       | 240813  | 391852   | Yes                      |
| 24       | 240615  | 391836   | Yes                      |
| 25       | 240428  | 391765   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 26       | 240247  | 391693   | Yes                      |
| 27       | 240081  | 391585   | Yes                      |
| 28       | 239882  | 391595   | Yes                      |
| 29       | 239691  | 391535   | Yes                      |
| 30       | 239544  | 391415   | Yes                      |
| 31       | 238199  | 391722   | Yes                      |
| 32       | 238388  | 391682   | Yes                      |
| 33       | 238581  | 391684   | Yes                      |
| 34       | 238777  | 391679   | Yes                      |
| 35       | 238972  | 391669   | Yes                      |
| 36       | 239163  | 391638   | Yes                      |
| 37       | 239287  | 391530   | Yes                      |
| 38       | 239376  | 391355   | Yes                      |
| 39       | 239487  | 391190   | Yes                      |
| 40       | 239616  | 391043   | Yes                      |
| 41       | 239758  | 390925   | Yes                      |
| 42       | 239866  | 390758   | Yes                      |
| 43       | 240015  | 390625   | Yes                      |
| 44       | 240136  | 390466   | Yes                      |
| 45       | 240262  | 390311   | Yes                      |
| 46       | 240397  | 390164   | Yes                      |
| 47       | 240565  | 390065   | Yes                      |
| 48       | 240760  | 390028   | Yes                      |
| 49       | 240912  | 389934   | Yes                      |
| 50       | 241092  | 389853   | Yes                      |
| 51       | 241165  | 389671   | Yes                      |
| 52       | 243383  | 392561   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 53       | 243277  | 392396   | Yes                      |
| 54       | 243130  | 392262   | Yes                      |
| 55       | 242988  | 392121   | Yes                      |
| 56       | 242889  | 391950   | Yes                      |
| 57       | 242823  | 391762   | Yes                      |
| 58       | 242740  | 391584   | Yes                      |
| 59       | 242705  | 391391   | Yes                      |
| 60       | 242554  | 391267   | Yes                      |
| 61       | 242412  | 391126   | Yes                      |
| 62       | 242266  | 390989   | Yes                      |
| 63       | 242154  | 390826   | Yes                      |
| 64       | 242072  | 390646   | Yes                      |
| 65       | 242004  | 390457   | Yes                      |
| 66       | 241944  | 390266   | Yes                      |
| 67       | 241891  | 390074   | Yes                      |
| 68       | 241803  | 389899   | Yes                      |
| 69       | 241646  | 389776   | Yes                      |
| 70       | 241477  | 389670   | Yes                      |
| 71       | 241320  | 389550   | Yes                      |
| 72       | 241163  | 389427   | Yes                      |
| 73       | 241010  | 389298   | Yes                      |
| 74       | 240858  | 389169   | Yes                      |
| 75       | 240672  | 389102   | Yes                      |
| 76       | 240482  | 389044   | Yes                      |
| 77       | 240300  | 389030   | Yes                      |
| 78       | 240108  | 389067   | Yes                      |
| 79       | 239949  | 389179   | Yes                      |



| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 80       | 239819  | 389330   | Yes                      |
| 81       | 239639  | 389397   | Yes                      |
| 82       | 239442  | 389418   | Yes                      |
| 83       | 239277  | 389528   | Yes                      |
| 84       | 239101  | 389623   | Yes                      |
| 85       | 238939  | 389733   | Yes                      |
| 86       | 238793  | 389868   | Yes                      |
| 87       | 238614  | 389945   | Yes                      |
| 88       | 238467  | 390079   | Yes                      |
| 89       | 238339  | 390223   | Yes                      |
| 90       | 238142  | 390259   | Yes                      |
| 91       | 237949  | 390268   | Yes                      |
| 92       | 237828  | 390387   | Yes                      |
| 93       | 237656  | 390483   | Yes                      |
| 94       | 237761  | 390138   | Yes                      |
| 95       | 237770  | 389947   | Yes                      |
| 96       | 237921  | 389839   | Yes                      |
| 97       | 238120  | 389828   | Yes                      |
| 98       | 238306  | 389789   | Yes                      |
| 99       | 238496  | 389740   | Yes                      |
| 100      | 238691  | 389722   | Yes                      |
| 101      | 238083  | 389638   | Yes                      |
| 102      | 238476  | 389578   | Yes                      |
| 103      | 238324  | 389087   | Yes                      |
| 104      | 238294  | 388890   | Yes                      |
| 105      | 238304  | 388695   | Yes                      |
| 106      | 238340  | 388499   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 107      | 238263  | 388319   | Yes                      |
| 108      | 238185  | 388135   | Yes                      |
| 109      | 238050  | 388004   | Yes                      |
| 110      | 237979  | 387819   | Yes                      |
| 111      | 237996  | 387627   | Yes                      |
| 112      | 237908  | 387450   | Yes                      |
| 113      | 237841  | 387269   | Yes                      |
| 114      | 237894  | 387098   | Yes                      |
| 115      | 237396  | 386628   | Yes                      |
| 116      | 237204  | 386666   | Yes                      |
| 117      | 237006  | 386692   | Yes                      |
| 118      | 236815  | 386745   | Yes                      |
| 119      | 236621  | 386764   | Yes                      |
| 120      | 240269  | 388841   | Yes                      |
| 121      | 240119  | 388709   | Yes                      |
| 122      | 239990  | 388562   | Yes                      |
| 123      | 239904  | 388382   | Yes                      |
| 124      | 239748  | 388377   | Yes                      |
| 125      | 239553  | 388363   | Yes                      |
| 126      | 239366  | 388308   | Yes                      |
| 127      | 239167  | 388313   | Yes                      |
| 128      | 238976  | 388374   | Yes                      |
| 129      | 238779  | 388397   | Yes                      |
| 130      | 238581  | 388366   | Yes                      |
| 131      | 238384  | 388332   | Yes                      |
| 132      | 238004  | 388324   | Yes                      |
| 133      | 237810  | 388309   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 134      | 237681  | 388167   | Yes                      |
| 135      | 237558  | 388040   | Yes                      |
| 136      | 237367  | 388091   | Yes                      |
| 137      | 237170  | 388122   | Yes                      |
| 138      | 236993  | 388205   | Yes                      |
| 139      | 236817  | 388296   | Yes                      |
| 140      | 236697  | 388423   | Yes                      |
| 141      | 236565  | 388516   | Yes                      |
| 142      | 236373  | 388542   | Yes                      |
| 143      | 236258  | 388671   | Yes                      |
| 144      | 236067  | 388656   | Yes                      |
| 145      | 239781  | 388148   | Yes                      |
| 146      | 239629  | 388080   | Yes                      |
| 147      | 239602  | 387884   | Yes                      |
| 148      | 239562  | 387705   | Yes                      |
| 149      | 239384  | 387619   | Yes                      |
| 150      | 239241  | 387485   | Yes                      |
| 151      | 239105  | 387340   | Yes                      |
| 152      | 238942  | 387232   | Yes                      |
| 153      | 238745  | 387212   | Yes                      |
| 154      | 238552  | 387263   | Yes                      |
| 155      | 238362  | 387304   | Yes                      |
| 156      | 238179  | 387226   | Yes                      |
| 157      | 238005  | 387141   | Yes                      |
| 158      | 240747  | 388953   | Yes                      |
| 159      | 240920  | 388853   | Yes                      |
| 160      | 241082  | 388735   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 161      | 241254  | 388636   | Yes                      |
| 162      | 241398  | 388499   | Yes                      |
| 163      | 241551  | 388374   | Yes                      |
| 164      | 241718  | 388299   | Yes                      |
| 165      | 241800  | 388117   | Yes                      |
| 166      | 241885  | 387936   | Yes                      |
| 167      | 241987  | 387767   | Yes                      |
| 168      | 242056  | 387580   | Yes                      |
| 169      | 242147  | 387402   | Yes                      |
| 170      | 242242  | 387228   | Yes                      |
| 171      | 242319  | 387044   | Yes                      |
| 172      | 241464  | 389404   | Yes                      |
| 173      | 241586  | 389256   | Yes                      |
| 174      | 241593  | 389056   | Yes                      |
| 175      | 241627  | 388860   | Yes                      |
| 176      | 241629  | 388660   | Yes                      |
| 177      | 241627  | 388464   | Yes                      |
| 178      | 242005  | 388147   | Yes                      |
| 179      | 242103  | 388320   | Yes                      |
| 180      | 242195  | 388498   | Yes                      |
| 181      | 242289  | 388674   | Yes                      |
| 182      | 242370  | 388857   | Yes                      |
| 183      | 242334  | 388342   | Yes                      |
| 184      | 243021  | 391673   | Yes                      |
| 185      | 243209  | 391693   | Yes                      |
| 186      | 243372  | 391791   | Yes                      |
| 187      | 243550  | 391797   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 188      | 241983  | 393274   | No                       |
| 189      | 242166  | 393206   | No                       |
| 190      | 242344  | 393131   | No                       |
| 191      | 242493  | 393008   | No                       |
| 192      | 242682  | 392947   | No                       |
| 193      | 242877  | 392913   | No                       |
| 194      | 241538  | 393202   | No                       |
| 195      | 241557  | 393002   | No                       |
| 196      | 241558  | 392805   | No                       |
| 197      | 241470  | 392627   | No                       |
| 198      | 241900  | 393264   | No                       |
| 199      | 241855  | 393071   | No                       |
| 200      | 241751  | 392913   | No                       |
| 201      | 237932  | 386920   | No                       |
| 202      | 237785  | 386788   | No                       |
| 203      | 237645  | 386652   | No                       |
| 204      | 237504  | 386518   | No                       |
| 205      | 237394  | 386353   | No                       |

## North Road Receptors

- 5.14. The ground receptor no-reflection zones are clearly identifiable on **Figure 4: Appendix A** and the process of how these are calculated is explained in **paragraphs 5.1 to 5.2** of this report.
- 5.15. **Table 5-4** shows a list of receptors points within the study area which are 200m apart.

**Table 5-4: North Road Based Receptors**

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 1        | 242416  | 386091   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 2        | 242348  | 385903   | Yes                      |
| 3        | 242288  | 385712   | Yes                      |
| 4        | 242223  | 385523   | Yes                      |
| 5        | 242149  | 385338   | Yes                      |
| 6        | 242088  | 385148   | Yes                      |
| 7        | 242029  | 384956   | Yes                      |
| 8        | 241929  | 384785   | Yes                      |
| 9        | 241839  | 384612   | Yes                      |
| 10       | 241825  | 384412   | Yes                      |
| 11       | 241828  | 384214   | Yes                      |
| 12       | 241906  | 384111   | Yes                      |
| 13       | 242093  | 384045   | Yes                      |
| 14       | 242253  | 383926   | Yes                      |
| 15       | 242424  | 383853   | Yes                      |
| 16       | 242543  | 383692   | Yes                      |
| 17       | 242652  | 383525   | Yes                      |
| 18       | 242734  | 383343   | Yes                      |
| 19       | 242848  | 383188   | Yes                      |
| 20       | 243007  | 383075   | Yes                      |
| 21       | 243035  | 382879   | Yes                      |
| 22       | 243046  | 382680   | Yes                      |
| 23       | 243061  | 382480   | Yes                      |
| 24       | 243088  | 382282   | Yes                      |
| 25       | 243119  | 382084   | Yes                      |
| 26       | 243151  | 381887   | Yes                      |
| 27       | 243133  | 381693   | Yes                      |
| 28       | 243080  | 381500   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 29       | 243066  | 381303   | Yes                      |
| 30       | 243064  | 381103   | Yes                      |
| 31       | 243080  | 380904   | Yes                      |
| 32       | 243135  | 380712   | Yes                      |
| 33       | 241469  | 384014   | Yes                      |
| 34       | 241636  | 384123   | Yes                      |
| 35       | 242437  | 385541   | Yes                      |
| 36       | 242627  | 385598   | Yes                      |
| 37       | 242810  | 385673   | Yes                      |
| 38       | 242994  | 385735   | Yes                      |
| 39       | 243145  | 385856   | Yes                      |
| 40       | 242575  | 383911   | Yes                      |
| 41       | 242765  | 383866   | Yes                      |
| 42       | 242953  | 383825   | Yes                      |
| 43       | 243142  | 383816   | Yes                      |
| 44       | 243335  | 383818   | Yes                      |
| 45       | 243535  | 383828   | Yes                      |
| 46       | 243722  | 383843   | Yes                      |
| 47       | 243915  | 383890   | Yes                      |
| 48       | 244092  | 383977   | Yes                      |
| 49       | 244270  | 384062   | Yes                      |
| 50       | 244456  | 384130   | Yes                      |
| 51       | 244649  | 384176   | Yes                      |
| 52       | 244848  | 384184   | Yes                      |
| 53       | 245036  | 384129   | Yes                      |
| 54       | 245236  | 384123   | Yes                      |
| 55       | 245435  | 384141   | Yes                      |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 56       | 245633  | 384150   | Yes                      |
| 57       | 245824  | 384094   | Yes                      |
| 58       | 246014  | 384047   | Yes                      |
| 59       | 246207  | 383996   | Yes                      |
| 60       | 246397  | 383934   | Yes                      |
| 61       | 246585  | 383871   | Yes                      |
| 62       | 246772  | 383809   | Yes                      |
| 63       | 246941  | 383704   | Yes                      |
| 64       | 243618  | 385631   | Yes                      |
| 65       | 243788  | 385528   | Yes                      |
| 66       | 243935  | 385411   | Yes                      |
| 67       | 244031  | 385237   | Yes                      |
| 68       | 244126  | 385067   | Yes                      |
| 69       | 244305  | 384978   | Yes                      |
| 70       | 244427  | 384825   | Yes                      |
| 71       | 244504  | 384641   | Yes                      |
| 72       | 244589  | 384462   | Yes                      |
| 73       | 244649  | 384280   | Yes                      |
| 74       | 244636  | 386145   | Yes                      |
| 75       | 244531  | 385975   | Yes                      |
| 76       | 244433  | 385802   | Yes                      |
| 77       | 244357  | 385617   | Yes                      |
| 78       | 244366  | 385425   | Yes                      |
| 79       | 244332  | 385257   | Yes                      |
| 80       | 245943  | 383861   | Yes                      |
| 81       | 245961  | 383662   | Yes                      |
| 82       | 246014  | 383470   | Yes                      |



| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 83       | 246058  | 383275   | Yes                      |
| 84       | 246109  | 383081   | Yes                      |
| 85       | 246138  | 382888   | Yes                      |
| 86       | 246132  | 382688   | Yes                      |
| 87       | 246051  | 382519   | Yes                      |
| 88       | 245960  | 382343   | Yes                      |
| 89       | 245880  | 382160   | Yes                      |
| 90       | 245797  | 381978   | Yes                      |
| 91       | 245736  | 381794   | Yes                      |
| 92       | 245714  | 381596   | Yes                      |
| 93       | 245690  | 381398   | Yes                      |
| 94       | 245658  | 381200   | Yes                      |
| 95       | 245593  | 381012   | Yes                      |
| 96       | 241154  | 385500   | Yes                      |
| 97       | 241118  | 385313   | Yes                      |
| 98       | 241088  | 385118   | Yes                      |
| 99       | 241197  | 384979   | Yes                      |
| 100      | 241188  | 384782   | Yes                      |
| 101      | 241325  | 384669   | Yes                      |
| 102      | 241497  | 384574   | Yes                      |
| 103      | 241520  | 384383   | Yes                      |
| 104      | 241508  | 384195   | Yes                      |
| 105      | 242562  | 386655   | No                       |
| 106      | 242553  | 386455   | No                       |
| 107      | 242515  | 386263   | No                       |
| 108      | 243311  | 385967   | No                       |
| 109      | 243381  | 386143   | No                       |

| Receptor | Easting | Northing | Glint and Glare Possible |
|----------|---------|----------|--------------------------|
| 110      | 243563  | 386226   | No                       |
| 111      | 243749  | 386282   | No                       |
| 112      | 243922  | 386360   | No                       |
| 113      | 244103  | 386444   | No                       |
| 114      | 242728  | 386703   | No                       |
| 115      | 242856  | 386550   | No                       |
| 116      | 242974  | 386388   | No                       |
| 117      | 243095  | 386229   | No                       |
| 118      | 243222  | 386075   | No                       |
| 119      | 243475  | 385766   | No                       |
| 120      | 243187  | 380519   | No                       |
| 121      | 243256  | 380334   | No                       |
| 122      | 243384  | 380182   | No                       |
| 123      | 243499  | 380027   | No                       |

## Rail Receptors

5.16. There are no railway lines within 1km of the North or South site areas. Therefore, no rail receptors have been assessed.

## Aviation Receptors

5.17. Aerodromes within 30km of the Solar PV Site can be found in **Table 5-5**.

**Table 5-5: Airfields within close proximity**

| Airfield                | Distance (North) (km) | Distance (South) (km) | Use      |
|-------------------------|-----------------------|-----------------------|----------|
| RAF Mona                | 10.43                 | 4.27                  | Military |
| Skerries Lighthouse     | 12.41                 | 18.11                 | Helipad  |
| RAF Valley              | 12.83                 | 13.34                 | Military |
| Ysbyty Gwynedd Hospital | 22.62                 | 16.31                 | Helipad  |

| Airfield      | Distance (North)<br>(km) | Distance (South)<br>(km) | Use      |
|---------------|--------------------------|--------------------------|----------|
| RAF Llandwrog | 27.92                    | 21.53                    | Military |

- 5.18. As shown in **Table 5-5**, there are five aerodromes within 30km of the Solar PV Site. However, only RAF Mona will require a detailed assessment as the southern parcel is located within their safeguarding buffer zone, outlined in **paragraph 4.24 – 4.26**.
- 5.19. The other four aerodromes do not require detailed assessments due to their location in relation to the Solar PV Site falling outside of the buffer zones outlined in **paragraph 4.24 – 4.26**.

### RAF Mona

- 5.20. RAF Mona is a military airfield. It is located approximately 3.7km west of Llangefni. See aerodrome chart (**Figure 8: Appendix A**)
- 5.21. The elevation of the aerodrome is 202ft (62m). RAF Mona has one asphalt runway, details of which are given in **Table 5 - 6**.

**Table 5-6: Runways at RAF Mona**

| Runway Designation | True Bearing (°) | Length (m) | Width (m) |
|--------------------|------------------|------------|-----------|
| 04                 | 031.17           | 1647.6     | 45        |
| 22                 | 217.18           | 1647.6     | 45        |

- 5.22. The threshold location and height of the runway at RAF Mona are given in **Table 5 - 7**.

**Table 5-7: Runway Threshold Locations and Heights**

| Runway Designation | Threshold Latitude | Threshold Longitude | Height AOD (m) |
|--------------------|--------------------|---------------------|----------------|
| 04                 | 53° 15' 13.75" N   | 004° 22' 51.46" W   | 56.88          |
| 22                 | 53° 15' 54.40" N   | 004° 21' 59.82" W   | 60.24          |

- 5.23. The ARP is located at the midpoint of Runway 04/22. The actual location of the ARP and ATCT is given in **Table 5 - 8**. The height of the ATCT is assumed to be 10m based off Google Earth.

**Table 5-8: RAF Mona Airfield Reference Point**

|     | Latitude      | Longitude      | Eastings | Northings |
|-----|---------------|----------------|----------|-----------|
| ARP | 53° 15' 33" N | 004° 22' 26" W | 241727   | 376206    |

|      |               |                |        |        |
|------|---------------|----------------|--------|--------|
| ATCT | 53° 15' 37" N | 004° 22' 41" W | 241475 | 376328 |
|------|---------------|----------------|--------|--------|

## 6. IMPACT ASSESSMENT

- 6.1. Following the methodology outlined earlier in this report, geometrical analysis comparing the azimuth and horizontal angle of the receptors from the Project and the solar reflection was conducted. Although this model did not take into account obstructions such as vegetation and buildings, discussion on the potentially impacted receptors is provided where necessary. Such obstructions will be taken into account during the visibility assessment and will be discussed for each relevant receptor.

### GROUND BASED RECEPTORS

#### North Residential Receptors

- 6.2. **Table 6-1** identifies the receptors that will experience solar reflections based on solar reflection modelling and whether the reflections will be experienced in the morning (AM), evening (PM), or both.
- 6.3. The 19 receptors which were within the no-reflection zones outlined previously have been excluded from the detailed modelling as they will never receive any glint and glare impacts from the Project.

- 6.4. **Appendix B1 and B41 – B6** show the analysis with the solar panels modelled as fixed tilt at 15 degrees and 25 degrees. Whilst **Appendix B1 and B47 – B9** show the analysis with the solar panels modelled as single axis tracker.
- 6.5. **Table 6-1** shows the worst-case impact at each receptor, based on a theoretical modelled impact without consideration of local vegetation or other obstacles and assuming no cloud at any point in the year.

**Table 6-1: Potential for Glint and Glare impact on North Residential Receptors**

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours |                     |                                 |
| 1        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 2        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 3        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 4        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 5        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 6        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 7        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 8        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 9        | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 10       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 11       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 12       | No                       | No  | 5                                 | 0.08  | Low                 | Tracker                         |
| 13       | No                       | No  | 1                                 | 0.02  | Low                 | Tracker                         |
| 14       | No                       | No  | 5                                 | 0.08  | Low                 | Tracker                         |
| 15       | No                       | Yes | 78                                | 1.30  | Low                 | 25                              |
| 16       | No                       | Yes | 334                               | 5.57  | Low                 | 25                              |
| 17       | No                       | Yes | 1034                              | 17.23 | Low                 | 25                              |
| 18       | No                       | Yes | 3073                              | 51.22 | High                | 25                              |
| 19       | No                       | Yes | 3374                              | 56.23 | High                | 15                              |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |        | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|--------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours  |                     |                                 |
| 20       | No                       | Yes | 11240                             | 187.33 | High                | 15                              |
| 21       | No                       | Yes | 9554                              | 159.23 | High                | 15                              |
| 22       | No                       | Yes | 3996                              | 66.60  | High                | 15                              |
| 23       | No                       | Yes | 3531                              | 58.85  | High                | 15                              |
| 24       | No                       | Yes | 3707                              | 61.78  | High                | 15                              |
| 25       | No                       | Yes | 791                               | 13.18  | Low                 | 25                              |
| 26       | No                       | Yes | 746                               | 12.43  | Low                 | 25                              |
| 27       | No                       | Yes | 1573                              | 26.22  | Medium              | 25                              |
| 28       | No                       | Yes | 1067                              | 17.78  | Low                 | 15                              |
| 29       | No                       | Yes | 672                               | 11.20  | Low                 | 15                              |
| 30       | No                       | Yes | 2016                              | 33.60  | High                | 15                              |
| 31       | No                       | Yes | 1980                              | 33.00  | High                | 15                              |
| 32       | No                       | Yes | 1775                              | 29.58  | Medium              | 15                              |
| 33       | No                       | Yes | 1549                              | 25.82  | Medium              | 15                              |
| 34       | No                       | Yes | 1200                              | 20.00  | Medium              | 15                              |
| 35       | No                       | Yes | 677                               | 11.28  | Low                 | 15                              |
| 36       | No                       | Yes | 2819                              | 46.98  | High                | 25                              |
| 37       | No                       | Yes | 3422                              | 57.03  | High                | 25                              |
| 38       | No                       | Yes | 2712                              | 45.20  | High                | 25                              |
| 39       | No                       | Yes | 2542                              | 42.37  | High                | 25                              |
| 40       | No                       | Yes | 5720                              | 95.33  | High                | 15                              |
| 41       | No                       | Yes | 4580                              | 76.33  | High                | 25                              |
| 42       | No                       | Yes | 3069                              | 51.15  | High                | 25                              |
| 43       | No                       | Yes | 2813                              | 46.88  | High                | 15                              |
| 44       | No                       | Yes | 2469                              | 41.15  | High                | 15                              |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours |                     |                                 |
| 45       | No                       | Yes | 1785                              | 29.75 | Medium              | 15                              |
| 46       | No                       | Yes | 1400                              | 23.33 | Medium              | 15                              |
| 47       | No                       | Yes | 1392                              | 23.20 | Medium              | 15                              |
| 48       | No                       | Yes | 1149                              | 19.15 | Low                 | 15                              |
| 49       | No                       | Yes | 950                               | 15.83 | Low                 | 15                              |
| 50       | No                       | Yes | 226                               | 3.77  | Low                 | 15                              |
| 51       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 52       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 53       | Yes                      | Yes | 5303                              | 88.38 | High                | 25                              |
| 54       | Yes                      | Yes | 3872                              | 64.53 | High                | 25                              |
| 55       | No                       | Yes | 1007                              | 16.78 | Low                 | 25                              |
| 56       | No                       | Yes | 718                               | 11.97 | Low                 | 25                              |
| 57       | No                       | Yes | 853                               | 14.22 | Low                 | 15                              |
| 58       | No                       | Yes | 3674                              | 61.23 | High                | 15                              |
| 59       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 60       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 61       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 62       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 63       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 64       | No                       | Yes | 119                               | 1.98  | Low                 | 15                              |
| 65       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 66       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 67       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 68       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 69       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours |                     |                                 |
| 70       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 71       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 72       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 73       | No                       | Yes | 276                               | 4.60  | Low                 | 25                              |
| 74       | No                       | Yes | 352                               | 5.87  | Low                 | 25                              |
| 75       | No                       | Yes | 4271                              | 71.18 | High                | 15                              |
| 76       | No                       | Yes | 2724                              | 45.40 | High                | 25                              |
| 77       | No                       | Yes | 4307                              | 71.78 | High                | 25                              |
| 78       | Yes                      | Yes | 5774                              | 96.23 | High                | 25                              |
| 79       | Yes                      | Yes | 4691                              | 78.18 | High                | 25                              |
| 80       | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 81       | No                       | Yes | 617                               | 10.28 | Low                 | 25                              |
| 82       | No                       | Yes | 539                               | 8.98  | Low                 | 25                              |
| 83       | No                       | Yes | 758                               | 12.63 | Low                 | 25                              |
| 84       | No                       | Yes | 915                               | 15.25 | Low                 | 25                              |
| 85       | No                       | Yes | 1299                              | 21.65 | Medium              | 25                              |
| 86       | No                       | Yes | 1459                              | 24.32 | Medium              | 25                              |
| 87       | No                       | Yes | 2035                              | 33.92 | High                | 15                              |
| 88       | No                       | Yes | 2356                              | 39.27 | High                | 15                              |
| 89       | No                       | Yes | 2348                              | 39.13 | High                | 15                              |
| 90       | No                       | Yes | 2493                              | 41.55 | High                | 15                              |
| 91       | No                       | Yes | 2516                              | 41.93 | High                | 15                              |
| 92       | No                       | Yes | 2548                              | 42.47 | High                | 15                              |
| 93       | No                       | Yes | 2297                              | 38.28 | High                | 15                              |
| 94       | No                       | Yes | 2356                              | 39.27 | High                | 25                              |



| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |        | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|--------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours  |                     |                                 |
| 95       | No                       | Yes | 3069                              | 51.15  | High                | 25                              |
| 96       | No                       | Yes | 4664                              | 77.73  | High                | 15                              |
| 97       | No                       | Yes | 4994                              | 83.23  | High                | 15                              |
| 98       | No                       | Yes | 5936                              | 98.93  | High                | 15                              |
| 99       | No                       | Yes | 2325                              | 38.75  | High                | 15                              |
| 100      | No                       | Yes | 2153                              | 35.88  | High                | 15                              |
| 101      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 102      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 103      | No                       | Yes | 40                                | 0.67   | Low                 | 25                              |
| 104      | No                       | Yes | 39                                | 0.65   | Low                 | 25                              |
| 105      | Yes                      | Yes | 9378                              | 156.30 | High                | 15                              |
| 106      | Yes                      | Yes | 7543                              | 125.72 | High                | 15                              |
| 107      | Yes                      | Yes | 8056                              | 134.27 | High                | 15                              |
| 108      | Yes                      | Yes | 7068                              | 117.80 | High                | 25                              |
| 109      | Yes                      | Yes | 7551                              | 125.85 | High                | 25                              |
| 110      | Yes                      | No  | 307                               | 5.12   | Low                 | 15                              |
| 111      | Yes                      | No  | 1164                              | 19.40  | Low                 | 15                              |
| 112      | Yes                      | No  | 3713                              | 61.88  | High                | 25                              |
| 113      | Yes                      | No  | 1357                              | 22.62  | Medium              | 15                              |
| 114      | Yes                      | No  | 1481                              | 24.68  | Medium              | 15                              |
| 115      | Yes                      | No  | 1320                              | 22.00  | Medium              | 25                              |
| 116      | Yes                      | No  | 520                               | 8.67   | Low                 | 25                              |
| 117      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 118      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 119      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |        | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|--------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours  |                     |                                 |
| 120      | Yes                      | No  | 5                                 | 0.08   | Low                 | 15                              |
| 121      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 122      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 123      | Yes                      | No  | 68                                | 1.13   | Low                 | 25                              |
| 124      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 125      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 126      | Yes                      | Yes | 10326                             | 172.10 | High                | 15                              |
| 127      | Yes                      | No  | 172                               | 2.87   | Low                 | 15                              |
| 128      | Yes                      | No  | 95                                | 1.58   | Low                 | 15                              |
| 129      | Yes                      | No  | 50                                | 0.83   | Low                 | 15                              |
| 130      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 131      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 132      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 133      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 134      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 135      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 136      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 137      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 138      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 139      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 140      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 141      | No                       | No  | 0                                 | 0.00   | None                | N/A                             |
| 142      | Yes                      | No  | 45                                | 0.75   | Low                 | 25                              |
| 143      | Yes                      | Yes | 413                               | 6.88   | Low                 | 25                              |
| 144      | Yes                      | Yes | 2263                              | 37.72  | High                | 15                              |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours |                     |                                 |
| 145      | Yes                      | Yes | 4673                              | 77.88 | High                | 25                              |
| 146      | Yes                      | Yes | 1546                              | 25.77 | Medium              | 25                              |
| 147      | Yes                      | No  | 98                                | 1.63  | Low                 | 25                              |
| 148      | Yes                      | Yes | 4059                              | 67.65 | High                | 15                              |
| 149      | Yes                      | No  | 110                               | 1.83  | Low                 | 25                              |
| 150      | Yes                      | No  | 69                                | 1.15  | Low                 | 25                              |
| 151      | Yes                      | No  | 17                                | 0.28  | Low                 | 25                              |
| 152      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 153      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 154      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 155      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 156      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 157      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 158      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 159      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 160      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 161      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 162      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 163      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 164      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 165      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 166      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 167      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 168      | Yes                      | Yes | 3507                              | 58.45 | High                | 25                              |
| 169      | Yes                      | Yes | 2823                              | 47.05 | High                | 15                              |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours |                     |                                 |
| 170      | Yes                      | Yes | 2348                              | 39.13 | High                | 15                              |
| 171      | Yes                      | Yes | 5476                              | 91.27 | High                | 25                              |
| 172      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 173      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 174      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 175      | Yes                      | No  | 1113                              | 18.55 | Low                 | 15                              |
| 176      | Yes                      | No  | 400                               | 6.67  | Low                 | 15                              |
| 177      | Yes                      | No  | 492                               | 8.20  | Low                 | 15                              |
| 178      | Yes                      | No  | 440                               | 7.33  | Low                 | 15                              |
| 179      | Yes                      | No  | 301                               | 5.02  | Low                 | 15                              |
| 180      | Yes                      | No  | 346                               | 5.77  | Low                 | 25                              |
| 181      | No                       | No  | 0                                 | 0.00  | None                | N/A                             |
| 182      | Yes                      | No  | 485                               | 8.08  | Low                 | 15                              |
| 183      | Yes                      | No  | 459                               | 7.65  | Low                 | 15                              |
| 184      | Yes                      | No  | 406                               | 6.77  | Low                 | 15                              |
| 185      | Yes                      | No  | 347                               | 5.78  | Low                 | 15                              |
| 186      | Yes                      | No  | 544                               | 9.07  | Low                 | 15                              |
| 187      | Yes                      | No  | 396                               | 6.60  | Low                 | 15                              |
| 188      | Yes                      | No  | 401                               | 6.68  | Low                 | 15                              |
| 189      | Yes                      | No  | 1447                              | 24.12 | Medium              | 25                              |
| 190      | Yes                      | No  | 2452                              | 40.87 | High                | 15                              |
| 191      | Yes                      | No  | 3812                              | 63.53 | High                | 25                              |
| 192      | Yes                      | No  | 551                               | 9.18  | Low                 | 15                              |
| 193      | Yes                      | No  | 1181                              | 19.68 | Low                 | 15                              |
| 194      | Yes                      | No  | 1276                              | 21.27 | Medium              | 15                              |

| Receptor | Glint Possible from Site |    | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM | Minutes                           | Hours |                     |                                 |
| 195      | Yes                      | No | 1297                              | 21.62 | Medium              | 15                              |
| 196      | Yes                      | No | 1385                              | 23.08 | Medium              | 15                              |
| 197      | Yes                      | No | 1458                              | 24.30 | Medium              | 15                              |
| 198      | Yes                      | No | 857                               | 14.28 | Low                 | 25                              |
| 199      | Yes                      | No | 2675                              | 44.58 | High                | 25                              |
| 200      | Yes                      | No | 1270                              | 21.17 | Medium              | 25                              |
| 201      | Yes                      | No | 46                                | 0.77  | Low                 | 25                              |
| 202      | No                       | No | 0                                 | 0.00  | None                | N/A                             |
| 203      | No                       | No | 0                                 | 0.00  | None                | N/A                             |
| 204      | No                       | No | 3                                 | 0.05  | Low                 | Tracker                         |
| 205      | Yes                      | No | 3030                              | 50.50 | High                | 25                              |
| 206      | Yes                      | No | 3778                              | 62.97 | High                | 25                              |
| 207      | Yes                      | No | 2355                              | 39.25 | High                | 25                              |
| 208      | Yes                      | No | 1189                              | 19.82 | Low                 | 25                              |
| 209      | Yes                      | No | 933                               | 15.55 | Low                 | 25                              |
| 210      | Yes                      | No | 413                               | 6.88  | Low                 | 15                              |
| 211      | Yes                      | No | 1732                              | 28.87 | Medium              | 25                              |
| 212      | Yes                      | No | 998                               | 16.63 | Low                 | 25                              |
| 213      | Yes                      | No | 1561                              | 26.02 | Medium              | 25                              |
| 214      | Yes                      | No | 1783                              | 29.72 | Medium              | 25                              |
| 215      | Yes                      | No | 1866                              | 31.10 | High                | 25                              |
| 216      | Yes                      | No | 679                               | 11.32 | Low                 | 15                              |
| 217      | Yes                      | No | 540                               | 9.00  | Low                 | 15                              |
| 218      | No                       | No | 26                                | 0.43  | Low                 | Tracker                         |
| 219      | No                       | No | 148                               | 2.47  | Low                 | Tracker                         |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |        | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|--------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours  |                     |                                 |
| 220      | No                       | No  | 3782                              | 63.03  | High                | Tracker                         |
| 221      | Yes                      | Yes | 9660                              | 161.00 | High                | 15                              |
| 222      | Yes                      | Yes | 2833                              | 47.22  | High                | 15                              |
| 223      | Yes                      | Yes | 1783                              | 29.72  | Medium              | 15                              |
| 224      | No                       | No  | 125                               | 2.08   | Low                 | Tracker                         |
| 225      | No                       | No  | 128                               | 2.13   | Low                 | Tracker                         |
| 226      | Yes                      | Yes | 4733                              | 78.88  | High                | 25                              |
| 227      | Yes                      | Yes | 12731                             | 212.18 | High                | 15                              |
| 228      | Yes                      | Yes | 4296                              | 71.60  | High                | 25                              |
| 229      | Yes                      | Yes | 1065                              | 17.75  | Low                 | 15                              |
| 230      | Yes                      | Yes | 2490                              | 41.50  | High                | Tracker                         |

- 6.6. As can be seen in **Table 6 - 1**, there is a **High** impact at 68 receptors, **Medium** impact at 23 receptors, **Low** impact at 69 receptors and a **None** impact at 70 receptors.
- 6.7. **Appendix G** shows Google Earth images that give an insight into how each receptor will be impacted by the glint and glare from the Solar PV Site. There is a mixture of images used, which include aerial, ground level and street level. The aerial images show the location of the receptor with the solar farm drawn as a white polygon and can be seen on the images when the solar farm is theoretically visible. The area of the solar farm from where reflections may be possible has been drawn as a yellow polygon. The ground level terrain is based on the height data of the surrounding land showing no intervening vegetation or buildings. The white and yellow polygons can be seen in this view also. The street view gives a good indication as to whether the area of the solar farm where reflections are theoretically possible will be visible from the receptor point. Also, where appropriate images that have been taken from within the Solar PV Site have been used to show up to date imagery.

#### Receptors 12 - 14

- 6.8. The 'Glare Reflections on PV Footprint' chart in **Appendix B7** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptors.

- 6.9. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 15 (Appendix B1 and B4 Receptor 15)

- 6.10. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.11. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **Low**.

#### Receptor 16 (Appendix B1 and B4 Receptor 16)

- 6.12. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.13. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). This image shows intervening buildings between the Solar PV Site and the receptor. The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening buildings are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 17 (Appendix B1 and B4 Receptor 17)

- 6.14. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.15. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **Low**.

#### Receptors 18 and 19 (Appendix B1 and B4 Receptors 18 and 19)

- 6.16. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from the northern half of Array 2 of the Solar PV Site can potentially impact on the receptors.

- 6.17. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). This image shows vegetation between the Solar PV Site and the receptor. The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 20 (Appendix B1 and B4 Receptor 20)

- 6.18. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.19. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **High**.

#### Receptor 21 (Appendix B1 and B4 Receptor 21)

- 6.20. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.21. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 22 (Appendix B1 and B4 Receptor 22)

- 6.22. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.23. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation and topography are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 23 (Appendix B1 and B4 Receptor 23)

- 6.24. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 2 of the Solar PV Site can potentially impact on the receptor.



- 6.25. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation and topography are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 24 (Appendix B1 and B4 Receptor 24)

- 6.26. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.27. The first image in **Appendix B2 and B5** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 18:00 UTC on March 25<sup>th</sup> and July 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### Receptors 25 and 26 (Appendix B1 and B4 Receptors 25 and 26)

- 6.28. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 2 of the Solar PV Site can potentially impact on the receptors.
- 6.29. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pins) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation and topography are insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 27 (Appendix B1 and B4 Receptor 27)

- 6.30. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from most, except a southeast section, of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.31. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). This image shows dense vegetation surrounding the receptor. The second image is a street view image with a view towards the receptor. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 28 and 29 (Appendix B1 and B4 Receptors 28 and 29)

- 6.32. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from most, except a southeast section, of Array 2 of the Solar PV Site can potentially impact on the receptors.
- 6.33. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). This image shows vegetation between Solar PV Site and the receptors. The second image is a street view image with a view towards the receptors. This image confirms that the vegetation and topography are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 30 (Appendix B1 and B4 Receptor 30)

- 6.34. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southwest section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.35. The first image in **Appendix B2 and B5** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 18:15 UTC on April 25<sup>th</sup> and at 18:45 UTC July 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

### Receptor 31 (Appendix B1 and B4 Receptor 31)

- 6.36. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southwest section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.37. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). This image shows dense vegetation and an intervening building between the Solar PV Site and the receptor. The second image is a street view image with a view towards the receptor. This image confirms that the vegetation and intervening building are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 32 - 34 (Appendix B1 and B4 Receptors 32 - 34)

- 6.38. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 2 of the Solar PV Site can potentially impact on the receptors.

- 6.39. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pins) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). This image shows dense vegetation between the Solar PV Site and the receptor. The second image is a street view image with a view towards the receptor. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 35 (Appendix B1 and B4 Receptor 35)

- 6.40. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southwest section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.41. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 36 - 38 (Appendix B1 and B4 Receptors 36 - 38)

- 6.42. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 5 and a northern section of Array 7 of the Solar PV Site can potentially impact on the receptors.
- 6.43. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pins) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 40 (Appendix B1 and B4 Receptor 40)

- 6.44. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 5 and a central section of Array 7 of the Solar PV Site can potentially impact on the receptor.
- 6.45. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **High**.

#### Receptor 41 (Appendix B1 and B4 Receptor 41)

- 6.46. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 5 and a southern section of Array 7 of the Solar PV Site can potentially impact on the receptor.
- 6.47. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The second image is a ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 19:00 UTC on June 15<sup>th</sup>, respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### Receptor 42 (Appendix B1 and B4 Receptor 42)

- 6.48. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 5 and a central section of Array 7 of the Solar PV Site can potentially impact on the receptor.
- 6.49. The first image in **Appendix G** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 18:15 UTC on April 1<sup>st</sup> and July 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### Receptors 43 and 44 (Appendix B1 and B4 Receptors 43 and 44)

- 6.50. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 5 and a southern section of Array 7 of the Solar PV Site can potentially impact on the receptors.
- 6.51. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pins) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 45 (Appendix B1 and B4 Receptor 45)**

- 6.52. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.53. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 46 - 49 (Appendix B1 and B4 Receptors 46 - 49)**

- 6.54. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.55. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pins) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 50 (Appendix B1 and B4 Receptor 50)**

- 6.56. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.57. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 53 (Appendix B1 and B4 Receptor 53)**

- 6.58. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.59. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 54 (Appendix B1 and B4 Receptor 54)**

- 6.60. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a central section of Array 4, a southern section of Array 5 and a southern section of Array 8 of the Solar PV Site can potentially impact on the receptor.
- 6.61. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 18:15 UTC on April 15<sup>th</sup> and July 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

**Receptors 55 - 57 (Appendix B1 and B4 Receptors 55 - 57)**

- 6.62. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 4 of the Solar PV Site can potentially impact on the receptors.
- 6.63. The first image in **Appendix G** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of Receptor 56 with a view towards the Solar PV Site showing the position of the sun at 18:15 UTC on May 15<sup>th</sup> and July 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

**Receptor 58 (Appendix B1 and B4 Receptor 58)**

- 6.64. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 4 and a southern section of Array 9 of the Solar PV Site can potentially impact on the receptor.
- 6.65. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pin) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 18:00 UTC on April 1<sup>st</sup> and June 10<sup>th</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

**Receptor 64 (Appendix B1 and B4 Receptor 64)**

- 6.66. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a southern section of Array 4 of the Solar PV Site can potentially impact on the receptor.
- 6.67. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 73 and 74 (Appendix B1 and B4 Receptors 73 and 74)**

- 6.68. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptors.
- 6.69. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pins) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 75 (Appendix B1 and B4 Receptor 75)**

- 6.70. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 15 and a northern section of Array 16 of the Solar PV Site can potentially impact on the receptor.
- 6.71. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **High**.

**Receptor 76 (Appendix B1 and B4 Receptor 76)**

- 6.72. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 15 and a northern section of Array 16 of the Solar PV Site can potentially impact on the receptor.
- 6.73. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 77 (Appendix B1 and B4 Receptor 77)

- 6.74. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 15 and a northern section of Array 16 of the Solar PV Site can potentially impact on the receptor.
- 6.75. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **High**.

### Receptors 78 and 79 (Appendix B1 and B4 Receptors 78 and 79)

- 6.76. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B4** shows that reflections from a northern section of Array 15 and a northern section of Array 16 of the Solar PV Site can potentially impact on the receptor.
- 6.77. The first image in **Appendix G** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptors with a view towards the Solar PV Site showing the position of the sun at 06:00 and 19:00 UTC on 15<sup>th</sup> June respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

### Receptors 81 - 85 (Appendix B2 and B5 Receptors 1 - 5)

- 6.78. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptors.
- 6.79. The first image in **Appendix G** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of Receptor 86 with a view towards the Solar PV Site showing the position of the sun at 18:00 UTC on March 25<sup>th</sup> and June 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact upon Receptors 81 – 84 remains **Low** and the impact upon Receptor 85 reduces to **Low**.



### Receptors 86 - 93 (Appendix B2 and B5 Receptors 6 - 13)

- 6.80. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptors.
- 6.81. The first image in **Appendix G** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of Receptor 93 with a view towards the Solar PV Site showing the position of the sun at 18:00 UTC on March 25<sup>th</sup> and at 18:15 UTC on July 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

### Receptors 94 - 98 (Appendix B2 and B5 Receptors 14 - 18)

- 6.82. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptors.
- 6.83. The first image in **Appendix G** is an aerial image showing the position of the receptors (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of Receptor 93 with a view towards the Solar PV Site showing the position of the sun at 18:00 UTC on March 25<sup>th</sup> and at 18:15 UTC on July 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

### Receptor 99 (Appendix B2 and B5 Receptor 19)

- 6.84. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 15 of the Solar PV Site can potentially impact on the receptor.
- 6.85. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation, buildings and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 100 (Appendix B2 and B5 Receptor 19)

- 6.86. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 15 of the Solar PV Site can potentially impact on the receptor.

- 6.87. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation, buildings and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 103 and 104 (Appendix B2 and B5 Receptor 23 and 24)

- 6.88. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 11 of the Solar PV Site can potentially impact on the receptors.
- 6.89. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view of the vegetation that is to the west of the receptors. This image confirms that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 105 and 106 (Appendix B2 and B5 Receptor 25 and 26)

- 6.90. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 11, northern section of Array 14 and central section of Array 15 of the Solar PV Site can potentially impact on the receptors.
- 6.91. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red and blue dot). The second image is a street view image with a view towards Receptor 105. The third image is a street view image with a view towards the Solar PV Site. These images confirm that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible for Receptor 106 but not Receptor 105. Therefore, the impact remains **High** for Receptor 105 but reduces to **None** for Receptor 106.

#### Receptor 107 (Appendix B2 and B5 Receptor 27)

- 6.92. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 11, 12, 14 and 15 of the Solar PV Site can potentially impact on the receptor.
- 6.93. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red and blue dot). The second image is a street view image with a view of the vegetation to the east of the receptor. The third image is a street view image with a view towards Array 11. These images confirm that the intervening vegetation is sufficient to screen

all views of the Solar PV Site where glint and glare is possible f. Therefore, the impact reduces to **None**.

#### Receptor 108 (Appendix B2 and B5 Receptor 28)

- 6.94. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 11, 12, 14 and 15 of the Solar PV Site can potentially impact on the receptor.
- 6.95. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation, buildings and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 109 (Appendix B2 and B5 Receptor 29)

- 6.96. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central and southern sections of Array 11, 12, 14 and 15 of the Solar PV Site can potentially impact on the receptor.
- 6.97. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red dot). The second and third images are street view images with a view of the vegetation to the west and east of the receptor. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 110 - 111 (Appendix B2 and B5 Receptor 30 and 31)

- 6.98. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a southern section of Array 14 and 15 of the Solar PV Site can potentially impact on the receptors.
- 6.99. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors and of the intervening topography and vegetation. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 112 - 113 (Appendix B2 and B5 Receptor 32 and 33)

- 6.100. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a southern section of Array 12 - 15 of the Solar PV Site can potentially impact on the receptors.
- 6.101. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors and of the intervening topography and vegetation. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 114 - 115 (Appendix B2 and B5 Receptor 34 and 35)

- 6.102. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a southern section of Array 12 and a central section of Array 15 of the Solar PV Site can potentially impact on the receptors.
- 6.103. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site and of the intervening topography and vegetation. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 116 (Appendix B2 and B5 Receptor 36)

- 6.104. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 11 of the Solar PV Site can potentially impact on the receptor.
- 6.105. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor and of the intervening topography and vegetation. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 120 (Appendix B2 and B5 Receptor 40)

- 6.106. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.107. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site and of

the intervening topography and vegetation. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 123 (Appendix B2 and B5 Receptor 43)

6.108. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptor.

6.109. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor and of the intervening topography and vegetation. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 126 (Appendix B2 and B5 Receptor 46)

6.110. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 11 and 15 of the Solar PV Site can potentially impact on the receptor.

6.111. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor and of the intervening buildings and vegetation. This image confirms that the intervening vegetation and buildings are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 127 - 129 (Appendix B2 and B5 Receptor 47 - 49)

6.112. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptors.

6.113. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors and of the intervening buildings and vegetation. This image confirms that the intervening vegetation and buildings are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 142 (Appendix B2 and B5 Receptor 62)

6.114. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptor.

6.115. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor and of the intervening buildings and vegetation. This image confirms that the intervening vegetation and buildings are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 143 (Appendix B2 and B5 Receptor 63)

6.116. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptor.

6.117. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor and of the intervening buildings and vegetation. This image confirms that the intervening vegetation and buildings are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 144 (Appendix B2 and B5 Receptor 64)

6.118. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 13 and a northern section of Array 15 of the Solar PV Site can potentially impact on the receptor.

6.119. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor and of the vegetation that is located to the east of the receptor. This image confirms that the intervening vegetation are sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 145 (Appendix B2 and B5 Receptor 65)

6.120. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 13 and 15 of the Solar PV Site can potentially impact on the receptor.

6.121. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red dot). The second and third images are street view images with a view of the vegetation to the east and west of the receptor. These images confirm that the intervening vegetation and topography is sufficient to screen western views of the Solar PV Site where glint and glare is possible only. Therefore, the impact remains **High**.

### Receptor 146 (Appendix B2 and B5 Receptor 66)

- 6.122. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 13 and 15 of the Solar PV Site can potentially impact on the receptor.
- 6.123. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images were taken (red dot). The second and third images are street view images with a view of the vegetation to the east and west of the receptor. These images confirm that the intervening vegetation and topography is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptor 147 (Appendix B2 and B5 Receptor 67)

- 6.124. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptor.
- 6.125. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation and topography is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptor 148 (Appendix B2 and B5 Receptor 68)

- 6.126. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a central section of Array 15 of the Solar PV Site can potentially impact on the receptor.
- 6.127. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation to the east and west of the receptor is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptors 149 - 151 (Appendix B2 and B5 Receptor 69 - 71)

- 6.128. The 'Glare Reflections on PV Footprint' chart in **Appendix B2 and B5** shows that reflections from a northern section of Array 15 of the Solar PV Site can potentially impact on the receptors.
- 6.129. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This

image confirms that the vegetation is insufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact remains to **Low**.

#### Receptor 168 (Appendix B3 and B6 Receptor 9)

- 6.130. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 4 and a southern section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.131. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view of the vegetation that surrounds the receptor. This image confirm that the intervening vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptors 169 - 171 (Appendix B3 and B6 Receptor 10 - 12)

- 6.132. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 4 and a southern section of Array 5, 7, 9 and 10 of the Solar PV Site can potentially impact on the receptors.
- 6.133. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red and blue dot). The second and third images are street view images with a view towards the receptors. These images confirm that the intervening topography and vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptors 175 - 180 (Appendix B3 and B6 Receptors 16 - 21)

- 6.134. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from southern section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.135. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirm that the intervening vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptors 182 - 189 (Appendix B3 and B6 Receptors 23 - 30)

- 6.136. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from the southern half of Array 5 of the Solar PV Site can potentially impact on the receptors.



6.137. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirm that the intervening vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### **Receptor 190 (Appendix B3 and B6 Receptor 31)**

6.138. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a southern section of Array 4 and a southeast section of Array 5 of the Solar PV Site can potentially impact on the receptor.

6.139. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirm that the intervening topography and vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### **Receptor 191 (Appendix B3 and B6 Receptor 32)**

6.140. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a southern section of Array 4 and a southeast section of Array 5 of the Solar PV Site can potentially impact on the receptor.

6.141. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirm that the intervening buildings, topography and vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### **Receptor 192 (Appendix B3 and B6 Receptor 33)**

6.142. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a southern section of Array 4 of the Solar PV Site can potentially impact on the receptor.

6.143. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirm that the intervening buildings, topography and vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptors 193 - 198 (Appendix B3 and B6 Receptors 34 - 39)

- 6.144. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 4 of the Solar PV Site can potentially impact on the receptors.
- 6.145. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirm that the intervening topography and vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptor 199 (Appendix B3 and B6 Receptor 40)

- 6.146. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 3, 4 and 5 of the Solar PV Site can potentially impact on the receptor.
- 6.147. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirm that the intervening buildings, topography and vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptors 200 - 201 (Appendix B3 and B6 Receptors 41 - 42)

- 6.148. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northern section of Array 3 of the Solar PV Site can potentially impact on the receptors.
- 6.149. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the intervening topography and vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptor 204

- 6.150. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 4 of the Solar PV Site can potentially impact on the receptor.
- 6.151. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a ground level image with a view towards the Solar PV Site. This image confirms that the intervening topography is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptor 205 (Appendix B3 and B6 Receptor 46)

- 6.152. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.153. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the vegetation that is located to the east of the receptor. This image confirm that the intervening vegetation is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptors 206 - 207 (Appendix B3 and B6 Receptors 47 - 48)

- 6.154. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.155. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the intervening vegetation to the east of the receptors is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptors 208 - 210 (Appendix B3 and B6 Receptors 49 - 51)

- 6.156. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.157. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation to the east of the receptors is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptors 211 - 212 (Appendix B3 and B6 Receptors 52 - 53)

- 6.158. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northern section of Array 2 and 5 of the Solar PV Site can potentially impact on the receptors.
- 6.159. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the intervening vegetation to the east of the receptors is sufficient to

screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptor 213 (Appendix B3 and B6 Receptors 54)

6.160. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a southern section of Array 1 and a northern section of Array 5 of the Solar PV Site can potentially impact on the receptor.

6.161. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography to the east of the receptor is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptors 214 - 215 (Appendix B3 and B6 Receptors 55 - 56)

6.162. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northern section of Array 5 of the Solar PV Site can potentially impact on the receptors.

6.163. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography to the east of the receptors is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptors 216 - 217 (Appendix B3 and B6 Receptors 57 - 58)

6.164. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a southern section of Array 1 of the Solar PV Site can potentially impact on the receptors.

6.165. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography to the east of the receptors is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptors 218 - 219 (Appendix B1 and B49 Receptor 59 and 60)

6.166. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B49** shows that reflections from a central section of Array 4 of the Solar PV Site can potentially impact on the receptors.

6.167. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography to the southeast of the receptors is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

#### Receptor 220 (Appendix B1 and B49 Receptor 61)

6.168. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a southern section of Array 1 and a western section of Array 5 of the Solar PV Site can potentially impact on the receptor.

6.169. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red and blue dot). The second image is a street view image with a view towards the receptor. This image confirms that farm buildings are sufficient to screen the views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 221 (Appendix B1 and B49 Receptor 62)

6.170. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 1, a northern section of Array 2 and a central section of Array 5 of the Solar PV Site can potentially impact on the receptors.

6.171. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red and blue dot). The second and third images are street view images with a view towards the receptor and Array 2. These images confirm that the ground floor views will be screened due to the intervening buildings and topography. Therefore, the impact reduces to **Low**.

#### Receptors 222 - 223 (Appendix B3 and B6 Receptor 63 - 64)

6.172. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a central section of Array 1 and a northern section of Array 2 of the Solar PV Site can potentially impact on the receptors.

6.173. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images was taken (red and blue dot). The second and third images are street view images with a view towards Array 1 and Array 2. These images confirm that intervening vegetation and topography is sufficient to screen views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 224 - 225 (Appendix B1 and B49 Receptor 63 - 64)

- 6.174. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northeast section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.175. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography to the southeast of the receptors is sufficient to screen views of the Solar PV Site where glint and glare is possible only. Therefore, the impact reduces to **None**.

### Receptor 226 (Appendix B3 and B6 Receptors 67)

- 6.176. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northern section of Array 1 and 2 of the Solar PV Site can potentially impact on the receptor.
- 6.177. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation to the east and west of the receptors is sufficient to screen views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 227 (Appendix B3 and B6 Receptor 68)

- 6.178. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northern section of Array 1 and a central section of Array 2 of the Solar PV Site can potentially impact on the receptor.
- 6.179. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images were taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the ground floor views will be screened due to the intervening buildings. Therefore, the impact reduces to **Low**.

### Receptor 228 (Appendix B3 and B6 Receptors 69)

- 6.180. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northern section of Array 1 and 2 of the Solar PV Site can potentially impact on the receptor.
- 6.181. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation to the east and west of the receptor is sufficient to

screen views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 229 (Appendix B3 and B6 Receptors 70)

- 6.182. The 'Glare Reflections on PV Footprint' chart in **Appendix B3 and B6** shows that reflections from a northern section of Array 1 and 2 of the Solar PV Site can potentially impact on the receptor.
- 6.183. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation to the east and west of the receptor is sufficient to screen views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 230 (Appendix B1 and B49 Receptor 71)

- 6.184. The 'Glare Reflections on PV Footprint' chart in **Appendix B1 and B49** shows that reflections from a southern section of Array 1 and 2 of the Solar PV Site can potentially impact on the receptor.
- 6.185. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the intervening vegetation to the east and west of the receptor is sufficient to screen views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### South Residential Receptors

- 6.186. **Table 6-2** identifies the receptors that will experience solar reflections based on solar reflection modelling and whether the reflections will be experienced in the morning (AM), evening (PM), or both.
- 6.187. The 19 receptors which were within the no-reflection zones outlined previously have been excluded from the detailed modelling as they will never receive any glint and glare impacts from the Project.
- 6.188. **Appendix C1 – C6** show the analysis with the solar panels modelled as fixed tilt at 15 degrees and 25 degrees. Whilst **Appendix C7 – C9** show the analysis with the solar panels modelled as single axis tracker.

6.189. **Table 6-2** shows the worst-case impact at each receptor, based on a theoretical modelled impact without consideration of local vegetation or other obstacles and assuming no cloud at any point in the year.

**Table 6-2: Potential for Glint and Glare impact on South Residential Receptors**

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |        | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|--------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours  |                     |                                 |
| 1        | No                       | No  | 19                                | 0.32   | Low                 | Tracker                         |
| 2        | No                       | Yes | 44180                             | 736.33 | High                | Tracker                         |
| 3        | No                       | Yes | 9910                              | 165.17 | High                | Tracker                         |
| 4        | No                       | No  | 0                                 | 0.0    | None                | N/A                             |
| 5        | No                       | No  | 0                                 | 0.0    | None                | N/A                             |
| 6        | No                       | Yes | 619                               | 10.3   | Low                 | 15                              |
| 7        | No                       | Yes | 891                               | 14.9   | Low                 | 15                              |
| 8        | No                       | Yes | 333                               | 5.6    | Low                 | 15                              |
| 9        | No                       | Yes | 156                               | 2.6    | Low                 | 15                              |
| 10       | No                       | Yes | 26                                | 0.4    | Low                 | 15                              |
| 11       | No                       | Yes | 13                                | 0.2    | Low                 | 15                              |
| 12       | No                       | No  | 0                                 | 0.0    | None                | N/A                             |
| 13       | No                       | Yes | 35                                | 0.6    | Low                 | 15                              |
| 14       | No                       | Yes | 2404                              | 40.1   | High                | 15                              |
| 15       | No                       | Yes | 1590                              | 26.5   | Medium              | 15                              |
| 16       | No                       | Yes | 2281                              | 38.0   | High                | 15                              |
| 17       | No                       | Yes | 2256                              | 37.6   | High                | 15                              |
| 18       | No                       | Yes | 2072                              | 34.5   | High                | 15                              |
| 19       | No                       | Yes | 804                               | 13.4   | Low                 | 15                              |
| 20       | No                       | Yes | 1072                              | 17.9   | Low                 | 15                              |
| 21       | No                       | Yes | 1276                              | 21.3   | Medium              | 15                              |



| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |        | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|--------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours  |                     |                                 |
| 22       | No                       | Yes | 975                               | 16.3   | Low                 | 15                              |
| 23       | No                       | Yes | 968                               | 16.1   | Low                 | 15                              |
| 24       | No                       | Yes | 1348                              | 22.5   | Medium              | 15                              |
| 25       | No                       | Yes | 1296                              | 21.6   | Medium              | 15                              |
| 26       | No                       | Yes | 1527                              | 25.5   | Medium              | 15                              |
| 27       | No                       | Yes | 2746                              | 45.77  | High                | Tracker                         |
| 28       | No                       | Yes | 2665                              | 44.42  | High                | Tracker                         |
| 29       | No                       | Yes | 2224                              | 37.07  | High                | Tracker                         |
| 30       | No                       | Yes | 1393                              | 23.2   | Medium              | 15                              |
| 31       | No                       | Yes | 923                               | 15.4   | Low                 | 15                              |
| 32       | No                       | Yes | 789                               | 13.2   | Low                 | 15                              |
| 33       | No                       | Yes | 856                               | 14.27  | Low                 | Tracker                         |
| 34       | No                       | Yes | 301                               | 5.0    | Low                 | 15                              |
| 35       | No                       | Yes | 1601                              | 26.68  | Medium              | Tracker                         |
| 36       | Yes                      | Yes | 2243                              | 37.4   | High                | 15                              |
| 37       | No                       | Yes | 15571                             | 259.52 | High                | Tracker                         |
| 38       | No                       | Yes | 24436                             | 407.27 | High                | Tracker                         |
| 39       | No                       | Yes | 20                                | 0.3    | Low                 | 15                              |
| 40       | Yes                      | Yes | 29354                             | 489.23 | High                | Tracker                         |
| 41       | No                       | Yes | 25405                             | 423.42 | High                | Tracker                         |
| 42       | No                       | Yes | 10766                             | 179.43 | High                | Tracker                         |
| 43       | No                       | Yes | 5812                              | 96.9   | High                | 15                              |
| 44       | No                       | Yes | 4410                              | 73.50  | High                | Tracker                         |
| 45       | No                       | Yes | 2683                              | 44.7   | High                | 15                              |
| 46       | No                       | Yes | 2241                              | 37.4   | High                | 15                              |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours |                     |                                 |
| 47       | No                       | Yes | 2141                              | 35.7  | High                | 15                              |
| 48       | No                       | Yes | 1833                              | 30.6  | High                | 15                              |
| 49       | No                       | Yes | 1116                              | 18.6  | Low                 | 15                              |
| 50       | No                       | Yes | 892                               | 14.9  | Low                 | 15                              |
| 51       | No                       | Yes | 978                               | 16.30 | Low                 | Tracker                         |
| 52       | No                       | Yes | 1271                              | 21.18 | Medium              | Tracker                         |
| 53       | No                       | Yes | 1538                              | 25.63 | Medium              | Tracker                         |
| 54       | No                       | Yes | 2696                              | 44.9  | High                | 15                              |
| 55       | No                       | Yes | 4007                              | 66.8  | High                | 15                              |
| 56       | No                       | Yes | 5495                              | 91.6  | High                | 15                              |
| 57       | No                       | Yes | 5283                              | 88.05 | High                | Tracker                         |
| 58       | No                       | Yes | 3738                              | 62.3  | High                | 15                              |
| 59       | No                       | Yes | 1002                              | 16.7  | Low                 | 15                              |
| 60       | No                       | Yes | 742                               | 12.4  | Low                 | 15                              |
| 61       | No                       | Yes | 2654                              | 44.23 | High                | Tracker                         |
| 62       | No                       | Yes | 3482                              | 58.03 | High                | Tracker                         |
| 63       | No                       | Yes | 3454                              | 57.6  | High                | 15                              |
| 64       | No                       | Yes | 3300                              | 55.0  | High                | 15                              |
| 65       | No                       | Yes | 2284                              | 38.1  | High                | 15                              |
| 66       | No                       | Yes | 2220                              | 37.0  | High                | 15                              |
| 67       | No                       | Yes | 2437                              | 40.6  | High                | 15                              |
| 68       | No                       | Yes | 2361                              | 39.4  | High                | 15                              |
| 69       | No                       | Yes | 2218                              | 37.0  | High                | 15                              |
| 70       | No                       | Yes | 2181                              | 36.4  | High                | 15                              |
| 71       | No                       | Yes | 1092                              | 18.2  | Low                 | 15                              |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours |                     |                                 |
| 72       | No                       | Yes | 902                               | 15.0  | Low                 | 15                              |
| 73       | No                       | Yes | 478                               | 8.0   | Low                 | 15                              |
| 74       | No                       | Yes | 588                               | 9.8   | Low                 | 15                              |
| 75       | No                       | Yes | 366                               | 6.1   | Low                 | 15                              |
| 76       | No                       | Yes | 1145                              | 19.1  | Low                 | 15                              |
| 77       | No                       | Yes | 932                               | 15.5  | Low                 | 15                              |
| 78       | Yes                      | Yes | 5242                              | 87.4  | High                | 15                              |
| 79       | Yes                      | Yes | 3509                              | 58.5  | High                | 15                              |
| 80       | Yes                      | No  | 613                               | 10.2  | Low                 | 15                              |
| 81       | Yes                      | No  | 849                               | 14.2  | Low                 | 15                              |
| 82       | Yes                      | No  | 1176                              | 19.6  | Low                 | 15                              |
| 83       | Yes                      | No  | 1439                              | 24.0  | Medium              | 15                              |
| 84       | Yes                      | No  | 1043                              | 17.4  | Low                 | 15                              |
| 86       | Yes                      | No  | 1818                              | 30.3  | High                | 15                              |
| 87       | Yes                      | No  | 394                               | 6.6   | Low                 | 15                              |
| 88       | Yes                      | No  | 337                               | 5.6   | Low                 | 15                              |
| 89       | Yes                      | No  | 64                                | 1.1   | Low                 | 15                              |
| 90       | Yes                      | No  | 770                               | 12.8  | Low                 | 15                              |
| 91       | Yes                      | No  | 23                                | 0.4   | Low                 | 15                              |
| 92       | Yes                      | No  | 1258                              | 21.0  | Medium              | 15                              |
| 93       | Yes                      | No  | 2981                              | 49.7  | High                | 15                              |
| 94       | Yes                      | No  | 3488                              | 58.1  | High                | 15                              |
| 95       | Yes                      | No  | 3147                              | 52.5  | High                | 15                              |
| 96       | Yes                      | No  | 2847                              | 47.5  | High                | 15                              |
| 97       | Yes                      | No  | 1900                              | 31.7  | High                | 15                              |

| Receptor | Glint Possible from Site |    | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM | Minutes                           | Hours |                     |                                 |
| 98       | Yes                      | No | 2212                              | 36.9  | High                | 15                              |
| 99       | Yes                      | No | 1815                              | 30.3  | High                | 15                              |
| 100      | Yes                      | No | 2721                              | 45.4  | High                | 15                              |
| 101      | Yes                      | No | 2805                              | 46.8  | High                | 15                              |
| 102      | Yes                      | No | 2366                              | 39.4  | High                | 15                              |
| 103      | Yes                      | No | 2390                              | 39.8  | High                | 15                              |
| 104      | Yes                      | No | 2504                              | 41.7  | High                | 15                              |
| 105      | Yes                      | No | 2516                              | 41.9  | High                | 15                              |
| 106      | Yes                      | No | 2586                              | 43.1  | High                | 15                              |
| 107      | Yes                      | No | 2415                              | 40.3  | High                | 15                              |
| 108      | Yes                      | No | 1156                              | 19.3  | Low                 | 15                              |
| 109      | Yes                      | No | 892                               | 14.87 | Low                 | Tracker                         |
| 110      | Yes                      | No | 1119                              | 18.65 | Low                 | Tracker                         |
| 111      | Yes                      | No | 1025                              | 17.08 | Low                 | Tracker                         |
| 112      | Yes                      | No | 1950                              | 32.50 | High                | Tracker                         |
| 113      | Yes                      | No | 3876                              | 64.60 | High                | Tracker                         |
| 114      | Yes                      | No | 3200                              | 53.33 | High                | Tracker                         |
| 115      | Yes                      | No | 3697                              | 61.62 | High                | Tracker                         |
| 116      | Yes                      | No | 4194                              | 69.90 | High                | Tracker                         |
| 117      | Yes                      | No | 4088                              | 68.13 | High                | Tracker                         |
| 118      | No                       | No | 3726                              | 62.10 | High                | Tracker                         |
| 119      | Yes                      | No | 3288                              | 54.80 | High                | Tracker                         |
| 120      | Yes                      | No | 2786                              | 46.43 | High                | Tracker                         |
| 121      | No                       | No | 2455                              | 40.92 | High                | Tracker                         |
| 122      | No                       | No | 3378                              | 56.30 | High                | Tracker                         |

| Receptor | Glint Possible from Site |    | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM | Minutes                           | Hours |                     |                                 |
| 123      | No                       | No | 2067                              | 34.45 | High                | Tracker                         |
| 124      | No                       | No | 1941                              | 32.35 | High                | Tracker                         |
| 125      | Yes                      | No | 157                               | 2.62  | Low                 | Tracker                         |
| 126      | Yes                      | No | 312                               | 5.20  | Low                 | Tracker                         |
| 127      | No                       | No | 721                               | 12.02 | Low                 | Tracker                         |
| 128      | No                       | No | 1179                              | 19.65 | Low                 | Tracker                         |
| 129      | No                       | No | 1016                              | 16.93 | Low                 | Tracker                         |
| 130      | No                       | No | 896                               | 14.93 | Low                 | Tracker                         |
| 131      | No                       | No | 655                               | 10.92 | Low                 | Tracker                         |
| 132      | No                       | No | 552                               | 9.20  | Low                 | Tracker                         |
| 133      | No                       | No | 377                               | 6.28  | Low                 | Tracker                         |
| 134      | Yes                      | No | 2296                              | 38.3  | High                | 15                              |
| 135      | Yes                      | No | 1607                              | 26.8  | Medium              | 15                              |
| 136      | Yes                      | No | 2176                              | 36.3  | High                | 15                              |
| 137      | Yes                      | No | 2162                              | 36.0  | High                | 15                              |
| 138      | Yes                      | No | 1751                              | 29.2  | Medium              | 15                              |
| 139      | Yes                      | No | 1256                              | 20.9  | Medium              | 15                              |
| 140      | Yes                      | No | 864                               | 14.4  | Low                 | 15                              |
| 141      | Yes                      | No | 854                               | 14.2  | Low                 | 15                              |
| 142      | Yes                      | No | 543                               | 9.1   | Low                 | 15                              |
| 143      | No                       | No | 26                                | 0.43  | Low                 | Tracker                         |
| 144      | No                       | No | 138                               | 2.30  | Low                 | Tracker                         |
| 145      | No                       | No | 229                               | 3.82  | Low                 | Tracker                         |
| 146      | No                       | No | 399                               | 6.65  | Low                 | Tracker                         |
| 147      | No                       | No | 347                               | 5.78  | Low                 | Tracker                         |

| Receptor | Glint Possible from Site |    | Potential Glare Impact (per year) |       | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|----|-----------------------------------|-------|---------------------|---------------------------------|
|          | AM                       | PM | Minutes                           | Hours |                     |                                 |
| 148      | No                       | No | 166                               | 2.77  | Low                 | Tracker                         |
| 149      | Yes                      | No | 626                               | 10.4  | Low                 | 15                              |
| 150      | Yes                      | No | 1234                              | 20.6  | Medium              | 15                              |
| 151      | Yes                      | No | 1160                              | 19.3  | Low                 | 15                              |
| 152      | Yes                      | No | 1402                              | 23.4  | Medium              | 15                              |
| 153      | Yes                      | No | 1539                              | 25.7  | Medium              | 15                              |
| 154      | Yes                      | No | 1921                              | 32.0  | High                | 15                              |
| 155      | Yes                      | No | 2107                              | 35.1  | High                | 15                              |
| 156      | Yes                      | No | 2455                              | 40.9  | High                | 15                              |
| 157      | Yes                      | No | 2673                              | 44.6  | High                | 15                              |
| 158      | Yes                      | No | 2726                              | 45.4  | High                | 15                              |
| 159      | Yes                      | No | 2866                              | 47.8  | High                | 15                              |
| 160      | Yes                      | No | 3040                              | 50.7  | High                | 15                              |
| 161      | Yes                      | No | 2985                              | 49.8  | High                | 15                              |
| 162      | Yes                      | No | 3109                              | 51.8  | High                | 15                              |
| 163      | Yes                      | No | 3258                              | 54.3  | High                | 15                              |
| 164      | Yes                      | No | 3264                              | 54.4  | High                | 15                              |
| 165      | Yes                      | No | 3229                              | 53.8  | High                | 15                              |
| 166      | Yes                      | No | 2482                              | 41.4  | High                | 15                              |
| 167      | Yes                      | No | 241                               | 4.0   | Low                 | 15                              |
| 168      | Yes                      | No | 359                               | 6.0   | Low                 | 15                              |
| 169      | Yes                      | No | 523                               | 8.7   | Low                 | 15                              |
| 170      | Yes                      | No | 719                               | 12.0  | Low                 | 15                              |
| 171      | Yes                      | No | 2294                              | 38.2  | High                | 15                              |
| 172      | Yes                      | No | 2419                              | 40.3  | High                | 15                              |

| Receptor | Glint Possible from Site |     | Potential Glare Impact (per year) |        | Magnitude of Impact | Worst Case Tilt Angle (Degrees) |
|----------|--------------------------|-----|-----------------------------------|--------|---------------------|---------------------------------|
|          | AM                       | PM  | Minutes                           | Hours  |                     |                                 |
| 173      | Yes                      | Yes | 15992                             | 266.53 | High                | Tracker                         |
| 174      | Yes                      | Yes | 16231                             | 270.52 | High                | Tracker                         |
| 175      | No                       | No  | 14                                | 0.23   | Low                 | Tracker                         |
| 176      | No                       | No  | 2349                              | 39.15  | High                | Tracker                         |
| 177      | Yes                      | No  | 1941                              | 32.35  | High                | Tracker                         |
| 178      | Yes                      | No  | 1860                              | 31.00  | High                | Tracker                         |
| 179      | Yes                      | No  | 1830                              | 30.50  | High                | Tracker                         |
| 180      | No                       | No  | 4298                              | 71.63  | High                | Tracker                         |
| 181      | No                       | No  | 2108                              | 35.13  | High                | Tracker                         |
| 182      | No                       | No  | 10399                             | 173.32 | High                | Tracker                         |
| 183      | No                       | No  | 10646                             | 177.43 | High                | Tracker                         |
| 184      | No                       | No  | 17215                             | 286.92 | High                | Tracker                         |
| 185      | Yes                      | Yes | 10351                             | 172.52 | High                | Tracker                         |
| 186      | Yes                      | Yes | 5881                              | 98.0   | High                | 15                              |
| 187      | Yes                      | Yes | 3313                              | 55.2   | High                | 15                              |
| 188      | Yes                      | Yes | 3051                              | 50.9   | High                | 15                              |
| 189      | Yes                      | Yes | 4028                              | 67.1   | High                | 15                              |

6.190. As can be seen in **Table 6 - 2**, there is a **High** impact at 102 receptors, **Medium** impact at 17 receptors, **Low** impact at 67 receptors and a **None** impact at three receptors.

6.191. **Appendix G** shows Google Earth images that give an insight into how each receptor will be impacted by the glint and glare from the Solar PV Site. There is a mixture of images used, which include aerial, ground level and street level. The aerial images show the location of the receptor with the solar farm drawn as a white polygon and can be seen on the images when the solar farm is theoretically visible. The area of the solar farm from where reflections may be possible has been drawn as a yellow polygon. The ground level terrain is based on the height data of the surrounding land showing no intervening vegetation or buildings. The white and yellow polygons can be seen in this view also. The street view gives a good indication as to whether the area of the solar farm where reflections are theoretically possible will be visible from the

receptor point. Also, where appropriate images that have been taken from within the Solar PV Site have been used to show up to date imagery.

#### Receptor 1 (Appendix C1 and C4 Receptor 1)

- 6.192. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.193. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 2 (Appendix C1 and C4 Receptor 2)

- 6.194. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.195. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **High**.

#### Receptor 3 (Appendix C1 and C4 Receptor 3)

- 6.196. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.197. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 6 – 11 and 13 (Appendix C1 and C4 Receptor 6 – 11 and 13)

- 6.198. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.199. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This



image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 14 - 17 (Appendix C1 and C4 Receptor 14 - 17)

- 6.200. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.201. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view of the buildings and vegetation located to the west of the receptors. This image confirms that the buildings and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 18 (Appendix C1 and C4 Receptor 18)

- 6.202. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.203. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view the receptor. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 19 - 21 (Appendix C1 and C4 Receptor 19 - 21)

- 6.204. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.205. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 22 - 30 (Appendix C1 and C4 Receptor 22 - 30)

- 6.206. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from all, except a northern section, of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.207. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken

(red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 27 - 30 (Appendix B1 and B47 Receptor 27 - 30)

6.208. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from all, except a northern section, of Array 1 of the Solar PV Site can potentially impact on the receptors.

6.209. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 31 - 33 (Appendix C1 and C4 Receptor 31 - 33)

6.210. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from the northern half of Array 1 of the Solar PV Site can potentially impact on the receptors.

6.211. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view of the vegetation of the west of the receptors. This image confirms that the vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 33 (Appendix B1 and B47 Receptor 33)

6.212. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 4 of the Solar PV Site can potentially impact on the receptor.

6.213. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 34 (Appendix C1 and C4 Receptor 34)

6.214. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from the northern half of Array 1 of the Solar PV Site can potentially impact on the receptor.

6.215. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken

(red dot). The second image is a street view image with a view of the topography and vegetation to the west of the receptor. This image confirms that the topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 35 (Appendix C1 and C4 Receptor 35)

6.216. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from the northern half of Array 1 of the Solar PV Site can potentially impact on the receptor.

6.217. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images were taken (red dot). The second and third images are street view images with a view of the topography and vegetation to the west and south of the receptor. These images confirm that the topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 36 (Appendix C1 and C4 Receptor 36)

6.218. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 1 and a northern section of Array 4 of the Solar PV Site can potentially impact on the receptor.

6.219. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. This image confirms that the topography and vegetation is only sufficient enough to screen ground level views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **Low**.

#### Receptors 37 - 38 (Appendix C1 and C4 Receptor 37 - 38)

6.220. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 1 and a northern section of Array 4 of the Solar PV Site can potentially impact on the receptors.

6.221. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact remains **High**.

**Receptor 39 (Appendix C1 and C4 Receptor 39)**

- 6.222. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 1 and a northern section of Array 4 of the Solar PV Site can potentially impact on the receptor.
- 6.223. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 40 (Appendix C1 and C4 Receptor 40)**

- 6.224. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 2 and 4 of the Solar PV Site can potentially impact on the receptor.
- 6.225. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor. The aerial image indicates that there is vegetation that will screen views to the west of the receptor, whilst the second image confirms that vegetation will screen eastern views, therefore the image vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 41 (Appendix C1 and C4 Receptor 42)**

- 6.226. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 1 and 4 of the Solar PV Site can potentially impact on the receptor.
- 6.227. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the areas within Array 4 where glint and glare is possible will still be visible. Therefore, the impact remains **High**.

**Receptor 42 (Appendix C1 and C4 Receptor 42)**

- 6.228. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 2 and 4 of the Solar PV Site can potentially impact on the receptor.
- 6.229. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This

image confirms that the areas within Array 4 where glint and glare is possible will still be visible. Therefore, the impact remains **High**.

#### Receptors 43 and 44 (Appendix C1 and C4 Receptor 43 and 44)

- 6.230. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 2 and 4 of the Solar PV Site can potentially impact on the receptors.
- 6.231. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms shows that only filtered views of the Solar PV Site will be possible where glint and glare impacts are possible. Therefore, the impact reduces to **Low**.

#### Receptors 45 and 46 (Appendix C1 and C4 Receptor 45 and 46)

- 6.232. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 4 of the Solar PV Site can potentially impact on the receptors.
- 6.233. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 47 and 48 (Appendix C1 and C4 Receptor 47 and 48)

- 6.234. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 4 of the Solar PV Site can potentially impact on the receptors.
- 6.235. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 49 - 51 (Appendix C1 and C4 Receptor 49 - 51)

- 6.236. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 4 of the Solar PV Site can potentially impact on the receptors.
- 6.237. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This

image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 52 - 54 (Appendix C1 and C4 Receptor 52 - 54)

- 6.238. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a southern section of Array 4 of the Solar PV Site can potentially impact on the receptors.
- 6.239. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 55 - 60 (Appendix C1 and C4 Receptor 55 - 60)

- 6.240. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 2, southern section of Array 4 and a northern section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.241. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 61 (Appendix C1 and C4 Receptor 61)

- 6.242. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a southern section of Array 2 and a northern section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.243. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site and of the vegetation that surrounds the receptor. This image confirms that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 62 and 63 (Appendix C1 and C4 Receptor 62 and 63)

- 6.244. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 2, southern section of Array 4 and a northern section of Array 5 of the Solar PV Site can potentially impact on the receptors.

6.245. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 64 and 65 (Appendix C1 and C4 Receptor 64 and 65)

6.246. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a southern section of Array 2 and a northern section of Array 5 of the Solar PV Site can potentially impact on the receptors.

6.247. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 66 (Appendix C1 and C4 Receptor 66)

6.248. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 5 of the Solar PV Site can potentially impact on the receptor.

6.249. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site and of the vegetation that surrounds the receptor. This image confirms that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 67 - 69 (Appendix C1 and C4 Receptor 67 - 69)

6.250. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a southern section of Array 2 and a central section of Array 5 of the Solar PV Site can potentially impact on the receptors.

6.251. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view of the vegetation that is located to the west of the receptors. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 70 (Appendix C1 and C4 Receptor 70)

- 6.252. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a southern section of Array 2, northern section of Array 3 and a central section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.253. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site and of the vegetation that surrounds the receptor. This image confirms that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 71 - 73 (Appendix C1 and C4 Receptor 71 - 73)

- 6.254. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 3 and a southern section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.255. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 74 - 77 (Appendix C1 and C4 Receptor 74 - 77)

- 6.256. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 3 of the Solar PV Site can potentially impact on the receptors.
- 6.257. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors and of the vegetation that is located on the eastern boundary of the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 78 (Appendix C1 and C4 Receptor 78)

- 6.258. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a northern section of Array 3 and central section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.259. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken



from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 19:00 UTC on June 1<sup>st</sup> and 05:00 UTC on June 1<sup>st</sup> respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### Receptor 79 (Appendix C1 and C4 Receptor 79)

- 6.260. The 'Glare Reflections on PV Footprint' chart in **Appendix C1 and C4** show that reflections from a central section of Array 3 and a southeast section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.261. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptor and Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 80 - 81 (Appendix C2 and C5 Receptors 1 - 2)

- 6.262. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a southern section of Array 3 and a southeast section of Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.263. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 82 - 84 (Appendix C2 and C5 Receptors 3 - 5)

- 6.264. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a central section of Array 3 and all Array 5 of the Solar PV Site can potentially impact on the receptors.
- 6.265. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 85 (Appendix C2 and C5 Receptor 6)

- 6.266. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a southern section of Array 2, a northern section of Array 3 and a northern section of Array 5 of the Solar PV Site can potentially impact on the receptor.
- 6.267. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 86 - 89 (Appendix C2 and C5 Receptors 7 - 10)

- 6.268. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a southern section of Array 2 and a northern section of Array 3 of the Solar PV Site can potentially impact on the receptors.
- 6.269. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 90 (Appendix C2 and C5 Receptors 11)

- 6.270. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a northern section of Array 4 of the Solar PV Site can potentially impact on the receptor.
- 6.271. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 91 - 94 (Appendix C2 and C5 Receptors 12 - 15)

- 6.272. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a central section of Array 2 and a northern section of Array 4 of the Solar PV Site can potentially impact on the receptors.
- 6.273. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This

image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 95 - 98 (Appendix C2 and C5 Receptors 16 - 19)

6.274. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a central section of Array 2 and a northern section of Array 4 of the Solar PV Site can potentially impact on the receptors.

6.275. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 99 - 104 (Appendix C2 and C5 Receptors 20 - 25)

6.276. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a central section of Array 2 and a northern section of Array 4 of the Solar PV Site can potentially impact on the receptors.

6.277. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is insufficient to screen all views of the Solar PV Site where glint and glare is possible as there will still be intermittent views. Therefore, the impact reduces to **Low**.

#### Receptors 105 - 106 (Appendix C2 and C5 Receptors 26 - 27)

6.278. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a northern section of Array 2 of the Solar PV Site can potentially impact on the receptors.

6.279. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 107 (Appendix C2 and C5 Receptors 28)

6.280. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a northern section of Array 2 of the Solar PV Site can potentially impact on the receptor.

6.281. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 108 - 110 (Appendix C2 and C5 Receptors 29 - 31)

6.282. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from all of Array 2 of the Solar PV Site can potentially impact on the receptors.

6.283. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 111 – 123 (Appendix C2 and C5 Receptors 32 –44)

6.284. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from all of Array 2 of the Solar PV Site can potentially impact on the receptors.

6.285. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptors 124 - 132 (Appendix C2 and C5 Receptors 45 - 53)

6.286. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from all of Array 2 of the Solar PV Site can potentially impact on the receptors.

6.287. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 133 (Appendix C2 and C5 Receptors 54)

6.288. The 'Glare Reflections on PV Footprint' chart in **Appendix C2 and C5** show that reflections from a southern section of Array 1 of the Solar PV Site can potentially impact on the receptor.

6.289. The first image in **Appendix G** is an aerial view which shows the location of the receptor (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### **Receptors 134 - 141 (Appendix C3 and C6 Receptors 1 - 8)**

6.290. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a southeast section of Array 2 of the Solar PV Site can potentially impact on the receptors.

6.291. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images were taken (red and blue dot). The second and third images are street view images with a view towards the Solar PV Site. These images confirm that the intervening buildings, vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### **Receptors 142 - 147 (Appendix C3 and C6 Receptors 9 - 14)**

6.292. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from the southern half of Array 2 of the Solar PV Site can potentially impact on the receptors.

6.293. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images were taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### **Receptors 148 - 152 (Appendix C3 and C6 Receptors 15 - 19)**

6.294. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a southeast section of Array 1 of the Solar PV Site can potentially impact on the receptors.

6.295. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening buildings, vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 153 - 154 (Appendix C3 and C6 Receptors 20 - 21)**

- 6.296. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a southeast section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.297. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening buildings, vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 155 - 158 (Appendix C3 and C6 Receptors 22 - 25)**

- 6.298. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a southeast section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.299. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a ground level view image with a view towards the Solar PV Site. This image confirms that the intervening topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 159 - 162 (Appendix C3 and C6 Receptors 26 - 29)**

- 6.300. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a central section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.301. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation and topography is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 163 - 164 (Appendix C3 and C6 Receptors 30 - 31)**

- 6.302. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a central section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.303. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening buildings and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 165 - 166 (Appendix C3 and C6 Receptors 32 – 33)**

- 6.304. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a central section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.305. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening vegetation is insufficient to screen all views of the Solar PV Site where glint and glare is possible, with intermittent views possible. Therefore, the impact reduces to **Low**.

**Receptors 167 - 169 (Appendix C3 and C6 Receptors 34 – 36)**

- 6.306. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a northern section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.307. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptors 170 - 171 (Appendix C3 and C6 Receptors 37 - 38)**

- 6.308. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a northern section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.309. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

**Receptor 172 (Appendix C3 and C6 Receptor 39)**

- 6.310. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a northern and southern section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.311. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The aerial image shows southern and western views will be screened by a dense tree belt to the south and west of the receptor. The second image is a ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 06:00 UTC on June 15<sup>th</sup>. However, the impacts occur

when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### **Receptor 173 (Appendix C3 and C6 Receptor 40)**

6.312. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a northern and southern section of Array 1 of the Solar PV Site can potentially impact on the receptor.

6.313. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The aerial image shows eastern and southern views will be screened by a dense tree belt to the west of the receptor. The second image is a ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 18:00 UTC on June 15<sup>th</sup>. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### **Receptors 174 - 175 (Appendix C3 and C6 Receptors 40 - 41)**

6.314. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a southern section of Array 1 of the Solar PV Site can potentially impact on the receptors.

6.315. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the Solar PV Site. This image confirms that the intervening topography and vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### **Receptors 176 - 178 (Appendix C3 and C6 Receptors 42 – 44)**

6.316. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a northern, central and southern section of Array 1 of the Solar PV Site can potentially impact on the receptors.

6.317. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second and third images were taken (red dot). The second and third images are street view images with a view east and south towards the Solar PV Site. These images confirm that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.



### Receptors 179 - 180 (Appendix C3 and C6 Receptors 45 - 46)

- 6.318. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a central and southern section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.319. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptors 181 - 183 (Appendix C3 and C6 Receptors 47 - 49)

- 6.320. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a central and southern section of Array 1 of the Solar PV Site can potentially impact on the receptors.
- 6.321. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the intervening vegetation is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

### Receptor 184 (Appendix C3 and C6 Receptor 50)

- 6.322. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a northern section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.323. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 06:00 and 19:00 UTC on June 15<sup>th</sup>, respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

### Receptor 185 (Appendix C3 and C6 Receptor 51)

- 6.324. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a southern section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.325. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken

from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 06:00 and 19:00 UTC on June 15<sup>th</sup>, respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### Receptors 186 - 187 (Appendix C3 and C6 Receptors 53 - 54)

- 6.326. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a northern section of Array 2 and 4 of the Solar PV Site can potentially impact on the receptors.
- 6.327. The first image in **Appendix G** is an aerial view which shows the location of the receptors (yellow pin) in relation to the Solar PV Site, and the location from which the second image was taken (red dot). The second image is a street view image with a view towards the receptors. This image confirms that the intervening buildings and vegetation that are located to the east and west of the receptors is sufficient to screen all views of the Solar PV Site where glint and glare is possible. Therefore, the impact reduces to **None**.

#### Receptor 188 (Appendix C3 and C6 Receptor 55)

- 6.328. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a central section of Array 2 and 4 of the Solar PV Site can potentially impact on the receptor.
- 6.329. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 06:00 and 19:00 UTC on June 15<sup>th</sup>, respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in **paragraph 4.16**. These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

#### Receptor 189 (Appendix C3 and C6 Receptor 56)

- 6.330. The 'Glare Reflections on PV Footprint' chart in **Appendix C3 and C6** show that reflections from a southern section of Array 1 of the Solar PV Site can potentially impact on the receptor.
- 6.331. The first image in **Appendix G** is an aerial image showing the position of the receptor (yellow pins) in relation to the Solar PV Site. The second and third images are ground level images taken from the position of the receptor with a view towards the Solar PV Site showing the position of the sun at 06:00 and 19:00 UTC on June 15<sup>th</sup>, respectively. However, the impacts occur when the Sun is low in the sky and behind the solar array at the time of glare impacts. Hence, the Sun's reflections will be far greater than those reflections from the solar array, as outlined in

**paragraph 4.16.** These images confirm that the sun will be the main source of solar reflection at the receptor. Therefore, the impact reduces to **Low**.

## North Road Receptors

6.332. **Table 6-3** shows a summary of the modelling results for each of the North Road Receptor Points whilst the detailed results and ocular impact charts can be viewed in **Appendix D1 – D9**.

6.333. **Appendix D1 – D9** show the analysis for the road receptors.

6.334. The 18 receptors (188 - 205) within the no-reflection zones outlined previously have been excluded from the detailed modelling as they will never receive glint and glare impacts from the Solar PV Site.

**Table 6-3: Potential for Glint and Glare impact on North Road Based Receptors**

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 1        | 286                | 0                   | 0                | Low                 | Tracker         |
| 2        | 4831               | 6                   | 0                | High                | Tracker         |
| 3        | 4222               | 161                 | 0                | High                | Tracker         |
| 4        | 3471               | 3018                | 0                | High                | 15              |
| 5        | 2643               | 4317                | 0                | High                | 25              |
| 6        | 2929               | 4897                | 0                | High                | 25              |
| 7        | 4313               | 4968                | 0                | High                | 15              |
| 8        | 4783               | 899                 | 0                | High                | 15              |
| 9        | 4645               | 1349                | 0                | High                | 15              |
| 10       | 5869               | 6933                | 0                | High                | 25              |
| 11       | 4549               | 3994                | 0                | High                | 25              |
| 12       | 3056               | 2919                | 0                | High                | 25              |
| 13       | 5374               | 2904                | 0                | High                | 25              |
| 14       | 6404               | 2639                | 0                | High                | 25              |
| 15       | 4597               | 3164                | 0                | High                | 25              |
| 16       | 4674               | 4114                | 0                | High                | 25              |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 17       | 9546               | 1908                | 0                | High                | 25              |
| 18       | 13048              | 1401                | 0                | High                | 25              |
| 19       | 10605              | 571                 | 0                | High                | 25              |
| 20       | 11258              | 0                   | 0                | Low                 | 25              |
| 21       | 3085               | 3774                | 0                | High                | 15              |
| 22       | 3063               | 2058                | 0                | High                | 25              |
| 23       | 4196               | 1206                | 0                | High                | 25              |
| 24       | 5213               | 4453                | 0                | High                | 15              |
| 25       | 15282              | 8015                | 0                | High                | 15              |
| 26       | 6950               | 5887                | 0                | High                | 25              |
| 27       | 4558               | 3669                | 0                | High                | 25              |
| 28       | 4567               | 2790                | 0                | High                | 25              |
| 29       | 4630               | 1703                | 0                | High                | 25              |
| 30       | 4883               | 1548                | 0                | High                | 25              |
| 31       | 2123               | 0                   | 0                | Low                 | 25              |
| 32       | 2596               | 0                   | 0                | Low                 | 25              |
| 33       | 2911               | 49                  | 0                | High                | 25              |
| 34       | 3229               | 291                 | 0                | High                | 25              |
| 35       | 3641               | 519                 | 0                | High                | 25              |
| 36       | 3862               | 651                 | 0                | High                | 25              |
| 37       | 3360               | 1098                | 0                | High                | 15              |
| 38       | 5136               | 881                 | 0                | High                | 25              |
| 39       | 3545               | 1512                | 0                | High                | 25              |
| 40       | 4972               | 705                 | 0                | High                | 15              |
| 41       | 3788               | 1529                | 0                | High                | 25              |
| 42       | 4366               | 3246                | 0                | High                | 25              |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 43       | 5789               | 3045                | 0                | High                | 25              |
| 44       | 7674               | 4228                | 0                | High                | 25              |
| 45       | 7245               | 4723                | 0                | High                | 25              |
| 46       | 9068               | 4944                | 0                | High                | 25              |
| 47       | 8781               | 5495                | 0                | High                | 25              |
| 48       | 8041               | 4958                | 0                | High                | 25              |
| 49       | 10504              | 2740                | 0                | High                | 25              |
| 50       | 9783               | 7432                | 0                | High                | 25              |
| 51       | 5829               | 5558                | 0                | High                | 15              |
| 52       | 487                | 0                   | 0                | Low                 | Tracker         |
| 53       | 237                | 0                   | 0                | Low                 | Tracker         |
| 54       | 262                | 0                   | 0                | Low                 | Tracker         |
| 55       | 382                | 0                   | 0                | Low                 | 25              |
| 56       | 1935               | 991                 | 0                | High                | 25              |
| 57       | 2462               | 3920                | 0                | High                | 15              |
| 58       | 2891               | 2678                | 0                | High                | 15              |
| 59       | 4334               | 1508                | 0                | High                | 15              |
| 60       | 6154               | 210                 | 0                | High                | 15              |
| 61       | 5426               | 2593                | 0                | High                | 25              |
| 62       | 5355               | 3047                | 0                | High                | 25              |
| 63       | 3636               | 4073                | 0                | High                | 25              |
| 64       | 4264               | 9405                | 0                | High                | 25              |
| 65       | 3537               | 5994                | 0                | High                | 25              |
| 66       | 4310               | 5890                | 0                | High                | 15              |
| 67       | 4763               | 4702                | 0                | High                | 15              |
| 68       | 8006               | 6883                | 0                | High                | 25              |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 69       | 11125              | 1727                | 0                | High                | 25              |
| 70       | 15095              | 1526                | 0                | High                | 15              |
| 71       | 9691               | 796                 | 0                | High                | 25              |
| 72       | 8389               | 3133                | 0                | High                | 15              |
| 73       | 3442               | 0                   | 0                | Low                 | 15              |
| 74       | 761                | 0                   | 0                | Low                 | 15              |
| 75       | 0                  | 0                   | 0                | None                | N/A             |
| 76       | 0                  | 0                   | 0                | None                | N/A             |
| 77       | 0                  | 0                   | 0                | None                | N/A             |
| 78       | 872                | 0                   | 0                | Low                 | 15              |
| 79       | 3528               | 0                   | 0                | Low                 | 15              |
| 80       | 9080               | 0                   | 0                | Low                 | 15              |
| 81       | 9884               | 243                 | 0                | High                | 15              |
| 82       | 8651               | 464                 | 0                | High                | 15              |
| 83       | 8043               | 319                 | 0                | High                | 15              |
| 84       | 8072               | 245                 | 0                | High                | 15              |
| 85       | 8382               | 469                 | 0                | High                | 15              |
| 86       | 7528               | 1453                | 0                | High                | 15              |
| 87       | 6890               | 1932                | 0                | High                | 25              |
| 88       | 6620               | 2675                | 0                | High                | 25              |
| 89       | 6427               | 3642                | 0                | High                | 15              |
| 90       | 8842               | 1986                | 0                | High                | 15              |
| 91       | 10719              | 1302                | 0                | High                | 15              |
| 92       | 10751              | 173                 | 0                | High                | 25              |
| 93       | 9653               | 17                  | 0                | High                | 25              |
| 94       | 8953               | 787                 | 0                | High                | 25              |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 95       | 7912               | 1165                | 0                | High                | 25              |
| 96       | 6500               | 1242                | 0                | High                | 15              |
| 97       | 6291               | 1330                | 0                | High                | 15              |
| 98       | 7146               | 922                 | 0                | High                | 15              |
| 99       | 9096               | 433                 | 0                | High                | 15              |
| 100      | 9029               | 779                 | 0                | High                | 15              |
| 101      | 7590               | 398                 | 0                | High                | 25              |
| 102      | 8866               | 424                 | 0                | High                | 15              |
| 103      | 6120               | 0                   | 0                | Low                 | 25              |
| 104      | 7329               | 0                   | 0                | Low                 | 15              |
| 105      | 7116               | 0                   | 0                | Low                 | 15              |
| 106      | 5017               | 0                   | 0                | Low                 | 15              |
| 107      | 4382               | 0                   | 0                | Low                 | 15              |
| 108      | 5420               | 288                 | 0                | High                | 25              |
| 109      | 76162              | 7820                | 0                | High                | 15              |
| 110      | 87930              | 14085               | 0                | High                | 15              |
| 111      | 64231              | 12050               | 0                | High                | 15              |
| 112      | 58619              | 15673               | 0                | High                | 15              |
| 113      | 54760              | 11710               | 0                | High                | 15              |
| 114      | 12535              | 3264                | 0                | High                | 25              |
| 115      | 7511               | 751                 | 0                | High                | 15              |
| 116      | 7615               | 903                 | 0                | High                | 15              |
| 117      | 7854               | 987                 | 0                | High                | 15              |
| 118      | 9704               | 1636                | 0                | High                | 15              |
| 119      | 10266              | 1381                | 0                | High                | 25              |
| 120      | 0                  | 0                   | 0                | None                | N/A             |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 121      | 635                | 0                   | 0                | Low                 | 15              |
| 122      | 1701               | 68                  | 0                | High                | 25              |
| 123      | 2811               | 148                 | 0                | High                | 25              |
| 124      | 2963               | 232                 | 0                | High                | 25              |
| 125      | 2527               | 72                  | 0                | High                | 25              |
| 126      | 2468               | 22                  | 0                | High                | 25              |
| 127      | 2350               | 90                  | 0                | High                | 25              |
| 128      | 1942               | 44                  | 0                | High                | 25              |
| 129      | 1967               | 20                  | 0                | High                | 25              |
| 130      | 2243               | 1                   | 0                | High                | 25              |
| 131      | 4493               | 0                   | 0                | Low                 | 15              |
| 132      | 6179               | 0                   | 0                | Low                 | 15              |
| 133      | 5486               | 0                   | 0                | Low                 | 15              |
| 134      | 8231               | 2473                | 0                | High                | 15              |
| 135      | 16296              | 3438                | 0                | High                | 15              |
| 136      | 38104              | 3646                | 0                | High                | 15              |
| 137      | 9731               | 2668                | 0                | High                | 25              |
| 138      | 8731               | 1583                | 0                | High                | 25              |
| 139      | 8566               | 0                   | 0                | Low                 | 15              |
| 140      | 7953               | 0                   | 0                | Low                 | 25              |
| 141      | 7071               | 0                   | 0                | Low                 | 15              |
| 142      | 6839               | 10                  | 0                | High                | 15              |
| 143      | 5881               | 0                   | 0                | Low                 | 15              |
| 144      | 5987               | 0                   | 0                | Low                 | 25              |
| 145      | 5639               | 3263                | 0                | High                | 25              |
| 146      | 5835               | 2176                | 0                | High                | 25              |



| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 147      | 6244               | 4458                | 0                | High                | 25              |
| 148      | 7927               | 6650                | 0                | High                | 25              |
| 149      | 14757              | 9173                | 0                | High                | 15              |
| 150      | 19914              | 11552               | 0                | High                | 15              |
| 151      | 37598              | 13297               | 0                | High                | 15              |
| 152      | 10806              | 5505                | 0                | High                | 25              |
| 153      | 9421               | 8028                | 0                | High                | 25              |
| 154      | 9882               | 5013                | 0                | High                | 25              |
| 155      | 11446              | 8441                | 0                | High                | 25              |
| 156      | 12157              | 7877                | 0                | High                | 25              |
| 157      | 11569              | 5927                | 0                | High                | 25              |
| 158      | 0                  | 0                   | 0                | None                | N/A             |
| 159      | 0                  | 0                   | 0                | None                | N/A             |
| 160      | 1236               | 1058                | 0                | High                | 25              |
| 161      | 1250               | 2672                | 0                | High                | 25              |
| 162      | 1509               | 4075                | 0                | High                | 25              |
| 163      | 1024               | 2728                | 0                | High                | 15              |
| 164      | 1718               | 4793                | 0                | High                | 25              |
| 165      | 3221               | 835                 | 0                | High                | 25              |
| 166      | 6810               | 788                 | 0                | High                | 15              |
| 167      | 7458               | 3386                | 0                | High                | 15              |
| 168      | 6910               | 5226                | 0                | High                | 15              |
| 169      | 7194               | 4430                | 0                | High                | 15              |
| 170      | 7605               | 3589                | 0                | High                | 15              |
| 171      | 7813               | 2129                | 0                | High                | 15              |
| 172      | 8759               | 919                 | 0                | High                | 15              |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 173      | 6537               | 686                 | 0                | High                | 15              |
| 174      | 4258               | 0                   | 0                | Low                 | 15              |
| 175      | 2342               | 0                   | 0                | Low                 | 15              |
| 176      | 517                | 0                   | 0                | Low                 | 15              |
| 177      | 3222               | 1407                | 0                | High                | 25              |
| 178      | 3667               | 246                 | 0                | High                | 25              |
| 179      | 2195               | 0                   | 0                | Low                 | 25              |
| 180      | 1545               | 177                 | 0                | High                | 25              |
| 181      | 4178               | 0                   | 0                | Low                 | 15              |
| 182      | 6032               | 0                   | 0                | Low                 | 15              |
| 183      | 1995               | 630                 | 0                | High                | 25              |
| 184      | 2156               | 3026                | 0                | High                | 15              |
| 185      | 2238               | 1918                | 0                | High                | 25              |
| 186      | 2031               | 690                 | 0                | High                | 25              |
| 187      | 1827               | 496                 | 0                | High                | 25              |

6.335. As can be seen in **Table 6-3**, there are 148 receptors with potential glare impacts with “potential for after-image” (Yellow Glare), which is a **High** impact. There are 33 receptor points have potential glare impacts with the “low potential for after-image” (Green Glare), which is a **Low** impact. **Appendix D1 – D9** show detailed analysis of when the glint and glare impacts are possible, whilst also showing from which parts of the Solar PV Site the solar glint is reflected from.

6.336. **Appendix G** shows Google Earth images taken towards the Solar PV Site location at each of the receptor points where an impact is anticipated. The first image is a ground level terrain view and is based on the height data of the surrounding land showing no intervening vegetation or buildings. The Solar PV Site has been drawn as a white polygon and can be seen on the images when the Solar PV Site is theoretically visible. The area of the Solar PV Site from where reflections may be possible has been drawn as a yellow or green polygon. The second image is a street view image pointing in the same direction as the terrain image. This gives a good indication as to whether the area of the Solar PV Site where reflections are theoretically possible will be visible from the receptor point. For some receptors, a field of view (FOV) has

been drawn between two red lines, where the glare is situated outside this FOV, and therefore the impact is reduced to **None**.

6.337. As can be seen in **Appendix G**, views of the Solar PV Site from those with a potential glare impact, except for 43 receptors, are screened by a mixture of intervening vegetation, topography and buildings or are outside the field of view of the driver. Therefore, impacts upon these receptors reduce to **None**.

## South Road Receptors

6.338. **Table 6-4** shows a summary of the modelling results for each of the South Road Receptor Points whilst the detailed results and ocular impact charts can be viewed in **Appendix E1 – E9**.

6.339. **Appendix E1 – E9** show the analysis for south road receptors.

6.340. The 15 receptors (109 - 123) within the no-reflection zones outlined previously have been excluded from the detailed modelling as they will never receive glint and glare impacts from the Solar PV Site.

**Table 6-4: Potential for Glint and Glare impact on South Road Based Receptors**

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 1        | 5992               | 3442                | 0                | High                | Tracker         |
| 2        | 6776               | 2389                | 0                | High                | Tracker         |
| 3        | 2842               | 0                   | 0                | Low                 | Tracker         |
| 4        | 1285               | 351                 | 0                | High                | 25              |
| 5        | 1645               | 3417                | 0                | High                | 25              |
| 6        | 1058               | 2971                | 0                | High                | 25              |
| 7        | 1087               | 4528                | 0                | High                | 25              |
| 8        | 1316               | 4239                | 0                | High                | 25              |
| 9        | 1083               | 3447                | 0                | High                | 25              |
| 10       | 1448               | 2713                | 0                | High                | 25              |
| 11       | 2067               | 1619                | 0                | High                | 15              |
| 12       | 2049               | 915                 | 0                | High                | 15              |
| 13       | 3022               | 257                 | 0                | High                | Tracker         |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 14       | 3611               | 402                 | 0                | High                | Tracker         |
| 15       | 4440               | 853                 | 0                | High                | Tracker         |
| 16       | 4653               | 990                 | 0                | High                | Tracker         |
| 17       | 3559               | 963                 | 0                | High                | 25              |
| 18       | 3474               | 2175                | 0                | High                | 15              |
| 19       | 3446               | 2550                | 0                | High                | 15              |
| 20       | 3787               | 2680                | 0                | High                | 25              |
| 21       | 4292               | 2626                | 0                | High                | 15              |
| 22       | 4292               | 2419                | 0                | High                | 15              |
| 23       | 4163               | 3355                | 0                | High                | 15              |
| 24       | 5732               | 1741                | 0                | High                | 15              |
| 25       | 6442               | 895                 | 0                | High                | 25              |
| 26       | 6347               | 1763                | 0                | High                | 25              |
| 27       | 6300               | 642                 | 0                | High                | 15              |
| 28       | 4414               | 414                 | 0                | High                | 25              |
| 29       | 3582               | 926                 | 0                | High                | 15              |
| 30       | 1844               | 184                 | 0                | High                | 15              |
| 31       | 1665               | 1521                | 0                | High                | 25              |
| 32       | 922                | 0                   | 0                | Low                 | 15              |
| 33       | 2199               | 1013                | 0                | High                | 15              |
| 34       | 1991               | 1340                | 0                | High                | 15              |
| 35       | 3994               | 1554                | 0                | High                | Tracker         |
| 36       | 1151               | 1856                | 0                | High                | 25              |
| 37       | 7502               | 11020               | 0                | High                | Tracker         |
| 38       | 8024               | 16302               | 0                | High                | Tracker         |
| 39       | 5248               | 11771               | 0                | High                | Tracker         |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 40       | 5124               | 1416                | 0                | High                | Tracker         |
| 41       | 5779               | 2265                | 0                | High                | Tracker         |
| 42       | 5601               | 2990                | 0                | High                | Tracker         |
| 43       | 5186               | 4267                | 0                | High                | Tracker         |
| 44       | 4763               | 2616                | 0                | High                | Tracker         |
| 45       | 1377               | 388                 | 0                | High                | 25              |
| 46       | 2498               | 1086                | 0                | High                | 25              |
| 47       | 2660               | 2613                | 0                | High                | 25              |
| 48       | 2531               | 3530                | 0                | High                | 25              |
| 49       | 1986               | 1373                | 0                | High                | 15              |
| 50       | 939                | 1508                | 0                | High                | 25              |
| 51       | 973                | 1431                | 0                | High                | 25              |
| 52       | 953                | 1463                | 0                | High                | 25              |
| 53       | 1136               | 1209                | 0                | High                | 25              |
| 54       | 1408               | 376                 | 0                | High                | 25              |
| 55       | 1491               | 1016                | 0                | High                | 15              |
| 56       | 1869               | 1168                | 0                | High                | 15              |
| 57       | 1975               | 1478                | 0                | High                | 15              |
| 58       | 2385               | 1229                | 0                | High                | 15              |
| 59       | 2348               | 1095                | 0                | High                | 15              |
| 60       | 2553               | 853                 | 0                | High                | 15              |
| 61       | 2650               | 369                 | 0                | High                | 15              |
| 62       | 2392               | 97                  | 0                | High                | 15              |
| 63       | 2306               | 36                  | 0                | High                | 15              |
| 64       | 134049             | 40820               | 0                | High                | Tracker         |
| 65       | 66840              | 38491               | 0                | High                | Tracker         |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 66       | 1032               | 2748                | 0                | High                | 25              |
| 67       | 722                | 4075                | 0                | High                | 25              |
| 68       | 1020               | 3307                | 0                | High                | 25              |
| 69       | 595                | 2224                | 0                | High                | 25              |
| 70       | 1056               | 218                 | 0                | High                | 25              |
| 71       | 1454               | 1132                | 0                | High                | 15              |
| 72       | 1407               | 1126                | 0                | High                | 15              |
| 73       | 1779               | 476                 | 0                | High                | 25              |
| 74       | 758                | 1543                | 0                | High                | Tracker         |
| 75       | 811                | 1637                | 0                | High                | Tracker         |
| 76       | 775                | 1502                | 0                | High                | Tracker         |
| 77       | 0                  | 0                   | 0                | None                | N/A             |
| 78       | 209                | 207                 | 0                | High                | Tracker         |
| 79       | 527                | 2122                | 0                | High                | 25              |
| 80       | 3142               | 969                 | 0                | High                | 15              |
| 81       | 72698              | 5217                | 0                | High                | 15              |
| 82       | 10373              | 8496                | 0                | High                | 15              |
| 83       | 6516               | 5437                | 0                | High                | 15              |
| 84       | 4841               | 2685                | 0                | High                | 15              |
| 85       | 4467               | 1858                | 0                | High                | 15              |
| 86       | 5745               | 864                 | 0                | High                | 15              |
| 87       | 4981               | 725                 | 0                | High                | 25              |
| 88       | 4684               | 4081                | 0                | High                | 15              |
| 89       | 5213               | 2782                | 0                | High                | 15              |
| 90       | 3724               | 1523                | 0                | High                | 15              |
| 91       | 2780               | 2375                | 0                | High                | 15              |

| Receptor | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) | Magnitude of Impact | Worst Case Tilt |
|----------|--------------------|---------------------|------------------|---------------------|-----------------|
| 92       | 1627               | 2100                | 0                | High                | 25              |
| 93       | 3618               | 1883                | 0                | High                | 25              |
| 94       | 4255               | 932                 | 0                | High                | 15              |
| 95       | 3253               | 62                  | 0                | High                | 15              |
| 96       | 578                | 0                   | 0                | Low                 | 25              |
| 97       | 1121               | 135                 | 0                | High                | 25              |
| 98       | 1793               | 663                 | 0                | High                | 25              |
| 99       | 1944               | 1502                | 0                | High                | 25              |
| 100      | 1167               | 2537                | 0                | High                | 25              |
| 101      | 1162               | 2679                | 0                | High                | 25              |
| 102      | 1103               | 2966                | 0                | High                | 25              |
| 103      | 1259               | 2511                | 0                | High                | 25              |
| 104      | 1670               | 1890                | 0                | High                | 15              |

- 6.341. As can be seen in **Table 6-4**, there are 100 receptors with potential glare impacts with “potential for after-image” (Yellow Glare), which is a **High** impact. There are three receptor points have potential glare impacts with the “low potential for after-image” (Green Glare), which is a **Low** impact.
- 6.342. **Appendix G** shows Google Earth images taken towards the Solar PV Site location at each of the receptor points where an impact is anticipated. The first image is a ground level terrain view and is based on the height data of the surrounding land showing no intervening vegetation or buildings. The Solar PV Site has been drawn as a white polygon and can be seen on the images when the Solar PV Site is theoretically visible. The area of the Solar PV Site from where reflections may be possible has been drawn as a yellow or green polygon. The second image is a street view image pointing in the same direction as the terrain image. This gives a good indication.
- 6.343. As can be seen in **Appendix G**, views of the Solar PV Site from those with a potential glare impact, except for 43 receptors, are screened by a mixture of intervening vegetation, topography and buildings or are outside the field of view of the driver. Therefore, impacts upon these receptors reduce to **None**.

## Aviation Receptors

6.344. Table 6-5 shows a summary of the modelling results for each of the runway approach paths and the ATCT's, whilst the detailed results and ocular impact charts can be viewed in Appendix F1 -F3.

Table 6-5: Summary of Aviation Glare Results

| Component       | Green Glare (mins) | Yellow Glare (mins) | Red Glare (mins) |
|-----------------|--------------------|---------------------|------------------|
| <b>RAF Mona</b> |                    |                     |                  |
| Runway 04       | 0                  | 0                   | 0                |
| Runway 22       | 0                  | 0                   | 0                |
| ATCT            | 0                  | 0                   | 0                |

6.345. As can be seen in Table 6-4, there are no Glare impacts predicted at Raf Mona.

6.346. Overall impacts on Aviation receptors is **None**.

## 7. GROUND BASED RECEPTOR MITIGATION

7.1. Mitigation measures have been included to screen the **High** impact views from 11 residential receptors and 62 road receptors. These measures include planting/infilling of native hedgerows to a height of at least 3m at the areas clearly outlined on the **Mitigation Plan (Figure 5 and 6: Appendix A)**.

7.2. Tables 7-1, 7-2, 7-3 and 7-4 show the impacts at each stage of the glint and glare analysis, with the final residual impacts considered once the mitigation is in place.

Table 7-1: Residual Glint and Glare Impacts on North Residential Receptors



| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 1        | None                     | None                      | None             |
| 2        | None                     | None                      | None             |
| 3        | None                     | None                      | None             |
| 4        | None                     | None                      | None             |
| 5        | None                     | None                      | None             |
| 6        | None                     | None                      | None             |
| 7        | None                     | None                      | None             |
| 8        | None                     | None                      | None             |
| 9        | None                     | None                      | None             |
| 10       | None                     | None                      | None             |
| 11       | None                     | None                      | None             |
| 12       | Low                      | None                      | None             |
| 13       | Low                      | None                      | None             |
| 14       | Low                      | None                      | None             |
| 15       | Low                      | Low                       | Low              |
| 16       | Low                      | None                      | None             |
| 17       | Low                      | Low                       | Low              |
| 18       | High                     | None                      | None             |
| 19       | High                     | None                      | None             |
| 20       | High                     | High                      | None             |
| 21       | High                     | None                      | None             |
| 22       | High                     | None                      | None             |
| 23       | High                     | None                      | None             |
| 24       | High                     | Low                       | Low              |
| 25       | Low                      | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 26       | Low                      | None                      | None             |
| 27       | Medium                   | None                      | None             |
| 28       | Low                      | None                      | None             |
| 29       | Low                      | None                      | None             |
| 30       | High                     | Low                       | Low              |
| 31       | High                     | None                      | None             |
| 32       | Medium                   | None                      | None             |
| 33       | Medium                   | None                      | None             |
| 34       | Medium                   | None                      | None             |
| 35       | Low                      | None                      | None             |
| 36       | High                     | None                      | None             |
| 37       | High                     | None                      | None             |
| 38       | High                     | None                      | None             |
| 39       | High                     | None                      | None             |
| 40       | High                     | High                      | None             |
| 41       | High                     | Low                       | Low              |
| 42       | High                     | Low                       | Low              |
| 43       | High                     | None                      | None             |
| 44       | High                     | None                      | None             |
| 45       | Medium                   | None                      | None             |
| 46       | Medium                   | None                      | None             |
| 47       | Medium                   | None                      | None             |
| 48       | Low                      | None                      | None             |
| 49       | Low                      | None                      | None             |
| 50       | Low                      | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 51       | None                     | None                      | None             |
| 52       | None                     | None                      | None             |
| 53       | High                     | None                      | None             |
| 54       | High                     | Low                       | Low              |
| 55       | Low                      | Low                       | Low              |
| 56       | Low                      | Low                       | Low              |
| 57       | Low                      | Low                       | Low              |
| 58       | High                     | Low                       | Low              |
| 59       | None                     | None                      | None             |
| 60       | None                     | None                      | None             |
| 61       | None                     | None                      | None             |
| 62       | None                     | None                      | None             |
| 63       | None                     | None                      | None             |
| 64       | Low                      | None                      | None             |
| 65       | None                     | None                      | None             |
| 66       | None                     | None                      | None             |
| 67       | None                     | None                      | None             |
| 68       | None                     | None                      | None             |
| 69       | None                     | None                      | None             |
| 70       | None                     | None                      | None             |
| 71       | None                     | None                      | None             |
| 72       | None                     | None                      | None             |
| 73       | Low                      | None                      | None             |
| 74       | Low                      | None                      | None             |
| 75       | High                     | High                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 76       | High                     | None                      | None             |
| 77       | High                     | High                      | None             |
| 78       | High                     | Low                       | Low              |
| 79       | High                     | Low                       | Low              |
| 80       | None                     | Low                       | Low              |
| 81       | Low                      | Low                       | Low              |
| 82       | Low                      | Low                       | Low              |
| 83       | Low                      | Low                       | Low              |
| 84       | Low                      | Low                       | Low              |
| 85       | Medium                   | Low                       | Low              |
| 86       | Medium                   | Low                       | Low              |
| 87       | High                     | Low                       | Low              |
| 88       | High                     | Low                       | Low              |
| 89       | High                     | Low                       | Low              |
| 90       | High                     | Low                       | Low              |
| 91       | High                     | Low                       | Low              |
| 92       | High                     | Low                       | Low              |
| 93       | High                     | Low                       | Low              |
| 94       | High                     | Low                       | Low              |
| 95       | High                     | Low                       | Low              |
| 96       | High                     | Low                       | Low              |
| 97       | High                     | Low                       | Low              |
| 98       | High                     | Low                       | Low              |
| 99       | High                     | None                      | None             |
| 100      | High                     | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 101      | None                     | None                      | None             |
| 102      | None                     | None                      | None             |
| 103      | Low                      | None                      | None             |
| 104      | Low                      | None                      | None             |
| 105      | High                     | High                      | Low              |
| 106      | High                     | None                      | None             |
| 107      | High                     | None                      | None             |
| 108      | High                     | None                      | None             |
| 109      | High                     | None                      | None             |
| 110      | Low                      | None                      | None             |
| 111      | Low                      | None                      | None             |
| 112      | High                     | None                      | None             |
| 113      | Medium                   | None                      | None             |
| 114      | Medium                   | None                      | None             |
| 115      | Medium                   | None                      | None             |
| 116      | Low                      | None                      | None             |
| 117      | None                     | None                      | None             |
| 118      | None                     | None                      | None             |
| 119      | None                     | None                      | None             |
| 120      | Low                      | None                      | None             |
| 121      | None                     | None                      | None             |
| 122      | None                     | None                      | None             |
| 123      | Low                      | None                      | None             |
| 124      | None                     | None                      | None             |
| 125      | None                     | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 126      | High                     | None                      | None             |
| 127      | Low                      | None                      | None             |
| 128      | Low                      | None                      | None             |
| 129      | Low                      | None                      | None             |
| 130      | None                     | None                      | None             |
| 131      | None                     | None                      | None             |
| 132      | None                     | None                      | None             |
| 133      | None                     | None                      | None             |
| 134      | None                     | None                      | None             |
| 135      | None                     | None                      | None             |
| 136      | None                     | None                      | None             |
| 137      | None                     | None                      | None             |
| 138      | None                     | None                      | None             |
| 139      | None                     | None                      | None             |
| 140      | None                     | None                      | None             |
| 141      | None                     | None                      | None             |
| 142      | Low                      | None                      | None             |
| 143      | Low                      | None                      | None             |
| 144      | High                     | None                      | None             |
| 145      | High                     | High                      | None             |
| 146      | Medium                   | None                      | None             |
| 147      | Low                      | None                      | None             |
| 148      | High                     | None                      | None             |
| 149      | Low                      | Low                       | Low              |
| 150      | Low                      | Low                       | Low              |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 151      | Low                      | Low                       | Low              |
| 152      | None                     | None                      | None             |
| 153      | None                     | None                      | None             |
| 154      | None                     | None                      | None             |
| 155      | None                     | None                      | None             |
| 156      | None                     | None                      | None             |
| 157      | None                     | None                      | None             |
| 158      | None                     | None                      | None             |
| 159      | None                     | None                      | None             |
| 160      | None                     | None                      | None             |
| 161      | None                     | None                      | None             |
| 162      | None                     | None                      | None             |
| 163      | None                     | None                      | None             |
| 164      | None                     | None                      | None             |
| 165      | None                     | None                      | None             |
| 166      | None                     | None                      | None             |
| 167      | None                     | None                      | None             |
| 168      | High                     | None                      | None             |
| 169      | High                     | None                      | None             |
| 170      | High                     | None                      | None             |
| 171      | High                     | None                      | None             |
| 172      | None                     | None                      | None             |
| 173      | None                     | None                      | None             |
| 174      | None                     | None                      | None             |
| 175      | Low                      | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 176      | Low                      | None                      | None             |
| 177      | Low                      | None                      | None             |
| 178      | Low                      | None                      | None             |
| 179      | Low                      | None                      | None             |
| 180      | Low                      | None                      | None             |
| 181      | None                     | None                      | None             |
| 182      | Low                      | None                      | None             |
| 183      | Low                      | None                      | None             |
| 184      | Low                      | None                      | None             |
| 185      | Low                      | None                      | None             |
| 186      | Low                      | None                      | None             |
| 187      | Low                      | None                      | None             |
| 188      | Low                      | None                      | None             |
| 189      | Medium                   | None                      | None             |
| 190      | High                     | None                      | None             |
| 191      | High                     | None                      | None             |
| 192      | Low                      | None                      | None             |
| 193      | Low                      | None                      | None             |
| 194      | Medium                   | None                      | None             |
| 195      | Medium                   | None                      | None             |
| 196      | Medium                   | None                      | None             |
| 197      | Medium                   | None                      | None             |
| 198      | Low                      | None                      | None             |
| 199      | High                     | None                      | None             |
| 200      | Medium                   | None                      | None             |



| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 201      | Low                      | None                      | None             |
| 202      | None                     | None                      | None             |
| 203      | None                     | None                      | None             |
| 204      | Low                      | None                      | None             |
| 205      | High                     | None                      | None             |
| 206      | High                     | None                      | None             |
| 207      | High                     | None                      | None             |
| 208      | Low                      | None                      | None             |
| 209      | Low                      | None                      | None             |
| 210      | Low                      | None                      | None             |
| 211      | Medium                   | None                      | None             |
| 212      | Low                      | None                      | None             |
| 213      | Medium                   | None                      | None             |
| 214      | Medium                   | None                      | None             |
| 215      | High                     | None                      | None             |
| 216      | Low                      | None                      | None             |
| 217      | Low                      | None                      | None             |
| 218      | Low                      | None                      | None             |
| 219      | Low                      | None                      | None             |
| 220      | High                     | None                      | None             |
| 221      | High                     | None                      | None             |
| 222      | High                     | None                      | None             |
| 223      | Medium                   | None                      | None             |
| 224      | Low                      | None                      | None             |
| 225      | Low                      | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 226      | High                     | None                      | None             |
| 227      | High                     | Low                       | Low              |
| 228      | High                     | None                      | None             |
| 229      | Low                      | None                      | None             |
| 230      | High                     | None                      | None             |

Table 7-2: Residual Glint and Glare Impacts on South Residential Receptors

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 1        | Low                      | None                      | None             |
| 2        | High                     | High                      | None             |
| 3        | High                     | None                      | None             |
| 4        | None                     | None                      | None             |
| 5        | None                     | None                      | None             |
| 6        | Low                      | None                      | None             |
| 7        | Low                      | None                      | None             |
| 8        | Low                      | None                      | None             |
| 9        | Low                      | None                      | None             |
| 10       | Low                      | None                      | None             |
| 11       | Low                      | None                      | None             |
| 12       | None                     | None                      | None             |
| 13       | Low                      | None                      | None             |
| 14       | High                     | None                      | None             |
| 15       | Medium                   | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 16       | High                     | None                      | None             |
| 17       | High                     | None                      | None             |
| 18       | High                     | None                      | None             |
| 19       | Low                      | None                      | None             |
| 20       | Low                      | None                      | None             |
| 21       | Medium                   | None                      | None             |
| 22       | Low                      | None                      | None             |
| 23       | Low                      | None                      | None             |
| 24       | Medium                   | None                      | None             |
| 25       | Medium                   | None                      | None             |
| 26       | Medium                   | None                      | None             |
| 27       | High                     | None                      | None             |
| 28       | High                     | None                      | None             |
| 29       | High                     | None                      | None             |
| 30       | Medium                   | None                      | None             |
| 31       | Low                      | None                      | None             |
| 32       | Low                      | None                      | None             |
| 33       | Low                      | None                      | None             |
| 34       | Low                      | None                      | None             |
| 35       | Medium                   | None                      | None             |
| 36       | High                     | Low                       | Low              |
| 37       | High                     | High                      | None             |
| 38       | High                     | High                      | None             |
| 39       | Low                      | None                      | None             |
| 40       | High                     | None                      | None             |

| Receptor | Magnitude of Impact         |                   |                                |
|----------|-----------------------------|-------------------|--------------------------------|
|          | After Geometric<br>Analysis | After<br>Analysis | Visibility<br>Residual Impacts |
| 41       | High                        | High              | None                           |
| 42       | High                        | High              | None                           |
| 43       | High                        | Low               | Low                            |
| 44       | High                        | Low               | Low                            |
| 45       | High                        | None              | None                           |
| 46       | High                        | None              | None                           |
| 47       | High                        | None              | None                           |
| 48       | High                        | None              | None                           |
| 49       | Low                         | None              | None                           |
| 50       | Low                         | None              | None                           |
| 51       | Low                         | None              | None                           |
| 52       | Medium                      | None              | None                           |
| 53       | Medium                      | None              | None                           |
| 54       | High                        | None              | None                           |
| 55       | High                        | None              | None                           |
| 56       | High                        | None              | None                           |
| 57       | High                        | None              | None                           |
| 58       | High                        | None              | None                           |
| 59       | Low                         | None              | None                           |
| 60       | Low                         | None              | None                           |
| 61       | High                        | None              | None                           |
| 62       | High                        | None              | None                           |
| 63       | High                        | None              | None                           |
| 64       | High                        | None              | None                           |
| 65       | High                        | None              | None                           |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 66       | High                     | None                      | None             |
| 67       | High                     | None                      | None             |
| 68       | High                     | None                      | None             |
| 69       | High                     | None                      | None             |
| 70       | High                     | None                      | None             |
| 71       | Low                      | None                      | None             |
| 72       | Low                      | None                      | None             |
| 73       | Low                      | None                      | None             |
| 74       | Low                      | None                      | None             |
| 75       | Low                      | None                      | None             |
| 76       | Low                      | None                      | None             |
| 77       | Low                      | None                      | None             |
| 78       | High                     | Low                       | Low              |
| 79       | High                     | None                      | None             |
| 80       | Low                      | None                      | None             |
| 81       | Low                      | None                      | None             |
| 82       | Low                      | None                      | None             |
| 83       | Medium                   | None                      | None             |
| 84       | Low                      | None                      | None             |
| 85       | High                     | None                      | None             |
| 86       | Low                      | None                      | None             |
| 87       | Low                      | None                      | None             |
| 88       | Low                      | None                      | None             |
| 89       | Low                      | None                      | None             |
| 90       | Low                      | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 91       | Medium                   | None                      | None             |
| 92       | High                     | None                      | None             |
| 93       | High                     | None                      | None             |
| 94       | High                     | None                      | None             |
| 95       | High                     | None                      | None             |
| 96       | High                     | None                      | None             |
| 97       | High                     | None                      | None             |
| 98       | High                     | None                      | None             |
| 99       | High                     | Low                       | Low              |
| 100      | High                     | Low                       | Low              |
| 101      | High                     | Low                       | Low              |
| 102      | High                     | Low                       | Low              |
| 103      | High                     | Low                       | Low              |
| 104      | High                     | Low                       | Low              |
| 105      | High                     | None                      | None             |
| 106      | High                     | None                      | None             |
| 107      | Low                      | None                      | None             |
| 108      | Low                      | None                      | None             |
| 109      | Low                      | None                      | None             |
| 110      | Low                      | None                      | None             |
| 111      | High                     | None                      | None             |
| 112      | High                     | None                      | None             |
| 113      | High                     | None                      | None             |
| 114      | High                     | None                      | None             |
| 115      | High                     | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 116      | High                     | None                      | None             |
| 117      | High                     | None                      | None             |
| 118      | High                     | None                      | None             |
| 119      | High                     | None                      | None             |
| 120      | High                     | None                      | None             |
| 121      | High                     | None                      | None             |
| 122      | High                     | None                      | None             |
| 123      | High                     | None                      | None             |
| 124      | Low                      | None                      | None             |
| 125      | Low                      | None                      | None             |
| 126      | Low                      | None                      | None             |
| 127      | Low                      | None                      | None             |
| 128      | Low                      | None                      | None             |
| 129      | Low                      | None                      | None             |
| 130      | Low                      | None                      | None             |
| 131      | Low                      | None                      | None             |
| 132      | Low                      | None                      | None             |
| 133      | High                     | None                      | None             |
| 134      | Medium                   | None                      | None             |
| 135      | High                     | None                      | None             |
| 136      | High                     | None                      | None             |
| 137      | Medium                   | None                      | None             |
| 138      | Medium                   | None                      | None             |
| 139      | Low                      | None                      | None             |
| 140      | Low                      | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 141      | Low                      | None                      | None             |
| 142      | Low                      | None                      | None             |
| 143      | Low                      | None                      | None             |
| 144      | Low                      | None                      | None             |
| 145      | Low                      | None                      | None             |
| 146      | Low                      | None                      | None             |
| 147      | Low                      | None                      | None             |
| 148      | Low                      | None                      | None             |
| 149      | Medium                   | None                      | None             |
| 150      | Low                      | None                      | None             |
| 151      | Medium                   | None                      | None             |
| 152      | Medium                   | None                      | None             |
| 153      | High                     | None                      | None             |
| 154      | High                     | None                      | None             |
| 155      | High                     | None                      | None             |
| 156      | High                     | None                      | None             |
| 157      | High                     | None                      | None             |
| 158      | High                     | None                      | None             |
| 159      | High                     | None                      | None             |
| 160      | High                     | None                      | None             |
| 161      | High                     | None                      | None             |
| 162      | High                     | None                      | None             |
| 163      | High                     | None                      | None             |
| 164      | High                     | None                      | None             |
| 165      | High                     | Low                       | Low              |



| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 166      | Low                      | Low                       | Low              |
| 167      | Low                      | None                      | None             |
| 168      | Low                      | None                      | None             |
| 169      | Low                      | None                      | None             |
| 170      | High                     | None                      | None             |
| 171      | High                     | None                      | None             |
| 172      | High                     | Low                       | Low              |
| 173      | High                     | Low                       | Low              |
| 174      | Low                      | None                      | None             |
| 175      | High                     | None                      | None             |
| 176      | High                     | None                      | None             |
| 177      | High                     | None                      | None             |
| 178      | High                     | None                      | None             |
| 179      | High                     | None                      | None             |
| 180      | High                     | None                      | None             |
| 181      | High                     | None                      | None             |
| 182      | High                     | None                      | None             |
| 183      | High                     | None                      | None             |
| 184      | High                     | Low                       | Low              |
| 185      | High                     | Low                       | Low              |
| 186      | High                     | None                      | None             |
| 187      | High                     | None                      | None             |
| 188      | High                     | Low                       | Low              |
| 189      | High                     | Low                       | Low              |

Table 7-3: Residual Glint and Glare Impacts on North Road Receptors

| Receptor | Magnitude of Impact      |                           |  | Residual Impacts |
|----------|--------------------------|---------------------------|--|------------------|
|          | After Geometric Analysis | After Visibility Analysis |  |                  |
| 1        | Low                      | None                      |  | None             |
| 2        | High                     | None                      |  | None             |
| 3        | High                     | None                      |  | None             |
| 4        | High                     | High                      |  | None             |
| 5        | High                     | None                      |  | None             |
| 6        | High                     | None                      |  | None             |
| 7        | High                     | None                      |  | None             |
| 8        | High                     | None                      |  | None             |
| 9        | High                     | None                      |  | None             |
| 10       | High                     | None                      |  | None             |
| 11       | High                     | None                      |  | None             |
| 12       | High                     | High                      |  | None             |
| 13       | High                     | High                      |  | None             |
| 14       | High                     | None                      |  | None             |
| 15       | High                     | None                      |  | None             |
| 16       | High                     | None                      |  | None             |
| 17       | High                     | None                      |  | None             |
| 18       | High                     | None                      |  | None             |
| 19       | High                     | None                      |  | None             |
| 20       | Low                      | None                      |  | None             |
| 21       | High                     | High                      |  | None             |
| 22       | High                     | None                      |  | None             |
| 23       | High                     | High                      |  | None             |
| 24       | High                     | None                      |  | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 25       | High                     | High                      | None             |
| 26       | High                     | High                      | None             |
| 27       | High                     | High                      | None             |
| 28       | High                     | High                      | None             |
| 29       | High                     | None                      | None             |
| 30       | High                     | None                      | None             |
| 31       | Low                      | None                      | None             |
| 32       | Low                      | None                      | None             |
| 33       | High                     | None                      | None             |
| 34       | High                     | None                      | None             |
| 35       | High                     | None                      | None             |
| 36       | High                     | High                      | None             |
| 37       | High                     | None                      | None             |
| 38       | High                     | High                      | None             |
| 39       | High                     | High                      | None             |
| 40       | High                     | None                      | None             |
| 41       | High                     | None                      | None             |
| 42       | High                     | None                      | None             |
| 43       | High                     | High                      | None             |
| 44       | High                     | High                      | None             |
| 45       | High                     | High                      | None             |
| 46       | High                     | None                      | None             |
| 47       | High                     | None                      | None             |
| 48       | High                     | None                      | None             |
| 49       | High                     | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 50       | High                     | High                      | None             |
| 51       | High                     | High                      | None             |
| 52       | Low                      | None                      | None             |
| 53       | Low                      | None                      | None             |
| 54       | Low                      | None                      | None             |
| 55       | Low                      | None                      | None             |
| 56       | High                     | None                      | None             |
| 57       | High                     | None                      | None             |
| 58       | High                     | None                      | None             |
| 59       | High                     | None                      | None             |
| 60       | High                     | None                      | None             |
| 61       | High                     | None                      | None             |
| 62       | High                     | None                      | None             |
| 63       | High                     | High                      | None             |
| 64       | High                     | High                      | None             |
| 65       | High                     | High                      | None             |
| 66       | High                     | High                      | None             |
| 67       | High                     | None                      | None             |
| 68       | High                     | High                      | None             |
| 69       | High                     | None                      | None             |
| 70       | High                     | None                      | None             |
| 71       | High                     | None                      | None             |
| 72       | High                     | None                      | None             |
| 73       | Low                      | None                      | None             |
| 74       | Low                      | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 75       | None                     | None                      | None             |
| 76       | None                     | None                      | None             |
| 77       | None                     | None                      | None             |
| 78       | Low                      | None                      | None             |
| 79       | Low                      | None                      | None             |
| 80       | Low                      | None                      | None             |
| 81       | High                     | None                      | None             |
| 82       | High                     | None                      | None             |
| 83       | High                     | None                      | None             |
| 84       | High                     | None                      | None             |
| 85       | High                     | None                      | None             |
| 86       | High                     | None                      | None             |
| 87       | High                     | High                      | None             |
| 88       | High                     | High                      | None             |
| 89       | High                     | None                      | None             |
| 90       | High                     | None                      | None             |
| 91       | High                     | None                      | None             |
| 92       | High                     | None                      | None             |
| 93       | High                     | None                      | None             |
| 94       | High                     | None                      | None             |
| 95       | High                     | None                      | None             |
| 96       | High                     | None                      | None             |
| 97       | High                     | None                      | None             |
| 98       | High                     | None                      | None             |
| 99       | High                     | None                      | None             |

| Receptor | Magnitude of Impact         |                   |                                |
|----------|-----------------------------|-------------------|--------------------------------|
|          | After Geometric<br>Analysis | After<br>Analysis | Visibility<br>Residual Impacts |
| 100      | High                        | None              | None                           |
| 101      | High                        | None              | None                           |
| 102      | High                        | None              | None                           |
| 103      | Low                         | None              | None                           |
| 104      | Low                         | None              | None                           |
| 105      | Low                         | None              | None                           |
| 106      | Low                         | None              | None                           |
| 107      | Low                         | None              | None                           |
| 108      | High                        | None              | None                           |
| 109      | High                        | High              | None                           |
| 110      | High                        | High              | None                           |
| 111      | High                        | High              | None                           |
| 112      | High                        | High              | None                           |
| 113      | High                        | High              | None                           |
| 114      | High                        | None              | None                           |
| 115      | High                        | None              | None                           |
| 116      | High                        | None              | None                           |
| 117      | High                        | None              | None                           |
| 118      | High                        | None              | None                           |
| 119      | High                        | None              | None                           |
| 120      | None                        | None              | None                           |
| 121      | Low                         | None              | None                           |
| 122      | High                        | None              | None                           |
| 123      | High                        | None              | None                           |
| 124      | High                        | None              | None                           |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 125      | High                     | None                      | None             |
| 126      | High                     | None                      | None             |
| 127      | High                     | None                      | None             |
| 128      | High                     | None                      | None             |
| 129      | High                     | None                      | None             |
| 130      | High                     | None                      | None             |
| 131      | Low                      | None                      | None             |
| 132      | Low                      | None                      | None             |
| 133      | Low                      | None                      | None             |
| 134      | High                     | None                      | None             |
| 135      | High                     | High                      | None             |
| 136      | High                     | High                      | None             |
| 137      | High                     | High                      | None             |
| 138      | High                     | High                      | None             |
| 139      | Low                      | None                      | None             |
| 140      | Low                      | None                      | None             |
| 141      | Low                      | None                      | None             |
| 142      | High                     | None                      | None             |
| 143      | Low                      | None                      | None             |
| 144      | Low                      | None                      | None             |
| 145      | High                     | High                      | None             |
| 146      | High                     | None                      | None             |
| 147      | High                     | None                      | None             |
| 148      | High                     | None                      | None             |
| 149      | High                     | High                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 150      | High                     | High                      | None             |
| 151      | High                     | None                      | None             |
| 152      | High                     | High                      | None             |
| 153      | High                     | High                      | None             |
| 154      | High                     | None                      | None             |
| 155      | High                     | High                      | None             |
| 156      | High                     | High                      | None             |
| 157      | High                     | High                      | None             |
| 158      | None                     | None                      | None             |
| 159      | None                     | None                      | None             |
| 160      | High                     | None                      | None             |
| 161      | High                     | High                      | None             |
| 162      | High                     | High                      | None             |
| 163      | High                     | None                      | None             |
| 164      | High                     | None                      | None             |
| 165      | High                     | None                      | None             |
| 166      | High                     | None                      | None             |
| 167      | High                     | None                      | None             |
| 168      | High                     | None                      | None             |
| 169      | High                     | None                      | None             |
| 170      | High                     | None                      | None             |
| 171      | High                     | None                      | None             |
| 172      | High                     | None                      | None             |
| 173      | High                     | None                      | None             |
| 174      | Low                      | None                      | None             |



| Receptor | Magnitude of Impact |           |                           | Residual Impacts |
|----------|---------------------|-----------|---------------------------|------------------|
|          | After Analysis      | Geometric | After Analysis Visibility |                  |
| 175      | Low                 |           | None                      | None             |
| 176      | Low                 |           | None                      | None             |
| 177      | High                |           | None                      | None             |
| 178      | High                |           | None                      | None             |
| 179      | Low                 |           | None                      | None             |
| 180      | High                |           | None                      | None             |
| 181      | Low                 |           | None                      | None             |
| 182      | Low                 |           | None                      | None             |
| 183      | High                |           | None                      | None             |
| 184      | High                |           | None                      | None             |
| 185      | High                |           | None                      | None             |
| 186      | High                |           | None                      | None             |
| 187      | High                |           | None                      | None             |

Table 7-4: Residual Glint and Glare Impacts on South Road Receptors

| Receptor | Magnitude of Impact |           |                           | Residual Impacts |
|----------|---------------------|-----------|---------------------------|------------------|
|          | After Analysis      | Geometric | After Analysis Visibility |                  |
| 1        | High                |           | None                      | None             |
| 2        | High                |           | None                      | None             |
| 3        | Low                 |           | None                      | None             |
| 4        | High                |           | None                      | None             |
| 5        | High                |           | High                      | None             |
| 6        | High                |           | High                      | None             |
| 7        | High                |           | High                      | None             |
| 8        | High                |           | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 9        | High                     | None                      | None             |
| 10       | High                     | None                      | None             |
| 11       | High                     | None                      | None             |
| 12       | High                     | None                      | None             |
| 13       | High                     | None                      | None             |
| 14       | High                     | None                      | None             |
| 15       | High                     | None                      | None             |
| 16       | High                     | None                      | None             |
| 17       | High                     | None                      | None             |
| 18       | High                     | None                      | None             |
| 19       | High                     | None                      | None             |
| 20       | High                     | High                      | None             |
| 21       | High                     | None                      | None             |
| 22       | High                     | None                      | None             |
| 23       | High                     | None                      | None             |
| 24       | High                     | High                      | None             |
| 25       | High                     | None                      | None             |
| 26       | High                     | None                      | None             |
| 27       | High                     | None                      | None             |
| 28       | High                     | None                      | None             |
| 29       | High                     | None                      | None             |
| 30       | High                     | None                      | None             |
| 31       | High                     | None                      | None             |
| 32       | Low                      | None                      | None             |
| 33       | High                     | None                      | None             |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 34       | High                     | None                      | None             |
| 35       | High                     | None                      | None             |
| 36       | High                     | High                      | None             |
| 37       | High                     | None                      | None             |
| 38       | None                     | None                      | None             |
| 39       | None                     | None                      | None             |
| 40       | High                     | High                      | None             |
| 41       | High                     | High                      | None             |
| 42       | High                     | None                      | None             |
| 43       | High                     | High                      | None             |
| 44       | High                     | None                      | None             |
| 45       | High                     | None                      | None             |
| 46       | High                     | None                      | None             |
| 47       | High                     | High                      | None             |
| 48       | High                     | High                      | None             |
| 49       | High                     | None                      | None             |
| 50       | High                     | None                      | None             |
| 51       | High                     | None                      | None             |
| 52       | High                     | None                      | None             |
| 53       | High                     | None                      | None             |
| 54       | High                     | None                      | None             |
| 55       | High                     | None                      | None             |
| 56       | High                     | None                      | None             |
| 57       | High                     | None                      | None             |
| 58       | High                     | None                      | None             |

| Receptor | Magnitude of Impact         |                   |                                |
|----------|-----------------------------|-------------------|--------------------------------|
|          | After Geometric<br>Analysis | After<br>Analysis | Visibility<br>Residual Impacts |
| 59       | High                        | None              | None                           |
| 60       | High                        | None              | None                           |
| 61       | High                        | None              | None                           |
| 62       | High                        | None              | None                           |
| 63       | High                        | None              | None                           |
| 64       | High                        | None              | None                           |
| 65       | High                        | None              | None                           |
| 66       | High                        | High              | None                           |
| 67       | High                        | High              | None                           |
| 68       | High                        | None              | None                           |
| 69       | High                        | High              | None                           |
| 70       | High                        | High              | None                           |
| 71       | High                        | High              | None                           |
| 72       | High                        | None              | None                           |
| 73       | High                        | None              | None                           |
| 74       | High                        | None              | None                           |
| 75       | High                        | High              | None                           |
| 76       | High                        | None              | None                           |
| 77       | None                        | None              | None                           |
| 78       | High                        | None              | None                           |
| 79       | High                        | None              | None                           |
| 80       | High                        | None              | None                           |
| 81       | High                        | High              | None                           |
| 82       | High                        | None              | None                           |
| 83       | High                        | None              | None                           |

| Receptor | Magnitude of Impact      |                           |                  |
|----------|--------------------------|---------------------------|------------------|
|          | After Geometric Analysis | After Visibility Analysis | Residual Impacts |
| 84       | High                     | None                      | None             |
| 85       | High                     | None                      | None             |
| 86       | High                     | None                      | None             |
| 87       | High                     | None                      | None             |
| 88       | High                     | None                      | None             |
| 89       | High                     | None                      | None             |
| 90       | High                     | None                      | None             |
| 91       | High                     | None                      | None             |
| 92       | High                     | None                      | None             |
| 93       | High                     | None                      | None             |
| 94       | High                     | None                      | None             |
| 95       | High                     | None                      | None             |
| 96       | Low                      | None                      | None             |
| 97       | High                     | None                      | None             |
| 98       | High                     | None                      | None             |
| 99       | High                     | None                      | None             |
| 100      | High                     | None                      | None             |
| 101      | High                     | High                      | None             |
| 102      | High                     | None                      | None             |
| 103      | High                     | None                      | None             |
| 104      | High                     | None                      | None             |

7.3. Table 7–5, 7–6, 7–7 and 7–8 show the overall impacts for all residential and road receptors.

Table 7-5: Solar Reflection: North Residential Receptors

| Magnitude | Theoretical Visibility | Actual Visibility (No Mitigation) | Actual Visibility with Mitigation |
|-----------|------------------------|-----------------------------------|-----------------------------------|
| High      | 68                     | 6                                 | 0                                 |
| Medium    | 23                     | 0                                 | 0                                 |
| Low       | 69                     | 35                                | 36                                |
| None      | 70                     | 189                               | 194                               |

- **High** – Solar reflections impacts of over 30 hours per year or over 30 minutes per day
- **Medium** - Solar reflections impacts between 20 and 30 hours per year or between 20 minutes and 30 minutes per day
- **Low** - Solar reflections impacts between 0 and 20 hours per year or between 0 minutes and 20 minutes per day
- **None** - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening

Table 7-6: Solar Reflection: South Residential Receptors

| Magnitude | Theoretical Visibility | Actual Visibility (No Mitigation) | Actual Visibility with Mitigation |
|-----------|------------------------|-----------------------------------|-----------------------------------|
| High      | 102                    | 5                                 | 0                                 |
| Medium    | 17                     | 0                                 | 0                                 |
| Low       | 67                     | 18                                | 18                                |
| None      | 3                      | 166                               | 171                               |

- **High** – Solar reflections impacts of over 30 hours per year or over 30 minutes per day
- **Medium** - Solar reflections impacts between 20 and 30 hours per year or between 20 minutes and 30 minutes per day
- **Low** - Solar reflections impacts between 0 and 20 hours per year or between 0 minutes and 20 minutes per day
- **None** - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening

Table 7-7: Solar Reflections: North Road Receptors

| Magnitude  | Theoretical Visibility | Actual Visibility (No Mitigation) | Actual Visibility with Mitigation |
|--|------------------------|-----------------------------------|-----------------------------------|
| High   | 148                    | 43                                | 0                                 |
| Low  | 33                     | 0                                 | 0                                 |
| None   | 6                      | 144                               | 187                               |
| <ul style="list-style-type: none"> <li>• <b>High</b> - Solar reflections impacts with yellow glare (potential for after-image).</li> <li>• <b>Low</b> - Solar reflections impacts with only green glare (low potential for after-image)</li> <li>• <b>None</b> - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening or being outside the drivers field of view</li> </ul> |                        |                                   |                                   |

Table 7-8: Solar Reflection: South Road Receptors

| Magnitude  | Theoretical Visibility | Actual Visibility (No Mitigation) | Actual Visibility with Mitigation |
|--|------------------------|-----------------------------------|-----------------------------------|
| High   | 98                     | 19                                | 0                                 |
| Low  | 3                      | 0                                 | 0                                 |
| None   | 3                      | 85                                | 104                               |
| <ul style="list-style-type: none"> <li>• <b>High</b> - Solar reflections impacts with yellow glare (potential for after-image).</li> <li>• <b>Low</b> - Solar reflections impacts with only green glare (low potential for after-image)</li> <li>• <b>None</b> - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening or being outside the drivers field of view</li> </ul> |                        |                                   |                                   |

## 8. SUMMARY

- 8.1. This assessment considers the potential impacts on ground-based receptors such as roads and residential dwellings as well as aviation assets. A 1km study area around the Solar PV Site is considered adequate for the assessment of ground-based (residential and road) receptors, whilst a 30km study area is chosen for aviation receptors. Within the ground-based study areas of the Solar PV Site, there are 461 residential receptors and 328 road receptors that were considered. No rail receptors were located within the 1km study area. As per the methodology section, where there are several residential receptors within close proximity, a representative dwelling or dwellings is/are chosen for full assessment as the impacts will not vary to any significant degree. Where small groups of receptors have been evident, the receptors on either end of the group have been assessed in detail. 42 residential and 37 road receptors were dismissed as they are located within the no reflection zones (see paragraph 5.5). Five aerodromes are located within the 30km study area; however, only RAF Mona required a

detailed assessment as the Solar PV Site is located within their respective safeguarding buffer zones. The other four aerodromes did not require a detailed assessment due to their size and/or orientation in relation to the Solar PV Site.

8.2. Geometric analysis was conducted at 419 individual residential receptors and 291 road receptors. Also, geometric analysis was conducted at two runway approach paths and one Air Traffic Control Tower (ATCT) at RAF Mona.

8.3. The assessment concludes that:

- Solar reflections are possible at 346 of the 419 residential receptors assessed within the 1km study area. The initial bald-earth scenario identified potential impacts as **High** at 170 receptors, **Medium** at 40 receptors, **Low** at 136 receptors and **None** at 73 receptors. Upon reviewing the actual visibility of the receptors, impacts remain **High** at 11 receptors, reduce to **Low** at 53 receptors and **None** at 355 receptors. Once mitigation measures were considered, impacts reduce to **Low** at 53 receptors and **None** at 366 receptors. Therefore, overall impacts on residential receptors are **Low**.
- Solar reflections are possible at 284 of the 326 road receptors assessed within the 1km study area. The initial bald-earth scenario identified potential impacts as **High** at 250 receptors, **Low** at 34 receptors and **None** at the remaining 42 receptors. Upon reviewing the actual visibility of the receptors, impacts remain **High** at 62 receptors and reduced to **None** at all remaining receptors. Once mitigation measures were considered, impacts reduce to **None** at all remaining receptors. Therefore, overall impacts on residential receptors are **None**.
- Two runway approach paths and one ATCT was assessed in detailed at RAF Mona. Only Green **No impacts were predicted to occur**. Overall aviation impacts are **None**.

8.4. Mitigation measures have been included to screen the **High** impact views from 11 residential receptors and 62 road receptors. These measures include planting/infilling of native hedgerows to a height of at least 3m at the areas clearly outlined on the **Mitigation Plan (Figure 5 and 6: Appendix A)**.

8.5. The effects of glint and glare and their impact on local receptors has been analysed in detail and there is predicted to be **No impacts** upon aviation receptors. Impacts upon ground-based receptors are predicted to be **Low** and therefore, **Not Significant**.



## 9. APPENDICES

### APPENDIX A: FIGURES

- Figure 1: North Residential Receptor Map
- Figure 2: North Road Receptor Map
- Figure 3: South Residential Receptor Map
- Figure 4: South Road Receptor Map
- Figure 5: North Mitigation Plan Map
- Figure 6: South Mitigation Plan Map
- Figure 7: PEIR Boundary

- Figure 8: RAF Mona Aerodrome Chart

## **APPENDIX B1 AND B41 – B9: NORTH RESIDENTIAL RECEPTOR GLARE RESULTS**

## **APPENDIX C1 – C9: SOUTH RESIDENTIAL RECEPTOR GLARE RESULTS**

## **APPENDIX D1 – D9: NORTH ROAD RECEPTOR GLARE RESULTS**

## **APPENDIX E1 – E9: SOUTH ROAD RECEPTOR GLARE RESULTS**

## **APPENDIX F1 – F3: AVIATION RECEPTOR GLARE RESULTS**

## **APPENDIX G: VISIBILITY ASSESSMENT EVIDENCE**

## **APPENDIX H: SOLAR MODULE GLARE AND REFLECTANCE TECHNICAL MEMO**