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Our ref: NI2702

Date: 30 August 2024

Mr Gerard McGee
Planning Department
Armagh City, Banbridge and Craigavon Borough Council
Bridgewater House
23A Castlewellan Road
Banbridge
BT32 4AX

Dear Gerard

LA08/2024/0259/F - Installation and operation of a 29.9MW solar farm on lands south of Magheralin and southeast of Dollingstown

RPS continue to monitor the above referenced planning application and note the encouraging range of consultation responses received to date. We acknowledge too, clarification requests and matters raised within responses received from:

- DFI Roads;
- DFI Rivers;
- SONI; and
- RSPB.

This submission is made in direct response to said matters and clarifications – please refer to the table included herein. Where required the submission is supplemented by Further Information which is referenced in responses contained within the table.

Should the Council have any queries please do not hesitate to contact me using the details provided below.

Yours sincerely,
for RPS Consulting Services Ltd

Donaldson, Erin
Associate
erin.donaldson@rps.tetratech.com

cc: Rachel Buchanan – Senior Development Manager - RES

Consultee	Comment	RPS / Applicant Response
DFI Roads	Transport Statement (TS) has been provided, but this does not give details of the haul routes to be used to the 3 proposed accesses, together with an assessment of the adequacy of these routes. (Road width for 2-way traffic and corner / junction radii limitations) Use of Inn Road for example may cause difficulty with left turn onto Springhill Road.	RPS would take this opportunity to reinforce that construction materials will be delivered to the site via standard HGV and further that no abnormal or over-sized loads are required during construction. The Transport Statement (TS) submitted as part of the planning application pack contained traffic flow data which confirms HGV usage of the road network surrounding the site attesting to its adequacy to facilitate the vehicle types utilised during construction. Further, the TS sets out that during the peak of construction there are anticipated to be 9 HGV deliveries per day to the site, equating to a negligible increase in existing traffic levels surrounding the site. The site is located in close proximity to the strategic road network, c.1.3km south of the A3 Lurgan Road and c.6km from M1 Junction 9. Annex 1 to this correspondence contains a drawing proposing potential construction vehicle route options. As per standard practice it is anticipated that the requirement to provide a Construction Traffic Management Plan (CTMP) for approval will be a conditioned requirement of any planning consent and will facilitate discussion regarding haul routes at construction stage between the Applicant, appointed contractor and DfI through the planning authority. The process will allow cognisance to be taken of any necessary considerations on the surrounding road network or in the area at construction stage. Where required, traffic management procedures will be proposed as part of the CTMP. Requirement to provide and agree a CTMP through planning condition is respectfully proposed as a robust and best practice approach.
	Submitted plans are lacking in detail regarding dimensions of access width and radii.	The following Figures are provided as part of this submission to include details requested by DfI Roads: Figure 14 Site Access 1 05215-RES-ACC-DR-PT-001 Rev 4 Figure 15 Site Access 2 05215-RES-ACC-DR-PT-002 Rev 4 Figure 16 Site Access 3 05215-RES-ACC-DR-PT-003 Rev 4 The above referenced figures supersede those listed below which formed part of the original planning application, listed below. Figure 14 Site Access 1 05215-RES-ACC-DR-PT-001 Rev 3 Figure 15 Site Access 2 05215-RES-ACC-DR-PT-002 Rev 3 Figure 16 Site Access 3 05215-RES-ACC-DR-PT-003 Rev 3 It is worth noting that the location of proposed Site Access 1 has been marginally relocated further along the Springhill Road site frontage towards the northeast, resulting in a slightly extended sightline in this direction. Figure 4 Site Layout 05215-RES-LAY-DR-PT-005 Rev 8.1, included as part of this submission, reflects this minor revision.

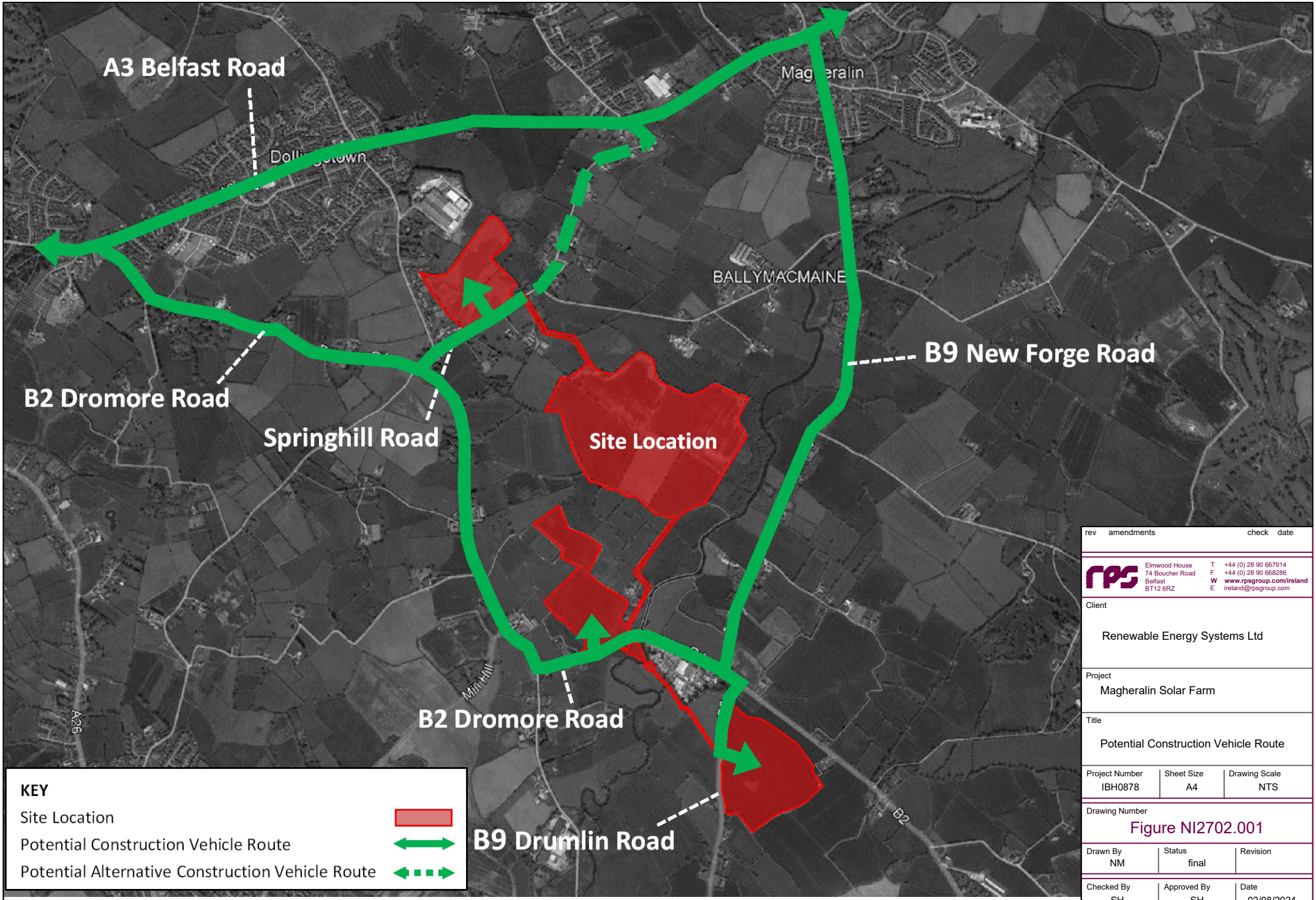
	The above referenced drawing replaces Figure 4 Site Layout 05215-RES-LAY-DR-PT-005 Rev 7, which formed part of the original planning application.
Visibility splays proposed as shown on plans 50, 54 and 62 appear to be satisfactory but their availability in vertical plane should be confirmed and should be noted to be cleared and levelled with a new boundary treatment behind splays. (Combine to one plan each)	The following Figures are provided as part of this submission to confirm availability of sightlines in the vertical plane.: Figure 14 Site Access 1 05215-RES-ACC-DR-PT-001 Rev 4 Figure 15 Site Access 2 05215-RES-ACC-DR-PT-002 Rev 4 Figure 16 Site Access 3 05215-RES-ACC-DR-PT-003 Rev 4 As requested, provided details are demonstrated on a singular plan. Further as noted in the drawing key, all visibility splays will be kept clear of any obstructions.
DFI Roads staff are not qualified to adjudicate upon the report provided, but there are several points that give concern. The impact and danger caused by sun glare is well known to vehicle drivers, however, the level of additional glare intensity and frequency that may cause an unacceptable level of danger is not something upon which we have a ready scale to measure. This appears to be recognised in the report. References in the report such as, “predicted impact”, “significant impact”, “predicted to be screened”, “panels not expected to be visible” etc. reinforce that the assessment provided is not definitive. The report relies upon a limited (arbitrary?) 50-degree field of view of a driver in which danger may be caused by glint / glare. The report relies upon screening provided by buildings and vegetation. However, there is no consideration of the strobe effect caused by only intermittent screening, due to gaps between buildings gaps in hedges, variations in the density of vegetation etc. It appears to DFI Roads that if the faces of the panels are visible to drivers, that there is potential for harm to be caused with drivers being dazzled. As there may be no definitive way to cover all these factors, it may be necessary to consider appropriate conditions to mitigate impacts that are only found after construction and operation has begun. Council may need to consider whether such conditions are possible and practical.	The Glint and Glare report submitted as part of the planning application pack was prepared by Pager Power, the industry experts for such assessment. Pager Power has undertaken over 1400 Glint and Glare assessments for projects and are the leading provider across the UK. They have undertaken assessments on behalf of the RPS planning and environmental team responsible for the Magheralin submission, on multiple solar projects across the UK and Ireland. The methodology set out in the assessment has been tested at the highest level including locally at Public Inquiry. The methodology for the assessment is set out within the Report itself and draws on Pager Power’s practical experience as well as available guidance. Accordingly it is proposed as robust and appropriate. Pager Power have prepared a direct clarification response to address DfI Concerns in respect of Glint and Glare. This is attached as Annex 2 of this submission. .

DFI Rivers	**FLD1 - Development in Fluvial Floodplains** – Flood Maps (NI) indicate that portions of the site are affected by floodplain (see Q100 flood map below). In accordance with policy development will not be permitted within the 1 in 100-year fluvial floodplain unless the Planning Authority deems it to be an 'exception' or of overriding regional or sub-regional importance, as defined in policy FLD1. A Flood Risk Assessment has been submitted and only applies if the applicant convinces the Planning Authority that the proposed development meets an exception for development in the flood plain that is listed in the policy. This is a matter for the Planning Authority. If the Planning Authority deem the application an exception for development in the floodplain, Section E6 of the policy recommends adding a freeboard to the predicted 100-year flood level for the underside of the solar panels. Rivers Directorate recommend a 600mm freeboard. The supports for the solar panels should be designed as flood friendly to avoid the accumulation of flood wrack.	Proposals are amended to ensure all Proposed Development infrastructure is located outside of the predicted 1% AEP plus Climate Change flood extents of the River Lagan. Revised proposals accordingly comply with Policy FLD1. Figure 4 Site Layout 05215-RES-LAY-DR-PT-005 Rev 8.1 illustrates the layout amendments. The above referenced figure supersedes Figure 4 Site Layout 05215-RES-LAY-DR-PT-005 Rev 7 which formed part of the original planning application.
	FLD2 - Protection of Flood Defence and Drainage Infrastructure –the application site is affected by numerous undesignated watercourses. The applicant should provide plans clearly illustrating the location of all undesignated watercourses in and bounding the application site and demonstrate how they are going to be maintained to meet the obligations of Schedule 5 of the Drainage (Northern Ireland) Order 1973 and Planning Policy Statement 15.	The FRA has been updated to include a plan illustrating the locations of any undesignated watercourses in and bounding the site as identified during site walkovers. The sensitive design approach ensures a 5m buffer either side of any watercourse to allow for maintenance activities.
	Rivers Directorate requests that the maintenance strips are protected from impediments (including tree planting, hedges, permanent fencing), land raising or any future development by way of a planning condition. Access to and from the maintenance strips should be always available. The application site is also affected by designated open watercourses and therefore this section of the policy applies. Under 6.32 of the policy a 5m to 10m level maintenance strip is required.	The revised layout drawings confirm that where watercourses are located a minimum 5m buffer strip is applied within which there is no development proposed. The layout drawings will be conditioned as part of any emerging planning consent for the project and development will be required by law to be implemented in accordance with same.
	The applicant should provide written evidence that the relevant local Rivers Directorate area office* has been contacted to establish their maintenance needs.	RPS can advise that they have liaised directly with DfI Rivers Area Office in respect of access wayleaves and it has been confirmed that 5m is adequate for this purpose. Please refer to Annex 3 of this submission for a copy of the correspondence.
	Following consultation with the local Rivers Directorate area office the maintenance strips should then be marked up on plan and cross-	As stated previously within the responses contained in this Table, the revised layout drawings confirm that where watercourses are located a minimum 5m

	sectional drawings indicating width and clear access and egress points as agreed for scrutiny by Rivers Directorate Planning Advisory Unit who will advise the Planning Authority accordingly.	buffer strip is applied within which there is no development proposed. The layout drawings will be conditioned as part of any emerging planning consent for the project and development will be required by law to be implemented in accordance with same. The development layout is dominated by solar arrays. The planning statement that forms part of the planning submission confirms inter-alia that: - Development has taken place within existing physical constraints, taking account of and off-setting proposals from field boundaries; - Arrays will be separated by a minimum distance of at least 2metres and potentially more, depending upon ground conditions. In light of the above it is respectfully proposed that formal access and egress points to watercourses are not required and that upon accessing the site through defined entrance gates shown on the site layout, maintenance of watercourses can continue uninterrupted.
	FLD4 - Artificial Modification of watercourses – there is indication in the conclusions to alter a watercourse. Planning permission is required in accordance with planning policy if it is proposed to alter any watercourses. Under FLD 4 of Planning Policy Statement 15, artificial modification of a watercourse is normally not permitted unless it is necessary to provide access to a development site or for engineering reasons. This is a matter for Planning NI.	Clarification has been provided within the FRA that there will only be a water crossing of a minor undesignated watercourse to the south of Field 6. It is anticipated that this crossing will be facilitated via a span crossing from one side of the watercourse to the other, and that no modification of a watercourse will be required. This will require a Schedule 6 application to the DfI Rivers Area Office, which will be made during the detailed design of the development.
	General	Please note that an updated Flood Risk Assessment has been submitted alongside this correspondence which reflects the design amendments referred to in the preceding applicable parts of this Table.
SONI	SONI in this instance is objecting to the above-mentioned planning application on the basis that a small section of the solar panels in field 3, is located directly underneath the existing Lisburn – Tandragee 110 kV overhead line. This gives rise to a potential hazard which should be eliminated in the design. Unless the proposed project is modified to prevent the electrical equipment being located underneath this existing line, or an agreement is made between the developer, SONI and NIE Networks, an objection will be lodged against the application. In this instance, SONI would also advise that a 15m clearance should be adhered to regarding any further solar panels that may be developed in proximity to the 110 kV lines.	RPS can advise that the Applicant – RES – has undertaken direct engagement with SONI in respect of matters raised and as set out within this Table. Figure 4 Site Layout 05215-RES-LAY-DR-PT-005 Rev 8.1 illustrates the layout amendments that have been agreed with SONI which removes panels from underneath and applies an associated and suitable clearance to the Lisburn-Tandragee 110Kv overhead line as requested.
RSPB	We would request confirmation that the undergrounding of main cables means that there will be no overhead lines constructed as part of this development and its connection to the grid.	It can be confirmed that no overhead cables are proposed as part of the Proposed Development

	We note that compensatory planting of native trees and hedgerows is proposed. While this is welcome, tree and hedgerow removal must be kept to a minimum.	This recommendation from RSPB is acknowledged and indeed accords with the sensitive design approach applied by RES to the Proposed Development, which as stated previously includes undertaking development within existing field boundaries to ensure tree removal is avoided unless absolutely necessary. The Ecological Impact Assessment which accompanies the application sets out that the proposal will include significant landscape planting comprising linear hedgerows as well as additional planted areas. The location of the proposed landscaping is illustrated in Figures 2702.5.01 – 2702.5.06 which form part of the Landscape and Visual Impact Assessment submitted as part of the planning application pack. The Ecological Impact Assessment which forms part of the planning application pack sets out that the Proposed Development will result in a minor beneficial effect on biodiversity at a site level with a net gain in species rich hedgerow.
	Without prejudice and should approval be granted, we request that any unavoidable hedgerow or tree removal shall occur outside of the standard bird breeding season, which typically runs from 01 March to 31 August to ensure compliance with The Wildlife (NI) Order 1985 (as amended).	RES have no objection to this recommendation and respectfully propose that such a requirement can be conditioned as part of any emerging planning consent for the proposal.

ANNEX 1 – Potential Construction Vehicle Route Options



rev	amendments	check	date

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Client
Renewable Energy Systems Ltd

Project
Magheralin Solar Farm

Title
Potential Construction Vehicle Route

Project Number	Sheet Size	Drawing Scale
IBH0878	A4	NTS

Drawing Number
Figure NI2702.001

Drawn By	Status	Revision
NM	final	

Checked By	Approved By	Date
SH	SH	02/08/2024

ANNEX 2 – Pager Power Response

PAGERPOWER
Urban & Renewables

Pager Power Limited,
Stour Valley Business Centre,
Sudbury,
Suffolk,
CO10 7GB

27th August 2024

Dear Sir/Madam,

RE: Proposed Magheralin Solar Farm

I am writing this letter to address the concerns raised regarding glint and glare effects upon the surrounding roads.

Three areas of concern have been identified as:

1. The terminology used within the report;
2. The 50 degree field of view of a driver;
3. Strobe effects as a result of gaps in screening.

I would like to take the time to expand on these points and ease your concerns. These are addressed below.

Terminology

Geometric modelling involves a level of uncertainty due to the assumptions that are made within the model. To account for this, the modelling undertaken assumes conservative conditions to ensure that any effects are appropriately assessed in accordance with a robust and worst case scenario approach. The wording used within the assessment uses terminology such as 'predicted' and 'not expected'; these phrases are used for to predict outcomes for projects not yet developed and to account for the uncertainties that lie within the model. It is likely in practice that any predicted effects will be lesser due to circumstances such as weather conditions i.e. cloud cover. We have completed over 1,400 glint and glare assessments to date and as the leading provider in the UK and globally, our assessments have withstood legal scrutiny in hearings and tribunals for a range of projects including Nationally Significant Infrastructure Projects (NSIPs).

Field of View

The Highway Code and Highways England resources have been reviewed in relation to the visual field and the effect of glare at different locations relative to a road user. There is, however, a lack of guidance and resources pertaining to this topic contained within said documents. Following this, our standard methodology has used the guidance and resources published by the Federal Aviation Association (50 degrees either side of the field of view) and Network Rail (30 degrees either side of the field of view) to determine the appropriate field of view (FOV) for a road user when assessing glint and glare effects.

A road user must constantly be gathering information of their surroundings in order to safely navigate in a vehicle. To do this, a road user's eyes must frequently move so that the central vision can focus on various locations to gain as much understanding of their surroundings as possible (e.g., reading the road ahead or scanning for hazards).

However, given that many of the key regions are almost directly in front of them (e.g., lane positioning, ensuring safe distance to the vehicle ahead, looking at upcoming road conditions or traffic lights), it is likely that a driver will spend most of their time looking at, or close to, their direction of travel.

It is therefore most reasonable to use the road user's direction of travel as the default point of fixation and the centre of the visual field when assessing the impact of glare at different locations relative to the road user.

Following a review of the identified relevant literature, 50 degrees either side of the direction of travel is used as the primary field of view for a road user. This is based on reputable guidance, professional judgement, evaluation of the literature, and a comparison to the real world application with respect to a road user. Therefore, glare experienced outside of 50 degrees either side of the direction of travel should not be considered a significant concern for a road user.

Strobe Effects

Pager Power has undertaken a review of existing screening for road receptors as a part of the glint and glare assessment.

For all assessed sections of road for which solar reflections are geometrically possible originating from within a road user's primary horizontal field of view (50 degrees either side of the direction of travel), significant existing screening in the form of intervening vegetation, terrain and buildings has been identified. This screening is predicted to remove any views of the reflecting panel areas within a road user's primary horizontal field of view, and it is therefore unlikely that any strobing effects from panels within a road user's primary horizontal field of view would occur in practice.

According to Pager Power's established glint and glare methodology, the impact significance of visible solar reflections that originate outside of a road user's primary horizontal field of view is low, mitigation is not recommended, and further consideration is not required.

Yours Faithfully,

Waqar Qureshi MSc BEng

Technical Analyst

ANNEX 3 – Engagement with Dfl Rivers

Dfl Rivers Lisburn

Diane McGinnis
Diane.mcginni@rps.tetratech.com

Department for Infrastructure
An Roinn Bonneagair
www.infrastructure-ni.gov.uk

Ravarnet House
36 Altona Road
Lisburn
BT27 5QB
Tel: 028 9260 6100

Our reference: IN1-24-12154

5th July 2024

Dear Madam

RE: SOLAR FARM AT MAGHERALIN.

Thank you for your correspondence referring to the above. From a drainage aspect my comments are as follows.

The watercourses in question are known to us as the Ballymacmaine Stream (U3413), Springhill Stream (U3907), Springhill Stream Extension (U3907Ext) and the Lagan (178). These watercourses are designated under the terms of the Drainage (Northern Ireland) Order 1973.

DfI Rivers are satisfied with your proposals of a 5m working strip adjacent to the watercourse as per your email dated 24th June 2024.

Please quote above reference number in any future correspondence.

Yours faithfully

E Johnston.

Emily Johnston
Engineering Section