Lee Kendall

From: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Sent: 27 October 2022 11:45
To: Phil Roden; Lee Kendall
Cc: Shaun Greaves
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021
Attachments: Response_21-03380-FP.pdf

Yes, just sent it now. See attached.

Regards

Matt Armstrong
Area Manager (North & East), Highways Development Management,
Hertfordshire County Council
County Hall, Pegs Lane, Hertford, SG13 8DN. Postal Point: CHN203
T: 01992 556065 (**Internal:** 26065)
E: matthew.armstrong@hertfordshire.gov.uk

From: Phil Roden <phillipproden@axisped.co.uk>
Sent: 25 October 2022 09:30
To: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>; Lee Kendall <leekendall@axis.co.uk>
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Matt

I was wondering if you have submitted your revised consultation response as it has not yet been uploaded to the North Herts Council website?

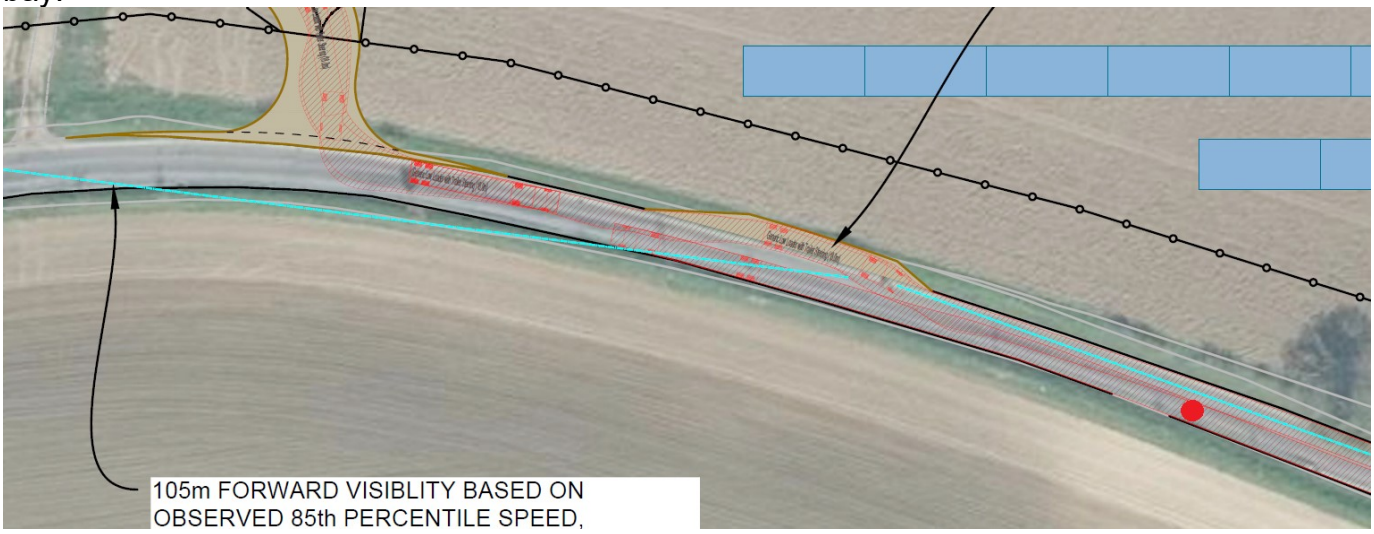
Regards,

Phil Roden
Director

phillipproden@axisped.co.uk
T: 0844 8700 007* | M: 07811 352 757 | F: 01244 661 432
Well House Barns, Chester Road, Bretton, Chester, CH4 0DH
www.axisped.co.uk

From: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Sent: 12 October 2022 14:58
To: Lee Kendall <leekendall@axisped.co.uk>; Phil Roden <phillproden@axisped.co.uk>
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Ok, thanks. I think it's essentially the red circle I've marked below where an HGV driver will need to make the decision to slow down or stop to let an oncoming approaching vehicle use the passing bay:



It looks like the necessary visibility splays are in place for this. You've covered off movements from the other direction in your plans.

I have to say that the size of the passing bay, and the possible need to remove some embankments (not just vegetation) to secure access visibility splays might be quite significant preparatory work overall, and may have a notable effect on flora and fauna. I'll need to make the LPA aware of this, and include a condition which requires reinstatement of everything to our satisfaction with a specified timescale of completion.

But other than that, if you want to formally submit all this latest detail I can provide a revised consultation response to North Herts removing our objection.

Regards

Matt Armstrong
Area Manager (North & East), Highways Development Management,
Hertfordshire County Council
County Hall, Pegs Lane, Hertford, SG13 8DN. Postal Point: CHN203
T: 01992 556065 (**Internal:** 26065)
E: matthew.armstrong@hertfordshire.gov.uk

From: Lee Kendall <leekendall@axisped.co.uk>
Sent: 10 October 2022 11:30
To: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>; Phil Roden <philliproden@axisped.co.uk>
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Hi Matt,

Further to your email last Wednesday, please see two drawings attached which should attend to your latest comments.

Drawing No. 3004-01-D04 shows the dimensions of the proposed passing place, including swept paths and forward visibility splays. The forward visibility splays are based on the Stopping Sight Distances (SSDs) of the road, as dictated by the 85th percentile vehicle speed and as we have previously discussed. The forward visibility splays (shown in blue on the drawing) also include the 2.4m bonnet length adjustment set out in table 7.1 of MfS in order to account for the additional length of the vehicle bonnet, compared against the driver eye position.

This drawing also shows the junction visibility splays from the site accesses, as requested.

Drawing No. 3004-01-D05 shows the forward visibility splays between approaching vehicles and the point at which the proposed HGV manoeuvres may pass over the opposite lane. The drawing shows that, due to the straight nature of Graveley Lane at this section, there is sufficient forward visibility on the approach to these manoeuvres. This will allow an approaching vehicle plenty of time to observe the manoeuvre and control their speed as necessary.

Unless you are happy that this satisfactorily address your residual concerns, then I'd be happy to have a Teams call with you to iron out anything else. I have availability this afternoon, tomorrow 13:00-16:30, Wednesday 12:00-15:00 and Thursday all day.

Best, Lee

Regards,

Lee Kendall
Technical Director

axis

leekendall@axisped.co.uk
T: 0844 8700 007* | M: 07974 686045
Camellia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB
www.axisped.co.uk

From: Lee Kendall
Sent: 05 October 2022 23:06
To: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>; Phil Roden <philliproden@axisped.co.uk>
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Hi Matt,

Many thanks for looking at this so quickly, much appreciated.

I am out of the office for most of the next two days but will get a member of my team to prepare this for you asap.

Best, Lee

Regards,

Lee Kendall
Technical Director

axis

leekendall@axisped.co.uk
T: 0844 8700 007* | M: 07974 686045
Camellia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB
www.axisped.co.uk

From: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Sent: 05 October 2022 22:53
To: Phil Roden <philliproden@axisped.co.uk>; Lee Kendall <leekendall@axisped.co.uk>
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Hello. I've now had a chance to look through this. Very thorough, thank you. I guess the most obvious question is, why can't the northern parcel of land be accessed on the wider section of Graveley Lane, for example the opposite the southern access? This would avoid the narrower section of Graveley Lane altogether.

If that's not possible for whatever reason, then can you provide a more detailed plan of the proposed passing bay - its dimensions, and the level of forward visibility to it from both directions (i.e. we don't want the driver of a vehicle to pass by the passing place only to then be met with an oncoming HGV, or vice versa).

I'm sorry if this has been provided before, but I can't seem to see the latest visibility splays from the accesses. Also of note is that HGV's need to swing out onto the opposite side of the carriageway to make the turn in (southern access) or out (northern access) – so would be good to see forward visibility for those. Would be good to have confirmation of the exact locations where the speed surveys were undertaken too,

I think there's been a big step forward towards resolving the issues – and it may be that we're closer to a 'standard' pre-commencement Construction Traffic Management plan which can now be applied. But for some comfort, it would be good to address the above.

Do you want a quick Teams meeting to try discuss the above? Sometimes this can be more productive than further back and forth e-mails.

As an aside Phil – the lower average HGV levels you've stated will help your case.

Regards

Matt Armstrong
Area Manager (North & East), Highways Development Management,
Hertfordshire County Council
County Hall, Pegs Lane, Hertford, SG13 8DN. Postal Point: CHN203
T: 01992 556065 (**Internal:** 26065)
E: matthew.armstrong@hertfordshire.gov.uk

From: Phil Roden <phillproden@axisped.co.uk>
Sent: 28 September 2022 12:36
To: Lee Kendall <leekendall@axisped.co.uk>; Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Matt
I have just tried to call and understand that you are away from the office until Monday 3/10/22. I just wanted confirm that you had received the information from Lee and that you will be able to respond next week. The project is under extreme financial pressure due to the current economic climate and significant at-risk payments required by National Grid to keep the grid connection offers open. Missing the October planning committee whilst we seek to address your highways holding objection has significantly increased this pressure and I want to work proactively with you the achieve the November deadline. Are you available for a call early next week to discuss the submission where we are from a highways perspective?

The transport statement assumed a maximum of 40 two-way HGV movements per day, with an average of 8 two-way HGV movements per day over the remainder of the construction period. However, experience discharging planning conditions on a similar site in West Suffolk/ East Cambs and working with the EPC contractor responsible for construction has confirmed that daily vehicle numbers will be significantly less than this with the maximum predicted to be up to 10 to 20 two-way HGV movements per day (i.e between 5-10 HGVs). The rest of the time, a count of 0 to 6 two-way HGV movements per day (i.e. up to 3HGVs) are expected.

Regards,

Phil Roden
Director

phillproden@axisped.co.uk
T: 0844 8700 007* | M: 07811 352 757 | F: 01244 661 432
Well House Barns, Chester Road, Bretton, Chester, CH4 0DH
www.axisped.co.uk

From: Lee Kendall <leekendall@axisped.co.uk>
Sent: 26 September 2022 15:22
To: Matthew.Armstrong@hertfordshire.gov.uk
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>; Phil Roden <philliproden@axisped.co.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Hi Matt,

I have just tried sending you the email below, however I received a bounce-back message saying the attachments were collectively too large.

I have therefore made them available to download here instead: 26-09-22 Email Attachments

Trust this is OK.

Regards,

Lee Kendall
Technical Director

axis

leekendall@axisped.co.uk
T: 0844 8700 007* | M: 07974 686045
Camellia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB
www.axisped.co.uk

From: Lee Kendall
Sent: 26 September 2022 15:16
To: Matthew.Armstrong@hertfordshire.gov.uk
Cc: Shaun Greaves <shaun.greaves@north-herts.gov.uk>; Phil Roden <philliproden@axisped.co.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Hi Matt,

Many thanks for your email dated 6th September (copy below).

Further to your email, we have now had the opportunity to undertake an on-site review of the extent of Graveley Lane between the proposed northern site access and the B197. From this we have obtained spot measurements of the carriageway width at regular intervals, photographs and video footage to identify available forward visibility in areas where the carriageway narrows, and measurements of verge heights and tree diameters to help appraise the potential feasibility and impact of any verge clearance that might be required to assist with improving visibility or providing passing places during construction. Banksmen would be used during construction to ensure the passing place remains unoccupied when deliveries are expected.

We have obtained carriageway width measurements at 10m intervals along the length of the visibility splays for the proposed northern site access junction, i.e. from a point approximately 105m west to a point approximately 140m east of this access. East of this point, measurements were then taken at 50m intervals as far as the junction with the B197. These measurements are included in the attached spreadsheet and illustrated on the attached pdf.

The measurements indicate that the width of Graveley Lane east of this point is consistently greater than 6m, varying between 6.7m at the widest point – underneath the A1(M) bridge – to 6.1m. This section of Graveley Lane is therefore of adequate width to permit two HGVs to pass in opposite directions.

Over the 50m section covering the section of carriageway approximately 25m either side of the proposed southern access the available width narrows from 6.1m some 25m east of the access to some 4.8m 25m west of the access. From this point the width generally varies between 5m-5.1m over the next 110m (travelling west), other than a 20m section where the width narrows to 4.8m. Thereafter, there is an 80m section of carriageway, from approximately 30m east to 50m west of the proposed northern access, along which the carriageway narrows to a minimum 4.7m, before widening to 5m around 60m west of the northern access. However, the narrowest section along this length coincides with the proposed northern access junction location, where some localised carriageway widening will be facilitated through the construction of this access, and of course the HGV routing plan will not result in any construction traffic routing via a westerly direction.

The single proposed passing bay to the east of the northern access is therefore considered to be adequate to allow HGVs to pass in opposite directions along the narrow section of Graveley Lane, taking into consideration the various other measures to manage the movement of construction HGVs which will be set out in the CTMP, as outlined in our previous correspondence.

With regard to the impact on vegetation, measurements of the trees and verges are provided on the attached pdf plan. The proposed passing place would require the removal of a single remnant section of hedge, as shown in the below photograph.

In terms of forward visibility along Graveley Lane and achieving the necessary visibility from the site access junctions, the height of the grass verge varies between 0.5m – 1.5m. It is proposed that this would be cut back to below 0.8m to aid visibility (of course HGVs will have a considerably better view above the verge than cars in any event). There are no large trees which impact on visibility. Whilst a number of trees are present to the south of Gravely Lane between the two access junctions, these are all separated by at least 10m and have trunk diameters of 120-150mm. They would therefore qualify as 'isolated slim objects' under the definition set out DMRB CD109 (which suggests objects less than 550m do not present a material obstacle to visibility), and do not therefore need to be removed.

The below photographs show the view east (left) and west (right) at the approximate location of the proposed passing place.

There is a hedgerow approximately 7m in height adjacent to the east of the proposed southern access, however this is offset from the carriageway and does not impede visibility, as illustrated on the below photographs.

We note that there is no signed height restriction on the A1(M) overbridge, and it is therefore assumed that this is constructed to the standard minimum height of 5.03m. This should not therefore present an issue, as obviously any vehicles delivering material to site would need to be able to traverse the motorway network in any case.

In terms of the adopted highway boundary, I attach a copy of the plan we ordered and received from your council. As mentioned previously, our client is in control of the land behind the adopted highway in any event, and so the trimming of the grass in the verge to say a 0.8m height for the short duration of the construction programme is not considered to be problematic. I appreciate that you now have to be mindful of biodiversity impact, however I hope you will agree that the level of vegetation trimming required to achieve the visibility, and the limited duration, should not materially affect this.

I also attach an updated glint and glare assessment that compares as receptor height of 1.5m and 1.05m for road users. This illustrates that there is no material difference in the level of effects between the two heights.

I hope this email addresses the points in your email dated 6th September to the extent that you are content to recommend approval to the LPA, subject to conditions, at the earliest convenience.

Best, Lee

Regards,

Lee Kendall
Technical Director

leekendall@axisped.co.uk
T: 0844 8700 007* | M: 07974 686045
Camellia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB
www.axisped.co.uk

Regards,

Lee Kendall
Technical Director

From: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Sent: 06 September 2022 11:59
To: Lee Kendall <leekendall@axisped.co.uk>
Cc: shaun.greaves@north-herts.gov.uk; Phil Roden <phillproden@axisped.co.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Lee, thanks. Lots of this looks very thorough and I'm of view it has positively moved it forward.

However, throughout the commentary, what seems to lack is a real 'on the ground' assessment. As you've implied, OS mapping is not always accurate (particularly for more rural roads where carriageway edges are not defined by kerbs). I don't doubt satellite imagery is a useful supporting tool, but generally aerial and satellite imagery are notorious for image distortions given the distance above ground from which pictures are taken.

I really think you will benefit (and need) a thorough site visit assessment. The wider vehicle route is not an issue in principle, and I welcome your tracking of the whole length of Gravely Lane. However, that tracking is based on crude aerial imagery. As I mentioned in my e-mail to Shaun some time back, there should be an "audit undertaken by the applicant, with regular width measurements taken along it and some commentary as to how two large HGVs can pass by one another during construction". Physical width measurements are needed along this, at regular intervals. Of course we need to pragmatic and accept that there may be the odd section which does not fully enable two HGVs to pass by one another, but sufficient forward visibility will allow one driver to hold back slightly to let another pass for example. However, all this needs to be examined and presented to us.

You're right in that the most obvious section where two HGVs can't pass at all is on the section of Gravely Lane immediately approaching the accesses. I'm struggling to ascertain the impact of the proposed passing bay on roadside vegetation. I get that the bay will be reinstated, but will any trees need to be removed for example? Again, a site visit will be of great value here. Also, how will it be ensured other highway users don't park up in this bay?

More generally, whilst I have no issue in principle with the visibility splays you've now marked out, it seems to be taken for granted that there will be no problem in cutting back or removing vegetation. Below is a screenshot of a dashcam image of the proposed southern access (on the left). As you can see, a 'real-world' driver's view is quite different to that compared to Google Streetview which places the camera high up (albeit I accept an HGV driver sits higher up compared to a car driver):

There are trees and shrubs alongside this access, and I'm not clear to what extent these need to be removed or trimmed back. You mentioned a highway boundary plan – this will help support your application, and we need to be clear what extent of vegetation will need to be removed or trimmed within public highway land. We in Highways now have a wider remit to commit to the value of trees/vegetation as important for biodiversity etc. I acknowledge this needs to be balanced against the benefit of a new solar energy development which will help to tack the climate crisis, but I hope you can understand in an immediate context it's important to get an understanding of the impact of the visibility splays for these new accesses on flora and fauna.

The above image also show the point at which an HGV driver will need to swing out onto the opposite side of the carriageway in order to then make the left turn in. Forward visibility looks quite limited (i.e. into oncoming traffic) unless vegetation to the west of this access is significantly trimmed down.

Here's a driver's real world view of the proposed northern access location:

Again, the height of height of the side embankments, grasses and other vegetation is surprisingly high compared to Google Streetview. The streetscene impact is likely to be quite notable if cut down.

Re glint and glare assessment, I hope you can appreciate I have no way of verifying your statement that changes of 0.45m to the observer will have a negligible effect on the modelling output. Perhaps a selected couple of sections can be modelled at the correct height to demonstrate that there will be a negligible impact on the wider area.

Finally, I assume the A1M bridge height isn't going to be an issue on approach to the site?

I hope the above helps. I acknowledge that if and when completed, the highway impact of this proposal will be minimal. But construction traffic is very significant and we do need to be content that this can be suitably managed.

Regards

Matt Armstrong
Area Manager (North & East), Highways Development Management,
Hertfordshire County Council
County Hall, Pegs Lane, Hertford, SG13 8DN. Postal Point: CHN203
T: 01992 556065 (**Internal:** 26065)
E: matthew.armstrong@hertfordshire.gov.uk

From: Lee Kendall <leekendall@axisped.co.uk>
Sent: 26 August 2022 17:21
To: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Cc: shaun.greaves@north-herts.gov.uk; Phil Roden <phillipproden@axisped.co.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Dear Matt,

I refer to your recent consultation response to the LPA at North Herts Council in regard to the above solar farm application (your response is below for ease of reference).

I am writing in an effort to address your concerns, so that the LPA can proceed to preparing a report for the Planning Committee, hopefully with a positive recommendation and no material outstanding highway concerns, other than a full CTMP being submitted via a suitably worded condition once a contractor is appointed.

Therefore, taking your points in turn in the same order as presented:-

Junction Visibility

Noting your comments regarding the level of standard deviation from mean in the surveyed traffic speeds, we have carried out a complete review of the raw ATC data to check the degree of standard deviation, and to simultaneously determine whether the reported 85th percentile speeds in the ATC results are accurate.

As you will be aware from DMRB CA 185 and its predecessor guidance document TA 22/81, there are a number of methods to determine the 85th percentile design speed from any given dataset. The recommended method in CA 185 is the 'statistical formula' method, which produces standard deviation and 85th percentile outputs.

We have developed a spreadsheet-based tool which adopts the formulas within CA 185 and which allows us to analyse a dataset to produce the recommended and desired outputs. See the attached 'Speed Survey Analysis' pdf.

In the case of the ATCs we commissioned on Graveley Lane, we have analysed the relevant directional datasets on the approaches to the northern site access, and found that:-

a) When we transpose the speed bin measurements into the spreadsheet using the statistical formula method (and for robustness, assuming that all measurements were undertaken in wet conditions, and therefore include a +4kph/2.5mph correction), the 85th percentile speeds are 50mph westbound and 41mph eastbound. Note that the raw data is given in 5mph bins and we have transposed the number of measurements by adopting the median of each speed bin.
b) The 85th percentile speeds reported in the raw ATC results by the surveyor, NDC, are therefore evidently based on one of the other methods (i.e. using the '=percentile([X:X],0.85)' formula function in Excel or by selecting an entry 15% down from the top of all the speeds). This does not necessarily make them wrong, it is just a function of the surveyor adopting a different methodology. Whether or not there should be different methodologies is of course another question.
c) By relating the 'correct' 85th percentile speeds to the interpolated stopping sight distance (SSD) standards referred to in CD 109 and CD 123 of the DMRB, we have re-calculated the junction visibility splay requirements. This exercise (see page 3 of the attached speed survey analysis doc) demonstrates that drivers at the northern site access should ideally be able to see 105m to the west and 148m to the east along Graveley Lane. Note that these are higher SSDs than would be required by the 85th percentile speeds indicated on the original raw survey results (which were 95m + 134m, respectively).
d) Note that we have also assessed the degree of standard deviation from mean speed through this process. In the case of the eastbound approach speeds, the standard deviation is one fifth of mean (i.e. 34.34/6.85). In the case of the westbound approach, standard deviation is again just over one fifth of mean (42.17/8.19).
e) *'NOTE 3'* on Page 12 of CA 185 suggests that *"the standard deviation is approximately one sixth of mean".* We do not therefore consider that the standard deviation is materially different than what should be expected, and which would therefore warrant any further adjustment or sensitivity test. Again, it should be perhaps reiterated that there is some inherent robustness in the calculations given that we have applied the +2.5mph wet weather increase to *all* of the measurements (the survey was taken over a week last September and it is perhaps reasonable to assume that a significant number of measurements were undertaken in the dry - assuming all measurements were in the wet therefore gives the very highest speed outputs).
f) We have obtained a plan showing the extent of the existing adopted highway boundary from your Council and have used this to determine the constraints to achieving the requisite visibility splays in each direction from the site access, including, crucially, the ability for vehicles waiting to turn from the access to see the other side of the road (i.e. traffic in the westbound, offside lane).
g) We have also checked and where necessary adjusted the accuracy of the OS mapping by underlaying accurate recent satellite imagery purchased from OS.
h) Based on this exercise, we have proposed the slight relocation of the site access from its previously indication position, so that it is now some 32m to east of where it was shown previously. This is shown on the attached drawing number **3004-01-D02**.
i) Whilst the full extent of the other side of the road is not visible from a 2.4m setback distance along the site access, the majority of the road is, to extent that it is considered unlikely that an approaching vehicle (such as a motorcycle) could be obscured by any constraints. We have sought to illustrate this by plotting the achievable visibility envelope on the attached drawing, along with some motorcycles at the end of the splays.
j) The attached drawing also illustrates the achievable visibility envelope from a 4.5m minor arm setback distance, as per DMRB CD 123. In practice, it is considered likely that any drivers approaching the give way line of the site access will be looking in each direction as they slow down towards the give way line, and will

therefore be afforded a slightly greater view of any oncoming traffic across the full width of the road as they do so , due to the curvature of Graveley Lane.

k) As indicated in the submitted Transport Statement (para 3.3.5), regular maintenance will be performed of the vegetation in the verge during the limited 36 week construction phase to ensure that visibility is maximised, and in any event, the applicant is in control of the land to the south of the northern access. Furthermore, permitted development rights would prevent the erection of any boundary treatment more than 1m high adjacent to a public highway, so that even if the landowner elected to exercise their PD rights, a 1.05m eye to 1.05m vehicle object height would be maintained over an such boundary.
l) The construction traffic will be composed largely of HGV traffic, where the eye height of drivers is typically 2m or more. This will inevitably increase the achievable visibility for drivers of those vehicles along Graveley Lane.
m) Taking all of the above into account, it is considered that the revised access position satisfactorily addresses all of your previous concerns.

Width of Graveley Lane / Passing HGVs

The submitted TS sets out, in Chapter 4.0, the forecast traffic generation of the construction phase of the solar farm, which could be around 160 two-way movements (120 lights, 40 HGVs) in the first 4 weeks of the 36 week construction programme.

Spread over a full day, and allowing for the natural tidality of movement, this is not considered to be a particularly onerous increase in traffic over a small temporary window of time. There will be banksmen to manage deliveries at the access, and as indicated above, the access will be intervisible to approaching traffic.

Nonetheless, your concerns about the potential for conflict along the narrower sections of Gravely Lane are acknowledged, and to address issue this we have carried out a swept path assessment of the entire length of the lane between the northern site access and the junction with the B197 High St. This is shown on the attached revised swept path assessment drawing **3004-01-ATR03**.

The assessment shows that there is a limited length of Graveley Lane, east of the northern site access, where two-way HGV movement would not be possible. Thereafter, the road widens out and two-way HGV movement is possible.

To address the section where two-way movement is not possible, we have therefore proposed the addition of a new passing place, as per the suggestion in your email, on the northern side of Graveley Lane. This is shown on the attached drawings. It is considered that the passing place can be secured by means of a standard planning condition and then included within the scope of the S278 works that will be required to deliver the site accesses.

I would be grateful if you could confirm that this is acceptable.

Glint & Glare

The modelling outputs for the road receptors show that reflections will not occur past late September or before March. As such, the vegetation will be in leaf for the majority of the period when glint and glare is theoretically possible, with the leaves starting to fall at the end of September and coming back into leaf in March; therefore, the views will remain screened, and lack of foliage should not be a concern in respect of glint and glare during winter months.

With respect to the comments about the receptor height – changes of 0.45m to the observer will have a negligible effect on the modelling output and any differences of this scale would not be seen within the modelling graphs output.

CTMP

The proposed routing of HGV vehicles is discussed in detail within the submitted TS report whereby HGV's will route to / from the east via Graveley Lane towards the B197 and to / from the A1(M) strategic route. All construction traffic will be routed via junction 9 of the A1 (M). HGV's approaching from either the north or the south will be required to travel along the A505 for 1km and turnaround to access the junction with the B197. After a distance of 3.5km at the junction with B197 and Graveley Lane, lorries will be signposted to turn right (west) along Graveley Lane. The northern site access into the solar is some 900m from the junction with the B197. Warning and directional signage will be located at road junctions and the site access to advise drivers.

The proposed construction traffic route has been carefully chosen as the most effective at avoiding unnecessary traffic congestion by utilising trunk road and 'A' & 'B' Classified roads as far as possible. Given the temporary nature of the construction programme, with maximum level of movements only occurring for a small portion of the construction period (4 weeks), and the fact that agricultural traffic regularly uses this highway network to access fields and farm compounds in the locality, it is considered that these roads are more than suitable to accommodate construction traffic for such a scheme. The revised scheme presented herewith seeks to address your concerns about two-way HGV movement along the narrower section of Graveley Lane

It is proposed that a designated waiting areas for HGV's wishing to enter the site, either from the north or south. These will be located at South Mimms Services on the A1M for HGV's travelling from the south, and at Baldock Services, J10 A1M, for HGV's travelling from the north. HGV's will be required to park up within these service areas and call ahead to the site manager to ascertain whether it is acceptable to move forward to the site. The site is located an approximate 25-minute drive (Approximately 36km) from South Mimms Services and a 10 minute drive (approximately 10km) from Baldock Services. The use of such holding and waiting areas at these services will ensure that lorries are not unnecessarily waiting to be unloaded within the construction compound and will not therefore create a hazard on the adjacent highway, thereby reducing the incidence of HGVs waiting to enter and leave the site at the same time. A temporary compound area will be established to allow for the set down of HGVs and materials relating to the construction of the site. All plant, delivery/collection vehicles and cranes will be supervised by a Banksman and operatives using 'stop' and 'go' signs to manage the flow of passing cars.

Any proposed excavations, construction activities and traffic control measures necessary to lay cables on the local highway network will be subject to a S50 licence and associated traffic management approval process via HCC. This will be subject to a separate detailed application and will detail precisely what measures will be taken to ensure that road users are not inconvenienced or unnecessarily disrupted by any construction activity. Some partial road closure / diversion activity may be necessary in order to facilitate this. Operatives will be instructed to manage access to residential and commercial properties through the use of 'stop', 'go' signs, or a rolling traffic light system, to control the flow of traffic whilst works are being undertaken to this this specific area.

I hope this provides reassurance that the main effects of construction activity can be appropriately mitigated. It is considered that more details can provided within a CTMP, to be secured via planning condition, in due course.

Given the above, I would be grateful if you could provide confirmation that this satisfactorily addresses your concerns, so that we may formally make the amendments to the application, or otherwise provide your further comments, as appropriate.

I trust this is of assistance and look forward to hearing from you.

Best, Lee

Regards,

Lee Kendall
Technical Director

axis

leekendall@axisped.co.uk
T: 0844 8700 007* | M: 07974 686045
Camellia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB
www.axisped.co.uk

From: Phil Roden <phillproden@axisped.co.uk>
Sent: 15 August 2022 17:34
To: Lee Kendall <leekendall@axisped.co.uk>
Subject: FW: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Regards,

Phil Roden
Director

axis

phillproden@axisped.co.uk
T: 0844 8700 007* | M: 07811 352 757 | F: 01244 661 432
Well House Barns, Chester Road, Bretton, Chester, CH4 0DH
www.axisped.co.uk

From: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Sent: 15 August 2022 16:03
To: Phil Roden <phillproden@axisped.co.uk>
Subject: FW: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Phil

Please see the response that I have received today from the Highways Officer at Herts County Council.

I should be pleased if you could address his response urgently, as I would be reluctant to make a positive recommendation to Planning Control Committee with an outstanding objection from the Highway Authority.

Kind regards

North Herts Council

Shaun Greaves
BA (Hons) DipURP MRTPI
Senior Planning Officer –
Strategic Sites & Major Projects
01462 474159

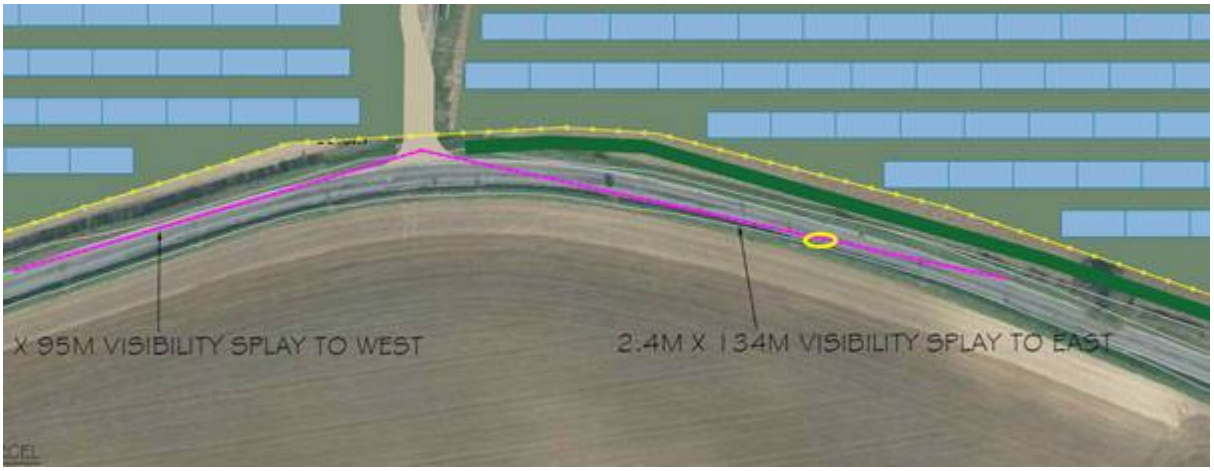
www.north-herts.gov.uk

From: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Sent: 15 August 2022 15:08
To: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Subject: RE: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Hello Shaun

I was on a month's leave when this e-mail came through to me – hopefully you received my out of office message. I'm only now managing to catch up on e-mails sent during my absence. We haven't actually received a formal consultation for this amendment, so I'm not sure if you need a response? However, I've had a look through the additional details submitted and some concerns remain outstanding.

- The eastbound visibility splay from the northern access in reality isn't 134 metres long, as the point at which an approaching vehicle is seen by an exiting driver is where I've marked in a yellow circle below (i.e. because they're traveling on the opposite side of the carriageway):



I accept the road starts to narrow at this point so some vehicles will be seen at earlier point, but a motorcyclist hugging the nearside of the road for example would only be seen after the yellow circle point above. More generally, the applicant needs to give more detailed consideration to visibility splays, bearing in mind their speed surveys shows quite a standard deviation between the measured mean and 85th percentile speeds. This tells us that the spread of measured speeds is quite high – and indeed their raw speed data show this. So basing the splays purely on 85th percentiles alone is slightly questionable. We need to see a highway boundary plan, and splays marked out over this, including the impact on any tree/vegetation removal or cutback.

In terms of the wider approach route, it needs a proper audit undertaken by the applicant, with regular width measurements taken along it and some commentary as to how two large HGVs can pass by one another during construction. Do they need to provide the occasional passing place for example (to be secured by condition/s278, and reinstated after construction is complete)? The number of HGVs proposed during this construction is very significant, for a road which is rural by nature.

- Turing to Glint and Glare, the additional information point to roads “enclosed by roadside vegetation” – except of course during the winter months many of these roads aren’t enclosed by vegetation, as many trees and shrubs lose their foliage. They say “Pager Power, the UK’s leading glint and glare specialists have confirmed that a small change to the height of a receptor will have no significant change to the duration of glare” but provide no further evidence of this, when addressing the lower eye height of car driver.

To conclude, the issues around construction traffic / construction accesses can’t simply be left to a standard CTMP planning condition, as this is a challenging stretch of highway and needs to be worked out now. It’s fundamental to the acceptability of the scheme, and I’d suggest the majority of issues that can normally be dealt with within a CTMP by condition should really be covered off now.

I hope that helps.

Regards

Matt Armstrong
Area Manager (North & East), Highways Development Management,
Hertfordshire County Council
County Hall, Pegs Lane, Hertford, SG13 8DN. Postal Point: CHN203
T: 01992 556065 (**Internal:** 26065)
E: matthew.armstrong@hertfordshire.gov.uk

From: Shaun Greaves <shaun.greaves@north-herts.gov.uk>
Sent: 13 July 2022 09:58
To: Matthew Armstrong <Matthew.Armstrong@hertfordshire.gov.uk>
Subject: 21/03380/FP at Land To The North And East Of Great Wymondley, Hertfordshire - HCC Ref NH/10262/2021

Good Morning Matthew

I refer to your letter of 29 June 2022 regarding the above application. I attach the applicant’s reply to your consultation responses for your consideration.

These are:

- Technical Note
- Update Transport Statement with a paragraph added in respect of parking during construction.
- Swept path and annotated drawings for the Site Entrances during construction.

Please note that you also will be formally re-consulted on these additional/amended submissions shortly.

Kind regards

Shaun Greaves
BA (Hons) DipURP MRTPI
Senior Planning Officer –
Strategic Sites & Major Projects
01462 474159

www.north-herts.gov.uk

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Solar Photovoltaic Glint and Glare Addendum

Priory Farm Solar Array

September 2022





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ADMINISTRATION PAGE

Job Reference:	10555C
Date:	September 2022
Author:	Hannah McNaul
Telephone:	01787 319001
Email:	hannahm@pagerpower.com

Reviewer:	Aaron Williams; Kai Frolic
Email:	aaron@pagerpower.com; kai@pagerpower.com

Issue	Date	Detail of Changes
1	September 2022	First Issue
2	September 2022	Minor Amendments

Stour Valley Business Centre, Brundon Lane, Sudbury, CO10 7GB

T:+44 (0)1787 319001 E:info@pagerpower.com W: www.pagerpower.com

EXECUTIVE SUMMARY

Report Purpose

This addendum follows on from the original Solar Photovoltaic Glint and Glare Study[1] for the proposed Priory Farm Solar Array. The purpose of this addendum is to address feedback from Hertfordshire County Council pertaining to the assessed heights of a road receptor. This addendum should be read in conjunction with the original study.

Pager Power

Pager Power has undertaken over 900 glint and glare assessments in the UK, Europe and internationally. The company's own glint and glare guidance is based on industry experience and extensive consultation with industry stakeholders including airports and aviation regulators.

Result of Response

The findings of the original glint and glare study remain unchanged following a review of the modelling in line with the response from Hertfordshire County Council.

[1] Reference: 10555B– Solar Photovoltaic Glint and Glare Study 11.10.2021

1 DISCUSSION

1.1 Overview

Hertfordshire County Council has identified that the typical eye height of a driver is 1.05m above ground level (agl). The initial Solar Photovoltaic Glint and Glare Study completed the modelling based on an average typical observer height of 1.5m. Road user heights can vary, so Pager Power assesses a typical road user height of 1.5m, to encompass an average, rather than a height of every possible road user. Changes by a few meters to the modelling height do not significantly change the modelling results, based upon previous project experience and expertise. The following discussion has been completed to assess the potential effects of a 0.45m change in height.

1.2 Hertfordshire County Council Planning Response Extracts

Key observations raised by Hertfordshire County Council are shown below:

'[..] it is noted in the Glint and Glare Assessment that local roads have not been included in the assessment (p27), and that "a height of 1.5 metres above ground level has been modelled as this is a typical eye level for a road user" (section 4.3). All roads in the vicinity should be assessed, and a typical driver's eye height above ground level is 1.05 metres (refer to Manual for Street figure 7.17). More generally, it is not clear what the overall impact is on public highway users of glint and glare, and how the proposed mitigation measures will address this.'

1.3 Analysis

1.3.1 Results

Remodelling of the assessed road receptors has been undertaken at an observer height of 1.05m.

Table 1 below shows a comparison between the times of the predicted reflections at the two assessed observer heights, 1.5m and 1.05m.

Receptor(s)	Approximate predicted reflection times for an observer at 1.5m (GMT)		Approximate predicted reflection times for an observer at 1.05m (GMT)	
	AM	PM	AM	PM
1	None.	Between 17:55 and 18:05 for parts of March and September.	None.	Between 17:55 and 18:05 for parts of March and September.
2	None.	Between 17:55 and 18:05 for parts of March, early April and September.	None.	Between 17:55 and 18:05 for parts of March, early April and September.

Receptor(s)	Approximate predicted reflection times for an observer at 1.5m (GMT)		Approximate predicted reflection times for an observer at 1.05m (GMT)	
	AM	PM	AM	PM
3	None.	Between 17:55 and 18:05 for parts of March, April, late August and September.	None.	Between 17:55 and 18:05 for parts of March, April, late August and September.
4-6	None.	Between 17:55 and 18:20 for parts of March-September.	None.	Between 17:55 and 18:20 for parts of March-October.
7-13	None.	Between 17:55 and 18:20 for parts of March-October.	None.	Between 17:55 and 18:20 for parts of March-October.
14-16	None.	Between 17:55 and 18:20 for parts of March-September.	None.	Between 17:55 and 18:20 for parts of March-October.
17	None.	Between 18:00 and 18:20 for parts of April-August.	None.	Between 18:00 and 18:20 for parts of April-late August.
18-46	None.	None.	None.	None
47	None.	Between 18:10 and 18:30 for parts of June-early July.	None.	Between 18:10 and 18:30 for parts of June-early July.
48	None.	Between 18:05 and 18:20 for parts of May-August.	None.	Between 18:00 and 18:20 for parts of May-August.
49	None.	Between 18:05 and 18:20 for parts of May-July.	None.	Between 18:00 and 18:20 for parts of May-July.
50-54	None.	None.	None.	None.
55	None.	Between 18:05 and 18:20 for parts of April-August.	None.	Between 18:00 and 18:20 for parts of April-August.
56	None.	Between 18:00 and 18:20 for parts of April-September.	None.	Between 18:00 and 18:20 for parts of April-September.
57-67	None.	Between 17:55 and 18:20 for parts of March-September.	None.	Between 17:55 and 18:20 for parts of March-October.

Receptor(s)	Approximate predicted reflection times for an observer at 1.5m (GMT)		Approximate predicted reflection times for an observer at 1.05m (GMT)	
	AM	PM	AM	PM
68	None.	Between 17:55 and 18:20 for parts of mid March-May and late July-September.	None.	Between 17:55 and 18:20 for parts of mid March-May and late July-October.
69-70	None.	Between 17:55 and 18:05 for parts of March-April and August-September.	None.	Between 17:55 and 18:05 for parts of March-April and late August-October.
71-72	None.	Between 17:55 and 18:05 for parts of March and September.	None.	Between 17:55 and 18:05 for parts of March and September for receptor 71. Between 17:55 and 18:05 for parts of March and September-October for receptor 72.
73-75	None.	Between 17:55 and 18:20 for parts of March and September.	None.	Between 17:55 and 18:20 for parts of March- September.
76-79	Between 05:30 and 05:55 for parts of April- September.	Between 17:50 and 18:20 for parts of March-September.	Between 05:30 and 05:55 for parts of April- late August for receptor 76. Between 05:30 and 05:55 for parts of April- September for receptors 77-79.	Between 17:50 and 18:20 for parts of March-September for receptor 76. Between 17:50 and 18:20 for parts of March-September for receptors 77-79.
80-83	Between 05:30 and 06:00 for parts of March- September.	Between 17:50 and 18:20 for parts of March-September.	Between 05:30 and 06:00 for parts of late March-September.	Between 17:50 and 18:20 for parts of March-September.
84	Between 05:30 and 06:00 for parts of March-September.	Between 18:05 and 18:20 for parts of April, May and August.	Between 05:30 and 06:00 for parts of March-September.	Between 18:05 and 18:20 for parts of May and August.

Receptor(s)	Approximate predicted reflection times for an observer at 1.5m (GMT)		Approximate predicted reflection times for an observer at 1.05m (GMT)	
	AM	PM	AM	PM
85-86	Between 05:30 and 06:00 for parts of March-September.	None.	Between 05:30 and 06:00 for parts of March-September.	None.
87-90	Between 05:30 and 6:00 for parts of March-September.	None.	Between 05:30 and 6:00 for parts of March-September.	None.
91-95	Between 05:30 and 06:00 for parts of March-September.	None.	Between 05:30 and 06:00 for parts of March-September.	None.
96	Between 05:30 and 06:00 for parts of March-September.	None.	Between 05:30 and 06:00 for parts of March-September.	None.
97-100	Between 05:30 and 06:00 for parts of April-September.	None.	Between 05:30 and 06:00 for parts of April-September.	None.
101	Between 05:30 and 05:55 for parts of April-September.	None.	Between 05:30 and 05:55 for parts of April-September.	None.
102	Between 05:30 and 05:55 for parts of April-August.	None.	Between 05:30 and 05:55 for parts of April-August.	None.
103	Between 05:30 and 05:55 for parts of May-August.	None.	Between 05:30 and 05:55 for parts of May-August.	None.
104	Between 05:30 and 05:50 for parts of June-July.	None.	Between 05:30 and 05:50 for parts of June-July.	None.
105-109	None.	None.	None.	None.

Table 1 *Road receptor results, at 1.5m and 1.05m observer heights*

1.3.2 Results discussion

Table 1 demonstrates the negligible differences in the times that the reflections occur, and the modelling outputs, found in Appendix A, show that there are no changes in the reflecting panel area for each receptor. Therefore, the conclusions made within the original study are applicable at this height and the results remain valid. Figures 1 and 2 below show the modelling outputs for receptor 11 at observer heights 1.5m and 1.05m, respectively.

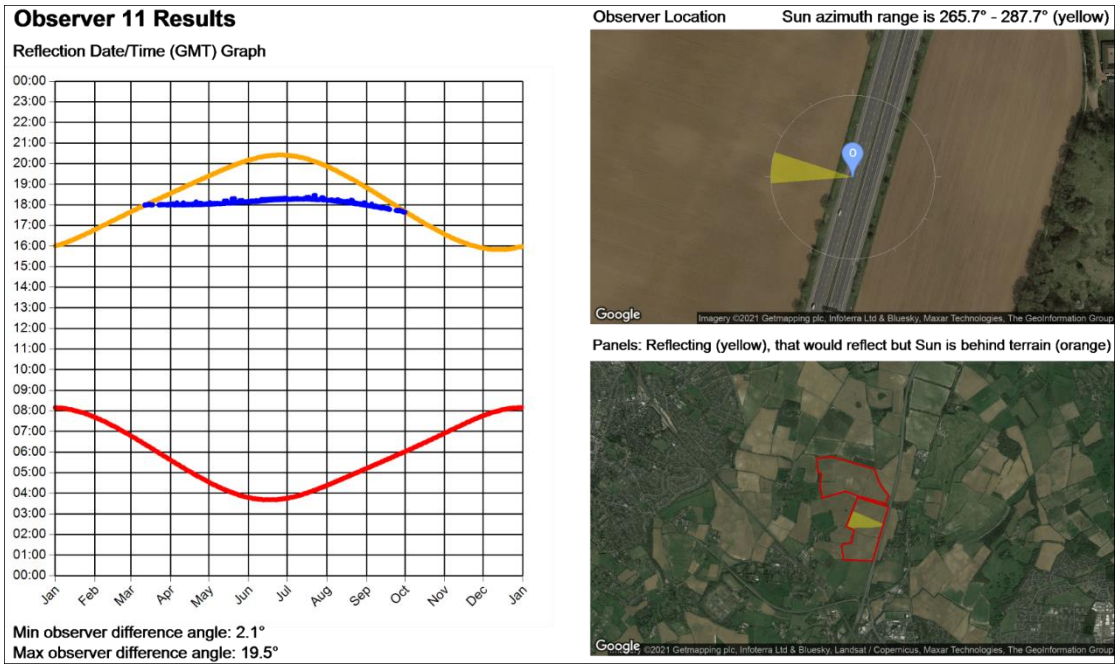


Figure 1 *Modelling output for receptor 11 at a height of 1.5m*

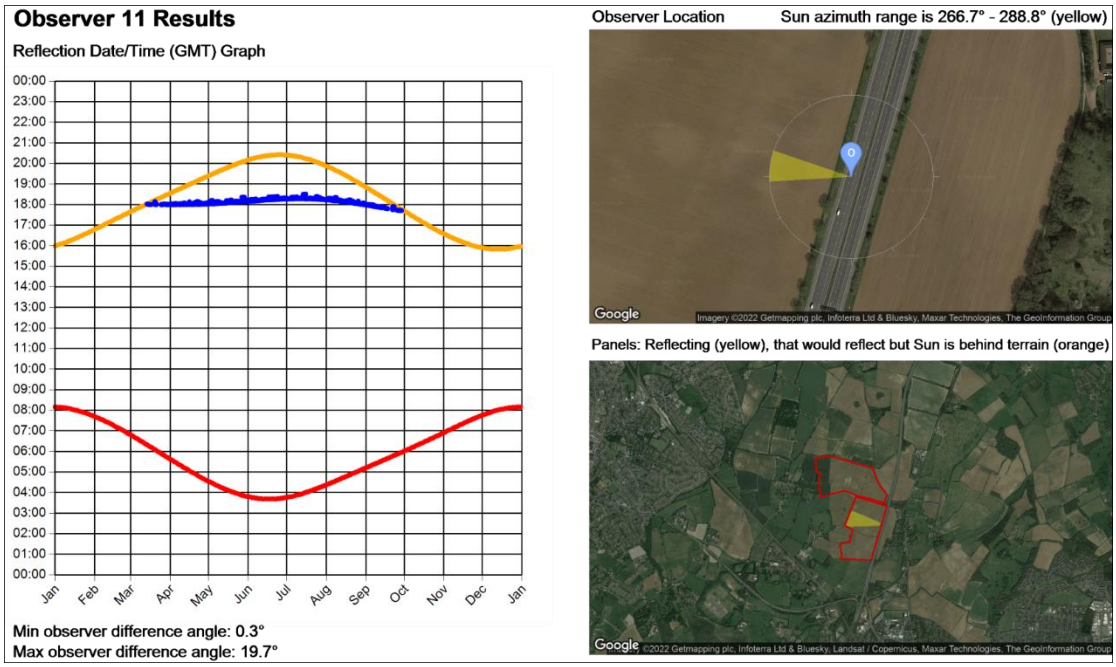


Figure 2 *Modelling output for receptor 11 at a height of 1.05m*

APPENDIX A - MODELLING OUTPUTS

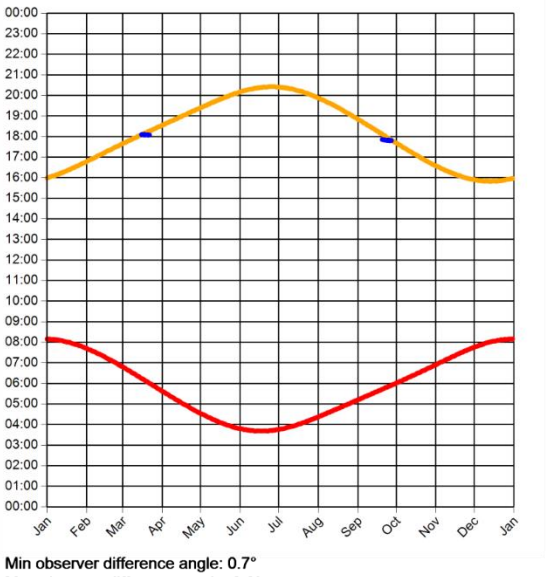
Model Output Charts (1.05m)

The charts for the potentially affected receptors are shown on the following pages. Each chart shows:

- The receptor (observer) location – top right image. This also shows the azimuth range of the Sun itself at times when reflections are possible. If sunlight is experienced from the same direction as the reflecting panels, the overall impact of the reflection is reduced as discussed within the body of the report.
- The reflecting panels – bottom right image. The reflecting area is shown in yellow. The orange areas denote panel locations that will not produce glare due to terrain screening at the horizon. If the yellow panels are not visible from the observer location, no issues will occur in practice. Additional obstructions which may obscure the panels from view are considered separately within the analysis.
- The reflection date/time graph – left hand side of the page. The blue line indicates the dates and times at which geometric reflections are possible. This relates to reflections from the yellow areas.
- The sunrise and sunset curves throughout the year (red and yellow lines).

Observer 1 Results

Reflection Date/Time (GMT) Graph



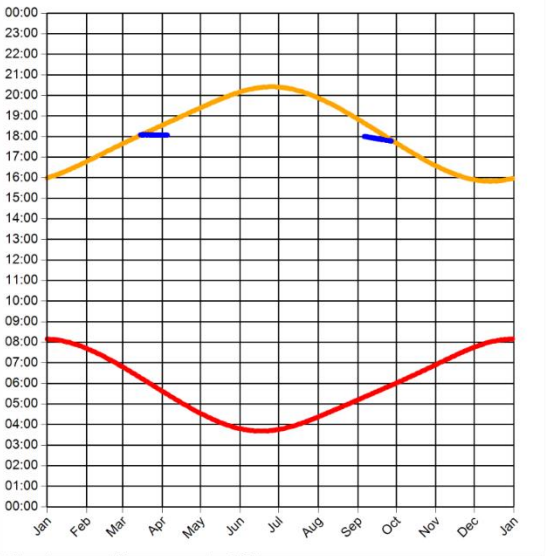
Min observer difference angle: 0.7°
Max observer difference angle: 2.6°

Observer Location Sun azimuth range is 268.2° - 270.1° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 2 Results

Reflection Date/Time (GMT) Graph



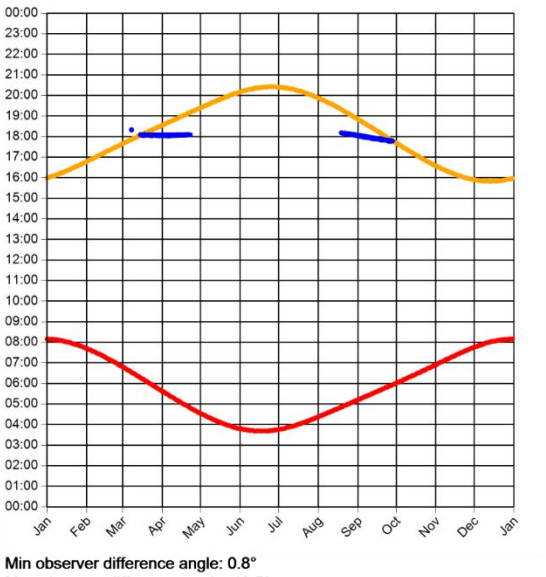
Min observer difference angle: 0.9°
Max observer difference angle: 6.3°

Observer Location Sun azimuth range is 267.8° - 274.1° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

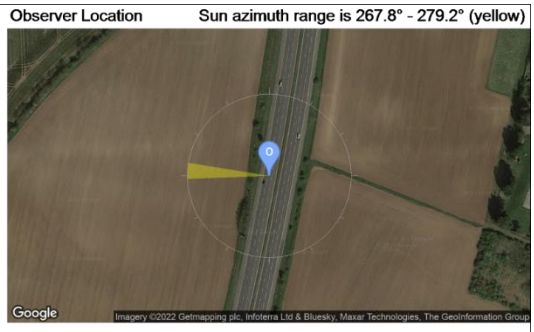
Observer 3 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.8°
Max observer difference angle: 10.5°

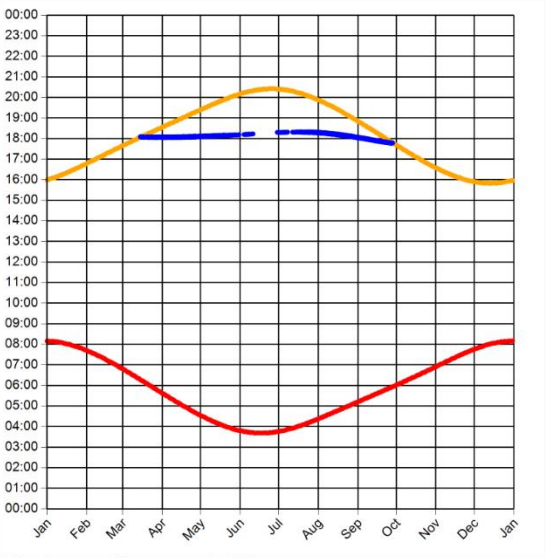
Observer Location — Sun azimuth range is 267.8° - 279.2° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 4 Results

Reflection Date/Time (GMT) Graph



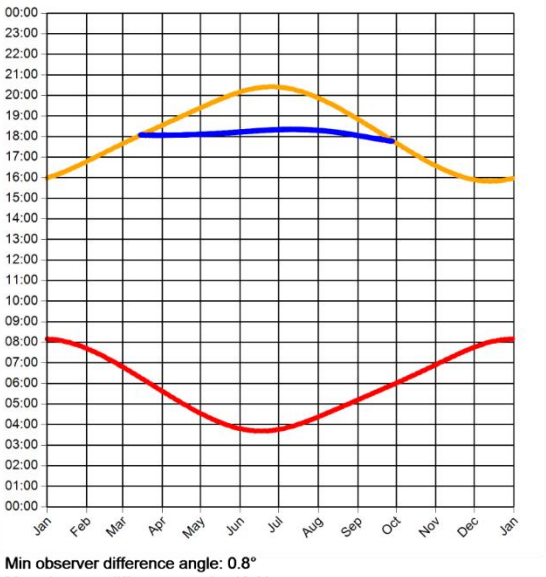
Min observer difference angle: 0.8°
Max observer difference angle: 18.6°

Observer Location — Sun azimuth range is 267.8° - 287.3° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 5 Results

Reflection Date/Time (GMT) Graph



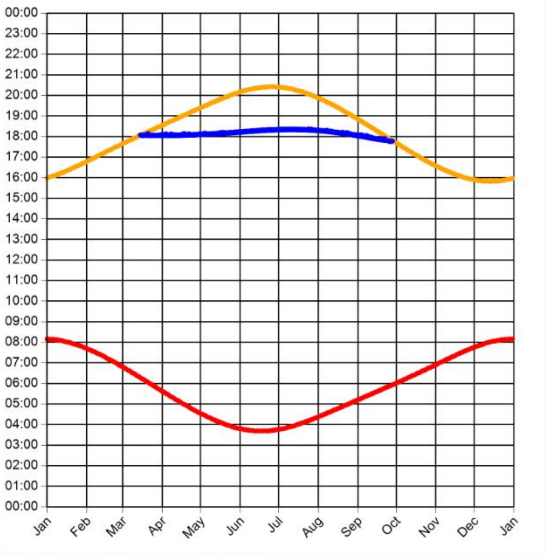
Min observer difference angle: 0.8°
Max observer difference angle: 18.2°

Observer Location — Sun azimuth range is 267.7° - 288.1° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 6 Results

Reflection Date/Time (GMT) Graph



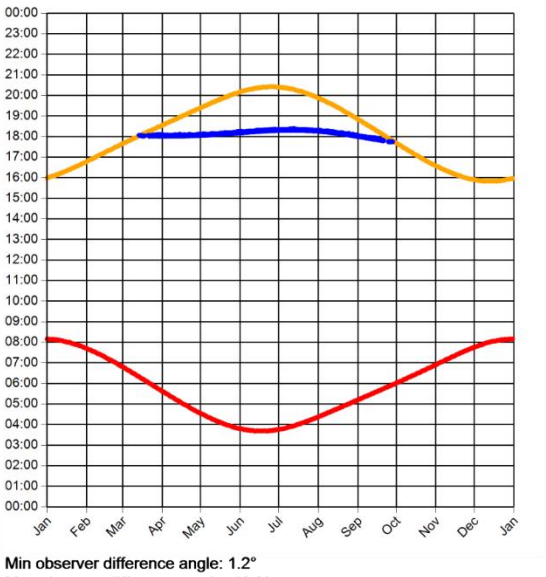
Min observer difference angle: 0.7°
Max observer difference angle: 18.2°

Observer Location — Sun azimuth range is 267.7° - 288.2° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

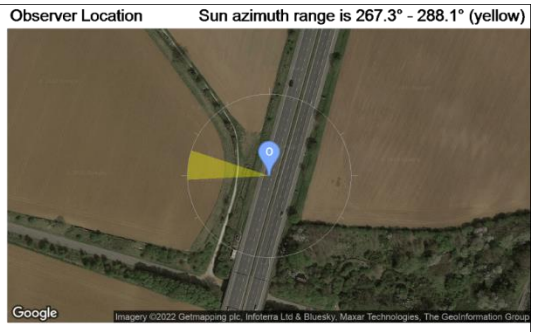
Observer 7 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 1.2°
Max observer difference angle: 18.8°

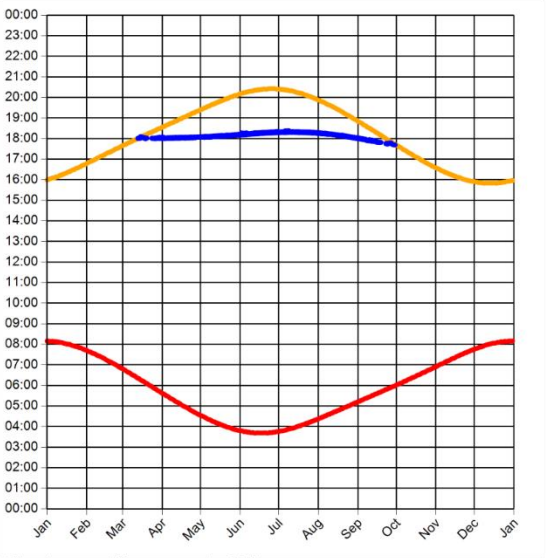
Observer Location — Sun azimuth range is 267.3° - 288.1° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

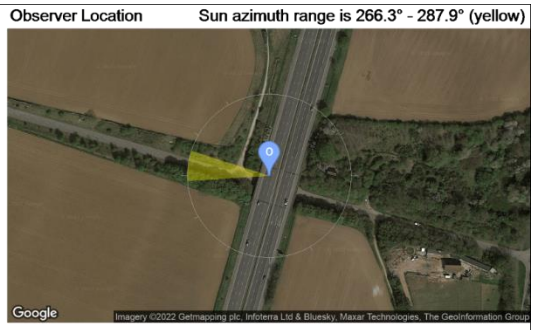
Observer 8 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.7°
Max observer difference angle: 19.1°

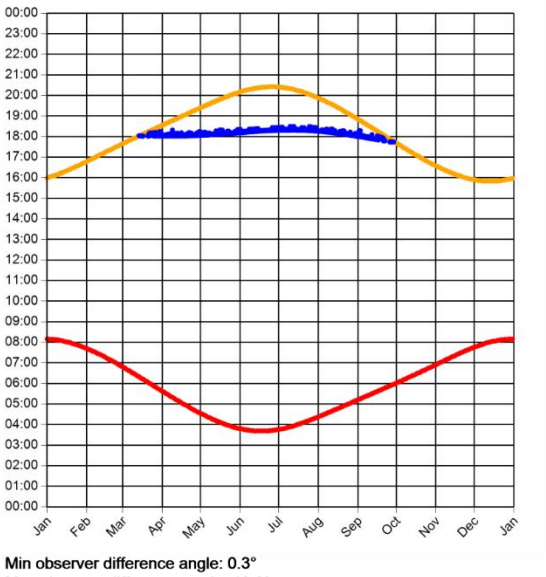
Observer Location — Sun azimuth range is 266.3° - 287.9° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

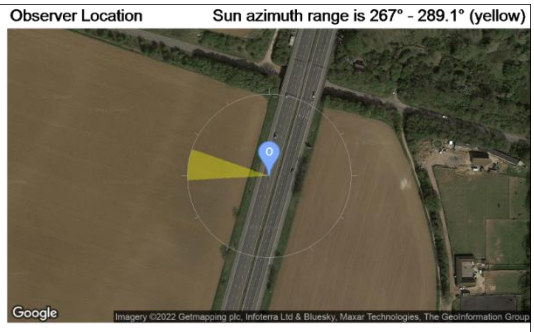
Observer 9 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 18.6°

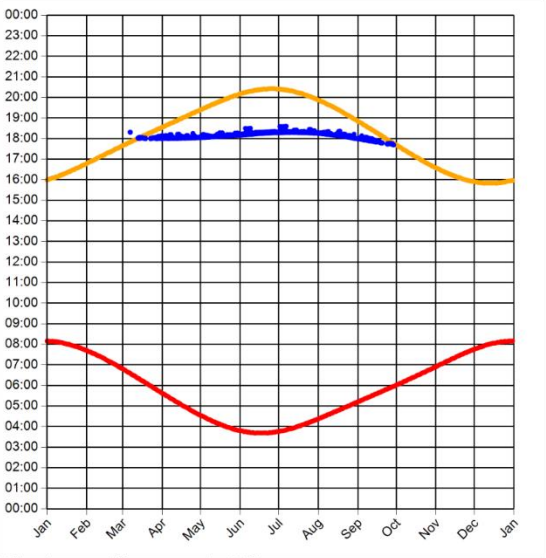
Observer Location — Sun azimuth range is 267° - 289.1° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 10 Results

Reflection Date/Time (GMT) Graph



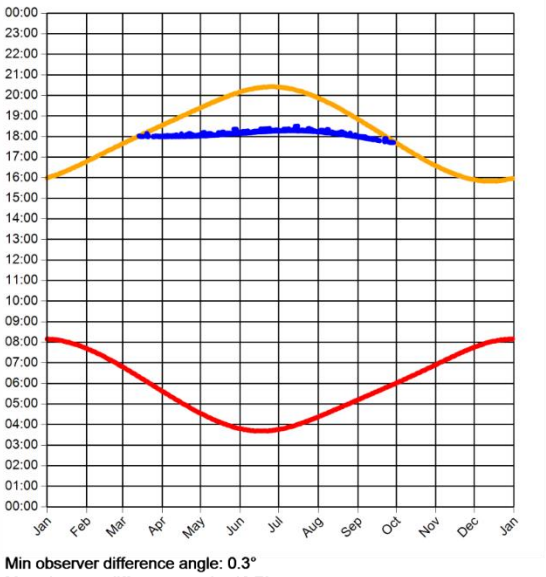
Min observer difference angle: 1.1°
Max observer difference angle: 19.1°

Observer Location — Sun azimuth range is 266.5° - 290.3° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

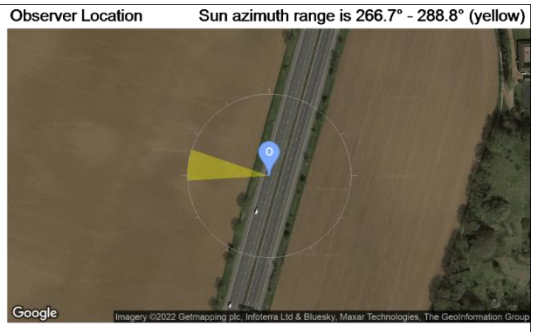
Observer 11 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 19.7°

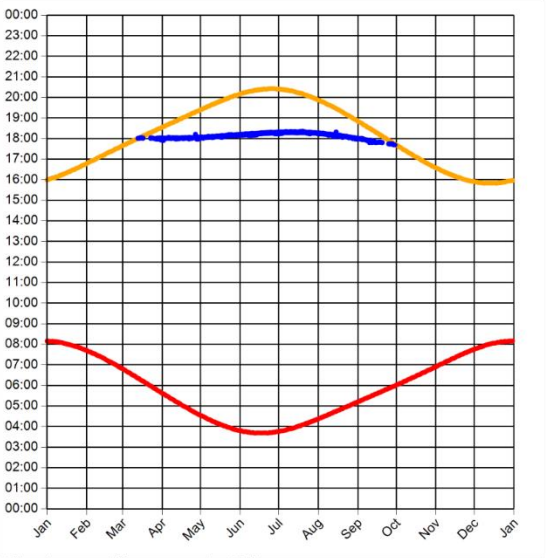
Observer Location — Sun azimuth range is 266.7° - 288.8° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

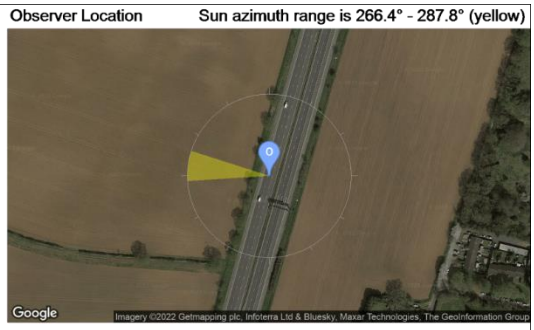
Observer 12 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 1.7°
Max observer difference angle: 20.2°

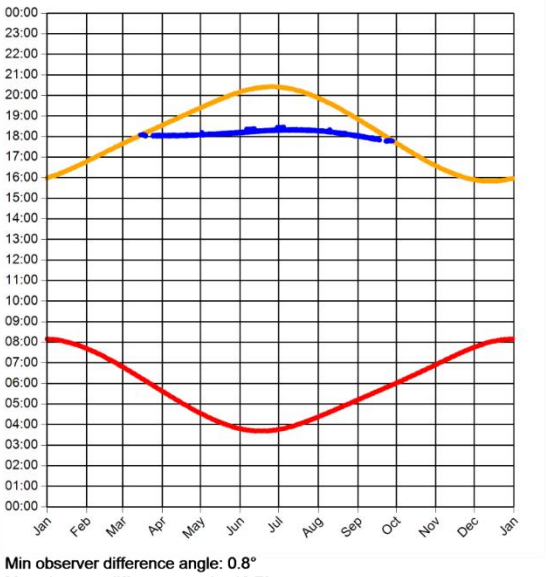
Observer Location — Sun azimuth range is 266.4° - 287.8° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

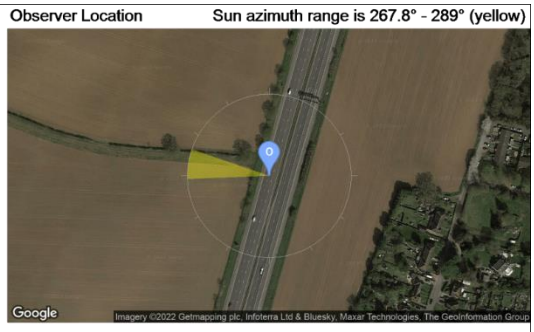
Observer 13 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.8°
Max observer difference angle: 18.7°

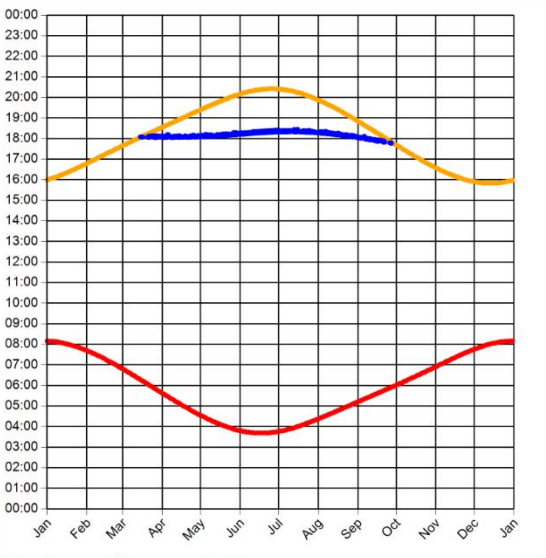
Observer Location — Sun azimuth range is 267.8° - 289° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

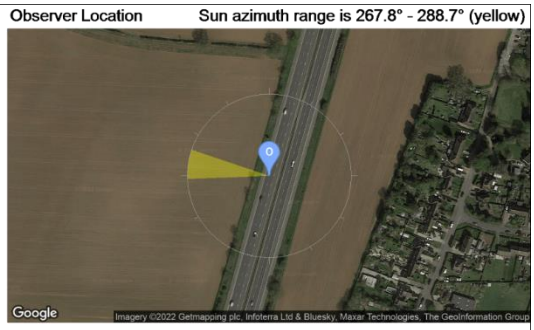
Observer 14 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 1°
Max observer difference angle: 18.4°

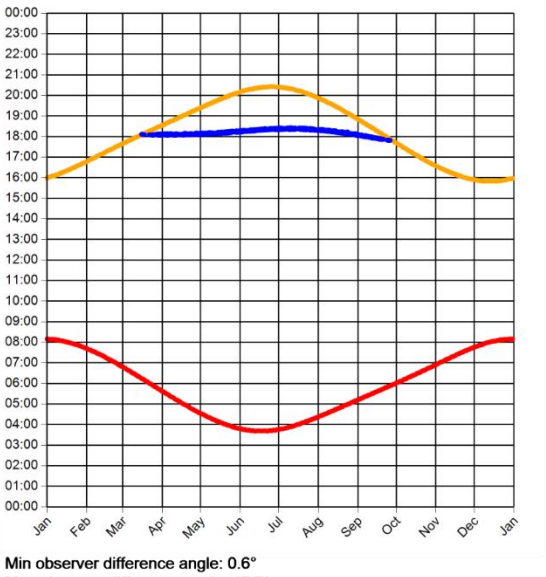
Observer Location — Sun azimuth range is 267.8° - 288.7° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

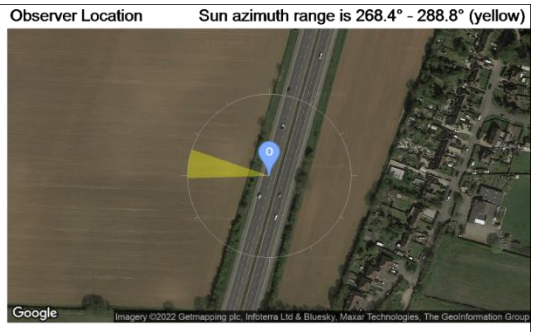
Observer 15 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.6°
Max observer difference angle: 17.7°

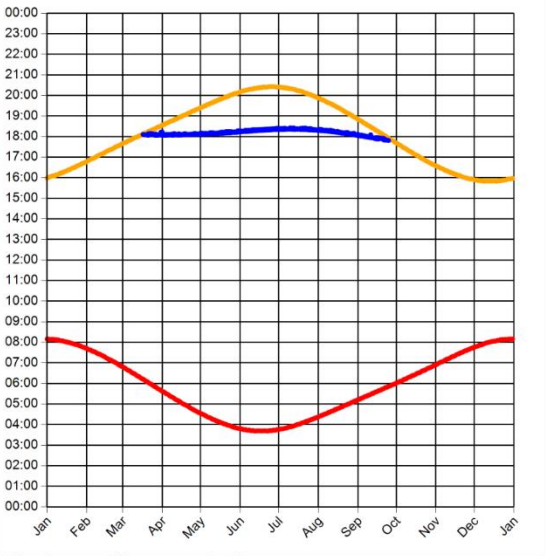
Observer Location — Sun azimuth range is 268.4° - 288.8° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

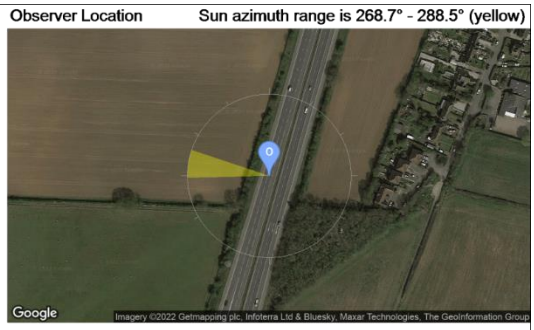
Observer 16 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 1°
Max observer difference angle: 17.7°

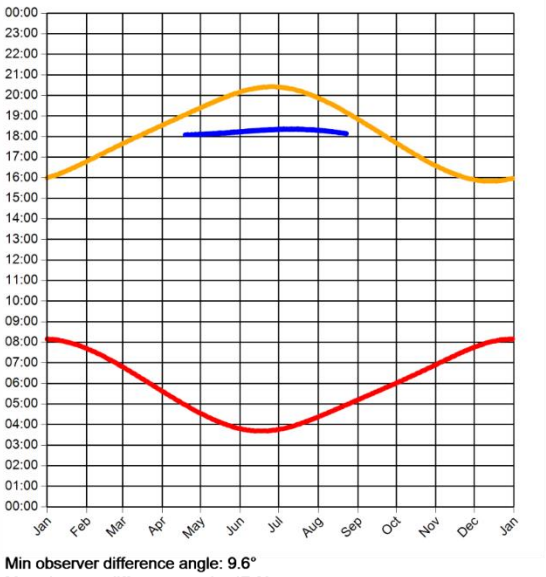
Observer Location — Sun azimuth range is 268.7° - 288.5° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

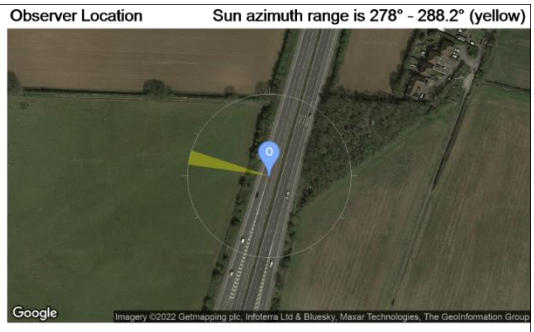
Observer 17 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 9.6°
Max observer difference angle: 17.8°

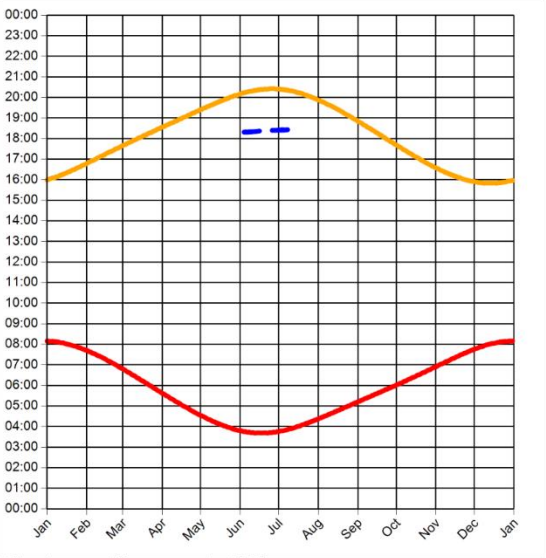
Observer Location — Sun azimuth range is 278° - 288.2° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 47 Results

Reflection Date/Time (GMT) Graph



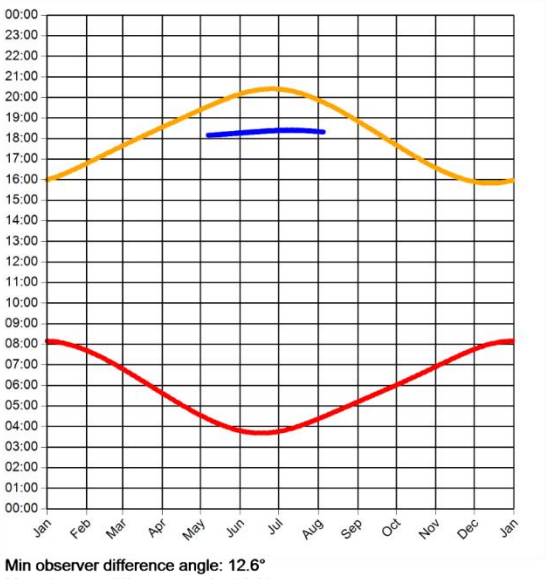
Min observer difference angle: 15.5°
Max observer difference angle: 16.1°

Observer Location — Sun azimuth range is 287.9° - 288.7° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 48 Results

Reflection Date/Time (GMT) Graph



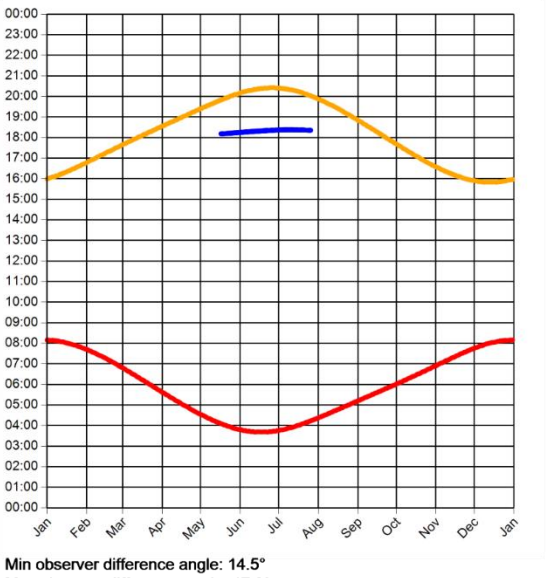
Min observer difference angle: 12.6°
Max observer difference angle: 16.8°

Observer Location — Sun azimuth range is 283° - 288.7° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

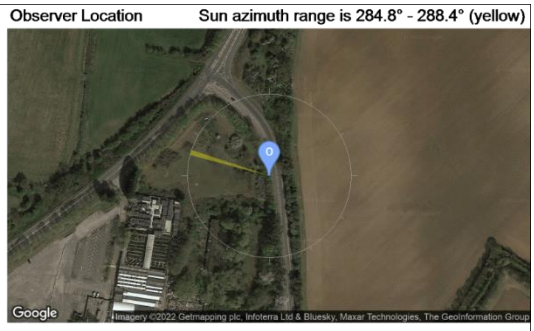
Observer 49 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 14.5°
Max observer difference angle: 17.3°

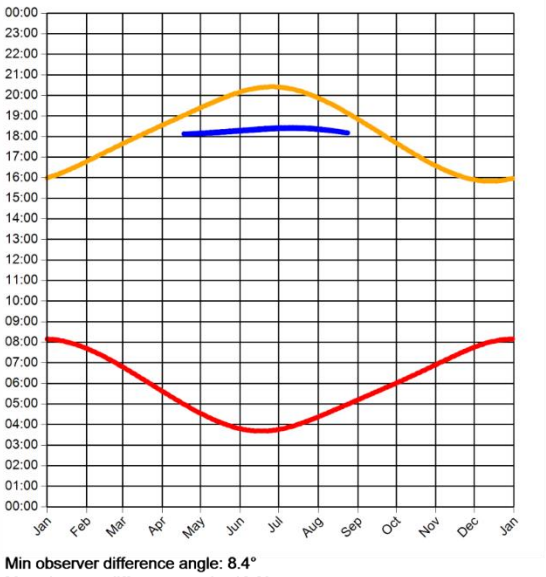
Observer Location — Sun azimuth range is 284.8° - 288.4° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

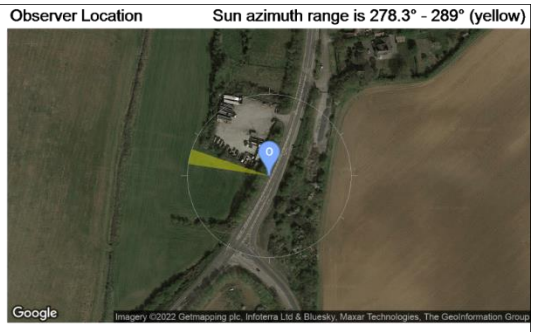
Observer 55 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 8.4°
Max observer difference angle: 16.9°

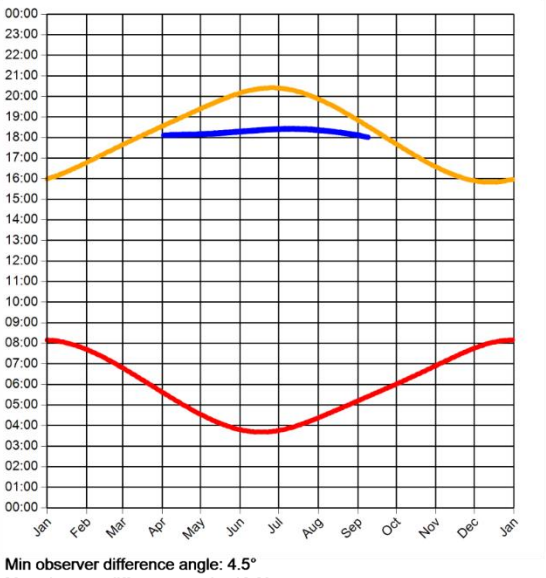
Observer Location — Sun azimuth range is 278.3° - 289° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

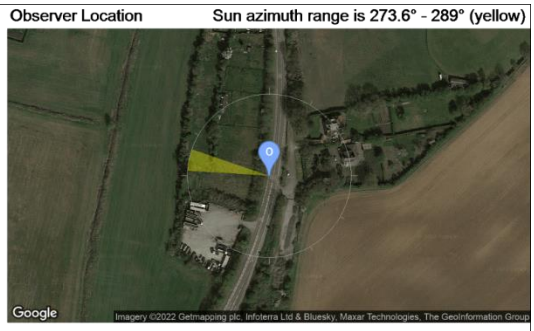
Observer 56 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 4.5°
Max observer difference angle: 16.8°

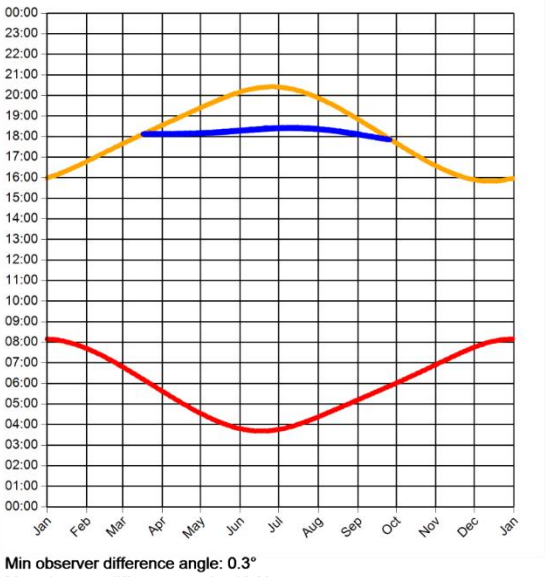
Observer Location — Sun azimuth range is 273.6° - 289° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

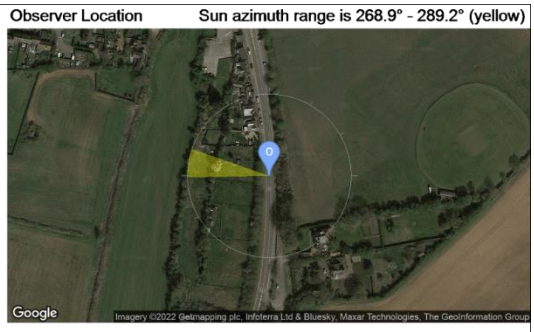
Observer 57 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 16.9°

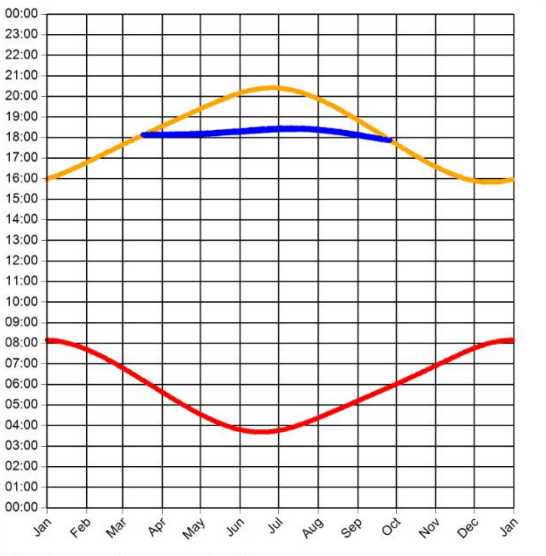
Observer Location Sun azimuth range is 268.9° - 289.2° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

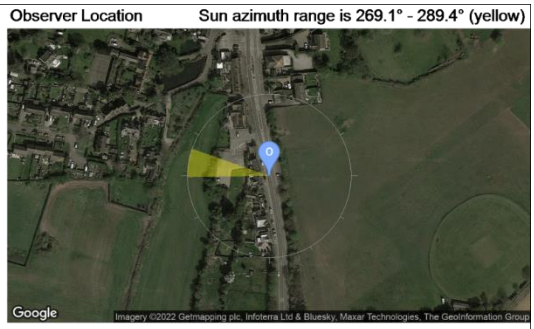
Observer 58 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.2°
Max observer difference angle: 17°

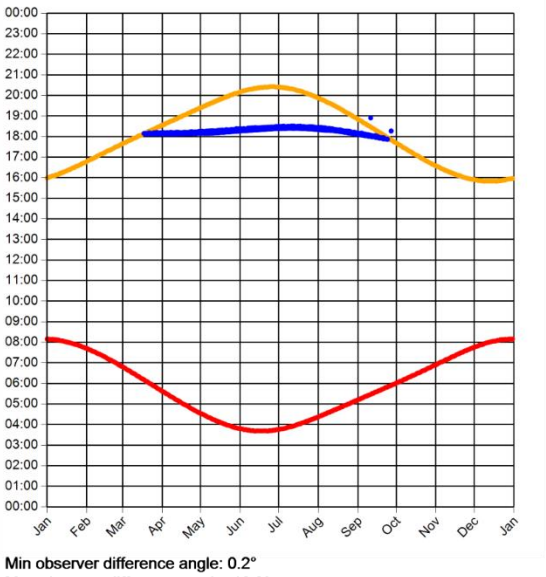
Observer Location Sun azimuth range is 269.1° - 289.4° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

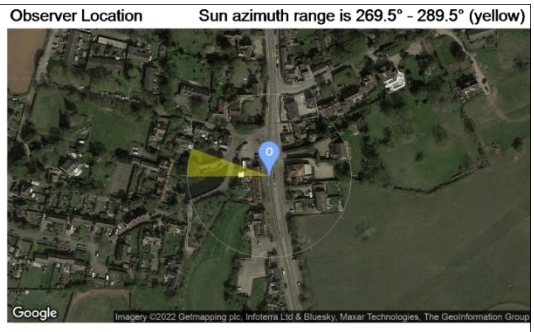
Observer 59 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.2°
Max observer difference angle: 16.8°

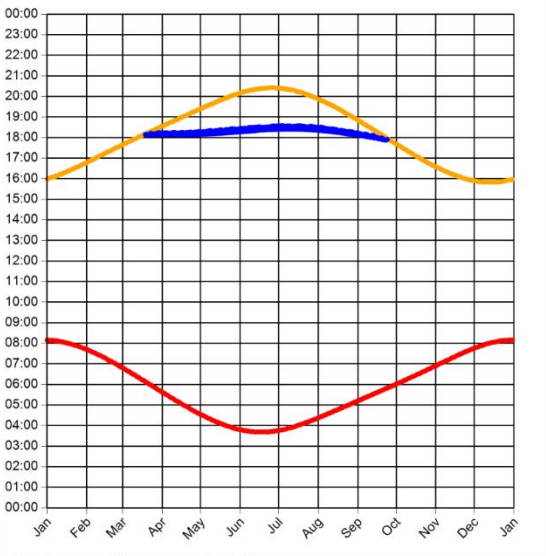
Observer Location Sun azimuth range is 269.5° - 289.5° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 60 Results

Reflection Date/Time (GMT) Graph



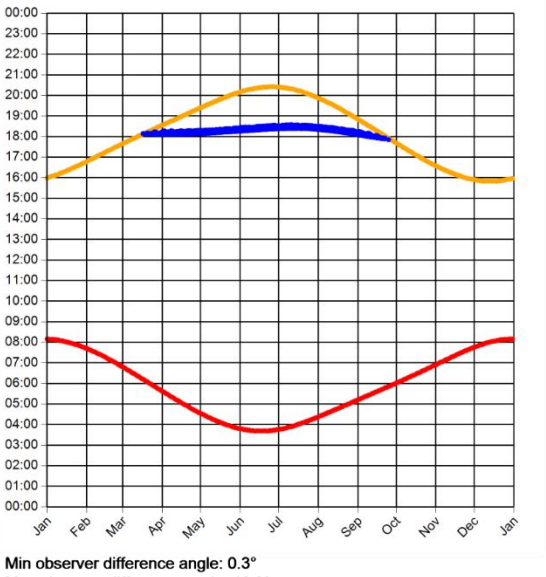
Min observer difference angle: 0.3°
Max observer difference angle: 16.3°

Observer Location Sun azimuth range is 269.8° - 290.5° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

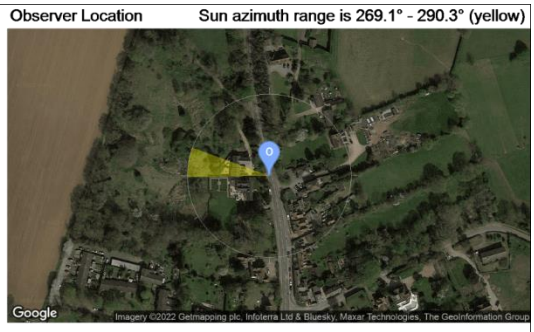
Observer 61 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 16.8°

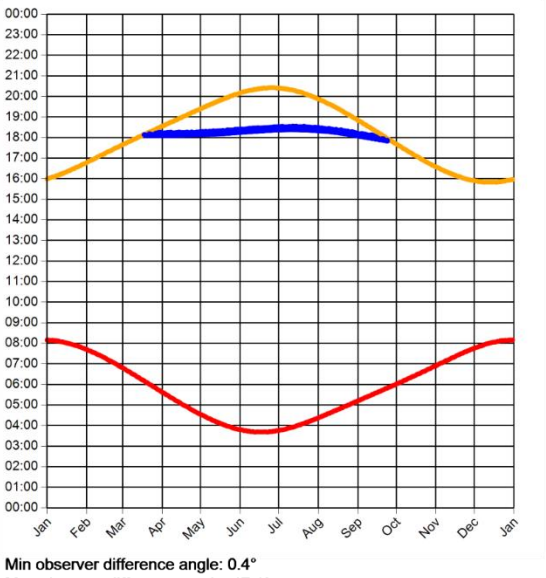
Observer Location Sun azimuth range is 269.1° - 290.3° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

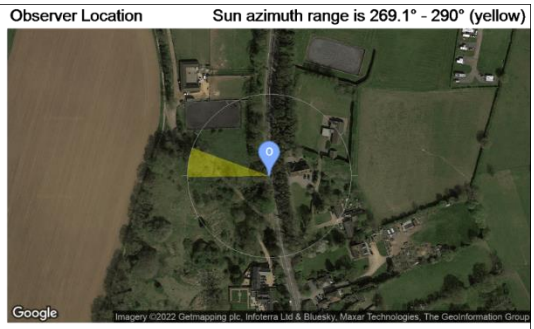
Observer 62 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.4°
Max observer difference angle: 17.1°

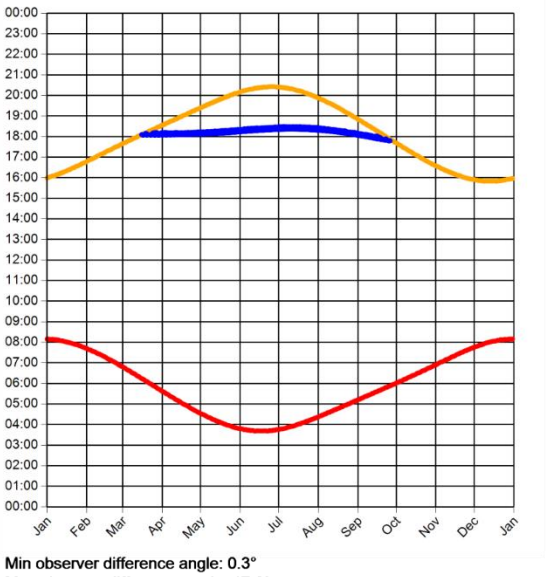
Observer Location Sun azimuth range is 269.1° - 290° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

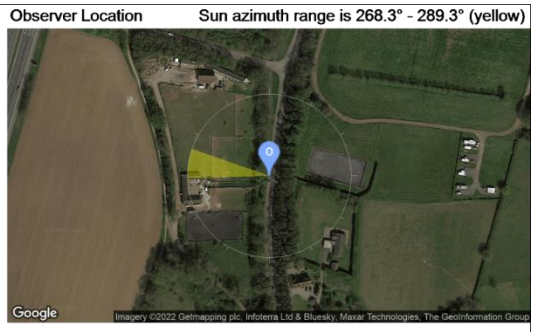
Observer 63 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 17.6°

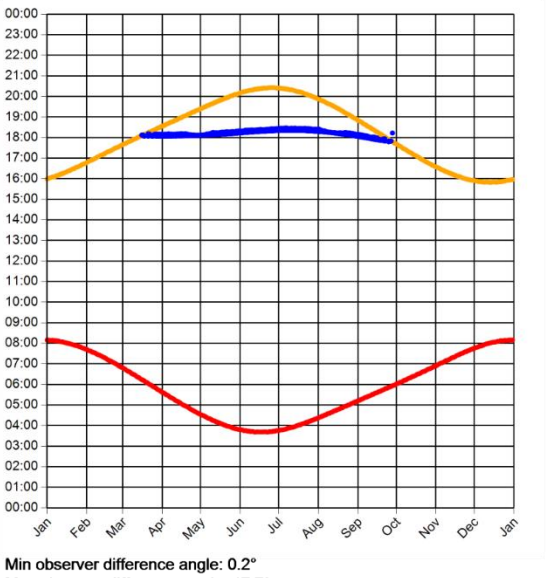
Observer Location Sun azimuth range is 268.3° - 289.3° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

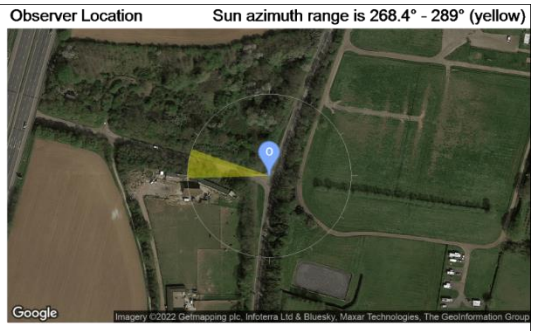
Observer 64 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.2°
Max observer difference angle: 17.7°

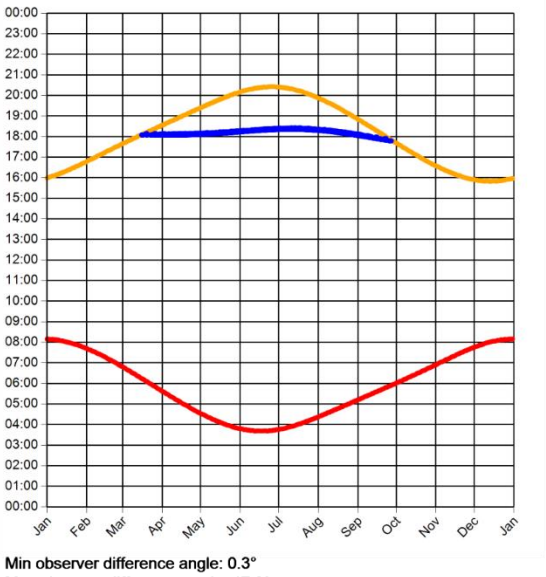
Observer Location Sun azimuth range is 268.4° - 289° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

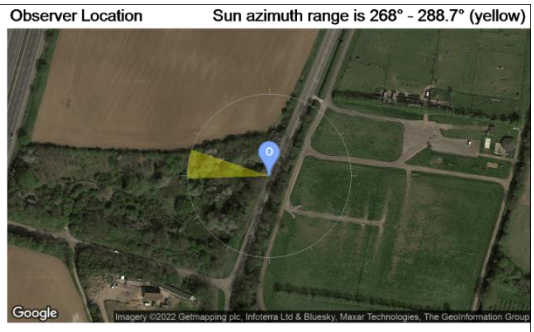
Observer 65 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 17.8°

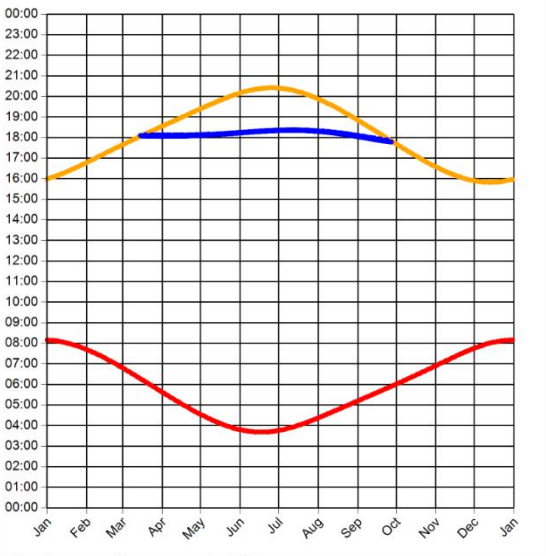
Observer Location — Sun azimuth range is 268° - 288.7° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

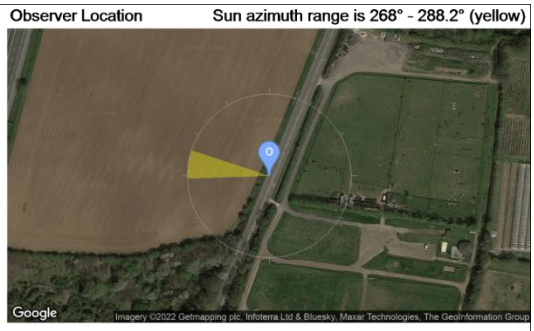
Observer 66 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 17.7°

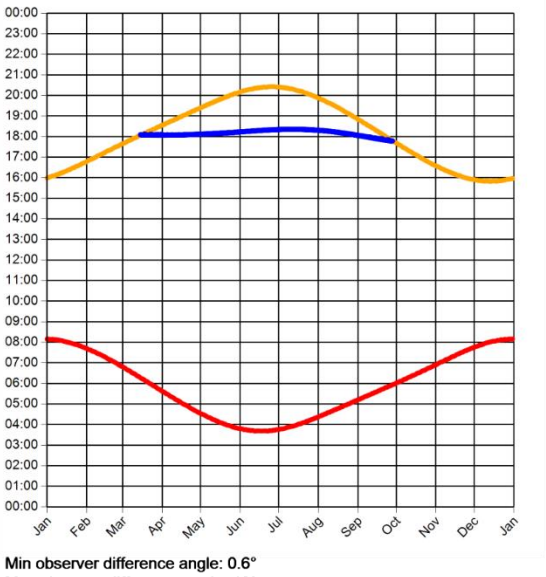
Observer Location — Sun azimuth range is 268° - 288.2° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

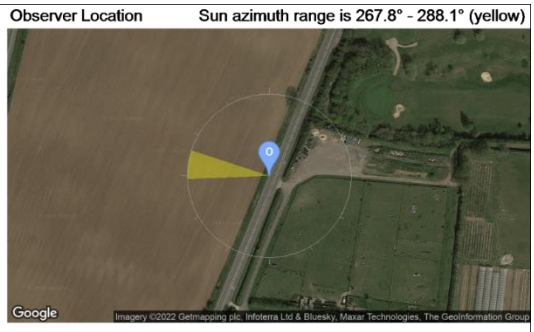
Observer 67 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.6°
Max observer difference angle: 18°

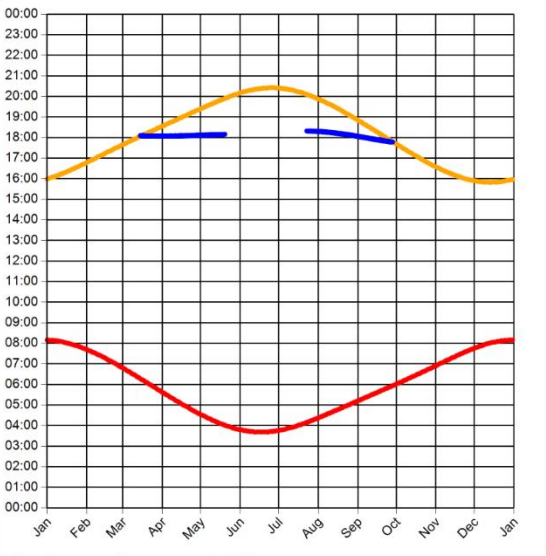
Observer Location — Sun azimuth range is 267.8° - 288.1° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

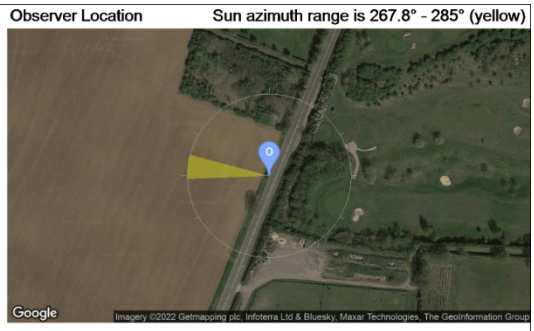
Observer 68 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.7°
Max observer difference angle: 15.9°

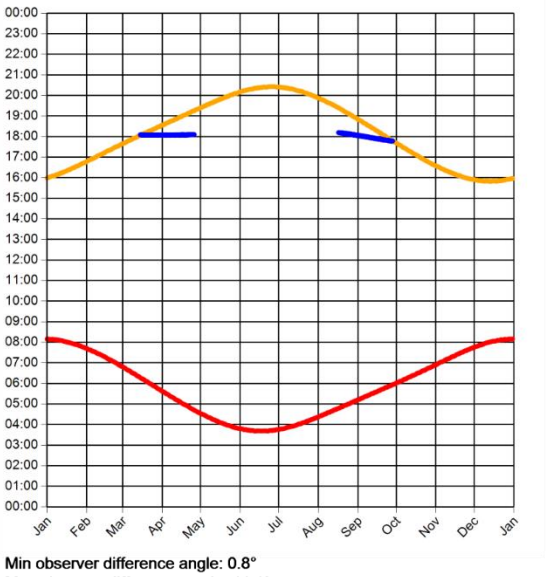
Observer Location — Sun azimuth range is 267.8° - 285° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 69 Results

Reflection Date/Time (GMT) Graph



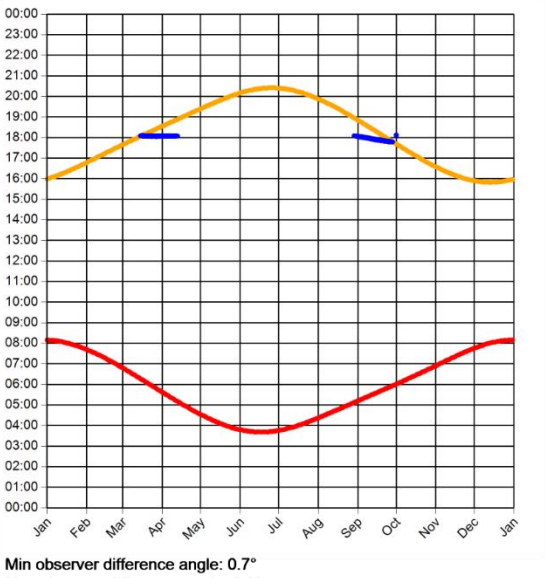
Min observer difference angle: 0.8°
Max observer difference angle: 11.1°

Observer Location — Sun azimuth range is 267.8° - 280° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 70 Results

Reflection Date/Time (GMT) Graph



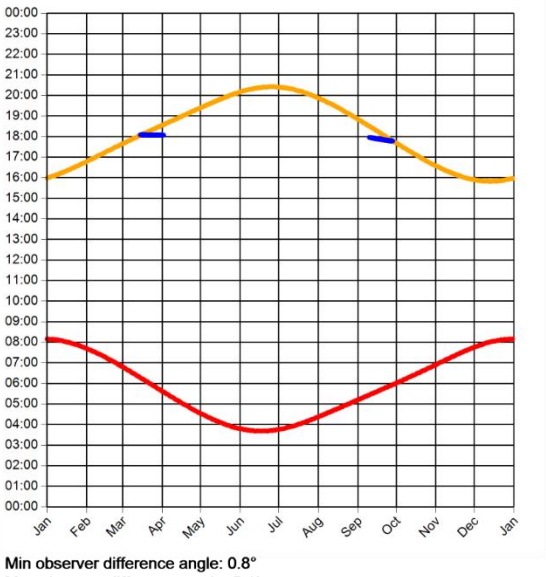
Min observer difference angle: 0.7°
Max observer difference angle: 8.2°

Observer Location — Sun azimuth range is 267.9° - 276.5° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 71 Results

Reflection Date/Time (GMT) Graph



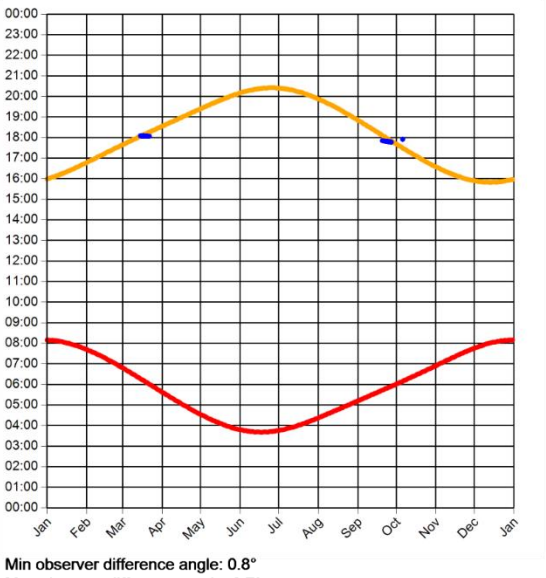
Min observer difference angle: 0.8°
Max observer difference angle: 5.4°

Observer Location — Sun azimuth range is 267.8° - 273.1° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 72 Results

Reflection Date/Time (GMT) Graph



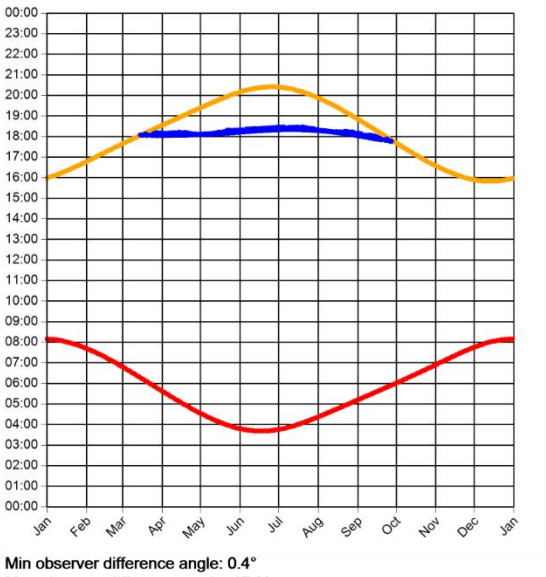
Min observer difference angle: 0.8°
Max observer difference angle: 2.7°

Observer Location — Sun azimuth range is 267.8° - 270° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

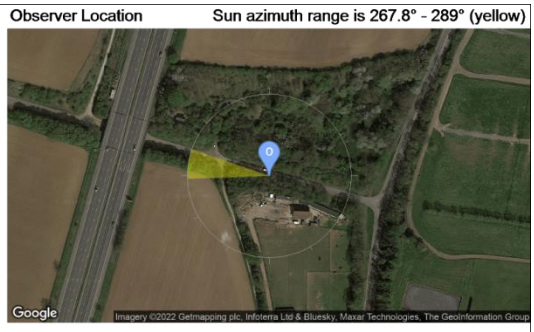
Observer 73 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.4°
Max observer difference angle: 17.9°

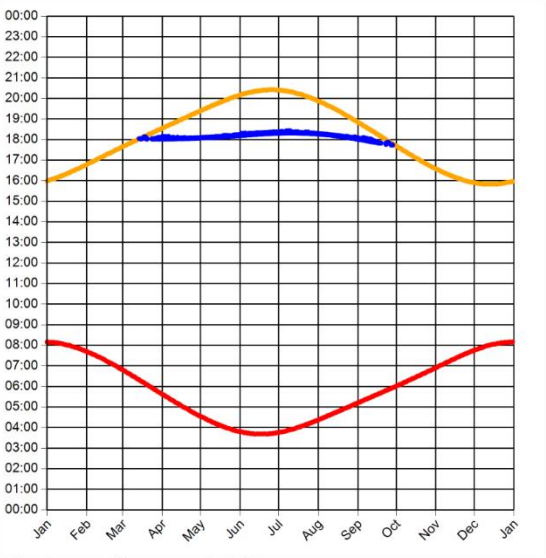
Observer Location — Sun azimuth range is 267.8° - 289° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

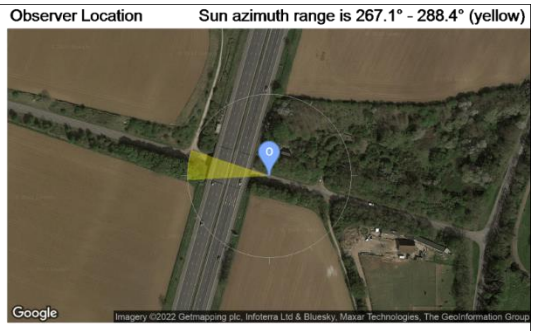
Observer 74 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.3°
Max observer difference angle: 18.5°

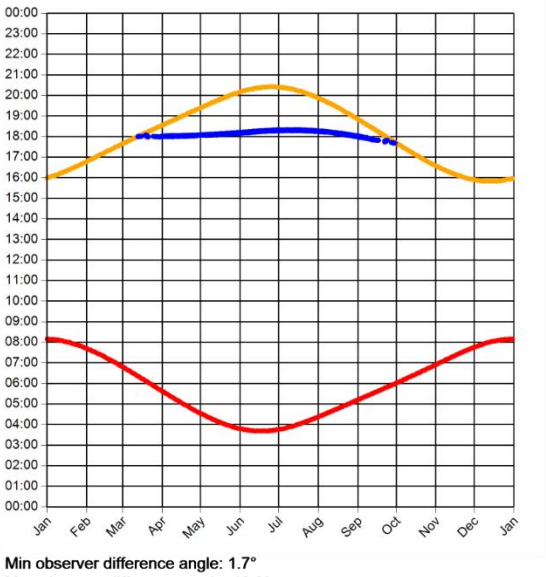
Observer Location — Sun azimuth range is 267.1° - 288.4° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

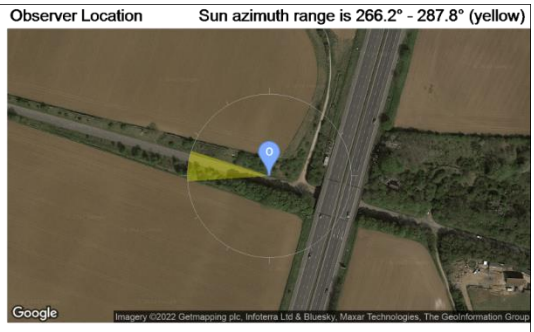
Observer 75 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 1.7°
Max observer difference angle: 19.3°

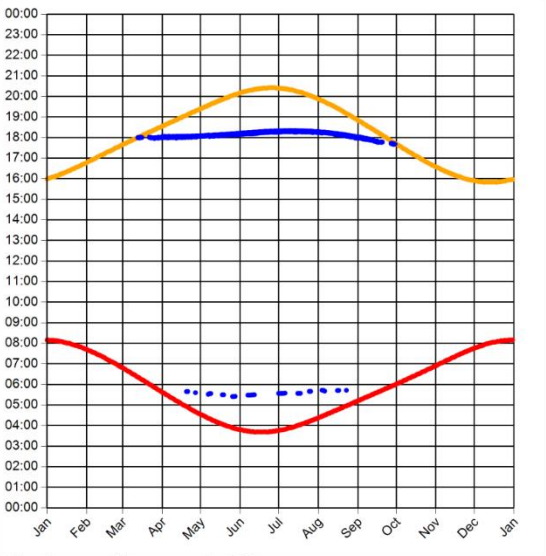
Observer Location — Sun azimuth range is 266.2° - 287.8° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

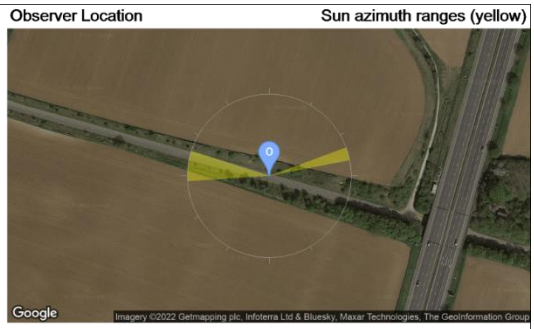
Observer 76 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 2.3°
Max observer difference angle: 19.5°

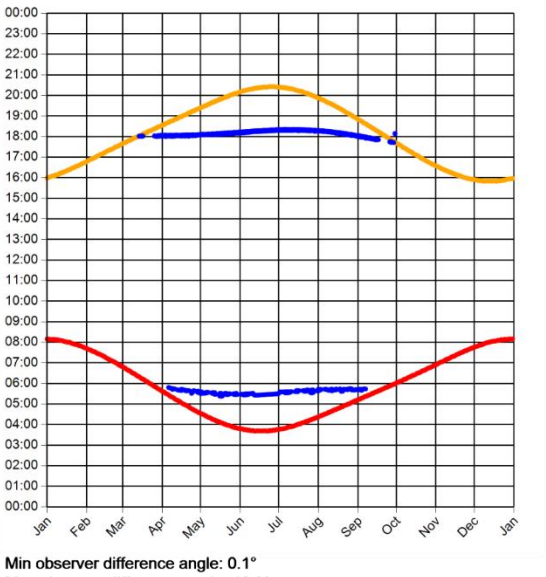
Observer Location — Sun azimuth ranges (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 77 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.1°
Max observer difference angle: 18.8°

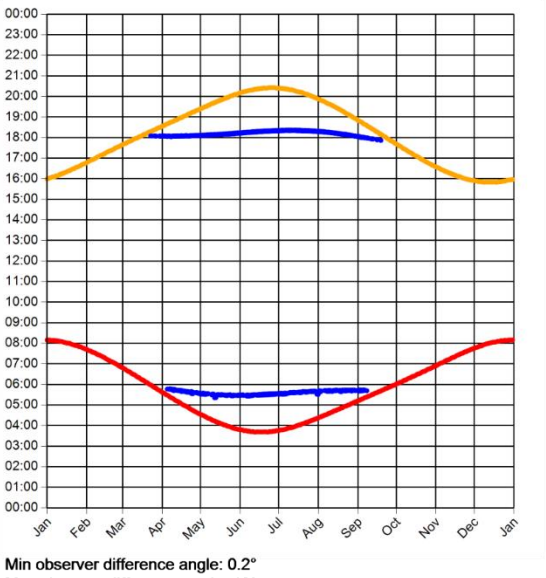
Observer Location

Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 78 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.2°
Max observer difference angle: 18°

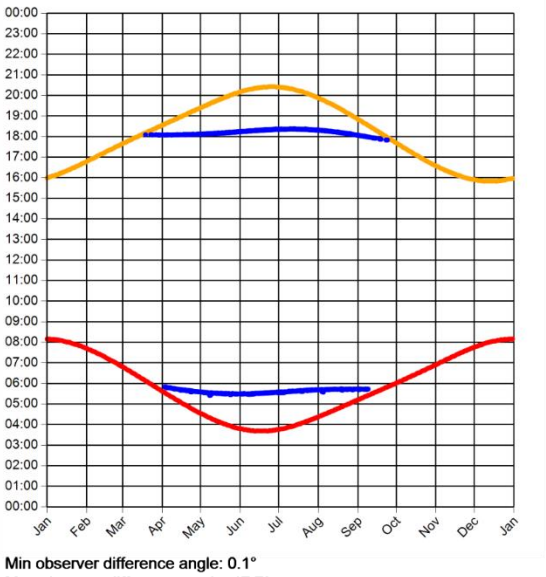
Observer Location

Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 79 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.1°
Max observer difference angle: 17.7°

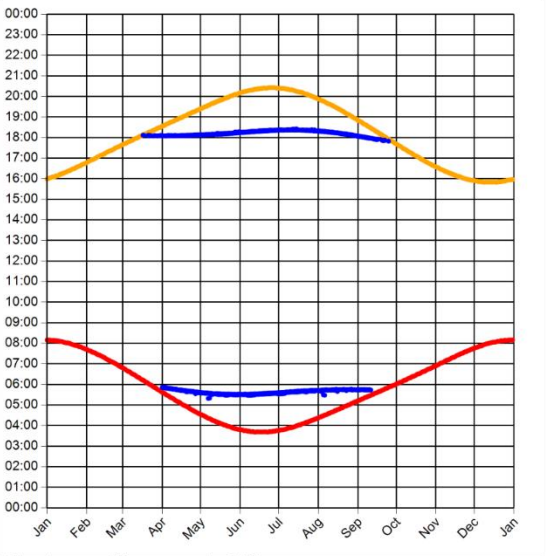
Observer Location

Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 80 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.1°
Max observer difference angle: 17.6°

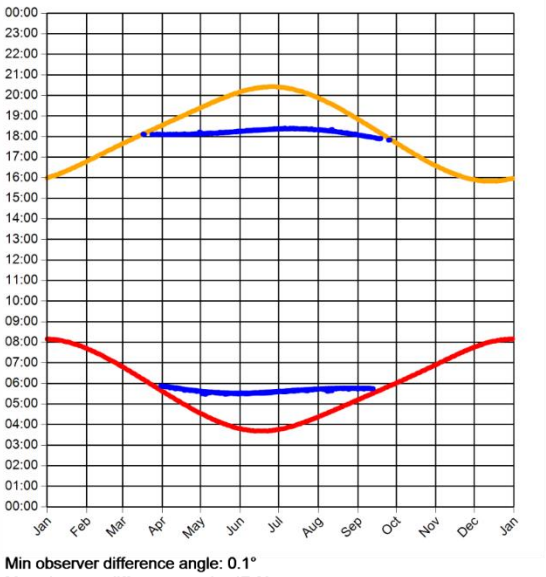
Observer Location

Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 81 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.1°
Max observer difference angle: 17.3°

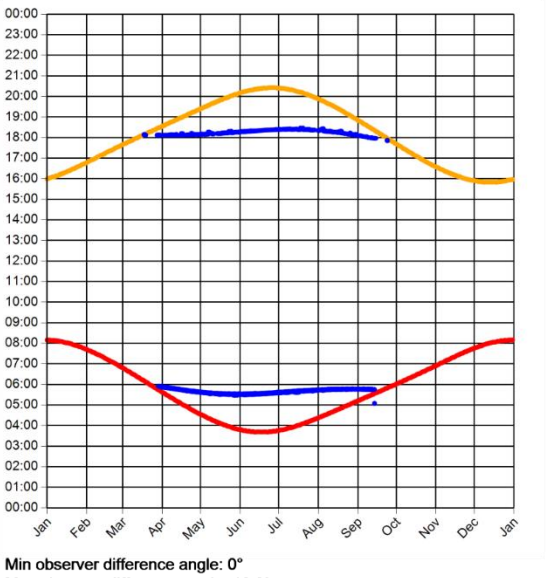
Observer Location

Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 82 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 16.6°

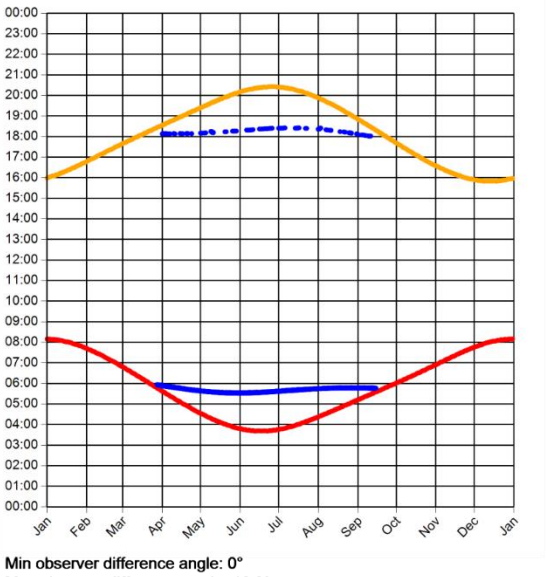
Observer Location

Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 83 Results

Reflection Date/Time (GMT) Graph



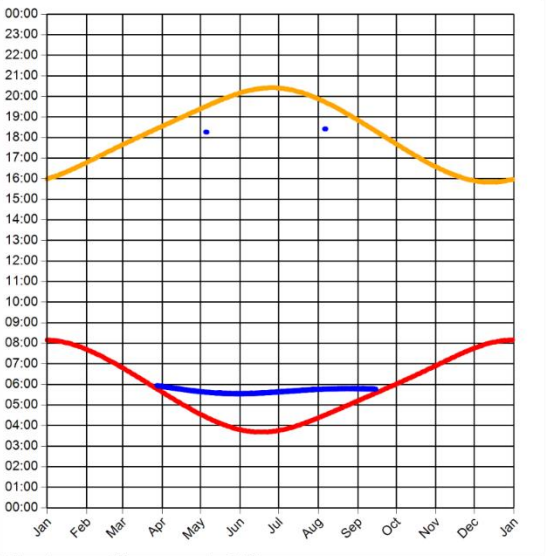
Min observer difference angle: 0°
Max observer difference angle: 16.3°

Observer Location — Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 84 Results

Reflection Date/Time (GMT) Graph



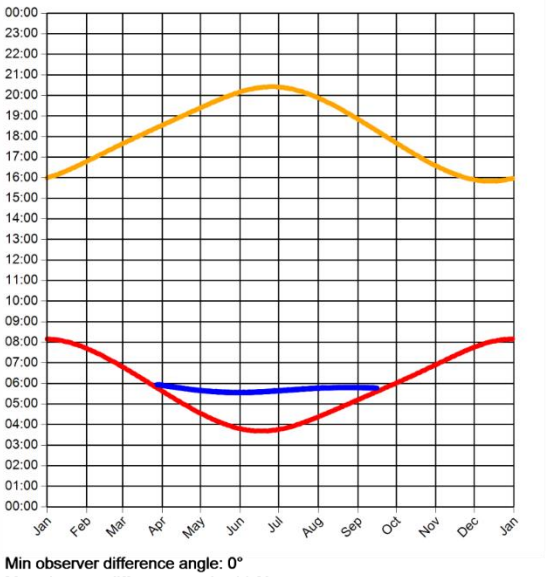
Min observer difference angle: 0.1°
Max observer difference angle: 14.4°

Observer Location — Sun azimuth ranges (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 85 Results

Reflection Date/Time (GMT) Graph



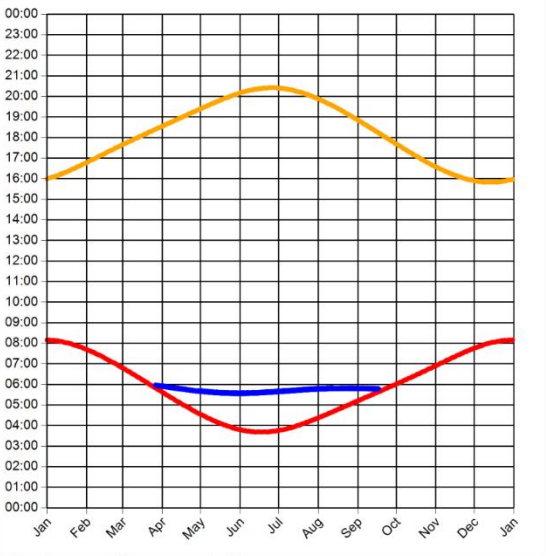
Min observer difference angle: 0°
Max observer difference angle: 14.8°

Observer Location — Sun azimuth range is 70.1° - 86.5° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

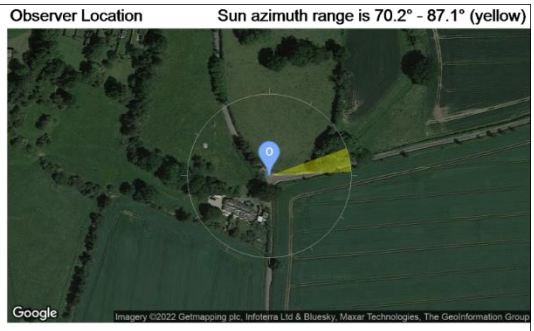
Observer 86 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 15°

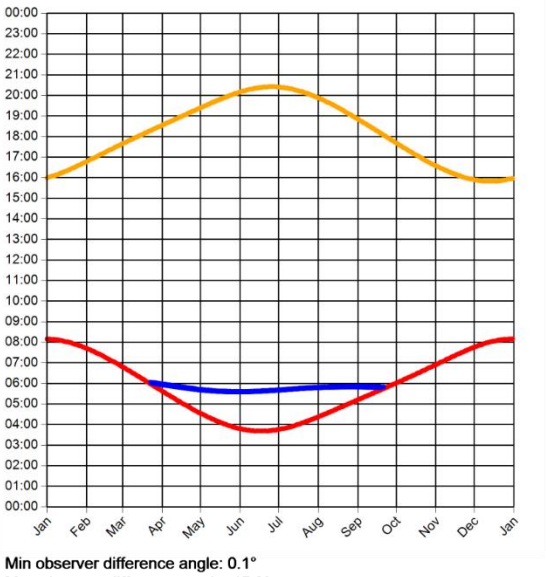
Observer Location — Sun azimuth range is 70.2° - 87.1° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

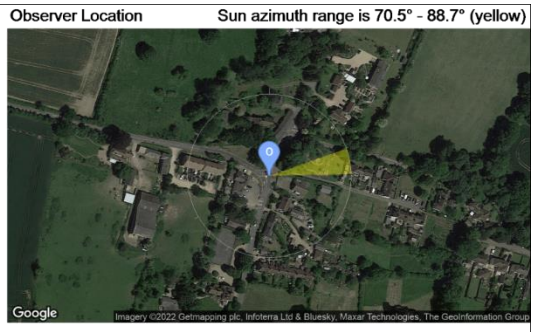
Observer 87 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.1°
Max observer difference angle: 15.2°

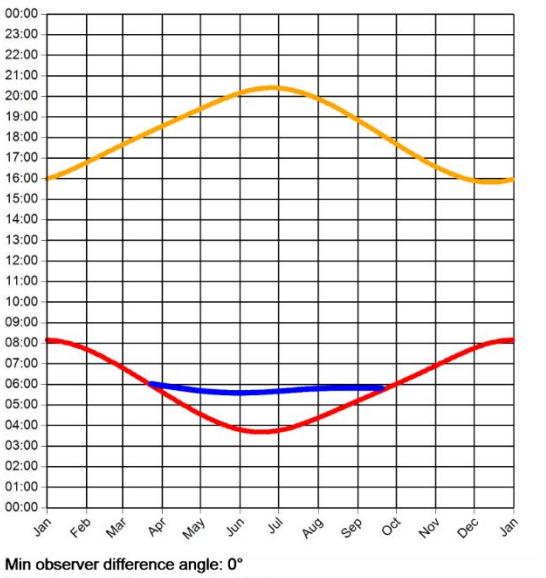
Observer Location — Sun azimuth range is 70.5° - 88.7° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

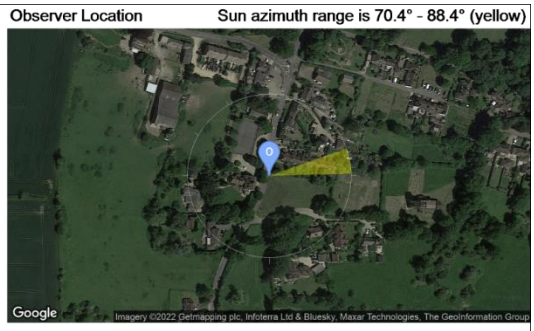
Observer 88 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 15.1°

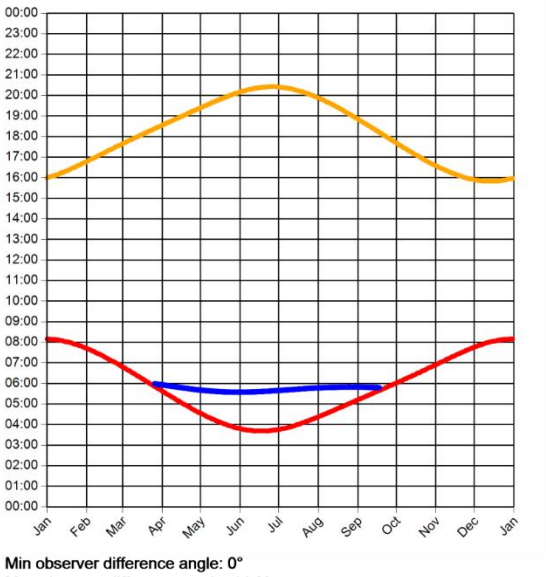
Observer Location — Sun azimuth range is 70.4° - 88.4° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

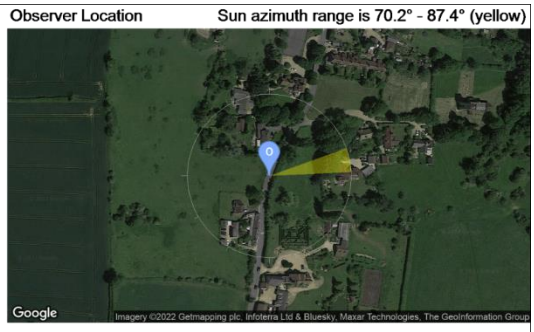
Observer 89 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 14.9°

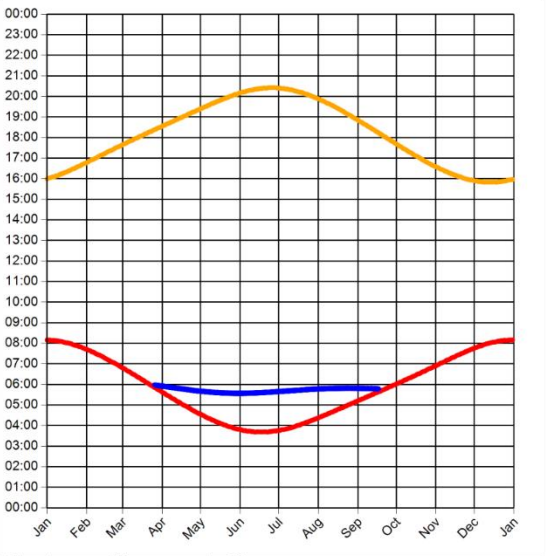
Observer Location — Sun azimuth range is 70.2° - 87.4° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

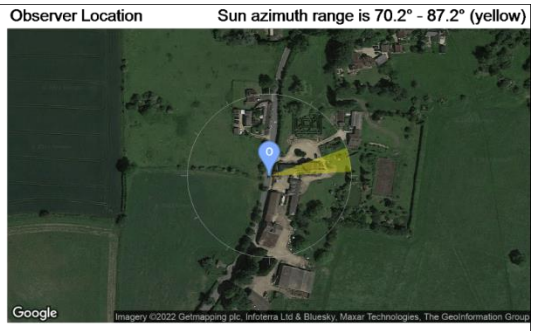
Observer 90 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 14.7°

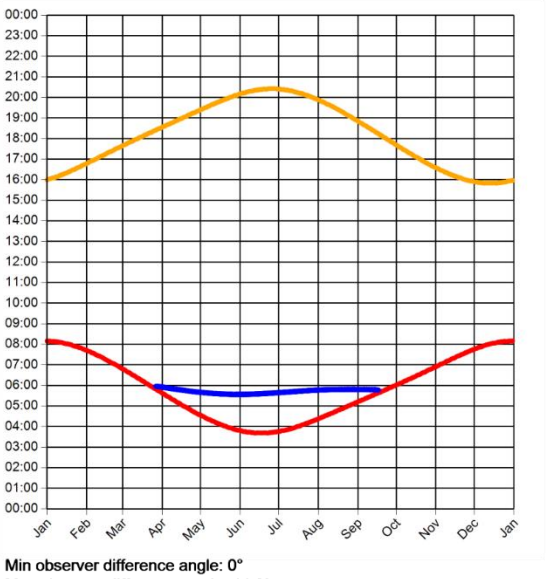
Observer Location — Sun azimuth range is 70.2° - 87.2° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

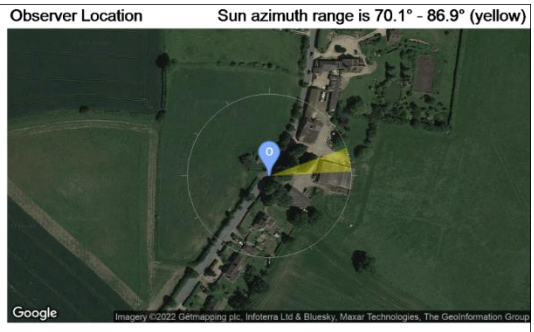
Observer 91 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 14.6°

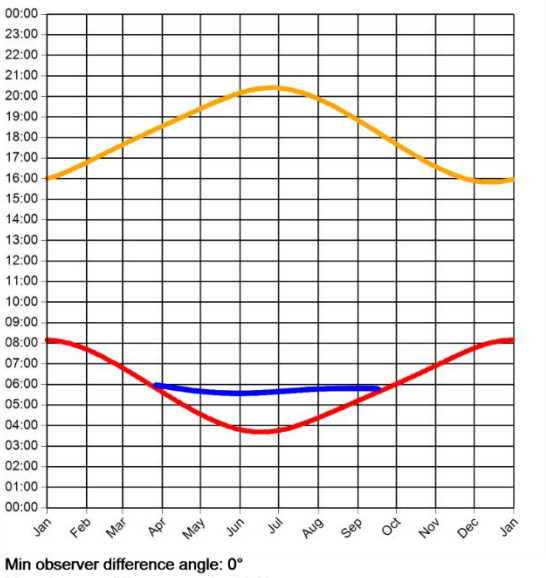
Observer Location — Sun azimuth range is 70.1° - 86.9° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

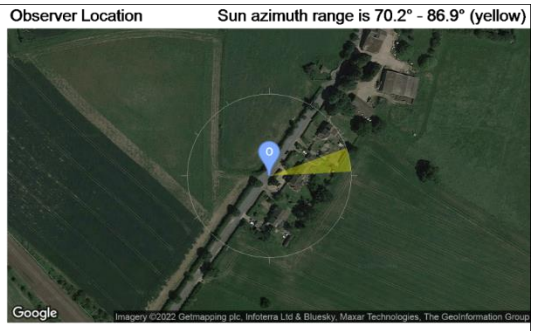
Observer 92 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 14.6°

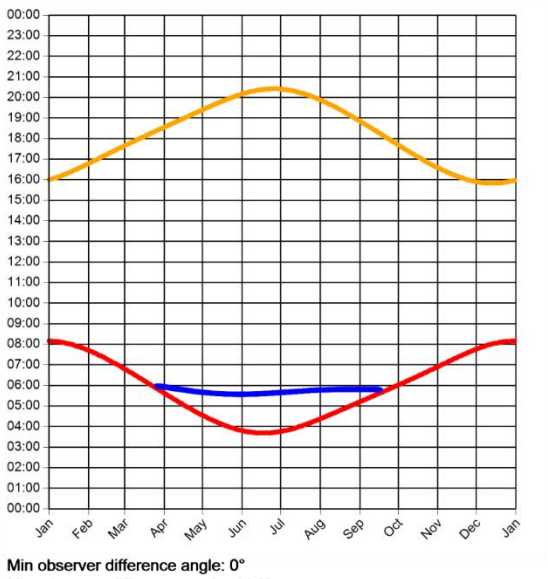
Observer Location — Sun azimuth range is 70.2° - 86.9° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

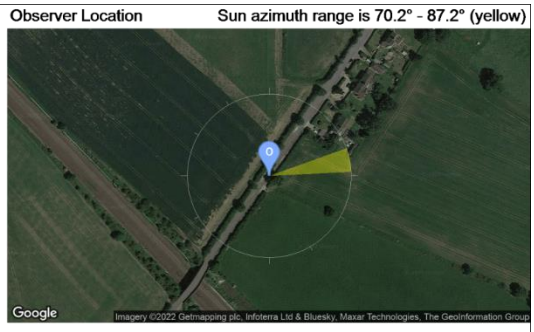
Observer 93 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 14.8°

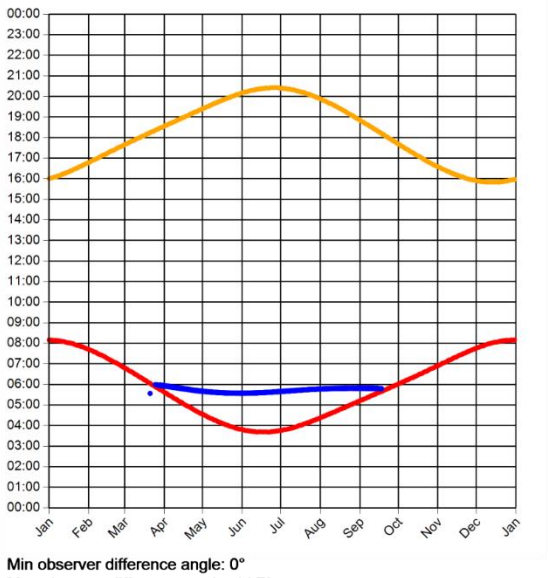
Observer Location — Sun azimuth range is 70.2° - 87.2° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

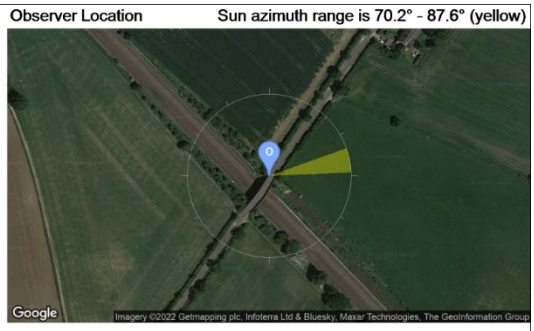
Observer 94 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0°
Max observer difference angle: 14.7°

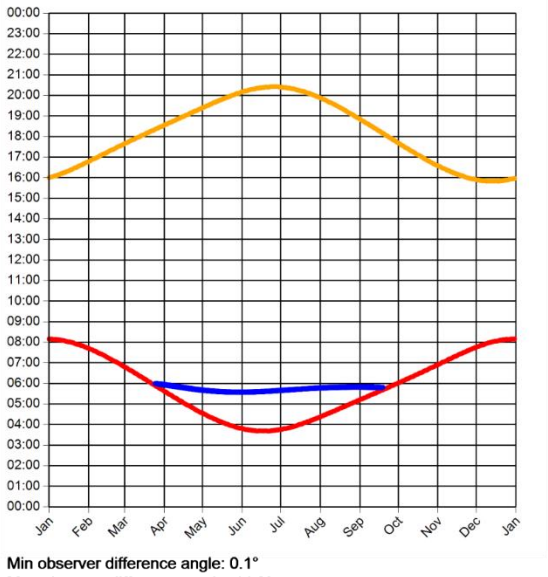
Observer Location — Sun azimuth range is 70.2° - 87.6° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 95 Results

Reflection Date/Time (GMT) Graph



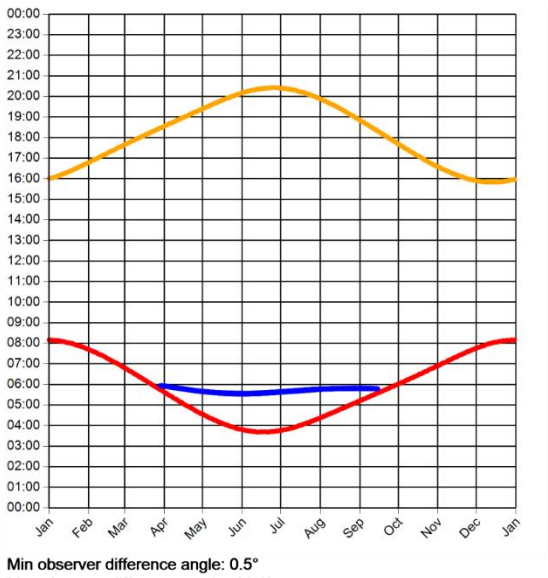
Min observer difference angle: 0.1°
Max observer difference angle: 14.8°

Observer Location — Sun azimuth range is 70.3° - 87.9° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

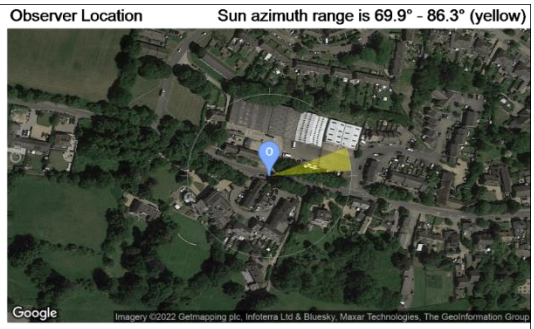
Observer 96 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 0.5°
Max observer difference angle: 14.4°

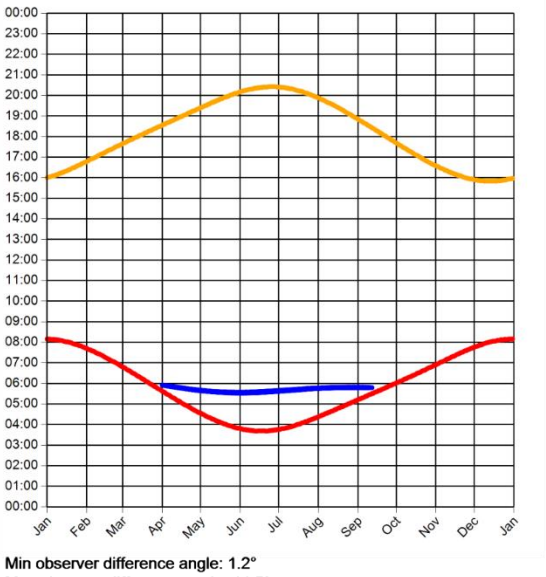
Observer Location — Sun azimuth range is 69.9° - 86.3° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

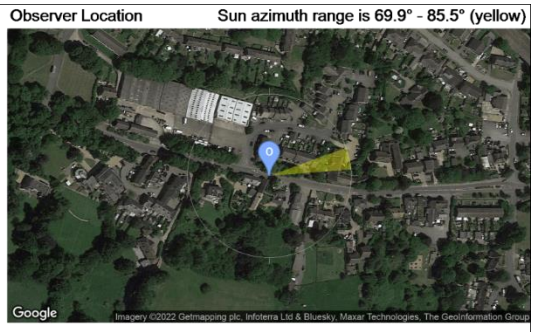
Observer 97 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 1.2°
Max observer difference angle: 14.5°

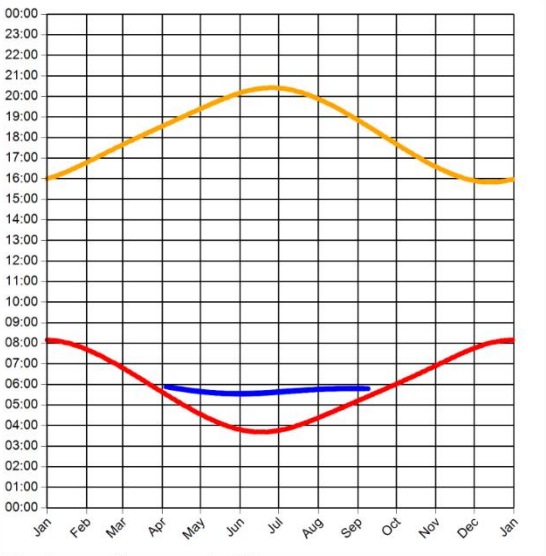
Observer Location — Sun azimuth range is 69.9° - 85.5° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

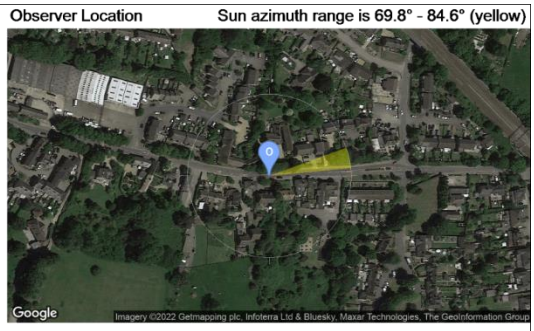
Observer 98 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 1.9°
Max observer difference angle: 14.1°

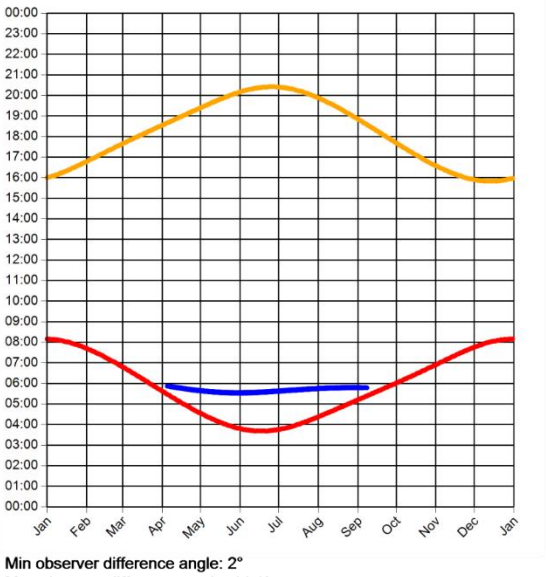
Observer Location — Sun azimuth range is 69.8° - 84.6° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

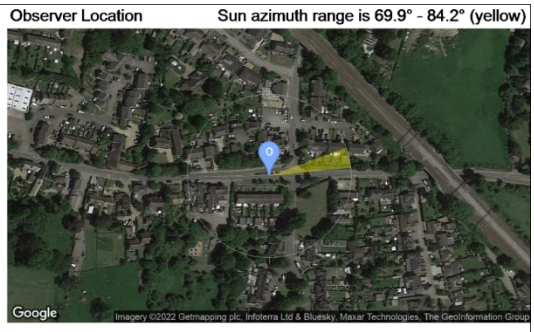
Observer 99 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 2°
Max observer difference angle: 14.1°

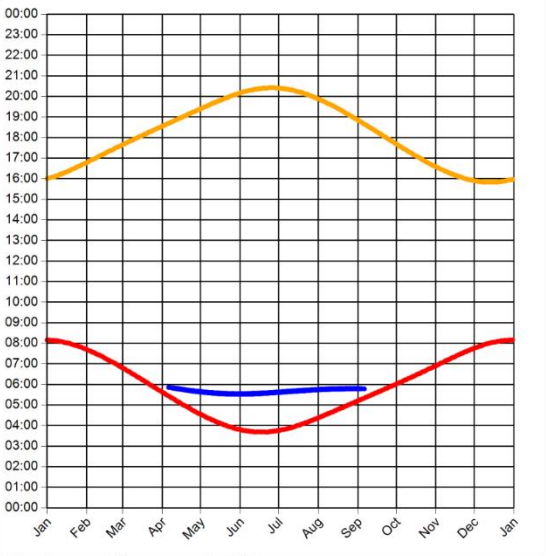
Observer Location — Sun azimuth range is 69.9° - 84.2° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 100 Results

Reflection Date/Time (GMT) Graph



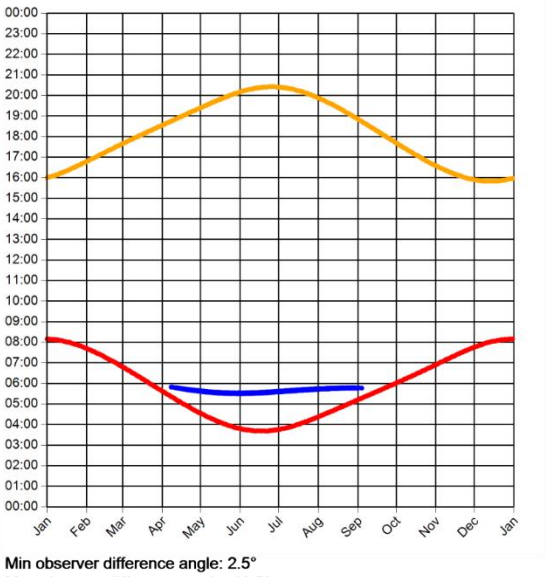
Min observer difference angle: 2.3°
Max observer difference angle: 13.8°

Observer Location — Sun azimuth range is 69.8° - 83.7° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 101 Results

Reflection Date/Time (GMT) Graph



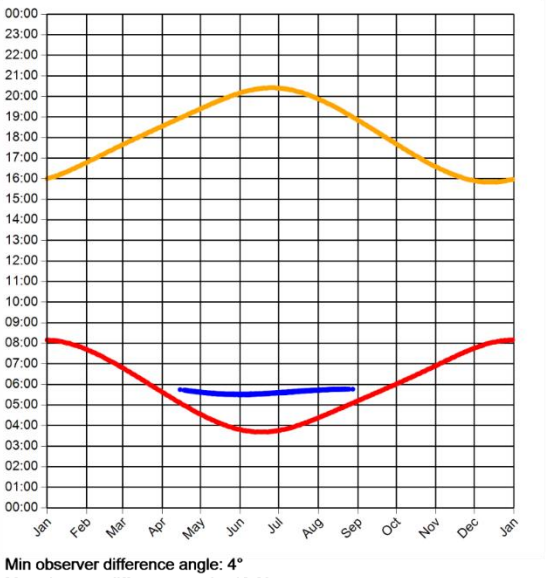
Min observer difference angle: 2.5°
Max observer difference angle: 13.5°

Observer Location — Sun azimuth range is 69.5° - 83° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

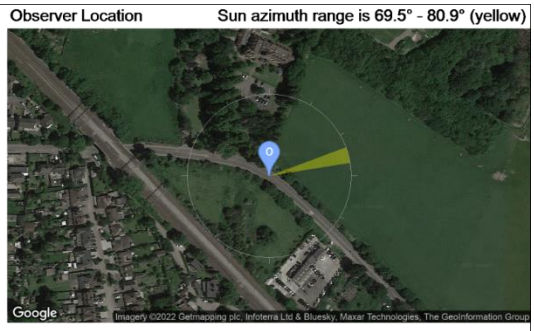
Observer 102 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 4°
Max observer difference angle: 13.3°

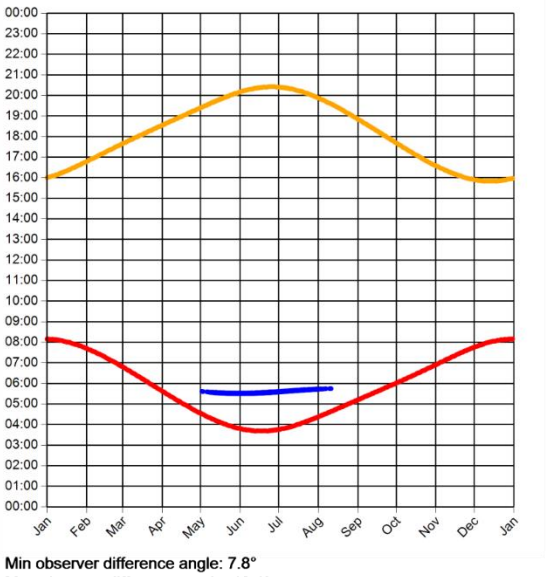
Observer Location — Sun azimuth range is 69.5° - 80.9° (yellow)



Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 103 Results

Reflection Date/Time (GMT) Graph



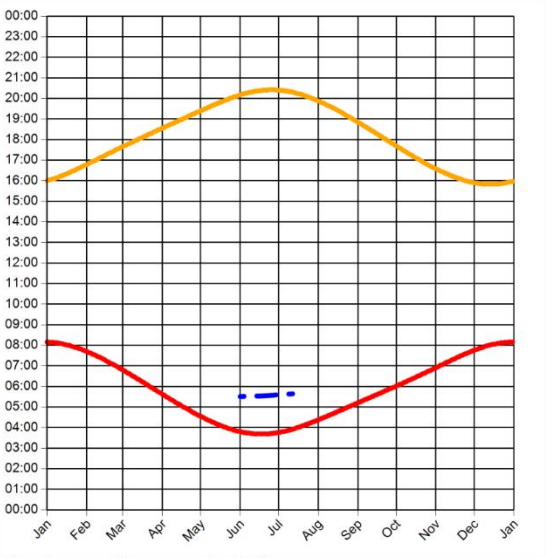
Min observer difference angle: 7.8°
Max observer difference angle: 13.4°

Observer Location — Sun azimuth range is 69.6° - 76.4° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

Observer 104 Results

Reflection Date/Time (GMT) Graph



Min observer difference angle: 12.2°
Max observer difference angle: 13.1°

Observer Location — Sun azimuth range is 69.6° - 70.9° (yellow)

Panels: Reflecting (yellow), that would reflect but Sun is behind terrain (orange)

PAGERPOWER

Urban & Renewables

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

Tel: +44 1787 319001 **Email:** info@pagerpower.com **Web:** www.pagerpower.com

Wymondley

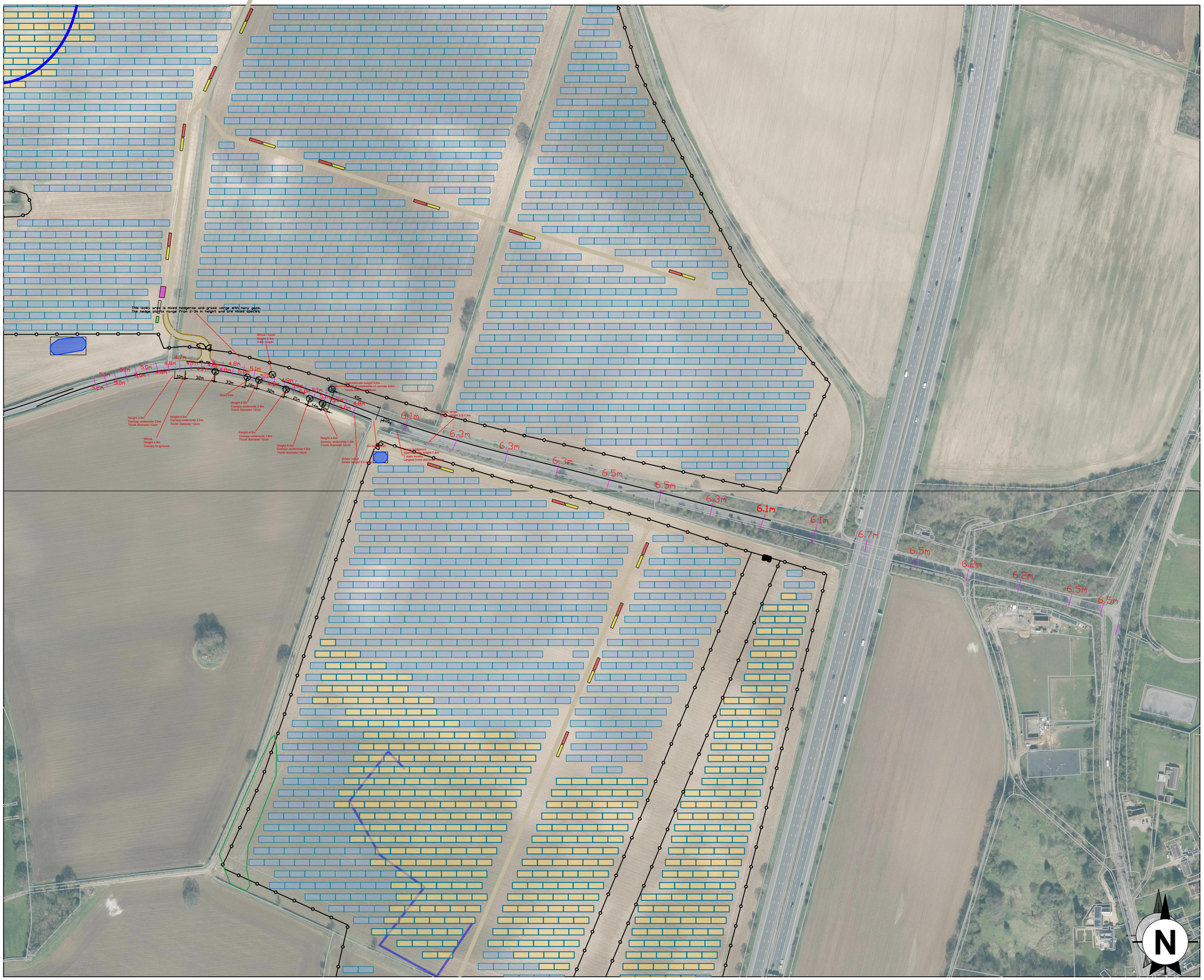
Carriageway width measurements in 10 metre intervals

	Distance (Metres)	Notes
1	5.2	First measurement point West of Southern site access
2	5.1	
3	5	
4	5.1	
5	5	
6	5	
7	4.8	
8	4.8	
9	4.7	
10	4.7	
11	4.7	
12	4.8	
13	4.8	
14	4.9	
15	5	
16	5.1	
17	5	
18	4.8	
19	4.9	
20	5	
21	5	
22	5.1	
23	5.1	
24	5	
25	5	
26	4.8	West of Northern site access

Carriageway width measurements in 50 metre intervals

	Distance (Metres)	Notes
1	6.5	Measurement point closest to B197
2	6.5	
3	6.2	
4	6.2	
5	6.5	East of A1(M) bridge
6	6.7	Under A1(M) bridge
7	6.1	West of A1(M) bidge
8	6.1	
9	6.3	
10	6.5	
11	6.5	
12	6.3	
13	6.3	
14	6.3	
15	6.1	

Q:\3001-3050\3004-01 Wymondley Solar Farm\Dwgs\CAD\Transport\3004-01-SK01 - Site Visit Notes.dwg



I Revision History	I Date
A Site Visit Notes	14.09.22

KEY:

Location of Highways Measurements

Approximate Location of Trees

Chester Office:
Well House Barns
Bretton
Chester
CH4 0DH

South Manchester Office:
Camellia House
76 Water Lane
Wilmslow
SK9 5BB

0844 8700 007 - www.axisped.co.uk

client: AGR SOLAR 4 LIMITED

project: PRIORY FARM SOLAR ARRAY

drawing title: SITE VISIT NOTES

date: SEPTEMBER 2022

drawn by: LR

checked: LK

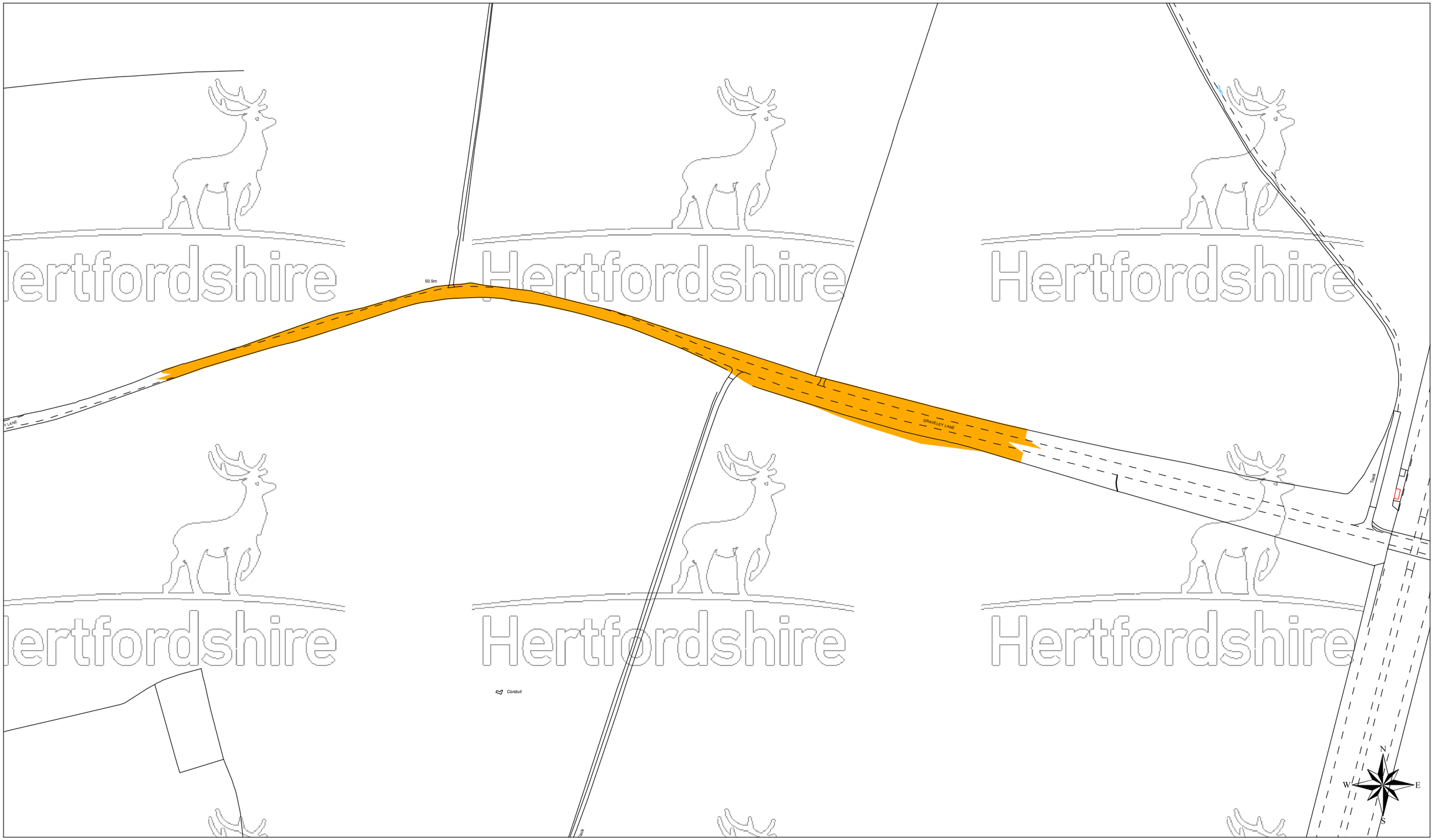
drawing number: 3004-SK01

status: PRELIM

scale(s): 1:500@A3

rev:

planning environment design



0 50 100 200 300 400 Meters

Scale at A3 **1:2,500**

Date: 18/08/2022

Graveley Road
Great Wymondley

The Rights of Way information on this plan is based on information from the Definitive Map of Public Rights of Way. The accuracy of this plan cannot be guarenteed. If in doubt the Definitive Map should be consulted.

For reference purposes only.
No further copies may be made.
Produced by Highway Boundaries & Land Charges
Hertfordshire County Council

Hertfordshire

Speed (mph)	No of measured speeds	Sum of measured speeds
v	n	Σ*v
7	39	370.5
8		0
9		0
10		0
11		0
12	166	2407
13		0
14		0
15		0
16		0
17	69	1345.5
18		0
19		0
20		0
21		0
22	389	9530.5
23		0
24		0
25		0
26		0
27	1627	47996.5
28		0
29		0
30		0
31		0
32	3047	105121.5
33		0
34		0
35		0
36		0
37	1814	71653
38		0
39		0
40		0
41		0
42	494	21983
43		0
44		0
45		0
46		0
47	95	4702.5
48		0
49		0
50		0
51		0
52	23	1253.5
53		0
54		0
55		0
56		0
57	8	476
58		0
59		0
60		0
61		0
62	0	0
63		0
64		0
65		0
66		0
67	0	0
68		0
69		0
70		0
71		0
72	0	0
73		0
74		0
75		0
76		0
77	0	0
78		0
79		0
80		0
81		0
82	0	0
83		0
84		0
85		0
86		0
87	0	0
88		0
89		0
90		0
91		0
92	0	0
93		0
94		0
95		0
96		0
97	0	0
98		0
Total	7771	266839.5

Speed (mph) Band	Frequency	Speed (mph)	v - mean	
	n	v	e	e*n
6.5-7.4	39	7	747.36	29146.98
7.5-8.4	0	8	693.68	0.00
8.5-9.4	0	9	642.01	0.00
9.5-10.4	0	10	592.33	0.00
10.5-11.4	0	11	544.66	0.00
11.5-12.4	166	12	498.98	82830.67
12.5-13.4	0	13	455.30	0.00
13.5-14.4	0	14	413.63	0.00
14.5-15.4	0	15	373.95	0.00
15.5-16.4	0	16	336.28	0.00
16.5-17.4	69	17	300.60	20741.49
17.5-18.4	0	18	266.93	0.00
18.5-19.4	0	19	235.25	0.00
19.5-20.4	0	20	205.57	0.00
20.5-21.4	0	21	177.90	0.00
21.5-22.4	389	22	152.22	59214.65
22.5-23.4	0	23	128.55	0.00
23.5-24.4	0	24	106.87	0.00
24.5-25.4	0	25	87.20	0.00
25.5-26.4	0	26	69.52	0.00
26.5-27.4	1627	27	53.84	87604.47
27.5-28.4	0	28	40.17	0.00
28.5-29.4	0	29	28.49	0.00
29.5-30.4	0	30	18.82	0.00
30.5-31.4	0	31	11.14	0.00
31.5-32.4	3047	32	5.47	16653.63
32.5-33.4	0	33	1.79	0.00
33.5-34.4	0	34	0.11	0.00
34.5-35.4	0	35	0.44	0.00
35.5-36.4	0	36	2.76	0.00
36.5-37.4	1814	37	7.09	12855.81
37.5-38.4	0	38	13.41	0.00
38.5-39.4	0	39	21.74	0.00
39.5-40.4	0	40	32.06	0.00
40.5-41.4	0	41	44.38	0.00
41.5-42.4	494	42	58.71	29001.95
42.5-43.4	0	43	75.03	0.00
43.5-44.4	0	44	93.36	0.00
44.5-45.4	0	45	113.68	0.00
45.5-46.4	0	46	136.01	0.00
46.5-47.4	95	47	160.33	15231.33
47.5-48.4	0	48	186.65	0.00
48.5-49.4	0	49	214.98	0.00
49.5-50.4	0	50	245.30	0.00
50.5-51.4	0	51	277.63	0.00
51.5-52.4	23	52	311.95	7174.88
52.5-53.4	0	53	348.28	0.00
53.5-54.4	0	54	386.60	0.00
54.5-55.4	0	55	426.92	0.00
55.5-56.4	0	56	469.25	0.00
56.5-57.4	8	57	513.57	4108.58
57.5-58.4	0	58	559.90	0.00
58.5-59.4	0	59	608.22	0.00
59.5-60.4	0	60	658.55	0.00
60.5-61.4	0	61	710.87	0.00
61.5-62.4	0	62	765.19	0.00
62.5-63.4	0	63	821.52	0.00
63.5-64.4	0	64	879.84	0.00
64.5-65.4	0	65	940.17	0.00
65.5-66.4	0	66	1002.49	0.00
66.5-67.4	0	67	1066.82	0.00
67.5-68.4	0	68	1133.14	0.00
68.5-69.4	0	69	1201.46	0.00
69.5-70.4	0	70	1271.79	0.00
70.5-71.4	0	71	1344.11	0.00
71.5-72.4	0	72	1418.44	0.00
72.5-73.4	0	73	1494.76	0.00
73.5-74.4	0	74	1573.09	0.00
74.5-75.4	0	75	1653.41	0.00
75.5-76.4	0	76	1735.73	0.00
76.5-77.4	0	77	1820.06	0.00
77.5-78.4	0	78	1906.38	0.00
78.5-79.4	0	79	1994.71	0.00
79.5-80.4	0	80	2085.03	0.00
80.5-81.4	0	81	2177.36	0.00
81.5-82.4	0	82	2271.68	0.00
82.5-83.4	0	83	2368.00	0.00
83.5-84.4	0	84	2466.33	0.00
84.5-85.4	0	85	2566.65	0.00
85.5-86.4	0	86	2668.98	0.00
86.5-87.4	0	87	2773.30	0.00
87.5-88.4	0	88	2879.63	0.00
88.5-89.4	0	89	2987.95	0.00
89.5-90.4	0	90	3098.27	0.00
90.5-91.4	0	91	3210.60	0.00
91.5-92.4	0	92	3324.92	0.00
92.5-93.4	0	93	3441.25	0.00
93.5-94.4	0	94	3559.57	0.00
94.5-95.4	0	95	3679.90	0.00
95.5-96.4	0	96	3802.22	0.00
96.5-97.4	0	97	3926.54	0.00
97.5-98.4	0	98	4052.87	0.00
Total	7771			364564.45

Survey Details

Date:	10-16th Sep 21 inclusive
Road / Location:	
	Graveley Lane, Great Wymondley
Direction of traffic:	ATC 1 - eastbound
Weather:	wet
Surveyor:	NDC
Speed Limit:	60mph

DMRB - CA 185 Calculations

Mean Speed (m) = sum (Σ*v)/n	34.34 mph
Standard deviation (s) = SQRT(sum(Σ*(v-m²))/n-1)	6.85 mph
Wet 85th%ile Design Speed = Mean Speed (m) + Standard Deviation (s)	
Dry 85th%ile Design Speed Correction = +2.5mph	

Therefore, the 85th%ile Speed = 41.19 mph
or
66.27 kph

axis

Calculation of 85th Percentile Design Speed from Speed Survey - ATC 1 Eastbound

Proposed Solar Farm, Great Wymondley

Aug-22

3004-01

Speed (mph)	No of measured speeds	Sum of measured speeds
v	n	Σ*v
7	1	9.5
8		0
9		0
10		0
11		0
12	24	348
13		0
14		0
15		0
16		0
17	115	2242.5
18		0
19		0
20		0
21		0
22	174	4263
23		0
24		0
25		0
26		0
27	223	6578.5
28		0
29		0
30		0
31		0
32	743	25633.5
33		0
34		0
35		0
36		0
37	1901	75089.5
38		0
39		0
40		0
41		0
42	2092	93094
43		0
44		0
45		0
46		0
47	1053	52123.5
48		0
49		0
50		0
51		0
52	350	19075
53		0
54		0
55		0
56		0
57	93	5533.5
58		0
59		0
60		0
61		0
62	31	1999.5
63		0
64		0
65		0
66		0
67	14	973
68		0
69		0
70		0
71		0
72	7	521.5
73		0
74		0
75		0
76		0
77	2	159
78		0
79		0
80		0
81		0
82	1	84.5
83		0
84		0
85		0
86		0
87	0	0
88		0
89		0
90		0
91		0
92	1	94.5
93		0
94		0
95		0
96		0
97	0	0
98		0
Total	6825	287822.5

Speed (mph) Band	Frequency	Speed (mph)	v - mean	
	n	v	e	e*n
6.5-7.4	1	7	1237.06	1237.06
7.5-8.4	0	8	1167.71	0.00
8.5-9.4	0	9	1100.37	0.00
9.5-10.4	0	10	1035.02	0.00
10.5-11.4	0	11	971.68	0.00
11.5-12.4	24	12	910.34	21848.09
12.5-13.4	0	13	850.99	0.00
13.5-14.4	0	14	793.65	0.00
14.5-15.4	0	15	738.31	0.00
15.5-16.4	0	16	684.96	0.00
16.5-17.4	115	17	633.62	72866.21
17.5-18.4	0	18	584.28	0.00
18.5-19.4	0	19	536.93	0.00
19.5-20.4	0	20	491.59	0.00
20.5-21.4	0	21	448.24	0.00
21.5-22.4	174	22	406.90	70800.83
22.5-23.4	0	23	367.56	0.00
23.5-24.4	0	24	330.21	0.00
24.5-25.4	0	25	294.87	0.00
25.5-26.4	0	26	261.53	0.00
26.5-27.4	223	27	230.18	51330.89
27.5-28.4	0	28	200.84	0.00
28.5-29.4	0	29	173.50	0.00
29.5-30.4	0	30	148.15	0.00
30.5-31.4	0	31	124.81	0.00
31.5-32.4	743	32	103.47	76874.80
32.5-33.4	0	33	84.12	0.00
33.5-34.4	0	34	66.78	0.00
34.5-35.4	0	35	51.43	0.00
35.5-36.4	0	36	38.09	0.00
36.5-37.4	1901	37	26.75	50846.93
37.5-38.4	0	38	17.40	0.00
38.5-39.4	0	39	10.06	0.00
39.5-40.4	0	40	4.72	0.00
40.5-41.4	0	41	1.37	0.00
41.5-42.4	2092	42	0.03	61.74
42.5-43.4	0	43	0.69	0.00
43.5-44.4	0	44	3.34	0.00
44.5-45.4	0	45	8.00	0.00
45.5-46.4	0	46	14.66	0.00
46.5-47.4	1053	47	23.31	24547.08
47.5-48.4	0	48	33.97	0.00
48.5-49.4	0	49	46.62	0.00
49.5-50.4	0	50	61.28	0.00
50.5-51.4	0	51	77.94	0.00
51.5-52.4	350	52	96.59	33807.77
52.5-53.4	0	53	117.25	0.00
53.5-54.4	0	54	139.91	0.00
54.5-55.4	0	55	164.56	0.00
55.5-56.4	0	56	191.22	0.00
56.5-57.4	93	57	219.88	20448.44
57.5-58.4	0	58	250.53	0.00
58.5-59.4	0	59	283.19	0.00
59.5-60.4	0	60	317.84	0.00
60.5-61.4	0	61	354.50	0.00
61.5-62.4	31	62	393.16	12187.89
62.5-63.4	0	63	433.81	0.00
63.5-64.4	0	64	476.47	0.00
64.5-65.4	0	65	521.13	0.00
65.5-66.4	0	66	567.78	0.00
66.5-67.4	14	67	616.44	8630.16
67.5-68.4	0	68	667.10	0.00
68.5-69.4	0	69	719.75	0.00
69.5-70.4	0	70	774.41	0.00
70.5-71.4	0	71	831.07	0.00
71.5-72.4	7	72	889.72	6228.05
72.5-73.4	0	73	950.38	0.00
73.5-74.4	0	74	1013.03	0.00
74.5-75.4	0	75	1077.69	0.00
75.5-76.4	0	76	1144.35	0.00
76.5-77.4	2	77	1213.00	2426.01
77.5-78.4	0	78	1283.66	0.00
78.5-79.4	0	79	1356.32	0.00
79.5-80.4	0	80	1430.97	0.00
80.5-81.4	0	81	1507.63	0.00
81.5-82.4	1	82	1586.29	1586.29
82.5-83.4	0	83	1666.94	0.00
83.5-84.4	0	84	1749.60	0.00
84.5-85.4	0	85	1834.26	0.00
85.5-86.4	0	86	1920.91	0.00
86.5-87.4	0	87	2009.57	0.00
87.5-88.4	0	88	2100.22	0.00
88.5-89.4	0	89	2192.88	0.00
89.5-90.4	0	90	2287.54	0.00
90.5-91.4	0	91	2384.19	0.00
91.5-92.4	1	92	2482.85	2482.85
92.5-93.4	0	93	2583.51	0.00
93.5-94.4	0	94	2686.16	0.00
94.5-95.4	0	95	2790.82	0.00
95.5-96.4	0	96	2897.48	0.00
96.5-97.4	0	97	3006.13	0.00
97.5-98.4	0	98	3116.79	0.00
Total	6825			458211.07

Survey Details

Date:	10-16th Sep 21 inclusive
Road / Location:	
	Graveley Lane, Great Wymondley
Direction of traffic:	ATC 2 - westbound
Weather:	wet
Surveyor:	NDC
Speed Limit:	60mph

DMRB - CA 185 Calculations

Mean Speed (m) = sum (Σ*v)/n	42.17 mph
Standard deviation (s) = SQRT(sum(Σ*(v-m²))/n-1)	8.19 mph
Wet 85th%ile Design Speed = Mean Speed (m) + Standard Deviation (s)	
Dry 85th%ile Design Speed Correction = +2.5mph	
Therefore, the 85th%ile Speed =	**50.37 mph or 81.04 kph**

axis

Calculation of 85th Percentile Design Speed from Speed Survey - ATC 2 Westbound

Proposed Solar Farm, Great Wymondley

Aug-22

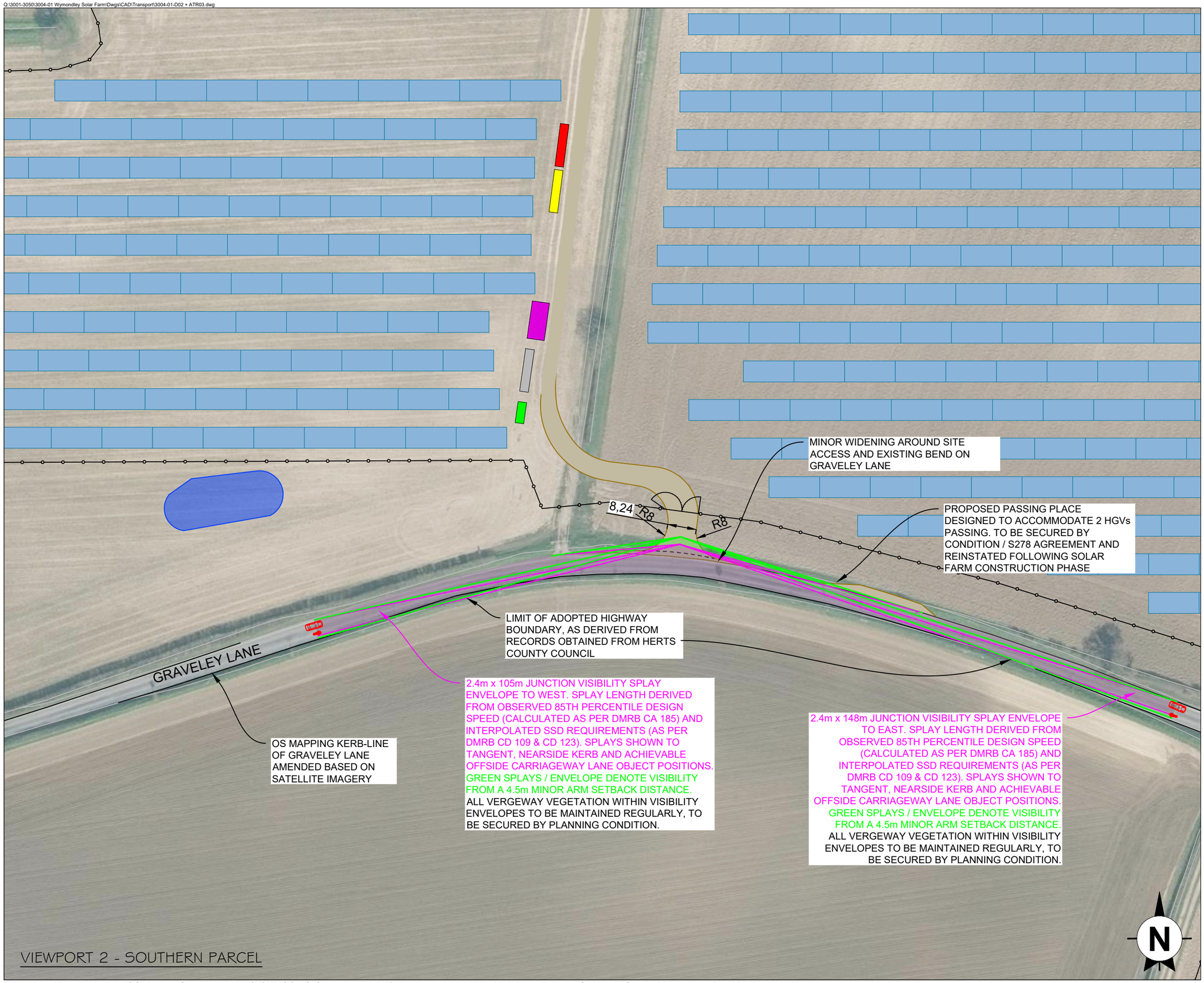
3004-01

Stopping Sight Distances - DMRB TD9/93

formula =	**$vt + v^2 / 2d$**	
v (speed m/s)	*variable*	
t (driver reaction time)	2	secs
d (deceleration)	2.45	m/s^2

km/h	mph	v (m/s)	SSD	
16	9.9	4.4	13	
17	10.6	4.7	14	
18	11.2	5.0	15	
19	11.8	5.3	16	
20	12.4	5.6	17	
21	13.1	5.8	19	
22	13.7	6.1	20	
23	14.3	6.4	21	
24	14.9	6.7	22	
25	15.5	6.9	24	
26	16.2	7.2	25	
27	16.8	7.5	26	
28	17.4	7.8	28	
29	18.0	8.1	29	
30	18.6	8.3	31	
31	19.3	8.6	32	
32	19.9	8.9	34	
33	20.5	9.2	35	
34	21.1	9.4	37	
35	21.8	9.7	39	
36	22.4	10.0	40	
37	23.0	10.3	42	
38	23.6	10.6	44	
39	24.2	10.8	46	
40	24.9	11.1	47	
41	25.5	11.4	49	
42	26.1	11.7	51	
43	26.7	11.9	53	
44	27.3	12.2	55	
45	28.0	12.5	57	
46	28.6	12.8	59	
47	29.2	13.1	61	
48	29.8	13.3	63	
49	30.5	13.6	65	
50	31.1	13.9	67	
51	31.7	14.2	69	
52	32.3	14.4	71	
53	32.9	14.7	74	
54	33.6	15.0	76	
55	34.2	15.3	78	
56	34.8	15.6	80	
57	35.4	15.8	83	
58	36.0	16.1	85	
59	36.7	16.4	88	
60	37.3	16.7	90	
61	37.9	16.9	92	
62	38.5	17.2	95	
63	39.2	17.5	98	
64	39.8	17.8	100	
65	40.4	18.1	103	
66	41.0	18.3	105	ATC1 Eastbound
67	41.6	18.6	108	
68	42.3	18.9	111	
69	42.9	19.2	113	
70	43.5	19.4	116	
71	44.1	19.7	119	
72	44.7	20.0	122	
73	45.4	20.3	124	
74	46.0	20.6	127	
75	46.6	20.8	130	
76	47.2	21.1	133	
77	47.9	21.4	136	
78	48.5	21.7	139	
79	49.1	21.9	142	
80	49.7	22.2	145	
81	50.3	22.5	148	ATC2 Westbound
82	51.0	22.8	151	
83	51.6	23.1	155	
84	52.2	23.3	158	
85	52.8	23.6	161	
86	53.4	23.9	164	
87	54.1	24.2	168	
88	54.7	24.4	171	
89	55.3	24.7	174	
90	55.9	25.0	178	
91	56.6	25.3	181	
92	57.2	25.6	184	
93	57.8	25.8	188	
94	58.4	26.1	191	
95	59.0	26.4	195	
96	59.7	26.7	198	
97	60.3	26.9	202	
98	60.9	27.2	206	
99	61.5	27.5	209	
100	62.2	27.8	213	

Q:\3001-3050\3004-01 Wymondley Solar Farm\Dwgs\CAD\Transport\3004-01-D02 + ATR03.dwg



VIEWPORT 2 - SOUTHERN PARCEL

• Revision History	• Date
A	

Chester Office:
Well House Barns
Bretton
Chester
CH4 0DH

South Manchester Office:
Camellia House
76 Water Lane
Wilmslow
SK9 5BB

0844 8700 007 - www.axisped.co.uk

axis

client: AGR 4 SOLAR LIMITED

project: PRIORY FARM SOLAR ARRAY

drawing title: PROPOSED NORTHERN SITE ACCESS (REVISED)

date:	drawn by:	checked:
AUG 22	LK	LK

drawing number: 3004-01-D02

status: Prelim

scale(s): 1:1000@A3

rev:

planning environment design