



Craig Y Perthi Solar Farm

Environmental Impact Assessment Scoping Report

Prepared for

RWE

RWE Renewables UK

July 2026
3312-01-EIA-001



Document Control

Revision	Date	Prepared By	Reviewed / Approved By
3312-01-EIA-001	July 2026	James Walkington	Steve Harding

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Well House Barns, Chester Road, Bretton, Chester, CH4 0DH
1st Floor, Barfield House, Alderley Road, Wilmslow, SK9 1PL
Maling Exchange, Studio 305, Hoults Yard, Walker Road, Newcastle Upon Tyne, NE6 2HL

T: 0344 8700 007
enquiries@axis.co.uk
www.axis.co.uk

CONTENTS

1.0	INTRODUCTION AND BACKGROUND	1
1.1	Introduction	1
1.2	The Applicant.....	1
1.3	Planning History and Evolution of the Proposed Development.....	2
1.4	Requirement for Environmental Impact Assessment (EIA).....	4
1.5	Purpose of Scoping.....	5
1.6	Content of this Scoping Report	7
2.0	THE SITE	8
3.0	THE PROPOSED DEVELOPMENT.....	10
3.1	The Proposed Development	10
3.2	Key Design Considerations	11
3.3	Embedded Mitigation	16
3.4	Standard Control Measures	19
3.5	Components of the Solar Farm	24
3.6	Construction of the Solar Farm	33
3.7	Decommissioning.....	39
4.0	EIA SCOPING SUMMARY	41
4.2	Traffic and Transport.....	43
4.3	Air Quality / Noise and Vibration	45
4.4	Population and Human Health	45
4.5	Geology and Soils.....	46
4.6	Material Assets and Waste	47
4.7	Climate Change	48
4.8	Major Accidents and Disasters.....	48
4.9	Lighting / Glare	49
5.0	OVERARCHING IMPACT ASSESSMENT METHODOLOGY	50
5.1	Introduction	50
5.2	ES Chapter Structure	50
6.0	LANDSCAPE AND VISUAL IMPACT ASSESSMENT	66
6.1	Introduction	66
6.2	Baseline	66
6.3	Potential Effects	77
7.0	BIODIVERSITY	81
7.1	Introduction	81
7.2	Baseline	81
7.3	Potential Effects	85
7.4	Assessment Methodology	86
8.0	CULTURAL HERITAGE	98



8.1	Introduction	98
8.2	Baseline	98
8.3	Potential Effects	101
9.0	HYDROLOGY AND FLOOD RISK	105
9.1	Introduction	105
9.2	Baseline	105
9.3	Potential Effects	106
10.0	PROPOSED CONTENTS OF THE ENVIRONMENTAL STATEMENT	112

TABLES

Table 4.1	Summary of proposed EIA scope	41
Table 5.1	Example Significance of Effect Matrix	52
Table 5.2	Cumulative Developments	61
Table 6.1	Summary of proposed EIA scope	66
Table 7.1	Solar Farm Zone of Influence on Ecological Receptors	81
Table 7.2	Consultation on Ecology	88
Table 7.3	Matrix for assessment of significant effect	90
Table 7.4	Avifauna interest features of internationally designated sites	97
Table 9.1	Deprivation of Sensitivity of Receptor	108
Table 9.2	Deprivation of Magnitude of Change	109
Table 9.3	Significance Matrix	111

FIGURES

Figure 1	– Location Plan
Figure 2	– Proposed Site Layout
Figure 3	– Historic Site Layout – Previous Application
Figure 4	– Environmental Constraints for Site Selection
Figure 5	– Cumulative Developments
Figure 6	– ZTV
Figure 7	– Illustrative Landscape Masterplan

APPENDICES

Appendix 1	– Acceptance of DNS Notification
Appendix 2	– ALC Report
Appendix 3	– Transport Statement
Appendix 4	– Construction and Transport Management Plan
Appendix 5	– Noise Report



APPENDICES



Appendix 1 – Acceptance of DNS Notification



Adeilad y Goron
Parc Cathays
Caerdydd
CF10 3NQ

Crown Building
Cathays Park
Cardiff
CF10 3NQ

Ein Cyf / Our Ref: CAS-04722-K8H0X1

Ffôn / Tel: 0300 123 1590

Dyddiad / Date: 16.12.2025

E-Bost / E-Mail: PEDW.Seilwaith@llyw.cymru / PEDW.infrastructure@gov.wales

Axis (Asiant yr Ymgeisydd / Applicant's Agent)

Cyngor Dinas Casnewydd / Newport City Council (Awdurdod Cynllunio Lleol / Local
Planning Authority)

(gan E-Bost / via E-Mail)

Annwyl Syr / Madam | Dear Sir / Madam

**** English Text follows the Welsh text, see page 05 onwards****

Deddf Cynllunio Gwlad a Thref 1990 (fel y'i diwygiwyd) ('Deddf 1990')

Rheoliadau Datblygiadau o Arwyddocâd Cenedlaethol (Cymru) 2016

(fel y'u diwygiwyd) ('y Rheoliadau DAC')

Gorchymyn Datblygiadau o Arwyddocâd Cenedlaethol (Gweithdrefn) (Cymru) 2016

(fel y'i diwygiwyd) ('y Gorchymyn Gweithdrefn DAC')

Cais gan: RWE Solar and Storage UK Limited

Cyfeiriad y safle: Mae'r safle wedi'i leoli ar dir rhwng priffordd M4 a rheilffordd Prif Llinell
De Cymru, ger Llanwern, Underwood a Bishton

Cyflwynwyd hysbysiad o gais arfaethedig ar gyfer Datblygiad o Arwyddocâd Cenedlaethol
(DAC) i Penderfyniadau Cynllunio ac Amgylchedd Cymru (PCAC).

Ar ôl asesu'r dogfennau a gyflwynwyd, gallaf gadarnhau'r canlynol:

- bod y cynnig o fewn y meini prawf i'w ystyried fel cais DAC;
- darparwyd y dogfennau a fyynnir gan y Rheoliadau uchod; ac
- mae'r ffi berthnasol wedi'i thalu yn llawn.

Dylid ymdrin â'r llythyr hwn felly fel **hysbysiad swyddogol o dderbyn yr hysbysiad, o
dan Erthygl 6 Gorchymyn Gweithdrefn DAC 2016.**

Rydym yn croesawu gohebiaeth Gymraeg. Cewch ateb Cymraeg i bob gohebiaeth
Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome correspondence in Welsh. Correspondence received in Welsh will be
answered in Welsh and corresponding in Welsh will not involve any delay.

Rhaid cyflwyno'r cais dilys yn ffurfiol erbyn dydd Llun 14 Rhagfyr 2026.
Dylai'r holl bartïon ddarllen y canlynol yn ofalus i sicrhau eu bod yn deall y broses a nodi unrhyw derfynau amser perthnasol.

1. Yr Ymgeisydd

Mae nawr yn ofynnol i'r Ymgeisydd roi cyhoeddusrwydd i'r cais cyn ei gyflwyno'n ffurfiol. Yn unol ag Erthygl 8 Gorchymyn Gweithdrefn DAC 2016, rhaid i'r Ymgeisydd rhoi cyhoeddusrwydd i'r cais arfaethedig nawr drwy wneud y canlynol—

- (a) *rhoi hysbysiad gofynnol -*
 - (i) *drwy ei arddangos ar y safle, mewn o leiaf un man ar neu gerllaw'r tir y mae'r cais arfaethedig yn ymwneud ag ef, am gyfnod o ddim llai na 42 diwrnod;*
 - (ii) *drwy ysgrifennu at berchennog neu feddiannydd unrhyw dir sy'n cyd-ffinio â'r tir y mae'r cais arfaethedig yn ymwneud ag ef; a*
 - (iii) *thrwy gyhoeddi'r hysbysiad mewn papur newydd sy'n cylchredeg yn y gymdogaeth y lleolir ynddi'r tir y mae'r cais arfaethedig yn ymwneud ag ef; a*
- (b) *chyhoeddi'r wybodaeth ganlynol ar wefan a gynhelir gan yr ymgeisydd, am gyfnod o ddim llai na 42 diwrnod sy'n dechrau gyda phob un o'r diwrnodau y rhoddir pob un o'r hysbysïadau y cyfeirir atynt yn is-baragraff (a) neu erthygl 9(2) –*
 - (i) *y ffurflen gais ddrafft a gyhoeddwyd gan Weinidogion Cymru o dan erthygl 12(1)(a) (neu ffurflen sydd, o ran sylwedd, yn cael yr un effaith), gan gynnwys y manylion a bennir neu y cyfeirir atynt yn y ffurflen;*
 - (ii) *cynllun sy'n galluogi adnabod y tir y mae'r cais arfaethedig yn ymwneud ag ef;*
 - (iii) *unrhyw gynlluniau, lluniadau a gwybodaeth arall sy'n angenrheidiol er mwyn disgrifio'r datblygiad sy'n destun y cais arfaethedig;*
 - (iv) *copi o'r hysbysiad a fyynnir gan erthygl 6 ac nad yw wedi dar fod o dan baragraff (3) o'r erthygl honno;*
 - (v) *y datganiad dylunio a mynediad a fyynnir gan erthygl 14;*
 - (vi) *yn ddarostyngedig i erthygl 12(3), y manylion neu'r dystiolaeth sy'n ofynnol gan Weinidogion Cymru o dan adran 62(3) o Ddeddf 1990 (ceisiadau am ganiatâd cynllunio);*
 - (vii) *pan fo'n gymwys, datganiad y cyfeirir ato fel y datganiad amgylcheddol ar gyfer y datblygiad arfaethedig; a*
 - (viii) *datganiad ysgrifenedig ynghylch unrhyw gydsyniad eilaidd sy'n gysylltiedig â'r cais arfaethedig ac y tybia'r ymgeisydd fod penderfyniad ar y cydsyniad hwnnw i gael ei wneud, neu y dylid ei wneud, gan Weinidogion Cymru, ynghyd â'r ffurflen gais ddrafft a'r dogfennau sy'n gysylltiedig â chydsyniadau o'r fath.*

Mae hefyd yn ofynnol i'r Ymgeisydd ymgymryd ag ymgynghoriad, yn unol ag Erthygl 9 Gorchymyn Gweithdrefn DAC 2016:

- (1) *Mae'r personau neu ddisgrifiadau o bersonau canlynol wedi eu pennu at ddibenion adran 61Z(4) o Ddeddf 1990 –*
 - (a) *unrhyw ymgynghorai cymunedol;*
 - (b) *unrhyw ymgynghorai arbenigol; ac*

Rydym yn croesawu gohebiaeth Gymraeg. Cewch ateb Cymraeg i bob gohebiaeth Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome correspondence in Welsh. Correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not involve any delay.

- (c) *unrhyw berson perthnasol.*
- (2) *Lle bo'n ofynnol bod ymgeisydd yn ymgynghori ag ymgynghorai cymunedol neu berson perthnasol, rhaid i'r ymgeisydd roi i'r ymgynghorai cymunedol neu'r person perthnasol hysbysiad gofynnol ysgrifenedig o'r cais arfaethedig.*
- (3) *Lle bo'n ofynnol bod ymgeisydd yn ymgynghori ag ymgynghorai arbenigol, rhaid i'r ymgeisydd roi i'r ymgynghorai arbenigol hysbysiad gofynnol ysgrifenedig o'r cais arfaethedig ac amgáu pob un o'r dogfennau y cyfeirir atynt yn erthygl 8(1)(b) neu ddarparu dolen i wefan lle y gellir gweld y dogfennau hynny.*
- (4) *Rhaid i'r ymgeisydd fod wedi cydymffurfio â pharagraffau (2) a (3) ac wedi rhoi amser i'r ymgynghorai arbenigol ymateb yn unol ag erthygl 10(1) cyn cyflwyno cais.*

Mae'n ofynnol i'r Ymgeisydd gyflwyno adroddiad ymgynghori cyn-ymgeisio fel rhan o gyflwyno'r cais, yn unol ag Erthygl 11 y Gorchymyn Gweithdrefn DAC. Rhaid i PCAC fod yn fodlon bod gofynion Gorchymyn Gweithdrefn DAC 2016 wedi'u bodloni, a bod ymatebion wedi helpu i lywio'r cynllun terfynol, cyn y gellir derbyn cais i'w archwilio.

Os oes angen rhif Archeb Brynu ar yr Ymgeisydd er mwyn prosesu taliad, dylech ei roi i PCAC cyn gynted ag y bo'n gyfleus. Gallai darparu unrhyw fanylion o'r fath yn hwyr arwain at oedi yn y broses anfonebu.

2. Yr Awdurdod Cynllunio Lleol

Mae'n bwysig bod yr Awdurdod Cynllunio Lleol (ACLI) yn defnyddio'r broses cyn-ymgeisio i ymgyswddo â'r cais a chasglu gwybodaeth a fydd yn helpu i lunio Adroddiad ar yr Effaith Lleol (AELI), sylwadau ysgrifenedig ac unrhyw Ddatganiad Tir Cyffredin. Mae mabwysiadu dull rhagweithiol yn ystod y cam hwn yn debygol o leihau'r galw ar adnoddau'r Awdurdod yn ystod y cam archwilio. Mae rhagor o arweiniad ar y mater hwn i'w gael yn [Nogfen Canllawiau Gweithdrefnol](#) y DAC.

Fel y gallech fod yn gwybod, mae PCAC yn gyfrifol am gyhoeddi manylion y cais pan fydd wedi'i gyflwyno, ac ysgrifennu at y rhai y gallai'r cais effeithio arnynt.

O ystyried hyn, byddai'n hynod ddefnyddiol pe gallech ddarparu rhestr o bobl y byddech wedi'u hysbysu, pe byddai'r cais wedi'i gyflwyno'n uniongyrchol i chi, ar fyrder. Yn benodol:

- pob cynghorydd sir neu gynghorydd bwrdeistref sirol sy'n cynrychioli ward etholiadol y lleolir ynddi dir y mae'r cais arfaethedig yn ymwneud ag ef;
- pob cyngor cymuned y lleolir yn ei ardal dir y mae'r cais arfaethedig yn ymwneud ag ef;
- eiddo cyfagos; ac
- unrhyw unigolion perthnasol eraill a chyrrff arbenigol fel y gwelwch yn briodol.

3. Pob parti

Rydym yn croesawu gohebiaeth Gymraeg. Cewch ateb Cymraeg i bob gohebiaeth Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome correspondence in Welsh. Correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not involve any delay.

Os oes gan unrhyw barti gwestiynau'n ymwneud â'r llythyr hwn, neu'r broses DAC ei hun, mae pob croeso i chi gysylltu â mi gan ddefnyddio'r cyfeiriad e-bost neu'r cyfeiriad post ar frig yr hysbysiad hwn.

Yr eiddoch yn gywir

Hannah Roberts

Hannah Roberts

Arweinydd Tîm Caniatâd Seilwaith

**** English text begins on the next page****

Rydym yn croesawu gohebiaeth Gymraeg. Cewch ateb Cymraeg i bob gohebiaeth Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

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Town and Country Planning Act 1990 (as amended) ('the 1990 Act')
The Developments of National Significance (Wales) Regulations 2016 (as amended)
('the DNS Regulations')
The Developments of National Significance (Procedure) (Wales) Order 2016
(as amended) ('the DNS Procedure Order')

Application by: RWE Solar and Storage UK Limited

Site address: The site is located on land between the M4 motorway and the South Wales Main Line railway, near Llanwern, Underwood and Bishton

Notice of a proposed application for a Development of National Significance (DNS) has been submitted to Planning and Environment Decisions Wales (PEDW).

Having assessed the submitted documents, I can confirm that:

- the proposal falls within the criteria to be considered as a DNS application;
- the documents required by the above Regulations have been provided; and
- the relevant fee has been paid in full.

This letter therefore should therefore be treated as **official notice of acceptance of the notification, under Article 6 of the 2016 DNS Procedure Order.**

The valid application must be formally submitted by Monday 14 December 2026.

All parties should read the following carefully to ensure they understand the process and note any relevant deadlines.

1. The Applicant

The Applicant is now required to carry out publicity before the application is formally submitted. In accordance with Article 8 of the 2016 DNS Procedure Order, the Applicant must now publicise the proposed application by—

- (a) *giving requisite notice -*
 - (i) *by site display in at least one place on or near the land to which the proposed application relates for not less than 42 days;*
 - (ii) *in writing to any owner or occupier of any land adjoining the land to which the proposed application relates; and*
 - (iii) *by publication of the notice in a newspaper circulating in the locality in which the land to which the proposed application relates is situated; and*
- (b) *publishing the following information on a website maintained by the applicant, for not less than 42 days beginning with each day on which each of the notices referred to in subparagraph (a) or article 9(2) are given –*

Rydym yn croesawu gohebiaeth Gymraeg. Cewch ateb Cymraeg i bob gohebiaeth Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome correspondence in Welsh. Correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not involve any delay.

- (i) *the draft application form published by the Welsh Ministers under article 12(1)(a) (or a form substantially to the like effect), including the particulars specified in or referred to in the form;*
- (ii) *a plan which identifies the land to which the proposed application relates;*
- (iii) *any other plans, drawings and information necessary to describe the development which is the subject of the proposed application;*
- (iv) *a copy of the notice required by article 6 which has not lapsed under paragraph (3) of that article;*
- (v) *the design and access statement required by article 14;*
- (vi) *subject to article 12(3), the particulars or evidence required by the Welsh Ministers under section 62(3) of the 1990 Act (applications for planning permission);*
- (vii) *where applicable, a statement referred to as the environmental statement for the proposed development; and*
- (viii) *a written statement about any secondary consent connected with the proposed application in respect of which the applicant considers a decision on that consent is to be made or should be made by the Welsh Ministers, together with the draft application form and documents associated with such consents.*

The Applicant is also required to carry out consultation in line with Article 9 of the 2016 DNS Procedure Order:

- (1) *The following persons or descriptions of persons are specified for the purposes of section 61Z(4) of the 1990 Act –*
 - (a) *any community consultee;*
 - (b) *any specialist consultee; and*
 - (c) *any relevant person.*
- (2) *Where an applicant is required to consult a community consultee or a relevant person, the applicant must give the community consultee or the relevant person requisite notice in writing of the proposed application.*
- (3) *Where an applicant is required to consult a specialist consultee, the applicant must give the specialist consultee requisite notice in writing of the proposed application and enclose each of the documents referred to in article 8(1)(b) or provide a link to a website on which those documents can be found.*
- (4) *The applicant must have complied with paragraphs (2) and (3) and have given the specialist consultee time to respond in accordance with article 10(1) before an application is submitted.*

The Applicant is required to submit a pre-application consultation report as part of the application submission in accordance with Article 11 of the DNS Procedure Order. PEDW must be satisfied that the requirements of the 2016 DNS Procedure Order have been met and that responses have helped inform the final scheme, before an application can be accepted for examination.

If the Applicant requires a Purchase Order number to be quoted for payment to be processed, please provide this to PEDW at your earliest convenience. Late provision of any such details could lead to delays in the invoicing process.

Rydym yn croesawu gohebiaeth Gymraeg. Cewch ateb Cymraeg i bob gohebiaeth Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome correspondence in Welsh. Correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not involve any delay.

2. The Local Planning Authority

It is important that the Local Planning Authority (LPA) uses the pre-application process to inform itself about the application and gather information that will assist in the production of a Local Impact Report (LIR), written representations, and any Statement of Common Ground (SoCG). Adopting a proactive approach at this stage is likely to reduce the demand on the Authority's resources during the examination stage. Further guidance on this matter can be found in the DNS [Procedural Guidance document](#).

As you may be aware, it is PEDW's responsibility to publish details of the application when it has been submitted, and to write to those who may be affected by it.

In view of this it would be extremely helpful if you were able to provide a list of people you would have notified, had the application been made directly to you, as a matter of urgency. Specifically:

- each county or county borough councillor representing an electoral ward in which the land to which the proposed application relates is situated;
- each community council in whose area the land to which the proposed application relates is situated;
- neighbouring properties; and
- any other relevant persons and specialist bodies that you see fit.

3. All parties

If any party has any queries in relation to this letter, or the DNS process itself, please do not hesitate to contact me, using the email address or postal address in the header of this notice.

Yours sincerely

Hannah Roberts

Hannah Roberts
Infrastructure Consenting Team Leader

Rydym yn croesawu gohebiaeth Gymraeg. Cewch ateb Cymraeg i bob gohebiaeth Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

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Appendix 2 – ALC Report





AGRICULTURAL LAND CLASSIFICATION CRAIG Y PERTHI SOLAR FARM

CLIENT: RWE RENEWABLES UK
PROJECT: CRAIG Y PERTHI SOLAR FARM
DATE: 9TH JUNE 2026 – ISSUE 6
ISSUED BY: JAMES FULTON MRICS FAAV

CONTENTS

1. EXECUTIVE SUMMARY
2. INTRODUCTION
3. PUBLISHED INFORMATION
4. CLIMATE
5. STONINESS
6. GRADIENT
7. SOILS

INTERACTIVE FACTORS

8. WETNESS
9. DROUGHTINESS
10. AGRICULTURAL LAND CLASSIFICATION

APPENDIX 1 – PLAN OF SITE WITH SAMPLING POINTS

APPENDIX 2 – AGRO-CLIMATIC DATA

APPENDIX 3 – SAMPLE ASSESSMENT

APPENDIX 4 – WETNESS ASSESMENT

APPENDIX 5 – DESCRIPTION OF AGRICULTURAL LAND CLASSIFICATION GRADES

APPENDIX 6 – MAP OF LAND GRADING

1. EXECUTIVE SUMMARY

- 1.1 This report assesses the Agricultural Land Classification (ALC) grading of 170.2Ha, or thereabouts, of agricultural land at Bishton, Gwent.
- 1.2 The limiting factor is found to be soil wetness, a combination of the climatic regime, soil water regime and texture of the top 25cm of the soil.
- 1.3 The land is graded as follows:

Grade 3b:	22.6 hectares
Grade 4:	144.7 hectares
Non-Agricultural:	2.9 hectare

2. INTRODUCTION

- 2.1 Amet Property Ltd have been instructed by JBM Solar Projects 25 Limited to produce an Agricultural Land Classification (ALC) report on a 170.2-hectare site to the east and west of the village of Bishton in Gwent, north of the Llanwern steel works in support of a planning application for a solar farm and associated development (the Proposed Development).
- 2.2 The report's author is James Fulton BSc (Hons) MRICS FAAV who has worked as a chartered surveyor, agricultural valuer, and agricultural consultant since 2004, has a degree in agriculture which included a number of modules on soils and over 10 years' experience in producing agricultural land classification reports.
- 2.3 The report is based on site visits conducted in October and November 2021. During site visits conditions ranged from full sunshine to overcast and showery. During the inspection 4 trial pits were dug to a depth of 120cm (where possible). In addition to the trial pits an augur was used to take a minimum of one sample per hectare on the proposed development site to a depth of 120cm (where possible) with smaller trial pits at some of these locations to confirm soil structure and colour where it was not clear from the augur samples. A plan of augur points and trial pit locations can be found at **appendix 1**. The trial pit locations were selected as they were representative of the soils found on site.
- 2.4 The survey area is made up of approximately 50 land parcels (depending on what you treat as a field boundary). The land rises from approximately 4m AOD at the southern boundary of the site where it meets the railway to 60m AOD at its highest point.
- 2.5 At the time of the survey the land use was permanent pasture, temporary grass, and arable cropping.
- 2.6 Further information has been obtained from the MAGIC website, the Soil Survey of England and Wales, the British Geological Survey, the Meteorological Office and The Predictive ALC Map for Wales.
- 2.7 The collected information has been judged against the Ministry of Agriculture Fisheries and Food Agricultural Land Classification of England and Wales revised guidelines and criteria for grading the quality of agricultural land.
- 2.8 The principal factors influencing agricultural production are climate, site and soil and the interaction between them ^{MAFF (1988) & Natural England (2012)}.

MAFF (1988) - *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications

Natural England (2012) - *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition

3. PUBLISHED INFORMATION

- 3.1 The British Geological Survey 1:50,000 scale map shows there to be a range of basal geology and various overlying deposits.

Land to the South-East of Bishton is shown to be Mercia Mudstone Group – Mudstone. The superficial deposits are either not recorded or recorded as tidal flat deposits – clay and silt.

Land to the south of Bishton Road to the west of Bishton, a 400m wide strip to the west of Bishton and to the east and northeast of Bishton is shown as being St Mary's Well Bay Member – Limestone and Mudstone with superficial deposits listed as tidal flat deposits – clay and silt or with no superficial deposits recorded.

Land to the north of Bishton road, west of Bishton is shown as Lavernock Shales Member – mudstone with no superficial deposits recorded.

- 3.2 The national soils map shows a variety soil types across the site.

Land running in a strip to the east of Bishton and curling north around the woodland is recorded as belonging to the Worcester association described as slowly permeable non-calcareous and calcareous reddish clayey soils over mudstones.

Land to the northeast, northwest and west of Bishton is recorded as being in the Denchworth association described as being slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils.

Land to the south of Bishton road west of Bishton is recorded as being in the Newchurch 2 association described as deep, stoneless mainly calcareous clayey soils.

Land to the far southeast of the application site is recorded as being in the Midelney association described as stoneless clayey soils mostly overlying peat.

- 3.3 The predictive ALC map for Wales shows the land to the southeast of Bishton, the northeast of Bishton and immediately to the west and southwest of Bishton as being Grade 4. The map shows the land running in a strip to the east of Bishton and then curving north and a second area to the north and west of Bishton up to Waltwood Hill and across to Llanwern Park as being subgrade 3b.

4. CLIMATE

- 4.1 Climate has a major, and in places overriding, influence on land quality affecting both the range of potential agricultural uses and the cost and level of production.
- 4.2 There is published agro-climatic data for England and Wales provided by the Meteorological Office, such data for the subject site is listed in the table below.

Figure 2.1 Agro-Climatic Data – Details at **appendix 2**

Grid Reference	338877 187917
Altitude (ALT)	20.42
Average Annual Rainfall (AAR)	971.35
Accumulated Temperature - Jan to June (ATO)	1524.11
Duration of Field Capacity (FCD)	201.09
Moisture Deficit Wheat	91.07
Moisture Deficit Potatoes	75.76

- 4.3 The main parameters used in assessing the climatic limitation are average annual rainfall (AAR), as a measure of overall wetness; and accumulated temperature, as a measure of the relative warmth of a locality.
- 4.4 The Average Annual Rainfall and Accumulated Temperature provide no climatic limitation to grade.
- 4.5 The site is shown as either Flood Zone A – considered to be at little or no risk of fluvial or coastal/tidal flooding or Zone C1 – served by significant infrastructure, including flood defences. It is therefore not considered that flooding will impact on land grade.

5. STONINESS

- 5.1 The majority of the site was stoneless. Where there were stones in the topsoil they never exceeded 10% and very rarely exceeded 5% and with very few exceptions were too small to be retained by a 2cm grid. Where stone content was less than 5% it was not recorded. Stoniness is not considered a limiting factor to land grade.

6. GRADIENT

- 6.1 At its steepest the gradient found on the site on a small number of locations including the field directly to the west of Castle Farm, and to the south of craig Y Perthi wood reached 7.5 degrees which limits the land grade at this point to grade 3b. Gradient was never the most limiting factor and so does not impact land grade.

7. SOILS

- 7.1 As would be expected by the variety of soil types shown by the national soils map there were a range of soils found across the site. While the boundaries between soil types shown on the available mapping do not tally completely with soils found on site they are very close.

Land running in a strip to the east of Bishton and curling north around the woodland recorded as belonging to the Worcester association is found to be predominantly reddish soils with heavy silty clay loam topsoil over a well-structured clay first subsoil and a slowly permeable second subsoil with substantial evidence of gleying.

Land to the northeast, northwest and west of Bishton recorded as being in the Denchworth association is found to be largely a brown or dark greyish brown organic clay or heavy clay loam subsoil over a light olive brown to grey slowly permeable clay subsoil with evidence of gleying found very near to the surface. In some areas soils are relatively shallow over rock or in the case of the hill to the north-east of Bishton there is a layer of hard flat stones at between 40 and 70cm depth above a very defined medium platy clay.

Land to the south of Bishton Road west of Bishton recorded as being in the Newchurch 2 association is found to be largely a brown or greyish brown organic clay topsoil over a slowly permeable (course prismatic or massive) grey organic clay subsoil. Soils found to be shallow over a hard rock layer in a small number of locations. Evidence of gleying found at shallow depths across most of this area. Not found to be calcareous when tested with Hydrochloric Acid.

Land to the far southeast of the application site recorded as being in the Middelney found to be organic clay topsoils over slowly permeable grey organic clay subsoils with peat found in a number of locations. Evidence of gleying found at shallow depths across most of this area.

INTERACTIVE FACTORS

8. WETNESS

- 8.1 An assessment of the wetness class of each sample point was made based on the flow chart at Figure 6 in the MAFF guidance. The wetness class and topsoil texture were then assessed against Table 7 of the MAFF guidance to determine the ALC grade according to wetness. The wetness assessment can be found at **appendix 4**.
- 8.2 Wetness is largely the most limiting factor to the grade of the land. Where there is a gleyed horizon within 40cm of the surface and a slowly permeable layer starting at 40-50cm the assessment gives a wetness class of IV. Where the slowly permeable layer starts deeper of the gleyed horizon starts at between 40 and 70cm the assessment gives wetness class III. Where there is no slowly permeable layer the assessment gives wetness class I.
- 8.3 The topsoil is organic clay, organic heavy clay loam, or heavy silty clay loam. Organic clay and wetness class I limit the land to Grade 3b. Heavy silty clay loam or organic heavy clay loam topsoil and wetness class III limit the land to grade 3b. Heavy silty clay loam, organic clay or organic heavy clay loam topsoil and wetness class IV limit the land to Grade 4.

9. DROUGHTINESS

- 9.1 Droughtiness limits are defined in terms of moisture balance for wheat and potatoes using the formula:

$$MB \text{ (Wheat)} = AP \text{ (Wheat)} - MD \text{ (Wheat)}$$

and

$$MB \text{ (Potatoes)} = AP \text{ (Potatoes)} - MD \text{ (Potatoes)}$$

Where:

MB = Moisture Balance

AP = Crop Adjusted available water capacity

MD = Moisture deficit

- 9.2 Moisture deficit for wheat and potatoes can be found in the agro-climatic data and are as follows:

$$MD \text{ (Wheat)} = 91.07$$

$$MD \text{ (Potatoes)} = 75.76$$

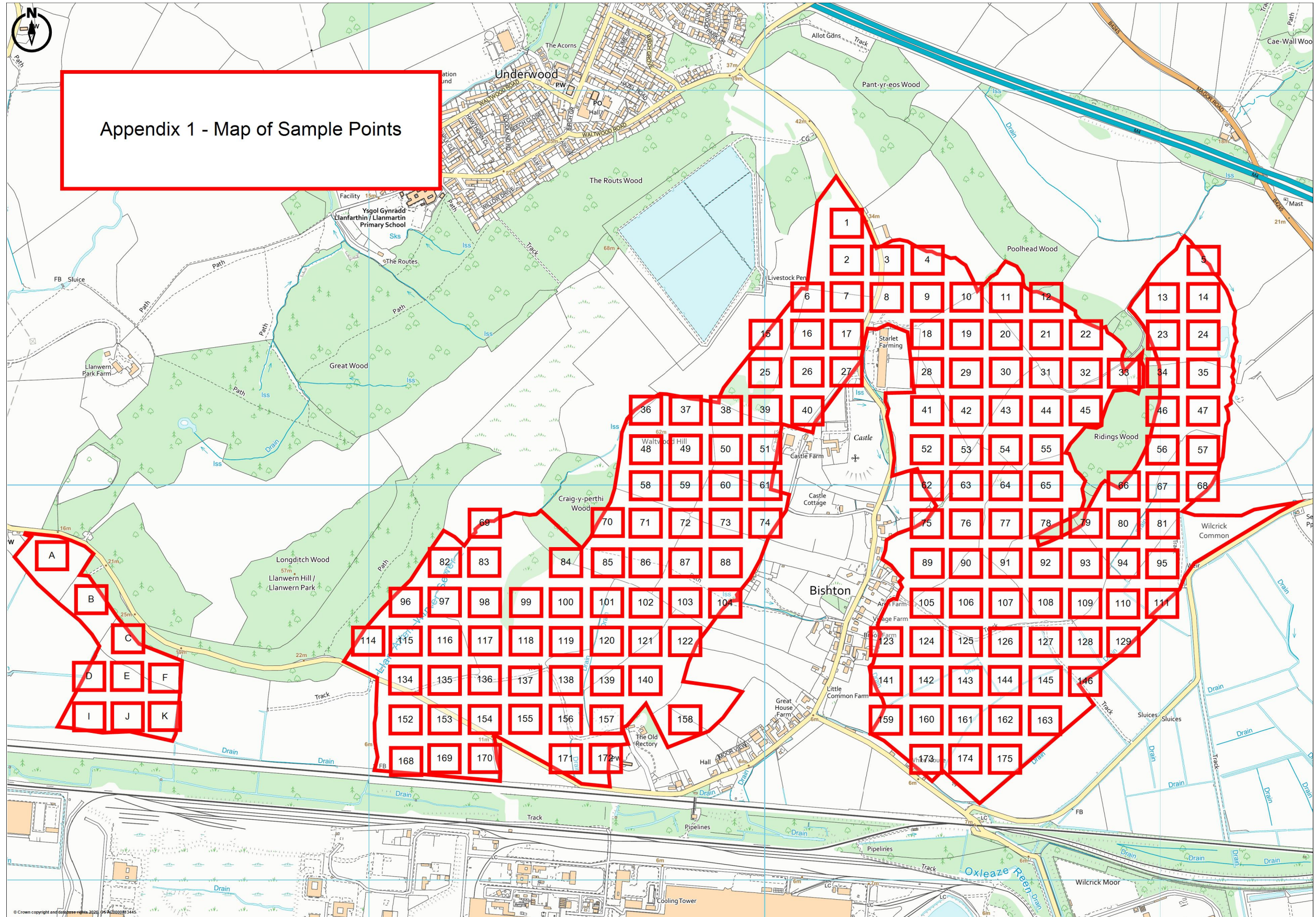
- 9.3 The level of rainfall and soil type mean that droughtiness is not a limiting factor anywhere on the site.

10. AGRICULTURAL LAND CLASSIFICATION

- 10.1 The Agricultural Land Classification provides a framework for classifying land according to which its physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can operate in one or more of four principle ways: they may affect the range of crops that can be grown, the level of yield, the consistency of yield and the cost of obtaining it.
- 10.2 The principle physical factors influencing agricultural production are climate, site and soil and the interactions between them which together form the basis for classifying land into one of 5 grades; grade 1 being of excellent quality and grade 5 being land of very poor quality. Grade 3 land, which constitutes approximately half of all agricultural land in the United Kingdom is divided into 2 subgrades – 3a and 3b. A full definition of all of the grades can be found at **appendix 5**.
- 10.3 This assessment sets out that while no one factor limits the grade of the land, the interaction between climate and soil result in a wetness assessment that limits the land to grade 3b or grade 4:

Grade 3b:	22.6 hectares
Grade 4:	144.7 hectares
Non-Agricultural:	2.9 hectare

- 10.4 A plan of the land grading can be found at **appendix 6**.



APPENDIX 2 – AGRO-CLIMATIC DATA

Site Details: Craig Y Perthi Solar Farm

Grid reference (centre of site): 338877 187917

Altitude: Mean 20.42

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
33501850	4	966	0.6	445	1545	2467	93	84	200
34001850	4	930	0.1	430	1544	2468	96	87	195
33501900	65	1031	1.1	475	1473	2387	82	69	211
34001900	59	1000	0.2	460	1479	2395	85	73	205

Altitude Adjusted

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
33501850	975.85	1526.28	201.42	90.63	80.40	10.40%
34001850	931.64	1525.28	195.24	94.20	84.07	29.40%
33501900	981.96	1523.82	203.91	90.01	70.77	13.51%
34001900	992.28	1522.98	203.88	89.50	70.93	46.69%

Site Average Annual Rainfall: 971.35

Site Accumulated Temperature January to June: 1524.11

Site Field Capacity Days: 201.09

Moisture Deficit Wheat: 91.07

Moisture Deficit Potatoes: 75.76

Appendix 3 - Sample point assesment

Sample No	Altitude	Topsoil			Stoniness	Mottles	Subsoil 1			Stoniness	Mottles	Subsoil 2			Stoniness	Mottles	Subsoil 3			Stoniness	Mottles	Structure
		Depth	Texture	Colour			Depth	Texture	Colour			Depth	Texture	Colour			Depth	Texture	Colour			
1	5	0-25	Org C	10YR 3/2	5%		WFSAB	30-40	C	2.5Y 5/3		FOB	MAB	40-120	C	2.5Y 5/1	MO	M				
2	5	0-25	Org C	10YR 3/2	5%		WFSAB	30-40	C	2.5Y 5/3		FOB	MAB	40-120	C	2.5Y 5/1	MO	M				
3	14	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	M				
4	28	0-25	Org C	10YR 3/2	5%		WFSAB	25-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	M				
5	36	0-35	HZCL	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
6	7	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	M				
7	8	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	M				
8	8	0-30	Org C	10YR 3/2	5%		WFSAB	30-50	C	2.5Y 5/3		FOB	MAB	50-120	C	2.5Y 5/1	MO	M				
9	7	0-30	Org C	10YR 3/2	5%		WFSAB	30-50	C	2.5Y 5/3		FOB	MAB	50-120	C	2.5Y 5/1	MO	M				
10	6	0-25	Org C	10YR 3/2	5%		WFSAB	30-40	C	2.5Y 5/3		FOB	MAB	40-120	C	2.5Y 5/1	MO	CAB				
11	4	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
12	16	0-25	Org C	10YR 3/2	10%		WFSAB	50-50	C	2.5Y 5/3		MOBG	MAB	50-120	C	2.5Y 5/1	MO	M				
13	28	0-35	HZCL	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
14	50	0-35	HZCL	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
15	7	0-25	Org C	10YR 3/1		FO	WFSAB	25-80	C	2.5Y 5/3		O	MAB	80-120	C	2.5Y 5/1	MO	M				
16	62	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	M				
17	16	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	M				
18	7	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
19	8	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
20	4	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	45-50	Stone		50-80	C	2.5Y 5/1		MO	M Platy
21	4	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
22	6	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
23	55	0-35	HZCL	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
24	43	0-35	HZCL	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
25	7	0-25	Org C	10YR 3/1		FO	WFSAB	25-80	C	2.5Y 5/3		O	MAB	80-120	C	2.5Y 5/1	MO	CAB				
26	7	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	CAB				
27	6	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	C	2.5Y 5/3		FOB	MAB	70-120	C	2.5Y 5/1	MO	CAB				
28	4	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
29	10	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
30	7	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
31	17	0-25	Org C	10YR 3/2	5%		WFSAB	25-45	C	2.5Y 5/3		MOBG	MAB	40	IMP							
32	4	0-25	Org C	10YR 3/2	5%		WFSAB	25-35	C	2.5Y 5/3		MOBG	MAB	35	IMP							
33	54	0-30	Org C	10YR 3/2	5%		WFSAB	30-60	StC	2.5Y 5/3		MOBG	FAB	60-120	C	2.5Y 5/1	MO	M				
34	9	0-30	HZCL	5YR 3/3			WMSAB	30-50	C	5YR 4/2		F Prism	50-120	C	2.5YR 4/3	BG	C PRISM					
35	8	0-30	HZCL	5YR 3/3			WMSAB	30-50	C	5YR 4/2		F Prism	50-120	C	2.5YR 4/3	BG	C PRISM					
36	31	0-25	Org C	10YR 3/2			WFSAB	25-40	C	2.5Y 5/3			MAB	40-75	C	2.5Y 5/1	MO	CAB	75	IMP		
37	26	0-25	Org C	10YR 3/2			WFSAB	25-40	C	2.5Y 5/3			MAB	40-75	C	2.5Y 5/1	MO	CAB	75	IMP		
38	4	0-25	Org C	10YR 3/2			WFSAB	25-50	C	2.5Y 5/2		MO	MAB	50	IMP							
39	6	0-25	Org C	10YR 3/2			WFSAB	25-60	C	2.5Y 5/2			MAB	60-120	C	2.5Y 5/1	MO	CAB				
40	7	0-25	Org C	10YR 3/2			WFSAB	25-60	C	2.5Y 5/2			MAB	60-75	C	2.5Y 5/1	MO	CAB	75	IMP		
41	6	0-30	Org C	10YR 3/2	5%		WFSAB	30-50	C	2.5Y 5/3		MOBG	MAB	50-80	C	2.5Y 5/1	MO	CAB	80	IMP		
42	8	0-30	Org C	10YR 3/2	5%		WFSAB	30-50	C	2.5Y 5/3		MOBG	MAB	50-80	C	2.5Y 5/1	MO	CAB	80	IMP		
43	4	0-25	Org C	10YR 3/2	5%		WFSAB	30-40	C	2.5Y 5/3		FOB	MAB	40-120	C	2.5Y 5/1	MO	CAB				
44	14	0-35	Org C	10YR 3/2	5%		WFSAB	35-50	C	2.5Y 5/3		MOBG	MAB	50	IMP							
45	22	0-30	Org C	10YR 3/2	5%		WFSAB	30-60	StC	2.5Y 5/3		MOBG	FAB	60-120	C	2.5Y 5/1	MO	M				
46	63	0-35	HZCL	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
47	44	0-35	Org C	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
48	5	0-25	Org HCL	10YR 5/3			WMSAB	25-80	C	2.5Y 5/3		MO	MAB	80	IMP							
49	4	0-25	Org C	10YR 5/3			WMSAB	25-50	C	2.5Y 5/3		MO	MAB	50	IMP							
50	4	0-25	Org C	10YR 5/3			WMSAB	25-50	C	2.5Y 5/3		MO	MAB	50	IMP							
51	4	0-25	Org C	10YR 3/2			WFSAB	25-40	C	2.5Y 5/3		MO	MAB	40-120	C	2.5Y 5/1	MO	M				
52	12	0-30	Org C	10YR 3/2			WFSAB	30-50	C	2.5Y 5/3			MAB	50-120	C	2.5Y 5/1	MO	M				
53	10	0-30	Org C	10YR 3/2			WFSAB	30-50	C	2.5Y 5/3			MAB	50-120	C	2.5Y 5/1	MO	M				
54	5	0-25	Org C	10YR 3/2			WFSAB	25-50	C	2.5Y 5/3			MAB	50-120	C	2.5Y 5/1	MO	M				
55	9	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	StC	2.5Y 5/3		MOBG	MAB	70-90	C	2.5Y 5/1	MO	CAB	90	IMP		
56	4	0-30	Org C	10YR 3/2	5%		WFSAB	30-70	StC	2.5Y 5/3		MOBG	MAB	70-90	C	2.5Y 5/1	MO	CAB	90	IMP		
57	5	0-30	Org C	10YR 3/2	5%		WFSAB	30-60	StC	2.5Y 5/3		MOBG	FAB	60-120	C	2.5Y 5/1	MO	M				
58	4	0-30	Org C	10YR 3/2	5%		WFSAB	30-60	StC	2.5Y 5/3		MOBG	FAB	60-120	C	2.5Y 5/1	MO	M				
59	56	0-35	HZCL	5YR 3/3			WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM					
60	5	0-30	HZCL	7.5YR 3/3			WMSAB	30-40	C	5YR 4/2		F Prism	40-120	C	10YR 5/1	MO	M					
61	4	0-25	Org HCL	10YR 5/3			WMSAB	25-50	C	2.5Y 5/3		MO	MAB	50	IMP							
62	8	0-25	Org HCL	10YR 5/3			WMSAB	25-50	C	2.5Y 5/3		MO	MAB	50	IMP							

63	6	0-25	Org HCL	10YR 5/3		WMSAB	25-80	C	2.5Y 5/3	MO	MAB	80	IMP						
64	4	0-25	Org HCL	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
65	7	0-25	Org HCL	10YR 5/3		WMSAB	25-80	C	2.5Y 5/3	MO	MAB	80	IMP						
66	7	0-25	Org HCL	10YR 5/3		WMSAB	25-80	C	2.5Y 5/3	MO	MAB	80	IMP						
67	4	0-25	Org HCL	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
68	5	0-25	Org C	10YR 5/3		WFSAB	25-40	C	2.5Y 5/3	MO	MAB	40-120	C	2.5Y 5/1	MO	M			
69	36	0-25	Org C	10YR 3/2		WFSAB	25-40	C	2.5Y 5/3	MO	MAB	40-120	C	2.5Y 5/1	MO	M			
70	9	0-30	Org C	10YR 3/2		WFSAB	30-50	C	2.5Y 5/3		MAB	50-120	C	2.5Y 5/1	MO	M			
71	26	0-25	Org C	10YR 3/2		WFSAB	25-50	C	2.5Y 5/3	MOB	MAB	50-120	C	2.5Y 5/1	MO	M			
72	6	0-30	Org C	10YR 3/2	5%	WFSAB	30-70	StC	2.5Y 5/3	MOBG	MAB	70-90	C	2.5Y 5/1	MO	CAB	90	IMP	
73	5	0-20	Org C	10YR 3/2	5%	WFSAB	20-60	StC	2.5Y 5/3	MOBG	MAB	60-90	StC	2.5Y 4/1	MO	M	90	IMP	
74	10	0-25	Org C	10YR 3/2	10%	WFSAB	25-50	StC	2.5Y 5/3	MOB	FAB	50-90	C	2.5Y 5/1	MO	M	90	IMP	
75	17	0-25	Org C	10YR 3/2	10%	WFSAB	25-50	StC	2.5Y 5/3	MOB	FAB	50-90	C	2.5Y 5/1	MO	M	90	IMP	
76	4	0-30	HZCL	5YR 3/3		WMSAB	30-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
77	18	0-30	HZCL	7.5YR 3/3		WMSAB	30-40	C	5YR 4/2		F Prism	40-120	C	10YR 5/1	MO	M			
78	5	0-30	HZCL	7.5YR 3/3		WMSAB	30-40	C	5YR 4/2		F Prism	40-120	C	10YR 5/1	MO	M			
79	5	0-25	Org HCL	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
80	4	0-25	Org HCL	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
81	4	0-25	Org HCL	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
82	4	0-25	Org C	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
83	4	0-25	Org C	10YR 5/3		WMSAB	25-75	C	2.5Y 5/3	MO	MAB	75-120	C	2.5Y 5/1	MO	M			
84	4	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 4/1	MO	MAB	70	IMP						
85	6	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
86	4	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
87	8	0-25	Org C	10YR 3/2		WFSAB	25-50	C	2.5Y 5/3		MAB	50-120	C	2.5Y 5/1	MO	M			
88	5	0-30	Org C	10YR 3/2		WFSAB	30-60	C	2.5Y 5/3		MAB	60-75	C	2.5Y 5/1	MO	CAB	75	IMP	
89	5	0-25	Org C	10YR 3/2	5%	WFSAB	30-40	C	2.5Y 5/3	FOB	MAB	40-120	C	2.5Y 5/1	MO	CAB			
90	7	0-20	Org C	10YR 3/2	5%	WFSAB	20-60	StC	2.5Y 5/3	MOBG	MAB	60-90	StC	2.5Y 4/1	MO	M	90	IMP	
91	20	0-30	Org C	10YR 3/2	5%	WFSAB	30-60	StC	2.5Y 5/3	MOBG	FAB	60-120	C	2.5Y 5/1	MO	M			
92	20	0-30	Org C	10YR 3/2	5%	WFSAB	30-60	StC	2.5Y 5/3	MOBG	FAB	60-120	C	2.5Y 5/1	MO	M			
93	5	0-30	HZCL	5YR 3/3		WMSAB	30-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
94	4	0-30	HZCL	5YR 3/3		WMSAB	30-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/2	BG	C PRISM			
95	4	0-30	HZCL	7.5YR 3/3		WMSAB	30-40	C	5YR 4/2		F Prism	40-120	C	10YR 5/1	MO	M			
96	20	0-25	Org C	10YR 5/2		WMSAB	25-40	C	2.5Y 5/1	MO	WMAB	40-120	C	2.5Y 5/1	MO	M			
97	6	0-25	Org C	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
98	4	0-25	Org HCL	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50	IMP						
99	5	0-25	Org C	10YR 5/3		WMSAB	25-75	C	2.5Y 5/3	MO	MAB	75-120	C	2.5Y 5/1	MO	M			
100	4	0-25	Org C	10YR 5/3		WMSAB	25-75	C	2.5Y 5/3	MO	MAB	75-120	C	2.5Y 5/1	MO	M			
101	26	0-25	Org C	10YR 3/2		WFSAB	25-40	C	2.5Y 5/1	MO	WMAB	40-65	C	2.5Y 5/3	MO	CAB	65	IMP	
102	5	0-25	Org C	10YR 3/2		WFSAB	25-80	C	2.5Y 5/3	MOB	MAB	70-120	C	2.5Y 5/1	MO	M			
103	4	0-25	Org C	10YR 3/2		WFSAB	25-80	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
104	4	0-25	Org C	10YR 3/2		WFSAB	25-80	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
105	4	0-25	Org C	10YR 3/2		WFSAB	25-35	C	2.5Y 5/3	MOB	MAB	35	IMP						
106	35	0-30	Org C	10YR 3/2		WFSAB	30-70	C	2.5Y 4/1	MOB	CAB	70-80	S	5YR 3/4	MO	M	80	IMP	
107	54	0-35	HZCL	5YR 3/3		WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
108	44	0-35	HZCL	5YR 3/3		WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
109	46	0-35	HZCL	5YR 3/3		WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
110	4	0-30	HZCL	5YR 3/3		WMSAB	30-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
111	11	0-30	HZCL	7.5YR 3/3		WMSAB	30-40	C	5YR 4/2		F Prism	40-120	C	10YR 5/1	MO	M			
114	24	0-25	Org C	10YR 5/3		WMSAB	25-40	C	2.5Y 5/1	MO	WMAB	40-120	C	2.5Y 5/1	MO	M			
115	36	0-25	Org C	10YR 5/3		WMSAB	25-40	C	2.5Y 5/1	MO	WMAB	40-120	C	2.5Y 5/1	MO	M			
116	5	0-25	Org HCL	10YR 5/3		WMSAB	25-40	C	2.5Y 5/3	MO	MAB	40	IMP						
117	4	0-25	Org C	10YR 5/3		WMSAB	25-75	C	2.5Y 5/3		MAB	75-120	C	2.5Y 5/1	MO	M			
118	4	0-25	Org C	10YR 5/3		WMSAB	25-75	C	2.5Y 5/3		MAB	75-120	C	2.5Y 5/1	MO	M			
119	38	0-25	Org C	10YR 5/3		WMSAB	25-75	C	2.5Y 5/3		MAB	75-120	C	2.5Y 5/1	MO	M			
120	4	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
121	4	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
122	4	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
123	4	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3		MAB	70-120	C	2.5Y 5/1	MO	M			
124	5	0-25	Org C	10YR 3/2		WFSAB	25-50	C	2.5Y 5/3		MAB	50-120	C	2.5Y 5/1	MO	M			
125	11	0-25	Org C	10YR 3/2		WFSAB	25-50	C	2.5Y 5/3		MAB	50-120	C	2.5Y 5/1	MO	M			
126	30	0-35	Org C	5YR 3/3		WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
127	56	0-35	HZCL	5YR 3/3		WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
128	49	0-35	HZCL	5YR 3/3		WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
129	59	0-35	HZCL	5YR 3/3		WMSAB	35-60	C	5YR 4/2		F Prism	60-120	C	2.5YR 4/3	BG	C PRISM			
134	46	0-40	Org C	10YR 4/1	MO	WCSAB	40-120	P	10YR 3/1		M								

135	20	0-15	Org C	10YR 5/2		WMSAB	15-40	C	2.5Y 5/1	MO	WMSAB	40-120	C	2.5Y 5/1	MO	M		
136	45	0-15	Org C	10YR 5/2		WMSAB	15-40	C	2.5Y 5/1	MO	WMSAB	40-120	C	2.5Y 5/1	MO	M		
137	42	0-15	Org C	10YR 5/2		WMSAB	15-40	C	2.5Y 5/1	MO	WMSAB	40-120	C	2.5Y 5/1	MO	M		
138	4	0-25	Org C	10YR 5/2		WMSAB	25-35	C	2.5Y 5/1	MO	WMAB	35	IMP					
139	4	0-25	Org C	10YR 5/3		WMSAB	25-40	C	2.5Y 5/3		MAB	40-70	C	2.5Y 5/1	MO	M	70	IMP
140	14	0-25	Org C	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3		MAB	50-120	C	2.5Y 5/1	MO	M		
141	13	0-25	Org C	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3		MAB	50-120	C	2.5Y 5/1	MO	M		
142	9	0-25	Org C	10YR 5/3		WMSAB	25-50	C	2.5Y 5/3	MO	MAB	50-120	C	2.5Y 5/1	MO	M		
143	10	0-30	Org C	10YR 3/2		WFSAB	30-75	C	2.5Y 4/1	MO	CAB	75-120	C	2.5Y 5/1	MO	M		
144	33	0-35	Org C	10YR 3/2		WFSAB	25-75	C	2.5Y 4/1	MO	CAB	75-120	C	2.5Y 5/1	MO	M		
145	4	0-25	Org C	10YR 3/2		WFSAB	25-75	C	2.5Y 4/1	MOB	CAB	75-120	C	2.5Y 5/1	MO	M		
146	4	0-25	Org C	10YR 3/2		WFSAB	25-75	C	2.5Y 4/1	MOB	CAB	75-120	C	2.5Y 5/1	MO	M		
152	60	0-35	Org C	7.5YR 3/3		WMSAB	35-50	C	10YR 5/3	MO	MAB	50-120	C	10YR 5/3	MO	M		
153	52	0-20	Org C	10YR 5/1	MO	WCSAB	20-40	C	10YR 5/1	MO	MAB	40-120	P	10YR 5/1		M		
154	41	0-20	Org C	10YR 5/1	MO	WCSAB	20-40	C	10YR 5/1	MO	MAB	40-120	P	10YR 5/1		M		
155	38	0-20	Org C	10YR 5/1	MO	WCSAB	20-40	C	10YR 5/1	MO	MAB	40-120	P	10YR 5/1		M		
156	29	0-40	Org C	10YR 4/1	MO	WCSAB	40-120	P	10YR 3/1		M							
157	24	0-40	Org C	10YR 4/1	MO	WCSAB	40-120	P	10YR 3/1		M							
158	45	0-40	Org C	10YR 4/1	MO	WCSAB	40-120	P	10YR 3/1		M							
159	36	0-15	Org C	10YR 5/2		WMSAB	15-40	C	2.5Y 5/1	MO	WMSAB	40-120	C	2.5Y 5/1	MO	M		
160	37	0-15	Org C	10YR 5/2		WMSAB	15-40	C	2.5Y 5/1	MO	WMSAB	40-120	C	2.5Y 5/1	MO	M		
161	23	0-15	Org C	10YR 5/2		WMSAB	15-40	C	2.5Y 5/1	MO	WMSAB	40-120	C	2.5Y 5/1	MO	M		
162	42	0-15	Org C	10YR 5/2		WMSAB	15-40	C	2.5Y 5/1	MO	WMSAB	40-120	C	2.5Y 5/1	MO	M		
163	4	0-25	Org C	10YR 5/2		WMSAB	25-35	C	2.5Y 5/1	MO	WMAB	35	IMP					
168	15	0-25	Org C	10YR 5/3		WMSAB	25-40	C	2.5Y 5/1	MO	WMAB	40-120	C	2.5Y 5/1	MO	M		
169	4	0-25	Org C	10YR 3/2		WMSAB	25	IMP										
170	29	0-25	Org C	10YR 3/2		WMSAB	25-40	C	2.5Y 5/3	MO	MAB	40-75	C	2.5Y 5/1	MO	CAB	75	IMP
171	23	0-30	Org C	10YR 3/2		WFSAB	30-70	C	2.5Y 5/3	MO	MAB	70-120	C	2.5Y 5/1	MO	M		
172	6	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3	MOB	MAB	70-120	C	2.5Y 5/1	MO	M		
173	4	0-25	Org C	10YR 3/2		WFSAB	25-70	C	2.5Y 5/3	MOB	MAB	70-120	C	2.5Y 5/1	MO	M		
174	4	0-25	Org C	10YR 3/2		WFSAB	25-50	C	2.5Y 5/3	MOB	MAB	50	IMP					
175	42	0-35	Org C	7.5YR 3/3		WMSAB	35-50	C	10YR 5/3	MO	WMAB	50-120	C	10YR 5/3	MO	M		
A	11	0-25	Org C	10YR 5/2		WMSAB	25-40	C	2.5Y 5/1	MO	WMAB	40-120	C	2.5Y 5/1	MO	M		
B	10	0-25	Org C	10YR 5/2		WMSAB	25-40	C	2.5Y 5/1	MO	WMAB	40-120	C	2.5Y 5/1	MO	M		
C	9	0-25	Org C	10YR 5/2		WMSAB	25-35	C	2.5Y 5/1	MO	WMAB	35	IMP					
D	10	0-25	Org C	10YR 5/2		WMSAB	25-35	C	2.5Y 5/1	MO	WMAB	35	IMP					
E	10	0-25	Org C	10YR 5/2		WMSAB	25-35	C	2.5Y 5/1	MO	WMAB	35	IMP					
F	15	0-25	Org C	10YR 5/2		WMSAB	25-35	C	2.5Y 5/1	MO	WMAB	35	IMP					
I	5	0-15	Org C	10YR 5/2		WMSAB	15-120	C	2.5Y 5/1	MO	C PRISM							
J	5	0-15	Org C	10YR 5/3		WMSAB	15-40	C	2.5Y 5/1	MO	C PRISM	40-120	C	2.5Y 5/1	MO	M		
K	6	0-15	Org C	10YR 5/3		WMSAB	15-40	C	2.5Y 5/1	MO	C PRISM	40-120	C	2.5Y 5/1	MO	M		

Appendix 3b - Trial Pit Descriptions

Sample point 20:

Horizon 1: 0-25cm Very dark greyish brown (10YR 3/2) organic clay with a weak fine subangular blocky structure

Horizon 2: 25-45cm Light Olive Brown (2.5Y 5/3) clay with a medium angular blocky structure and many ochreous black and grey mottles. Friable to firm consistence and biopores present, some quite large

Horizon 3: 45-50cm a layer of dark, hard, flat rocks, slightly overlapping which prevent penetration with an augur but are small enough to be moved when dug with a spade



Horizon 4: Grey (2.5Y 5/1) clay with a medium platy structure and many ochreous mottles. Firm consistence and less than 0.5% biopores. (Gleyed SPL)



Sample Point 80:

Horizon 1: 0-30cm Dark reddish brown (5YR 3/3) heavy silty clay loam with a weak medium sub angular blocky structure and some small areas with a coarse platy structure (likely caused by mechanical compaction and easily remedied)



Horizon 2: 30-60cm Dark reddish grey (5YR 4/2) clay with a fine prismatic structure. Friable to firm consistence and $>0.5\%$ biopores



Horizon 3: 60-120cm Weak (2.5YR 4/2) clay with a coarse prismatic structure with common black and grey mottles, firm consistence and <0.5% biopores (Gleyed SPL)

Sample Point 114:

Horizon 1: 0-25cm Brown (10YR 5/3) organic clay with a weak medium subangular blocky structure



Horizon 2: 25-40cm Light olive brown (2.5Y 5/3) clay with a medium angular blocky structure, friable to firm consistence very little mottling and >0.5% biopores



Horizon 3: 40-70cm Grey (2.5Y 5/1) clay with a coarse massive structure and many ochreous mottles, very firm consistence and <0.5% biopores (Gleyed SPL)

Horizon 4: 70cm very dense, hard layer of rock that could not be moved – totally impenetrable with either augur or spade



Sample Point 178

Horizon 1: Dark grey (10YR 4/1) organic clay with a weak medium subangular blocky structure and many ochreous mottles



Horizon 2: 20-40cm Grey (10YR 5/1) organic clay with a very course prismatic structure and many ochreous mottles, firm consistence and <0.5% biopores (Gleyed SPL)



Horizon 3: 40-120cm Very dark grey organic clay with a massive structure, firm consistence and <0.5% biopores (Gleyed SPL)



Standing water at sample point 178





ANALYTICAL REPORT

Report Number	72656-21	W250	AMET PROPERTY
Date Received	18-OCT-2021		HENWICK BARN
Date Reported	25-OCT-2021		BULWICK
Project	SOIL		CORBY
Reference	AMET PROPERTY		NORTHANTS
Order Number			NN17 3DU

Laboratory Reference		SOIL531511	SOIL531512	SOIL531513	SOIL531514						
Sample Reference		148	23	40	146						
Determinand	Unit	SOIL	SOIL	SOIL	SOIL						
Sand 2.00-0.063mm	% w/w	15	13	7	1						
Silt 0.063-0.002mm	% w/w	41	53	37	18						
Clay <0.002mm	% w/w	44	34	56	81						
Organic Matter LOI	% w/w	10.6	6.9	10.5	17.5						
Textural Class **		O-C	HZCL	O-C	O-C						

Notes	
Analysis Notes	The sample submitted was of adequate size to complete all analysis requested. The results as reported relate only to the item(s) submitted for testing. The results are presented on a dry matter basis unless otherwise stipulated.
Document Control	This test report shall not be reproduced, except in full, without the written approval of the laboratory.

Reported by	** Please see the attached document for the definition of textural classes. Myles Nicholson Natural Resource Management, a trading division of Cawood Scientific Ltd. Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS Tel: 01344 886338 Fax: 01344 890972 email: enquiries@nrm.uk.com
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ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

Class	Code
Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy Silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

For the *sand*, *loamy sand*, *sandy loam* and *sandy silt loam* classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

vf	Very Fine (more than 2/3's of sand less than 0.106 mm)
f	Fine (more than 2/3's of sand less than 0.212 mm)
c	Coarse (more than 1/3 of sand greater than 0.6 mm)
m	Medium (less than 2/3's fine sand and less than 1/3 coarse sand).

The subdivisions of *clay loam* and *silty clay loam* classes according to clay content are indicated as follows:

M	medium (less than 27% clay)
H	heavy (27-35% clay)

Organic soils i.e. those with an organic matter greater than 10% will be preceded with a letter O.

Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

Appendix 4 - Wetness Assessment

Sample No	Wetness Assesment			Grade
	Depth to	Wetness	Class	According to
	SPL	Gley		Wetness
1	40	<40	IV	4
2	40	<40	IV	4
3	70	<40	III	4
4	70	<40	III	4
5	60	40-70	III	3b
6	70	<40	III	4
7	70	<40	III	4
8	50	<40	IV	4
9	50	<40	IV	4
10	40	<40	IV	4
11	45	<40	IV	4
12	50	<40	IV	4
13	60	40-70	III	3b
14	60	40-70	III	3b
15		<40	I	3b
16	70	<40	III	4
17	70	<40	III	4
18	45	<40	IV	4
19	45	<40	IV	4
20	50	<40	IV	4
21	45	<40	IV	4
22	45	<40	IV	4
23	60	40-70	III	3b
24	60	40-70	III	3b
25		<40	I	3b
26	70	<40	III	4
27	70	<40	III	4
28	45	<40	IV	4
29	45	<40	IV	4
30	45	<40	IV	4
31	45	<40	IV	4
32	40	<40	IV	4
33	60	<40	III	4
34	50	40-70	III	3b
35	50	40-70	III	3b
36	40	40-70	III	4
37	40	40-70	III	4
38	55	<40	III	4
39	60	40-70	III	4
40	60	40-70	III	4
41	50	<40	IV	4
42	50	<40	IV	4
43	40	<40	IV	4

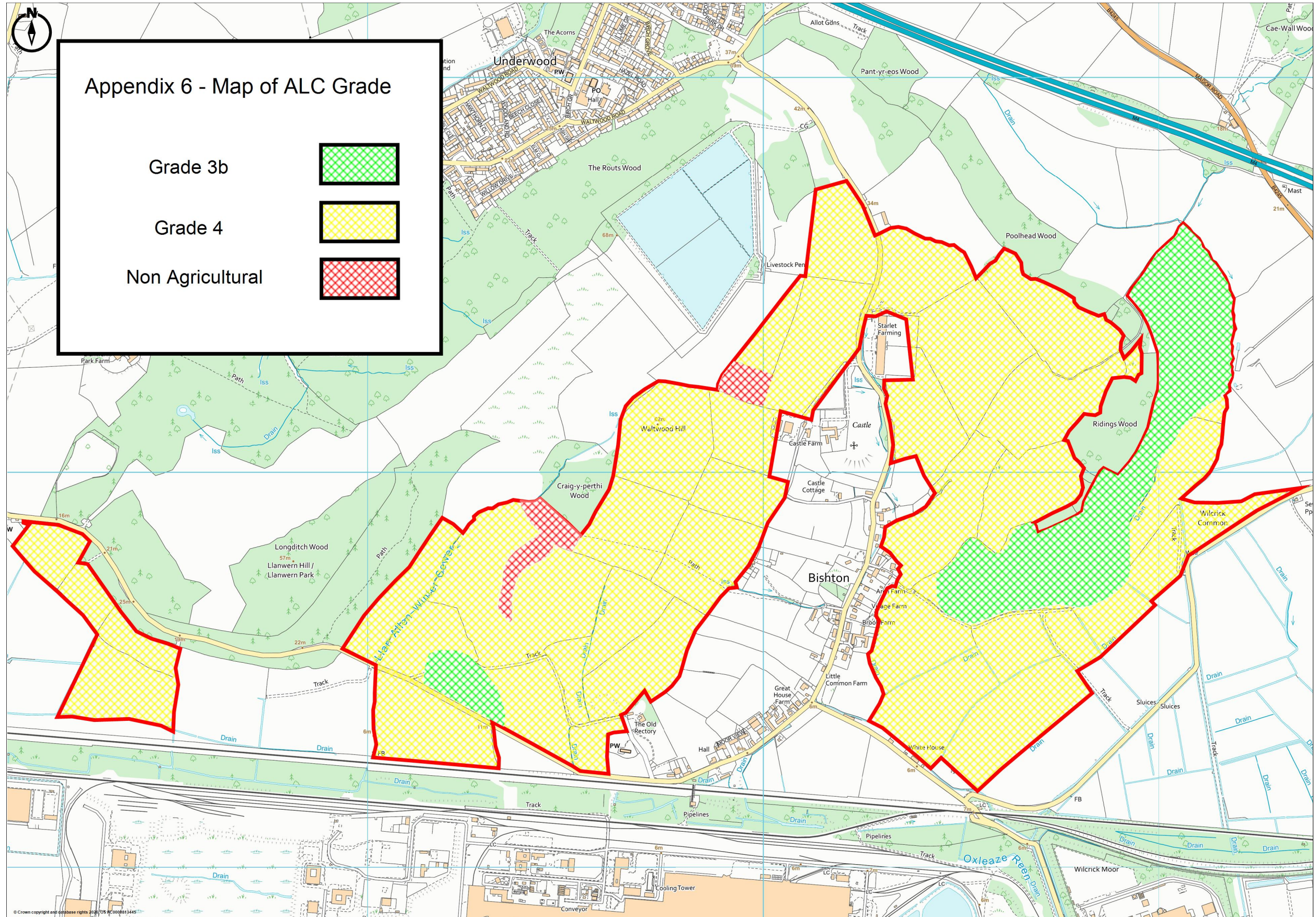
44	55	<40	III	4
45	60	<40	III	4
46	60	40-70	III	3b
47	60	40-70	III	4
48		<40	I	3a
49		<40	I	3b
50		<40	I	3b
51	40	<40	IV	4
52	50	40-70	III	4
53	50	40-70	III	4
54	50	40-70	III	4
55	70	<40	III	4
56	70	<40	III	4
57	60	<40	III	4
58	60	<40	III	4
59	60	40-70	III	3b
60	40	<40	IV	4
61	55	<40	III	3b
62	55	<40	III	3b
63		<40	I	3a
64	55	<40	III	3b
65		<40	I	3a
66		<40	I	3a
67	55	<40	III	3b
68	40	<40	IV	4
69	40	<40	IV	4
70	50	40-70	III	4
71	50	<40	IV	4
72	70	<40	III	4
73	60	<40	III	4
74	50	<40	IV	4
75	50	<40	IV	4
76	60	40-70	III	3b
77	40	<40	IV	4
78	40	<40	IV	4
79	55	<40	III	3b
80	55	<40	III	3b
81	55	<40	III	3b
82		<40	I	3b
83	75	<40	III	4
84		<40	I	3b
85	70	40-70	III	4
86	70	40-70	III	4
87	70	40-70	III	4
88	60	40-70	III	4
89	40	<40	IV	4
90		<40	I	3b

91	60	<40	III	4
92	60	<40	III	4
93	60	40-70	III	3b
94	60	40-70	III	3b
95	40	<40	IV	4
96	35	<40	IV	4
97		<40	I	3b
98	55	<40	III	3b
99	75	<40	III	4
100	75	<40	III	4
101	35	<40	IV	4
102		<40	I	3b
103			I	3b
104			I	3b
105		<40	I	3b
106	35	<40	IV	4
107	60	40-70	III	3b
108	60	40-70	III	3b
109	60	40-70	III	3b
110	60	40-70	III	3b
111	40	<40	IV	4
114	35	<40	IV	4
115	35	<40	IV	4
116	45	<40	IV	4
117	75	40-70	III	4
118	75	40-70	III	4
119	75	40-70	III	4
120	70	40-70	III	4
121	70	40-70	III	4
122	70	40-70	III	4
123	70	40-70	III	4
124	50	40-70	III	4
125	50	40-70	III	4
126	60	40-70	III	4
127	60	40-70	III	3b
128	60	40-70	III	3b
129	60	40-70	III	3b
134	40	<40	IV	4
135	35	<40	IV	4
136	35	<40	IV	4
137	35	<40	IV	4
138		<40	I	3b
139	40	40-70	III	4
140	50	40-70	III	4
141	50	40-70	III	4
142	50	<40	IV	4
143	35	<40	IV	4

144	35	<40	IV	4
145	35	<40	IV	4
146	35	<40	IV	4
152	50	<40	IV	4
153	50	<40	IV	4
154	40	<40	IV	4
155	40	<40	IV	4
156	40	<40	IV	4
157	40	<40	IV	4
158	40	<40	IV	4
159	35	<40	IV	4
160	35	<40	IV	4
161	35	<40	IV	4
162	35	<40	IV	4
163		<40	I	3b
168	35	<40	IV	4
169			I	3b
170	40	<40	IV	4
171	70	<40	III	4
172	70	40-70	III	4
173	70	40-70	III	4
174	55	<40	III	4
175	35	<40	IV	4
A	35	<40	IV	4
B	35	<40	IV	4
C	35	<40	IV	4
D	35	<40	IV	4
E	35	<40	IV	4
F	35	<40	IV	4
I	35	<40	IV	4
J	35	<40	IV	4
K	35	<40	IV	4

APPENDIX 5 - DESCRIPTION OF ALC GRADES

- Grade 1 - excellent quality agricultural land Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
- Grade 2 - very good quality agricultural land Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
- Grade 3 - good to moderate quality agricultural land Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
- Subgrade 3a - good quality agricultural land Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
- Subgrade 3b - moderate quality agricultural land Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
- Grade 4 - poor quality agricultural land Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
- Grade 5 - very poor-quality agricultural land Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.



Appendix 3 – Transport Statement



RWE Renewables UK

Transport Statement

Craig Y Perthi Solar Farm

794-PLN-TRP-00453-01

01

04 June 2026



TETRA TECH

Tetra Tech London, 20 Farringdon Street, London, EC4A 4AB

Tetra Tech Consulting Limited. Registered in England: No.01470149

Registered Office: 101 Park Drive, Milton Park, Abingdon, Oxfordshire, England, OX14 4RY

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Document status					
Version	Purpose of document	Authored by	Reviewed by	Approved by	Date
-	Transport Statement	Louise Sheppard	Emma O'Neill	Emma O'Neill	04/06/2026

Approval for issue		
Emma O'Neill	EON	04/06/2026

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Prepared by	Prepared for
Tetra Tech	RWE Renewables UK
Louise Sheppard – Senior Transport Consultant	Robin Johnson
20 Farringdon Street, London, EC4A 4AB	14 Bird Street, London, W1U 1BU
T: 01235 838214	T: 07901 270413
E: Louise.Sheppard@TetraTech.com	E: Robin.Johnson@rwe.com

Table of contents

1.0	Introduction	4
1.2	Report Purpose	4
1.3	Development History	5
1.4	Report Structure	5
2.0	Baseline Conditions	6
2.1	Context	6
2.2	Site Location.....	6
2.3	Local Road Network Infrastructure	6
	Bishton Road	6
	Waltwood Road.....	6
	B4245	6
	A48	6
2.4	Personal Injury Accident History	7
2.5	Pedestrian and Cycle Accessibility	8
2.6	Public Transport	8
3.0	Development Proposals and Access Arrangements	9
3.2	Access Arrangements	9
3.3	Car Parking.....	9
4.0	Travel Demand	10
4.2	Trip Generation.....	10
5.0	Summary and Conclusions.....	11
5.1	Summary	11

Appendices

Appendix 1 – Masterplan

Appendix 2 – Tetra Tech Drawings

1.0 Introduction

- 1.1.1 Tetra Tech has been commissioned by RWE Renewables UK to produce a Transport Statement (TS) to accompany a planning application for a large-scale Solar Farm on land around Bishton between the M4 and the Newport to London Paddington main railway line.
- 1.1.2 RWE Renewables UK ('the Applicant'), a part of the RWE Group, is proposing to develop a solar farm and associated development ('the Proposed Development') on land to the east of Newport near the Craig Y Perthi Wood and the village of Bishton. The site is west of the Magor Brewery, south of the M4 motorway, northwest of the Tesco Distribution centre, and north of Llanwern steelworks, separated by the South Wales Main Line.
- 1.1.3 The Proposed Development would be classed as a Development of National Significance ('DNS'), as it relates to an electricity generating station that has an installed generating capacity of between 10 and 350 MW¹. Any application for the Proposed Development would be determined by Planning and Environment Decisions Wales ('PEDW'), with a decision being made by the Welsh Ministers.
- 1.1.4 The Applicant is part of the largest power producer in Wales, and the country's number one renewable energy producer with over 1 GW of renewable energy generation, responsible for around a quarter of Wales' renewable energy production. The Applicant is a major Welsh employer, with around 300 people working out of their dedicated offices in Baglan, Port of Mostyn and Dolgarrog.
- 1.1.5 Primary access to the Solar Farm will be promoted from two locations on Bishton Road, these are existing accesses currently serving the egg factory and Castle Farm. Given the scale of the development there will be several secondary accesses, providing access to the various different land parcels.
- 1.1.6 The proposed Solar Farm extends to approximately 196 hectares (484 acres) in size, a copy of the masterplan is included within **Appendix 1**.

1.2 Report Purpose

- 1.2.1 This Transport Statement considers the transport issues surrounding the Proposed Development. It sets out the methodology for assessing the baseline and Proposed Development and provides a summary of the transport implications of the proposed Solar Farm with regards to transport.

¹ Development of national significance (DNS): procedural guidance, Welsh Government, 2024

<https://www.gov.wales/developments-national-significance-dns-procedural-guidance-html>

1.3 Development History

- 1.3.1 A DNS application was submitted in April 2024 for the Proposed Development (DNS Application Reference: DNS/3279787). A TS and Construction Traffic Management Plan (CTMP) were submitted to support the DNS.
- 1.3.2 The DNS application was refused in October 2025 due to its impact on landscape character and visual amenity, heritage assets and ecology / biodiversity. In regard to Transport, the DNS Inspector concluded that:

“I am satisfied that it has been demonstrated that the proposed development is unlikely to give rise to any significant impacts on the local road network subject to appropriate traffic management measures being implemented during construction and the imposition of conditions securing the same.”

- 1.3.3 Since the previous DNS application was dismissed, amendments have been made to the scheme, these include reducing the scale of development from 239 hectares to 196 hectares, avoiding SSSI areas and the removal of battery storage. The amendments to the application, also result in the loss of four access points located to the south east of Bishton, thus reducing the number of vehicles routing through the village. As such this TS and the accompanying CTMP have been updated accordingly, taking account of these changes.

1.4 Report Structure

- 1.4.1 This Transport Statement is structured as follows:
- **Section 2:** Baseline Conditions - Describes the existing site and the surrounding areas transport and highway characteristics;
 - **Section 3:** Development Proposals and Access Arrangements - Analysis of the development proposals in respect of the development itself as well as the access and parking arrangements being promoted;
 - **Section 4:** Travel Demand - Assessment of the number of trips that are likely to be generated by the developments; and
 - **Section 5:** Summary and Conclusion - Summary of the findings of the Transport Statement.

2.0 Baseline Conditions

2.1 Context

- 2.1.1 This section provides information on the existing site and the surrounding area, with a particular focus on the local highway network and highway safety, given that the development will attract minimal (if any) pedestrians or cyclist movements once operational.

2.2 Site Location

- 2.2.1 The proposed Solar Farm extends to approximately 196 hectares in size and is located in a predominantly rural area approximately 8km east of Newport City Centre. The site consists of several parcels of agricultural land and is bound and intersected by several minor local roads along its northern, southern, eastern, and western boundaries.

2.3 Local Road Network Infrastructure

Bishton Road

- 2.3.1 The Proposed Development site is intersected by Bishton Road, which runs on a north to south alignment through the small hamlet of Bishton. Bishton Road has a carriage width of approximately 4m and is subject to a 60mph speed limit (national speed limit).

Waltwood Road

- 2.3.2 To its north, Bishton Road leads onto Waltwood Road via a simple priority junction. Waltwood Road has a carriage width of approximately 6m and benefits from footways on the western side of the carriageway. It is subject to a 30mph speed limit within the vicinity of the Bishton Road / Waltwood Road junction, increasing to 40mph just before it crosses the M4.

B4245

- 2.3.3 Waltwood Road leads onto the B4245, Magor Road, via a simple priority junction. The B4245 is a single lane carriageway with an average carriageway width of 7.5m subject to a 30mph speed limit.

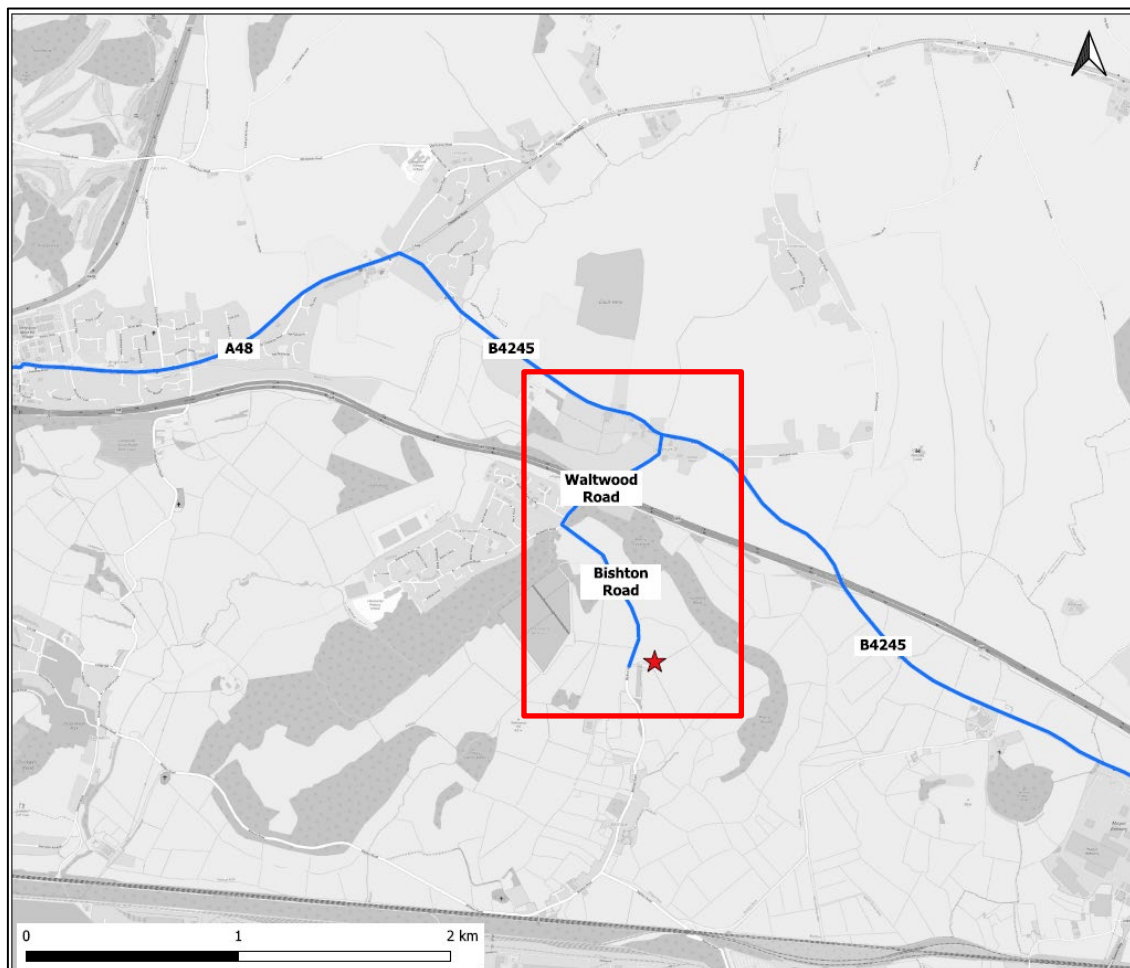
A48

- 2.3.4 The B425 Magor Road leads onto the A48 which routes broadly northeast to southwest between Gloucester, England, and Carmarthen, Wales. Within the

vicinity of its junction with the B4245, the A48 is a single carriageway road with footway provision on both sides of the carriageway. The A48 is subject to a 40mph speed limit and has a wide carriageway width of approximately 9m.

- 2.3.5 **Figure 2.1** below shows the location of the primary road network in the vicinity of the proposed Solar Farm site.

Figure 2.1: Local Road Network



2.4 Personal Injury Accident History

- 2.4.1 Collision data in the vicinity of the Proposed Development site has been obtained by Tetra Tech from CrashMap and analysed for the latest complete five-year period (2020 - 2024).
- 2.4.2 The collision history has been reviewed at key junctions and links identified by the red box on **Figure 2.1** above.
- 2.4.3 The data shows that there were two accidents recorded during this period, of which one resulted in a slight injury, and one resulted in a fatal injury. This equates to one accident per every 2.5 years. **Table 2.1** below summarises the collision history resulting in personal injury on the local road network.

Table 2.1: Personal Injury Accident History

Ref	Location	Date	Severity	Number of Vehicles Involved	Number of Casualties Involved
1	Waltwood Road	24/12/2020	Slight	2	1
2	B4245	07/08/2024	Fatal	1	3

- 2.4.4 The data shows that there is no inherent trend on accident locations in the vicinity of the site. On this basis, it is considered that the adjoining highway network currently operates with no significant highway safety issues which could be exacerbated by the development.

2.5 Pedestrian and Cycle Accessibility

- 2.5.1 The proposed Solar Farm is located in a very rural area and as such has pedestrian and cycle infrastructure commensurate with its location. The local highway network comprises very minor narrow roads with no formal walking or cycling facilities. Traffic volumes are however very low in the area.

2.6 Public Transport

- 2.6.1 The closest bus stops to the site are approximately 1km northwest of the site access, located on Waltwood Road and Birch Grove in the Underwood Estate. Bus routes 74, 74A and 74C operate from this stop facilitating travel to Newport City Centre and Chepstow. These buses offer a combined peak frequency of two bus per hour between 06:00 and 23:00 to Newport, and four buses daily to Chepstow.

3.0 Development Proposals and Access Arrangements

- 3.1.1 The Solar Farm will include an array of ground-mounted solar panels and ancillary infrastructure including inverters (likely to be mounted behind the panels), transformer units, electrical infrastructure, switch gear and substation, and temporary construction compounds. It is anticipated that the useful life of the Proposed Development would be approximately 40 years.

3.2 Access Arrangements

- 3.2.1 Access to the Solar Farm will be promoted via two existing accesses, one to the east of Bishton Road, the other to the west. Both accesses are in the form of simple priority junctions, and serve existing businesses in the area, the first being the existing egg factory, along the western side of Bishton Road, the second being Castle Farm, a dairy farm and shop.
- 3.2.2 These two existing accesses are both frequently used by HGV's and will be primarily only used during the construction phase. Notwithstanding, Tetra Tech Drawing numbers JNY11484-RPS-0100-001C,003C and 020A included as **Appendix 2**, shows a 16.5m articulated HGV and 12m rigid HGV accessing and egressing via these existing accesses without issue.
- 3.2.3 It should however be noted that once operational, the Solar Farm will not require significant maintenance, except for occasional visits made by 4x4 vehicles or panel van vehicles. On that basis, while it is noted that there will be an intensification of use on these accesses during construction, once operational, the number of vehicles generated by the development will be negligible.

3.3 Car Parking

- 3.3.1 Occasional maintenance vehicles will be on site, this however is expected to be an infrequent occurrence, with maintenance vehicles driving to individual solar panels to address issues, rather than parking their vehicle. On that basis, no formal parking is included at the proposed Solar Farm.

4.0 Travel Demand

- 4.1.1 This section of the Transport Statement outlines the forecasted trip generation of the Proposed Development in respect of vehicular trips.

4.2 Trip Generation

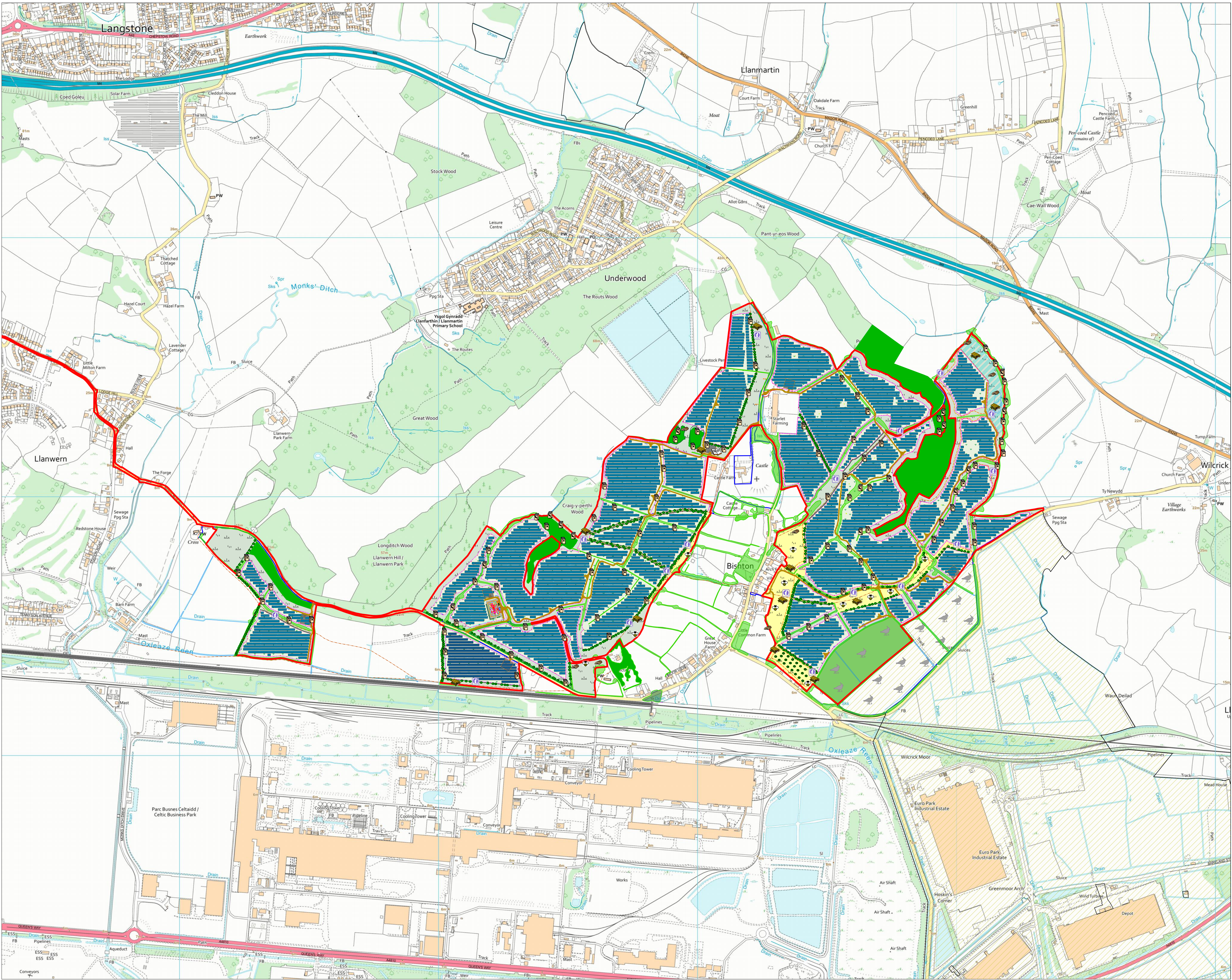
- 4.2.1 Once operational, the Proposed Development will not require significant maintenance, except for occasional visits made by 4x4 vehicles or panel van vehicles.
- 4.2.2 The impact of maintenance vehicles is negligible given the infrequent nature of maintenance visits.
- 4.2.3 On that basis, no further analysis has been undertaken to determine the impact the proposals have on the local network

5.0 Summary and Conclusions

5.1 Summary

- 5.1.1 Tetra Tech has been commissioned by RWE Renewables UK to produce a Transport Statement (TS) to accompany a planning application for a large-scale Solar Farm on land around Bishton between the M4 and the Newport to London Paddington main railway line.
- 5.1.2 The proposed Solar Farm will extend approximately 196 hectares (484 acres) and is located in a predominantly rural area approximately 8km east of Newport City Centre. The existing site consists of several parcels of agricultural land.
- 5.1.3 The development is a low trip generator, especially during its operational phase. The Solar Farm is likely to only generate sporadic vehicle trips as and when maintenance is required, as a result the impact on the local highway network once operational is negligible.
- 5.1.4 The development site is located in a predominately rural area and is currently used as farm land. The various parcels of land currently benefit from minor accesses, usually in the form of gated filed access, as would be expected in this location.
- 5.1.5 Access to the Solar Farm will be promoted via two existing accesses, one to the east of Bishton Road, the other to the west. Both accesses are in the form of simple priority junctions, and serve existing businesses in the area, the first being the existing egg factory, along the western side of Bishton Road, the second being Castle Farm, a dairy farm and shop.
- 5.1.6 These two existing accesses are both frequently used by HGVs, and will be primarily only used during the construction phase
- 5.1.7 Minor accesses will continue to be used to facilitate the site when necessary. The site (when operational) will not generate a significant amount of traffic, and therefore these existing accesses will not be used regularly.
- 5.1.8 The application is accompanied by a CTMP which fully details the access arrangements for the site during the construction stages.

Appendix 1 – Masterplan



NOTES

- 1. All details are indicative only.
- 2. Dimensions are in metres unless stated otherwise.
- 3. Refer to HSE document "Avoiding danger from overhead power lines – Guidance Note GS6" to ensure safe operation of machinery in proximity to overhead power lines.

LEGEND

- Planning Red Line
- Landowners Property
- Access track
- Solar panels
- Solar panels subject to freeboard
- Deer Fence
- Existing Hedges
- Proposed Hedge Planting
- Grazing Grassland
- Wildflower EM2 or similar enhanced with Shrill Corder Food Plants
- Wildflower EM10 enhanced with Shrill Corder Food Plants
- Existing Woodland
- Nesting Bird Habitat
- Nesting Bird Habitat in SSSI (Secured via condition or S106)
- Gwent Levels – Redwick and Llandeenny SSSI
- Wetland Meadow EM8 or similar
- Transformer Container
- Spares Container
- Customer Switch Gear Container
- CCTV
- Access Gate
- Temporary Construction Compound
- Public Rights Of Way
- Permissive Path
- Native Tree Planting
- Orchard Tree Planting
- Substation
- 132kV Cable Route
- Inland Drains
- Outdoor Classroom
- Picnic Bench
- Bird Box
- Bat Box
- Bee Hotel
- Information Board
- Reptile Hibernacula

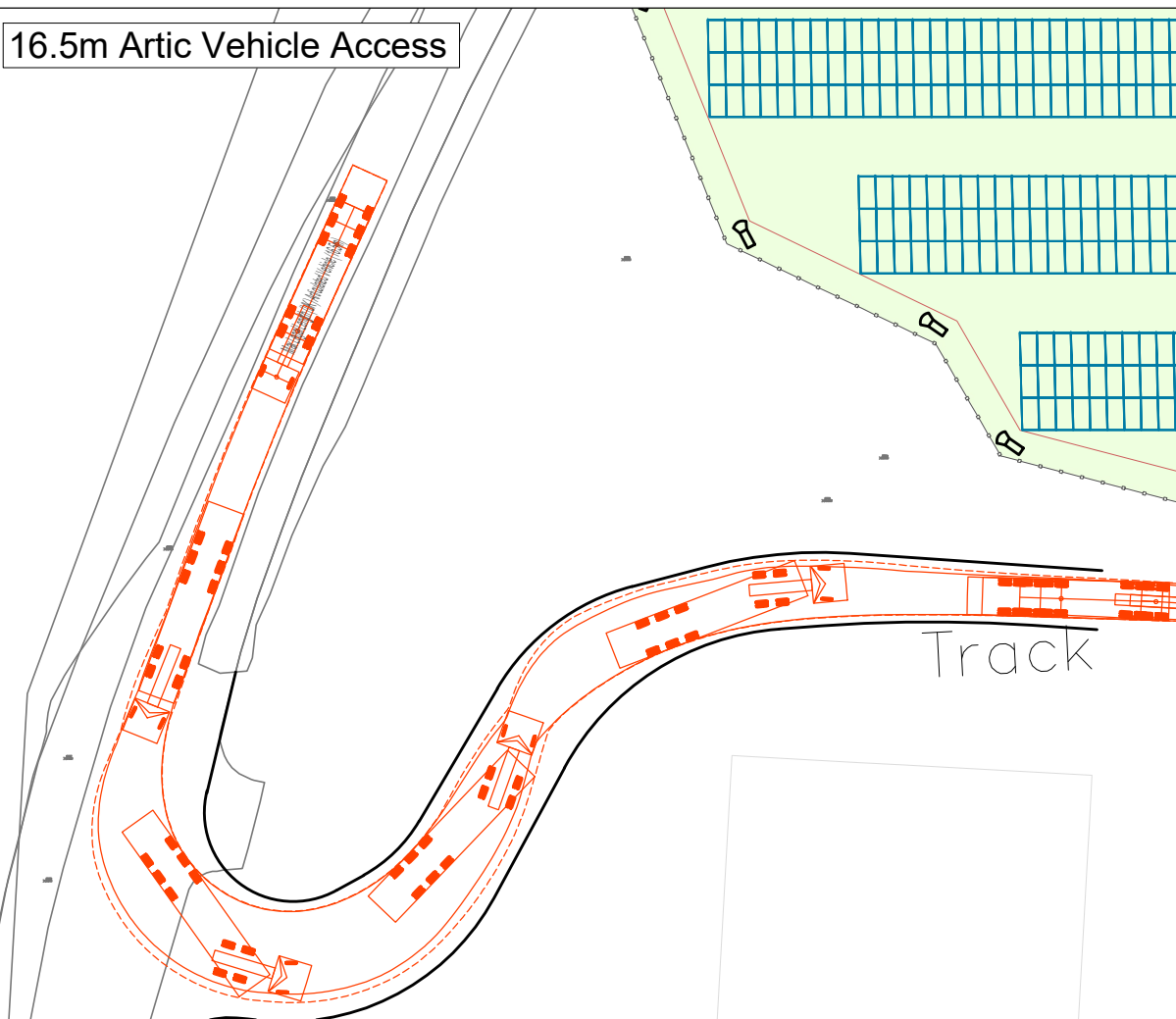


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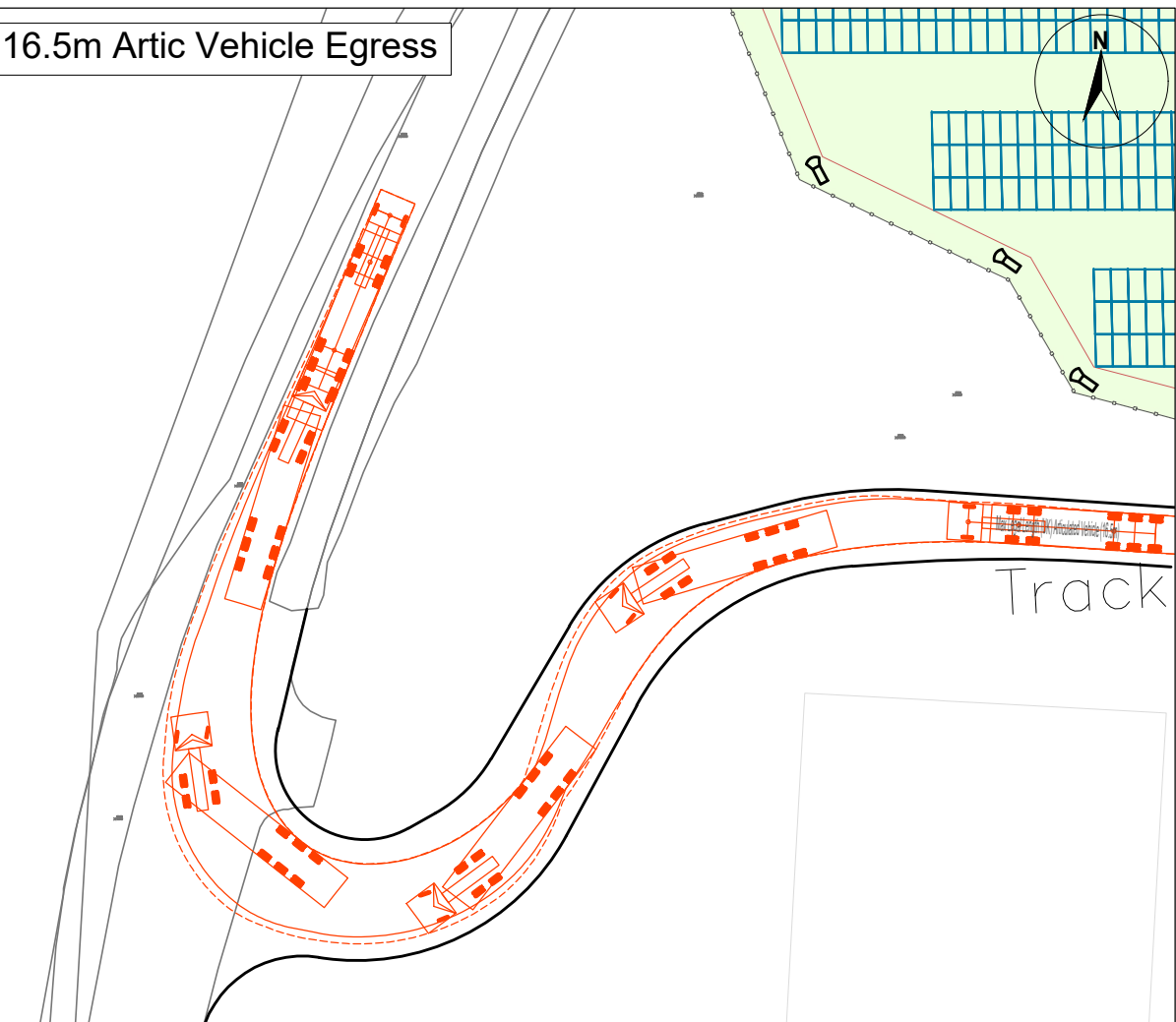
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DATE	14 May 2026
CONFIGURATION	Fixed design
REVISION	14

Appendix 2 – Tetra Tech Drawings

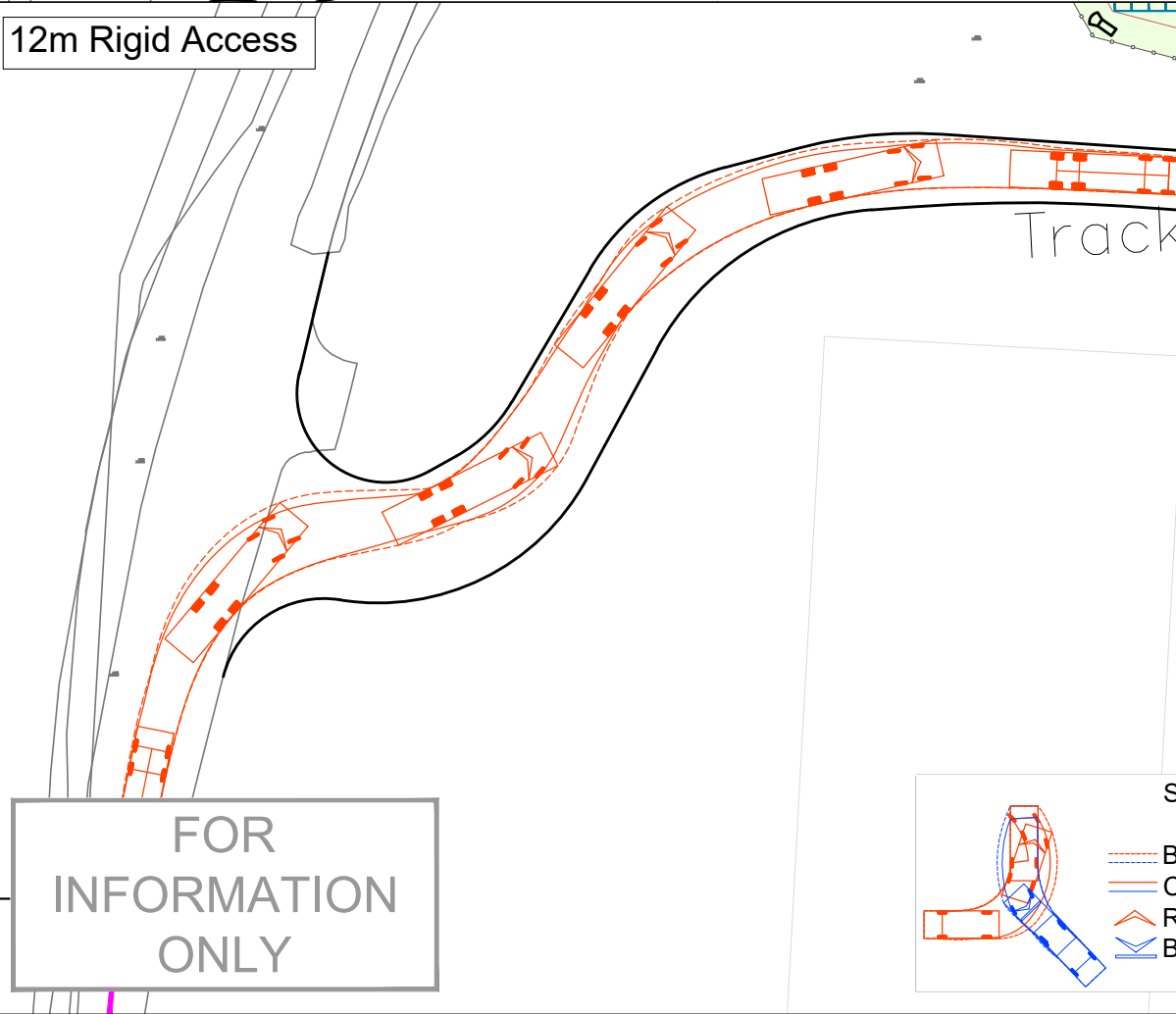
16.5m Artic Vehicle Access



16.5m Artic Vehicle Egress



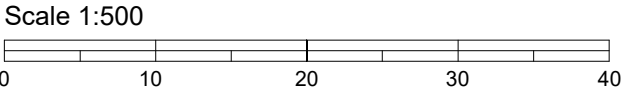
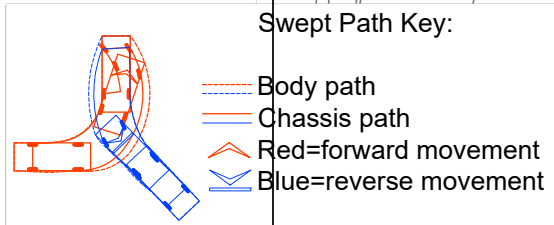
12m Rigid Access



12m Rigid Egress

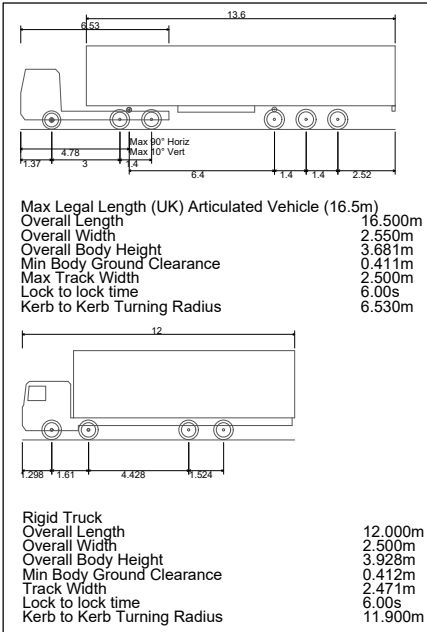


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Vehicle Profiles



C	Latest layout added (J026A_Post Consultation_Rev7)	AJ	EON	12/06/2023
B	Latest layout added (J026A_Post Consultation_Rev5)Access 1 relocated and realigned	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) Tractor& trailer tracks replaced with 12m rigid vehicle	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



20 Farringdon Street, London EC4A 4AB
T: +44(0)20 3691 0500 E: transport@rpsgroup.com

Client J B M Solar

Project Craig y Perthi

Title Access 1
16.5m Artic & 12m Rigid
Swept Path Analysis

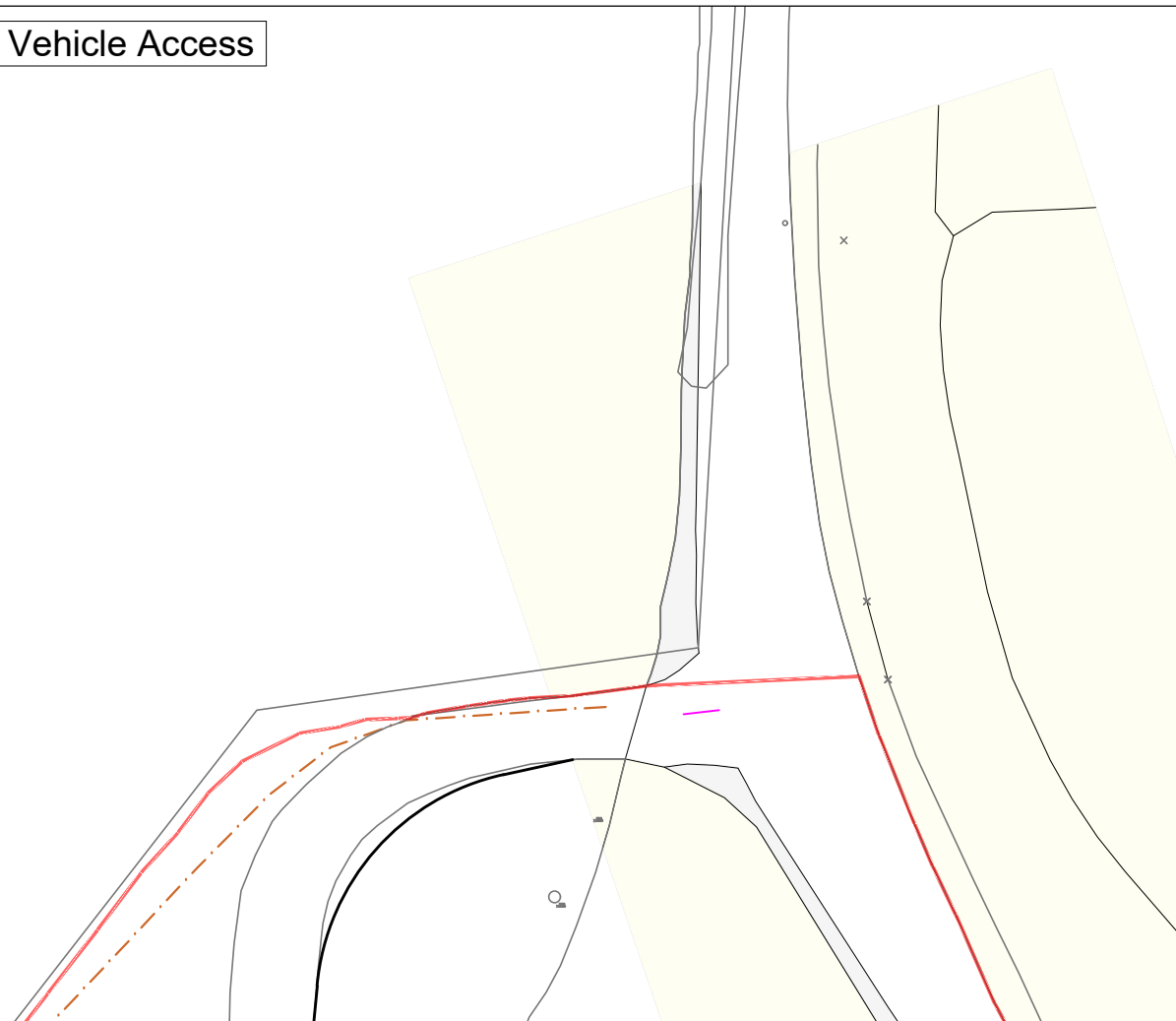
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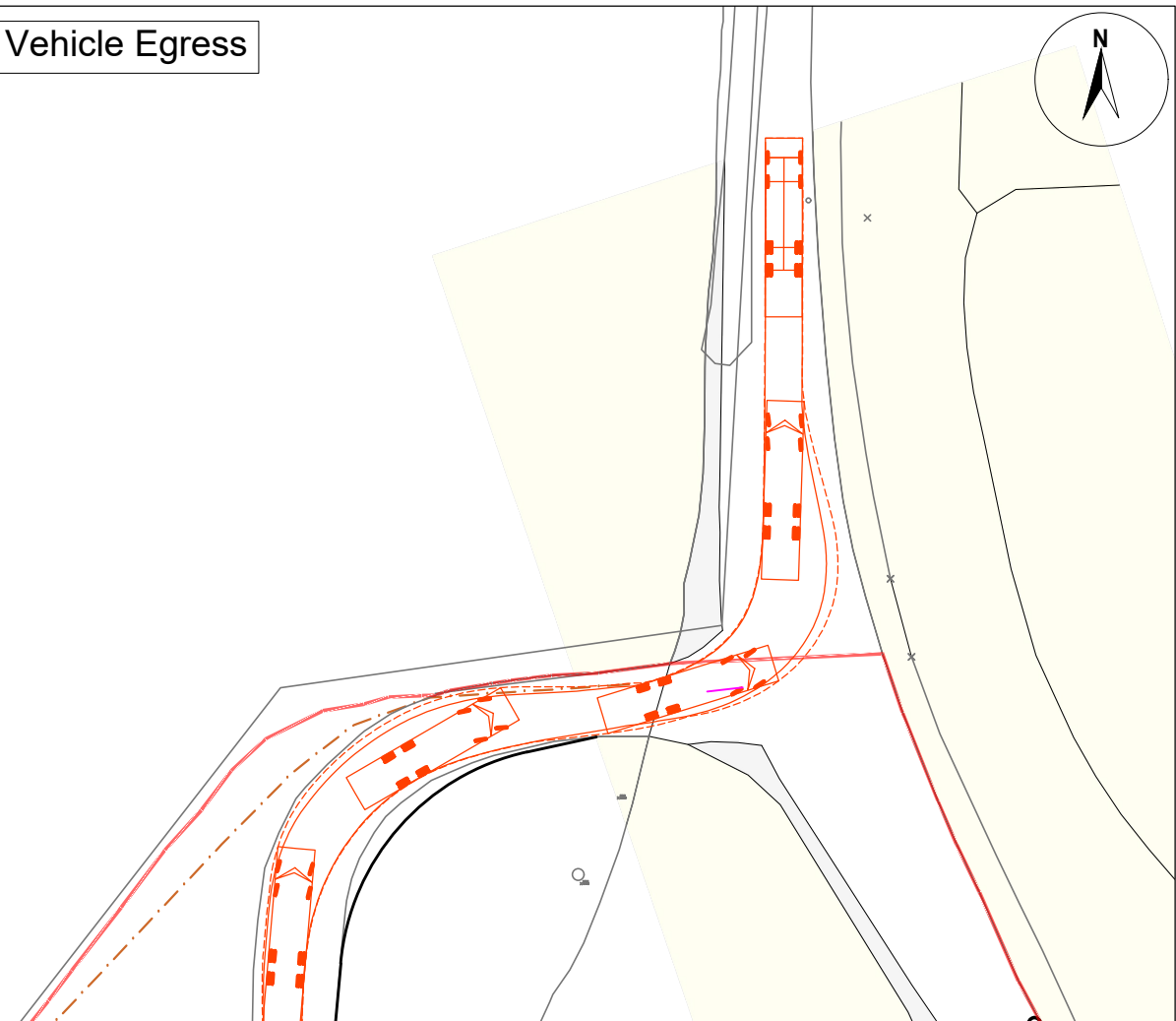
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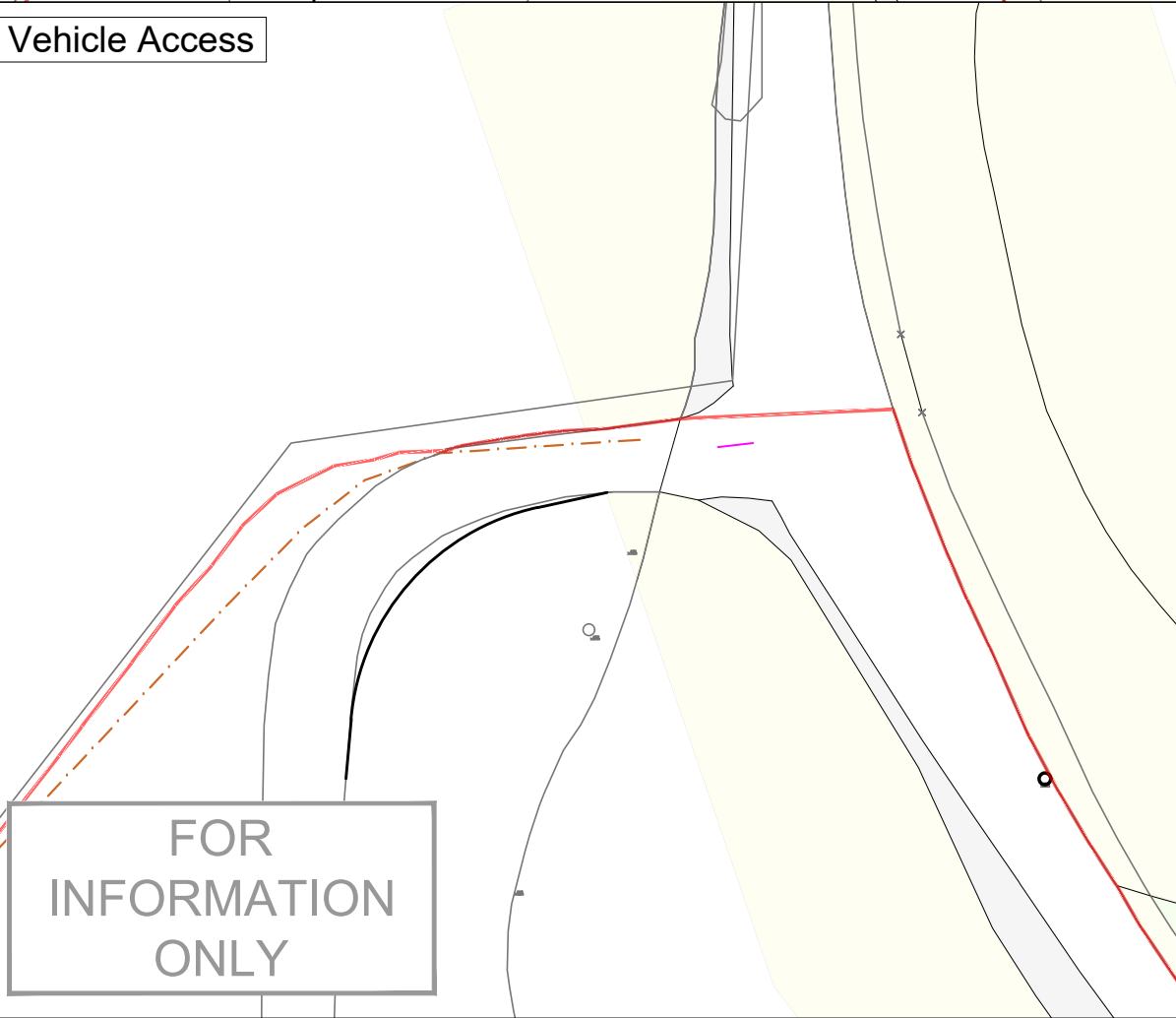
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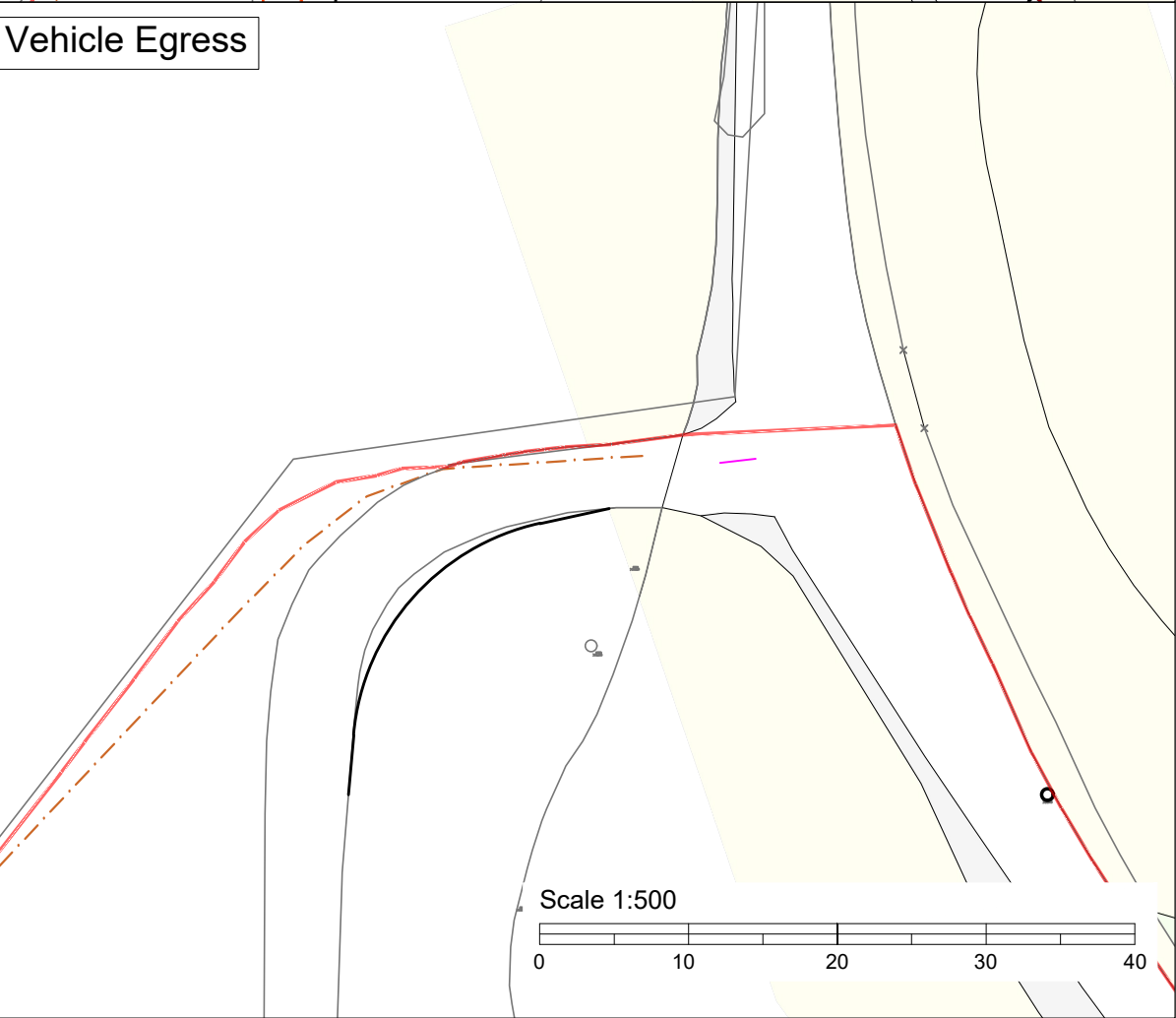
Vehicle Egress



Vehicle Access

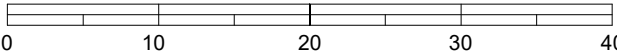


Vehicle Egress



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Scale 1:500

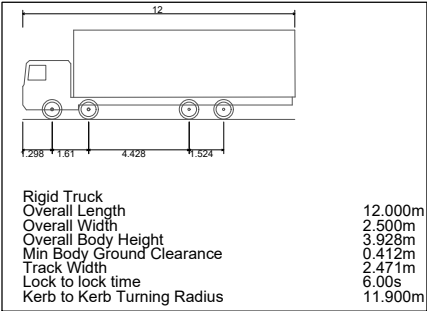


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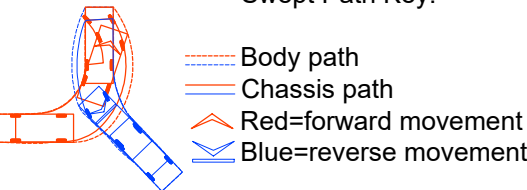
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Vehicle Profiles



Swept Path Key:



C	Latest layout added (J026A_Post Consultation_Rev7)	AJ	EON	12/06/2023
B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



20 Farringdon Street, London EC4A 4AB
T: +44(0)20 3691 0500 E: transport@rpsgroup.com

Client J B M Solar

Project Craig y Perthi

Title Access 2
12m Rigid Vehicle
Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
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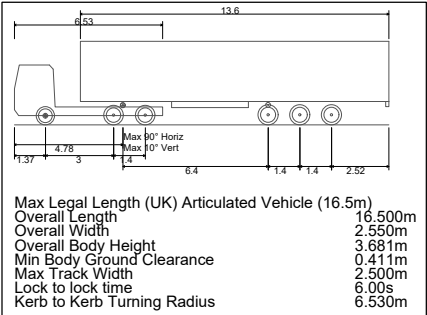
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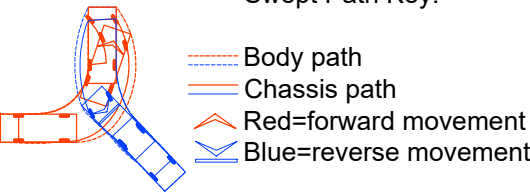


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Vehicle Profiles

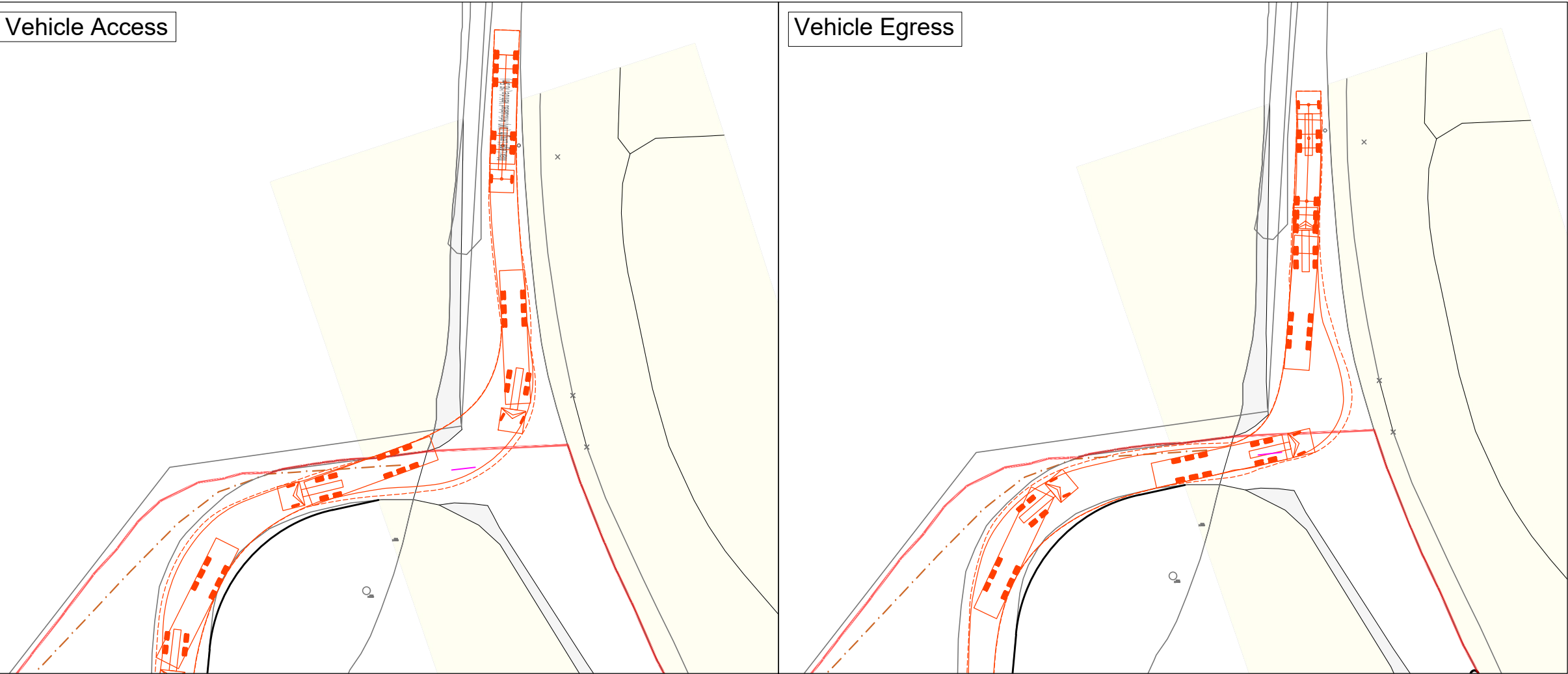


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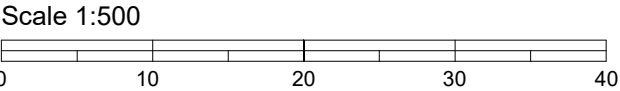


Vehicle Access

Vehicle Egress



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20 Farrington Street, London EC4A 4AB
T: +44(0)20 3691 0500 E: transport@rpsgroup.com

Client J B M Solar

Project Craig y Perthi

Title Access 2
16.5m Articulated HGV
Vehicle Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:500 12/01/2023

RPS Drawing/Figure Number Rev
JNY11484-RPS-0100-020 A

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Appendix 4 – Construction and Transport Management Plan



RWE Renewables UK

Construction Traffic Management Plan

Craig Y Perthi Solar Farm

794-PLN-TRP-00453-02

02

04 June 2026



TETRA TECH

Tetra Tech London, 20 Farringdon Street, London, EC4A 4AB

Tetra Tech Consulting Limited. Registered in England: No.01470149
Registered Office: 101 Park Drive, Milton Park, Abingdon, Oxfordshire, England, OX14 4RY

Document status

Document status					
Version	Purpose of document	Authored by	Reviewed by	Approved by	Date
-	Construction Traffic Management Plan	Louise Sheppard	Emma O'Neill	Emma O'Neill	04/06/2026

Approval for issue		
Emma O'Neill	EON	04/06/2026

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Prepared by	Prepared for
Tetra Tech	RWE Renewables UK Solar and Storage Limited
Louise Sheppard – Senior Transport Consultant	Robin Johnson
20 Farringdon Street, London, EC4A 4AB	14 Bird Street, London, W1U 1BU
T: 01235 838214	T: 07901 270413
E: Louise.Sheppard@TetraTech.com	E: Robin.Johnson@rwe.com

Table of contents

1.0	Introduction	4
1.2	Report Purpose	4
1.3	Development History	5
1.4	Report Structure	5
2.0	Baseline Conditions	7
2.1	Context	7
2.2	Site Location.....	7
2.3	Local Road Network Infrastructure	7
	Bishton Road	7
	Waltwood Road.....	7
	B4245	7
	A48	8
2.4	Personal Injury Accident History	8
3.0	Development Proposals and Access Arrangements	10
3.1	Development Proposals	10
3.2	Construction Access	10
3.3	Site Compounds	11
	Compound Access	11
3.4	Secondary Accesses	13
3.5	Construction Routeing	14
3.6	Bishton Road	15
3.7	Route Management	17
3.8	Route Compliance	17
3.9	Control of Deliveries	17
4.0	Construction Programme and Phasing	19
4.2	Enabling Works	19
	Site Preparation	19
4.3	Site Office	20
4.4	Potential Impact on Utilities	20

4.5	Delivery of Plant and Materials	20
5.0	Construction Traffic Generation.....	21
5.2	Construction Vehicles	21
5.3	Dwell Times	23
5.4	Construction Staff	23
5.5	Maintenance	23
5.6	Decommissioning	23
6.0	Construction Traffic Mitigation.....	25
6.1	General.....	25
6.2	Construction Manager	25
6.3	Subcontractors	26
6.4	Good Neighbours Policy	26
6.5	Dust and Dirt Control	26
6.6	Fuel Consumption / Emissions	27
6.7	Mud on Roads	27
6.8	Impacts along Bishton Road.....	28
6.9	Pedestrian Safety Measures.....	29
	Public Rights of Way	29
6.10	Additional Measures	30
6.11	Engagement with Local Residents and Sensitive Sites	31
7.0	Travel Plan.....	33
8.0	Summary and Conclusions.....	34

Appendices

Appendix 1 – Masterplan

Appendix 2 – Access Strategy

1.0 Introduction

- 1.1.1 Tetra Tech have been commissioned by RWE Renewables UK Solar and Storage Limited to produce a Construction Traffic Management Plan (CTMP) to accompany a planning application for a large-scale Solar Farm on land around Bishton between the M4 and the Newport to London Paddington main railway line.
- 1.1.2 RWE Renewables UK ('the Applicant'), a part of the RWE Group, is proposing to develop a solar farm and associated development ('the Proposed Development') on land to the east of Newport near the Craig Y Perthi Wood and the village of Bishton. The site is west of the Magor Brewery, south of the M4 motorway, northwest of the Tesco Distribution centre, and north of Llanwern steelworks, separated by the South Wales Main Line.
- 1.1.3 The Proposed Development would be classed as a Development of National Significance ('DNS'), as it relates to an electricity generating station that has an installed generating capacity of between 10 and 350 MW¹. Any application for the Proposed Development would be determined by Planning and Environment Decisions Wales ('PEDW'), with a decision being made by the Welsh Ministers.
- 1.1.4 The Applicant is part of the largest power producer in Wales, and the country's number one renewable energy producer with over 1 GW of renewable energy generation, responsible for around a quarter of Wales' renewable energy production. The Applicant is a major Welsh employer, with around 300 people working out of their dedicated offices in Baglan, Port of Mostyn and Dolgarrog.
- 1.1.5 Primary access to the Solar Farm will be promoted from two locations on Bishton Road, these are existing accesses currently serving the egg factory and Castle Farm. Given the scale of the development there will be several secondary accesses, providing access to the various different land parcels.
- 1.1.6 The proposed Solar Farm extends to approximately 196 hectares (484 acres) in size, a copy of the masterplan is included within **Appendix 1**.

1.2 Report Purpose

- 1.2.1 This CTMP has been produced to ensure traffic management practices and necessary arrangements are in place throughout the construction period. This CTMP identifies measures with the principal aim to ensure that the construction works are organised and delivered in a manner that limits the potential impacts on the local highway and prioritises highway safety and amenity of the local area surrounding the site.

¹ Development of national significance (DNS): procedural guidance, Welsh Government, 2024

<https://www.gov.wales/developments-national-significance-dns-procedural-guidance-html>

1.3 Development History

- 1.3.1 A DNS application was submitted in April 2024 for the Proposed Development (DNS Application Reference: DNS/3279787). A TS and Construction Traffic Management Plan (CTMP) were submitted to support the DNS.
- 1.3.2 The DNS application was refused in October 2025 due to its impact on landscape character and visual amenity, heritage assets and ecology / biodiversity. In regard to Transport, the DNS Inspector concluded that:

“I am satisfied that it has been demonstrated that the proposed development is unlikely to give rise to any significant impacts on the local road network subject to appropriate traffic management measures being implemented during construction and the imposition of conditions securing the same.”

- 1.3.3 Since the previous DNS application was dismissed, amendments have been made to the scheme, these include reducing the scale of development from 239 hectares to 196 hectares, avoiding SSSI areas and the removal of battery storage. The amendments to the application, also result in the loss of four access points located to the southeast of Bishton, thus reducing the number of vehicles routing through the village. As such this TS and the accompanying CTMP have been updated accordingly, taking account of these changes.

1.4 Report Structure

- **Section 2: Baseline Conditions** – Describes the existing site and the surrounding areas transport and highway characteristics;
- **Section 3: Development Proposals and Access Arrangements** – Provides an overview of the Proposed Development, construction access and constructing routeing construction scheme overview, and the indicative construction programme;
- **Section 4: Construction Programme** – Provides an overview of the proposed construction schedule;
- **Section 5: Construction Traffic Generation** – Sets out the estimated volume and type of vehicles that will be generated throughout the construction phase of the development;
- **Section 6: Construction Traffic Mitigation Measures** – Sets out the mitigation measures that will be adopted by employees during construction to minimise the impact of construction on local residents, businesses, and the local highway network;
- **Section 7: Construction Travel Plan** – Details how sustainable modes of travel will be encouraged and promoted during the construction period; and

- **Section 8: Summary and Conclusion** – Summarises the key points in this CTMP and provides a final conclusion.

2.0 Baseline Conditions

2.1 Context

- 2.1.1 This section provides information on the existing site and the surrounding area, with a particular focus on the local highway network and highway safety, given that the development will attract minimal (if any) pedestrians or cyclist movements once operational.

2.2 Site Location

- 2.2.1 The proposed Solar Farm extends to approximately 239 hectares in size and is located in a predominantly rural area approximately 8km east of Newport City Centre. The site consists of several parcels of agricultural land and is bound and intersected by several minor local roads along its northern, southern, eastern, and western boundaries.

2.3 Local Road Network Infrastructure

Bishton Road

- 2.3.1 The proposed Solar Farm development site is intersected by Bishton Road, which runs on a north to south alignment through the small hamlet of Bishton. Bishton Road has a carriage width of approximately 4m and is subject to a 60mph speed limit (national speed limit).

Waltwood Road

- 2.3.2 To its north, Bishton Road leads onto Waltwood Road via a simple priority junction. Waltwood Road has a carriage width of approximately 6m and benefits from footways on the western side of the carriageway. It is subject to a 30mph speed limit within the vicinity of the Bishton Road / Waltwood Road junction, increasing to 40mph just before it crosses the M4.

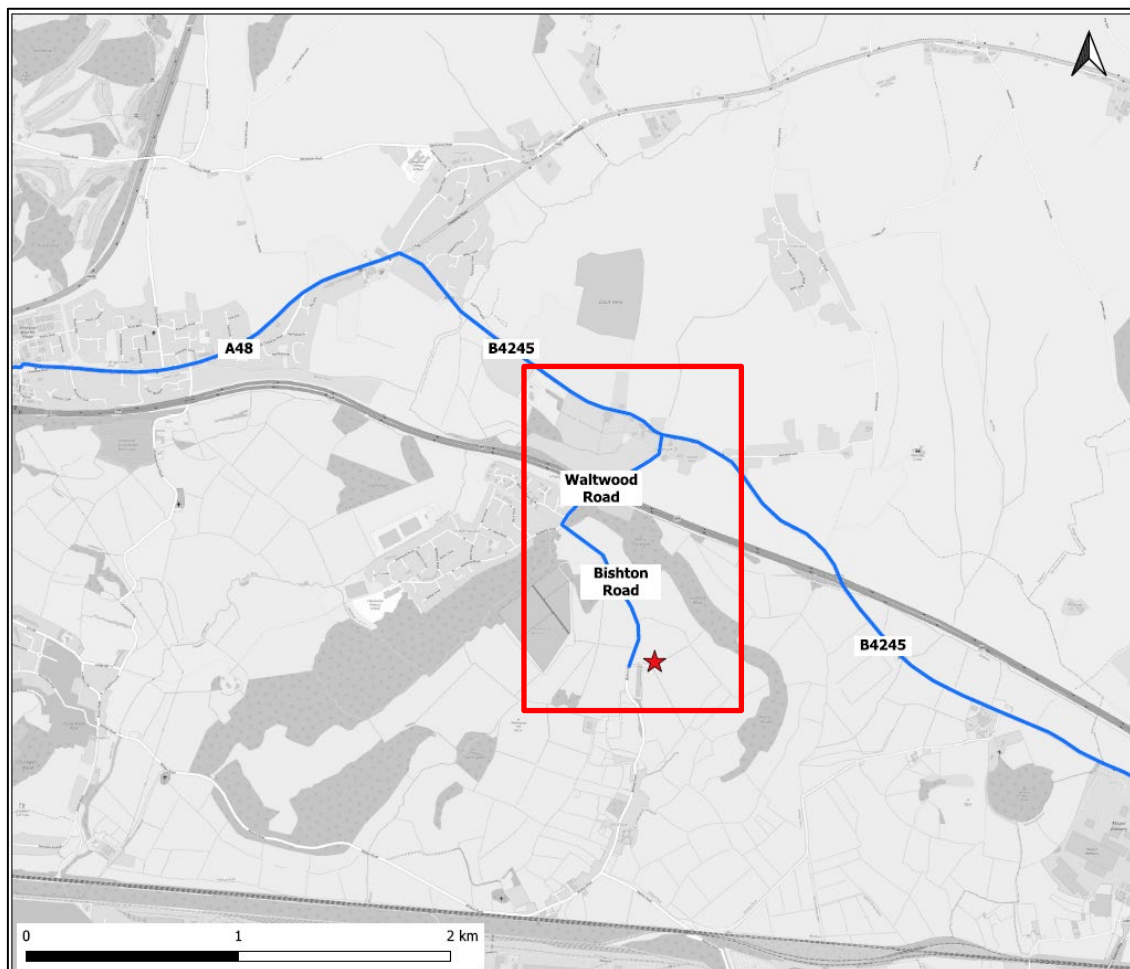
B4245

- 2.3.3 Waltwood Road leads onto the B4245, Magor Road, via a simple priority junction. The B4245 is a single lane carriageway with an average carriageway width of 7.5m subject to a 30mph speed limit.

A48

- 2.3.4 The B425 Magor Road leads onto the A48 which routes broadly northeast to southwest between Gloucester, England, and Carmarthen, Wales. Within the vicinity of its junction with the B4245, the A48 is a single carriageway road with footway provision on both sides of the carriageway. The A48 is subject to a 40mph speed limit and has a wide carriageway width of approximately 9m.
- 2.3.5 **Figure 2.1** below shows the location of the primary road network in the vicinity of the proposed Solar Farm site.

Figure 2.1: Local Road Network



2.4 Personal Injury Accident History

- 2.4.1 Collision data in the vicinity of the Proposed Development site has been obtained by Tetra Tech from CrashMap and analysed for the latest complete five-year period (2020 - 2024).
- 2.4.2 The collision history has been reviewed at key junctions and links identified by the red box on **Figure 2.1** above.

- 2.4.3 The data shows that there were two accidents recorded during this period, of which one resulted in a slight injury, and one resulted in a fatal injury. This equates to one accident per every 2.5 years. **Table 2.1** below summarises the collision history resulting in personal injury on the local road network.

Table 2.1: Personal Injury Accident History

Ref	Location	Date	Severity	Number of Vehicles Involved	Number of Casualties Involved
1	Waltwood Road	24/12/2020	Slight	2	1
2	B4245	07/08/2024	Fatal	1	3

- 2.4.4 The data shows that there is no inherent trend on accident locations in the vicinity of the site. On this basis, it is considered that the adjoining highway network currently operates with no significant highway safety issues which could be exacerbated by the development.

3.0 Development Proposals and Access Arrangements

3.1 Development Proposals

- 3.1.1 The Applicant is proposing to develop a solar farm and associated development on land to the east of Newport near the Craig Y Perthi Wood and the village of Bishton. The site is west of the Magor Brewery, south of the M4 motorway, northwest of the Tesco Distribution centre, and north of Llanwern steelworks, separated by the South Wales Main Line.
- 3.1.2 The Proposed Development would be classed as a DNS, as it relates to an electricity generating station that has an installed generating capacity of between 10 and 350 MW .
- 3.1.3 The point of connection is proposed to be located at the existing Western Power Distribution substation to the west of the Uskmouth Power Station site, which would be connected to the site by a 10.5km underground cable.
- 3.1.4 It is anticipated that the useful life of the Proposed Development would be 40 years

3.2 Construction Access

- 3.2.1 The proposed Solar Farm is located in a predominantly rural area with local roads commensurate with its location. As a result, the applicant is keen to minimise the potential impact of the development on the local roads, especially during the construction period when the volume of vehicles generated by the development will be highest.
- 3.2.2 The proposed Solar Farm extends to approximately 196 hectares and is currently used for agriculture. The site as a whole benefits from five existing accesses, currently serving various parcels of farmland. These accesses are generally gated accesses onto minor roads.
- 3.2.3 During consultation for the previous DNS application a detailed Access Strategy was undertaken setting out how the Solar Farm could be accessed during construction, this study was informed by traffic count data, to confirm both traffic volumes and 85th percentile speeds. This has been attached at **Appendix 2**.
- 3.2.4 The proposed access strategy set out below is consistent with that agreed during the previous DNS application, . However, it should be noted that four access locations have been removed since the previous DNS application in order to avoid routeing vehicles through Bishton. This CTMP has been updated accordingly.

3.3 Site Compounds

- 3.3.1 In order to reduce the impact of vehicles accessing the site from local roads, two centralised site compounds will be implemented. The purpose of these two compounds is to allow all deliveries to be made to two centralised areas, to the east and west of Bishton Road then (in most instances) shuttled across the site (internally) to various parcels of land using a tractor and trailer. It should however be noted that on some occasions, there may be a requirement to access various land parcels by road, this is due to the fragile nature of some deliveries, it will however be kept to a minimum, so as not to increase HGV traffic along local roads.
- 3.3.2 The compounds would include areas for materials and storage, contractors' plant, offices and facilities, and would be designed to accommodate 16.5m articulated lorries, as the largest vehicle expected on site.
- 3.3.3 The compounds are located to the east and west of Bishton Road, access to each central compound will be promoted via existing accesses, the first currently serving the egg factory, the second serving Castle Farm Dairy.

Compound Access

Access 1 – Egg Factory

- 3.3.4 Access 1 is located between the two northern parcels of the site along Bishton Road. This access is an existing access serving an Egg production plant.
- 3.3.5 Tetra Tech Drawing Number JNY11484-RPS-0100-001C shows a 16.5m articulated HGV accessing and egressing the site via the north without issue. This vehicle is likely to be the largest vehicle on site during both the construction and operational period. Tetra Tech Drawing Number JNY11484-RPS-0100-001C also shows a 12m rigid HGV accessing and egressing the site to the south without issue.
- 3.3.6 Tetra Tech Drawing Number JNY11484-RPS-0100-2C shows that maximum visibility splays of 57m can be achieved in a southbound direction and 91m can be achieved in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded in the vicinity of the access
- 3.3.7 On the basis of the above it is evident that the existing site access 1 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development.

Access 2 – Castle Farm Shop

- 3.3.8 Access 2 currently serves the Castle Farm Shop; Access 2 has also been identified as the most appropriate access to serve a compound for the proposed Solar Farm development.
- 3.3.9 Tetra Tech Drawing Number JNY11484-RPS-0100-003C shows a 12m rigid HGV accessing and egressing the site, and Tetra Tech Drawing Number JNY11484-RPS-0100-020A shows a 16.5m articulated HGV accessing and egressing the site.
- 3.3.10 Tetra Tech Drawing Number JNY11484-RPS-0100-004C shows that maximum visibility splays of 80m can be achieved in a southbound direction and 91m can be achieved in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded in the vicinity of the access.
- 3.3.11 It is noted however that existing hedgerow along Bishton Road in a northbound direction impacts slightly on the visibility splay. This hedgerow is of high quality and for environmental reasons should be maintained where possible. It could however be trimmed back away from the carriageway during the construction period to facilitate visibility during this time.
- 3.3.12 In addition, there will be banksmen on site throughout the construction period. These banksmen will facilitate the movement of HGVs into and out of the central compounds where necessary.
- 3.3.13 It is also proposed that temporary signage be located in the vicinity of the site access during the construction period to warn drivers of the site entrance and to advise motorists of HGVs turning.
- 3.3.14 Examples of temporary signage is shown below in **Figure 3.1**.

Figure 3.1: Temporary Signage at Site Access and Public Highway

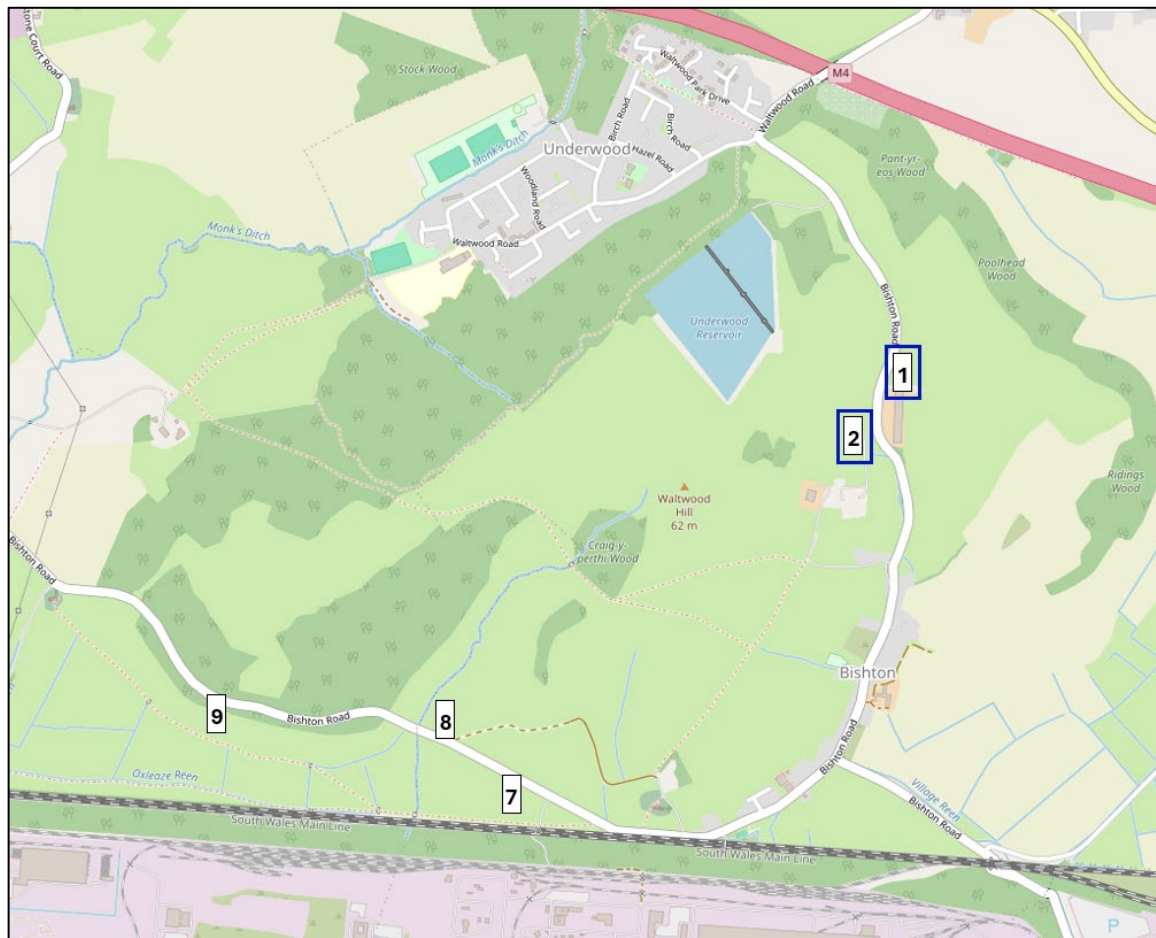


- 3.3.15 On the basis of the above it is evident that the existing site access would be suitable to serve the proposed Solar Farm development on an ad hoc basis, should the requirement arise.

3.4 Secondary Accesses

- 3.4.1 The centralised compounds along Bishton Road will be used to manage how construction traffic accesses and egresses the site. Tractors and trailers will then be used to transport goods to individual land parcels across fields rather than on the external road network.
- 3.4.2 However, on some occasions it may be necessary to transport materials directly to various parcels. While it is envisaged that this would not be a regular occurrence, an assessment of how this could be facilitated has been undertaken. In this situation articulated HGVs would deliver to the compound and then a 12m rigid HGV would transport materials to different parcels using the local roads.
- 3.4.3 The proposed secondary accesses are shown on **Figure 3.2**.

Figure 3.2: Existing Access Locations



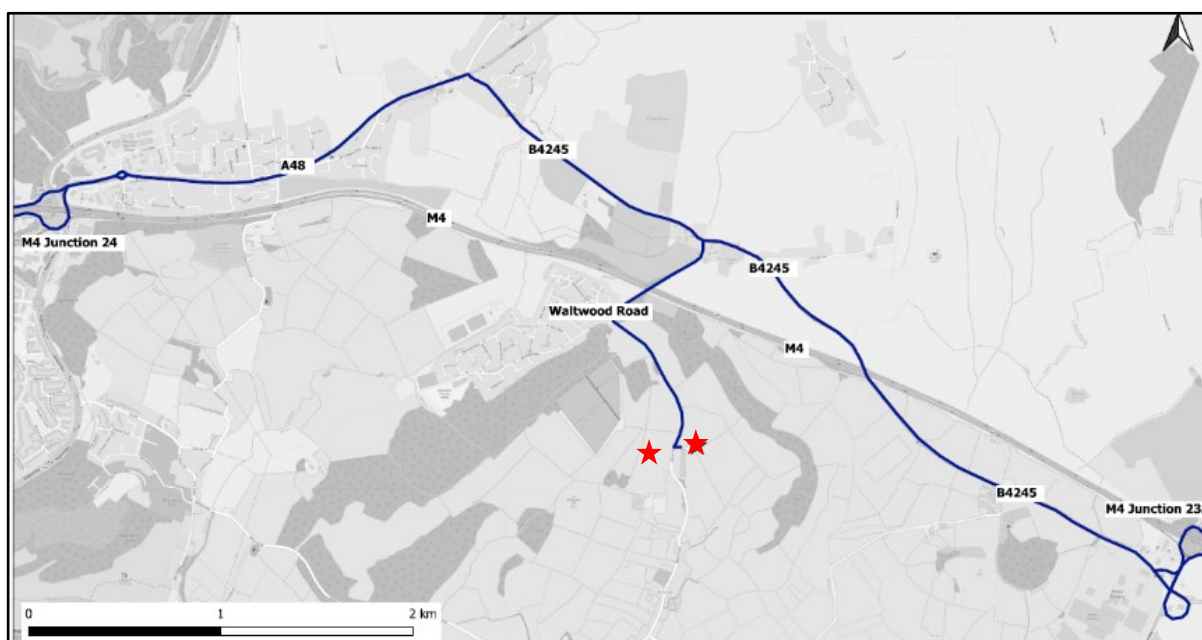
- 3.4.4 The Access Strategy included within **Appendix 2** provides further details on each of the accesses identified above, this note includes the outputs from the traffic count surveys and details on achievable visibility splays. It should be noted that since the Access Strategy was prepared four accesses have been removed, for consistency the access numbering has remained the same.
- 3.4.5 Tetra Tech Drawing Numbers JNY11484-RPS-0100-001 to 018, included with **Appendix 2** shows a 12m rigid HGV accessing and egressing through each of these proposed accesses without issue. The drawings also include details on the achievable visibility splays at each access, all of which are in accordance with recorded 85th percentile speeds.

3.5 Construction Routeing

- 3.5.1 The site benefits from close proximity to the M4 Junctions 23A and 24, the A48 and the B4245. As such, construction traffic travelling to and from the north will route along roads which are designated as HGV routes. The motorway is part of the strategic road network and therefore suitable for larger vehicles.

- 3.5.2 As agreed during the previous DNS application it is likely that the vast majority of construction trips from the west will exit the M4 at Junction 24 and route along the A48 before turning right on the B4245. Vehicles will then travel southbound along Waltwood Road before utilising Bishton Road to access the site from the north.
- 3.5.3 Vehicles travelling from the east will exit the M4 at Junction 23A and route along the B4245 before turning to travel southbound along Waltwood Road. Construction HGVs would then utilise Bishton Road to access the site.
- 3.5.4 Access and egress to the site are taken via the same route.
- 3.5.5 All construction HGVs routeing the site will utilise the below access route, shown graphically in **Figure 3.3**. The proposed location of the site compounds is also shown in **Figure 3.3**.

Figure 3.3: Construction Access Route (M4 J23A / J24 to Site Access)

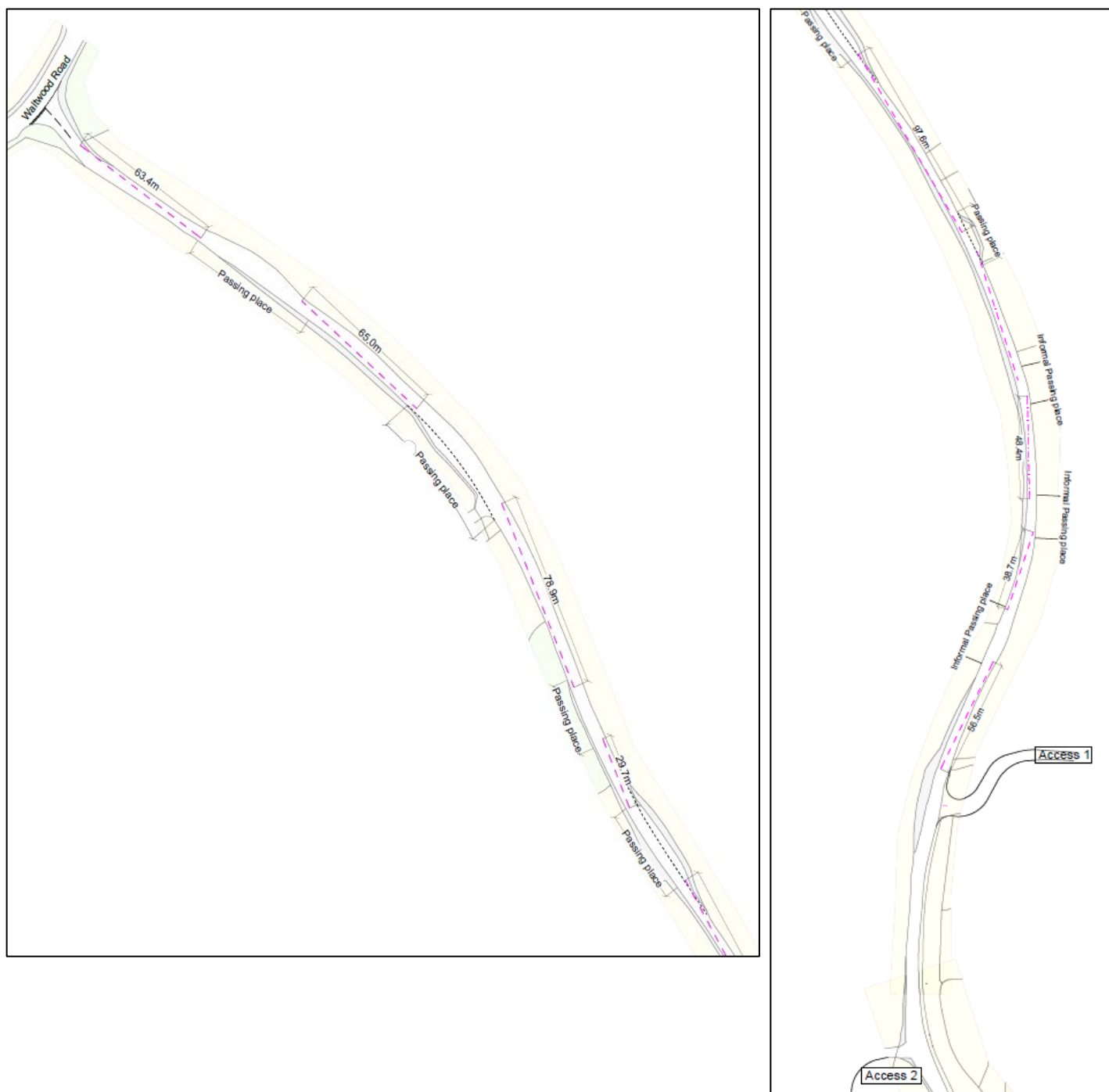


- 3.5.6 It is considered that the proposed routeing minimises the use of minor roads and maximises the use of the major strategic roads where possible.

3.6 Bishton Road

- 3.6.1 It is noted that Bishton Road is a single-track road and concerns were raised during the previous DNS application with construction vehicles routeing along it.
- 3.6.2 Construction vehicles will route along Bishton Road for approximately 800m, along this section there are five formal passing places, and three informal places. The locations of these are shown below on **Figure 3.4** along with the distance in metres between each passing place. This is also shown on Tetra Tech Drawing Number RPS-TRP-00017-001 included within the Access Strategy attached at **Appendix 2**.

Figure 3.4: Bishton Road Passing Places



3.6.3 **Figure 3.5** shows that there are currently five formal passing places, and three informal passing places along this stretch of road, with an average of 60m between each passing place. Tetra Tech has however reviewed the potential to provide additional passing places along Bishton Road. Bishton Road has high quality hedging along both sides of its carriageway and any new passing places along this road would result in the loss of this hedging in order to address a temporary issue.

- 3.6.4 It is envisaged that the impact the proposals have on Bishton Road during construction can be mitigated for with the use of temporary lights (when appropriate), banksmen and escort vehicles, none of which have any lasting detrimental impacts on the local ecology.

3.7 Route Management

- 3.7.1 It is considered appropriate to avoid routes where scheduled road works and construction vehicles could conflict. The Site Manager will be responsible for keeping up to date on scheduled roadworks, events, or incidents in the area which could result in a deviation of the preferred route for HGVs. Any major roadworks or events on the preferred route that result in the deviation of the preferred route will be agreed with officers at Newport City Council (NCC) in advance where feasible.

3.8 Route Compliance

- 3.8.1 The contractor is responsible for communicating the use of agreed HGV routes to all individuals involved in the construction process, prior to works commencing. It is envisaged that this information will be communicated in the form of a leaflet or email and will be circulated to all individuals associated with construction. The information will include details of times of operation, delivery routes for HGVs, and how to access the delivery booking system.
- 3.8.2 Any repeated non-compliance of the proposed construction routes could result in disciplinary procedures or the termination of the workers / supplier's contract. Therefore, the circulation of all required construction routeing information is vital.

3.9 Control of Deliveries

- 3.9.1 All deliveries should be controlled by a delivery booking system which will distribute deliveries across the week and across working hours. Deliveries should not be accepted outside of their designated timeslot, and such deliveries will be asked to re-book, unless there is capacity to accommodate within the specified loading area.
- 3.9.2 On a weekly basis the Site Manager should evaluate details of the daily profile of deliveries proposed for the upcoming week. Hauliers will be required to contact the site on a daily basis and indicate their delivery schedule for the following day. The proposed deliveries will be checked against the weekly delivery schedule. This will be overseen by the Site Manager to ensure that HGV deliveries are scheduled, ensuring that there is always space at the site to accommodate the necessary plant and deliveries.
- 3.9.3 When planning deliveries, the following will be considered:
- All deliveries to the site should be restricted to the timings set out within this document;
 - Deliveries will be permitted only in the specified loading area on site; and

- Material storage areas will be prepared on-site in advance of deliveries to minimise loading and unloading times.

- 3.9.4 It is anticipated that all deliveries to the site will be organised to take place between the hours of 08:00 - 18:00, Monday to Friday and 08:00 - 13:00 Saturday (subject to confirmation / approval from NCC. The contractor will seek to minimise deliveries during the weekday peak hours (08:00- 09:00 and 17:00-18:00), except for in emergencies.
- 3.9.5 Sufficient time will be given between deliveries to allow for any delays as a result of the delivery vehicle getting stuck in traffic or the loading / unloading taking longer than expected and to avoid any vehicles waiting on the surrounding highway network.
- 3.9.6 The following measures will be implemented to reduce the number of vehicle movements to the site:
- 3.9.7 'Backloading' vehicle operation, where site delivery vehicles are utilised to remove waste materials from the site as part of the same trip, where possible; and
- 3.9.8 Practical re-use of any aggregates on site and recycling of material, where possible.
- 3.9.9 With proper planning and an efficient delivery schedule, unnecessary vehicle trips to the site will be kept to a minimum.

4.0 Construction Programme and Phasing

4.1.1 The proposed construction is scheduled to last up to nine months (36 weeks). The construction can broadly be split into the following phases:

- **Site Setup** – including construction compounds, site tracks, perimeter fencing, site welfare facilities;
- **Solar Arrays** – including setting out positions, installing piles, constructing framework, putting modules onto framework;
- **Ancillary Buildings** – aggregate subbase construction, inverter, battery and switchgear unit placement;
- **Cabling and Ducting** – including installing AC cables, DC mains, earthing system and ducts;
- **Commissioning** – including connecting LV DC and AC and overall commissioning; and
- **Construction Completion** – including removal of temporary facilities and grounds restoration and planting.

4.1.2 It should be noted however that the construction programme may be subject to change prior to work commencing on site.

4.2 Enabling Works

Site Preparation

4.2.1 Site setup is likely to occur for a period of three to four weeks. Site setup is important to mitigating any impacts on the surrounding highway network as well as neighbouring residents and businesses.

4.2.2 The site will remain presentable and tidy at all times. Hoarding or Heras fencing could be erected (where appropriate) along perimeters of the site. The fencing will comply with the Health and Safety Authority requirements; and will be well maintained throughout the works to ensure public safety. Further details on the type of fencing proposed, will be provided when a contractor is appointed.

4.2.3 Building inspections to identify hazardous material / asbestos will be undertaken. The purpose of the hoarding is to provide additional security, both to prevent unauthorised personnel from accessing the site as well as providing suitable segregation between pedestrians and the work being undertaken. Lockable gates will be at the entrance to the vehicular access to prevent unauthorised vehicles entering the site.

4.3 Site Office

- 4.3.1 Site accommodation and welfare facilities will be located on site in portable cabins erected within the site compounds on the site on concrete pads

4.4 Potential Impact on Utilities

- 4.4.1 Utility service diversions and temporary service connections should be carried out during the initial stages of the enabling works. The exact location of these services will not be known until a survey has been carried out post planning.
- 4.4.2 Prior to works commencing, any existing utility services should be identified and disconnected across the site. Safe access routes would also be identified for vehicles and pedestrians across the site.

4.5 Delivery of Plant and Materials

- 4.5.1 All materials and plant associated with the development process will be stored within the footprint of the site. A loading and unloading area for plant and materials will be provided within the site. It is anticipated that the majority of deliveries will be made via articulated and rigid HGVs.
- 4.5.2 The following non-road mobile machinery is likely to be used on site:
- Breaker;
 - Dumper trucks;
 - Tower / Mobile Cranes;
 - Drills / Cutters; and
 - Fork Lift Truck.

5.0 Construction Traffic Generation

- 5.1.1 This section of the report sets out the estimated volume and type of vehicles that will be generated throughout the construction phase of the development.
- 5.1.2 It should be noted that the construction programme and corresponding construction traffic strategy may be subject to change following the appointment of a construction contractor and prior to work commencing on site. Any substantial changes in the build program and / or number of vehicular movements will be communicated to NCC in advance.

5.2 Construction Vehicles

- 5.2.1 The trip generation potential of the construction phase of development has been informed through discussion with the Applicant on the anticipated construction programme and is based on experience of delivering similar developments in the United Kingdom. It should be noted that the construction programme and corresponding construction traffic strategy may be subject to change following the appointment of a construction contractor and prior to work commencing on site. Any substantial changes in the build programme and / or number of vehicular movements will be communicated to NCC in advance.
- 5.2.2 **Table 5.1** below provides an overview of the types of construction vehicles expected on site.

Table 5.1: Construction HGVs

Item	Vehicle Type
Solar Panels	Rigid HGV
Mounting System	Rigid HGV
Prefabricated Buildings	Articulated / Rigid HGV
Unloading Buildings	80 tonne Crane
Cables	Rigid HGV
Fencing	Rigid HGV
Small Deliveries	Rigid HGV
Plant Delivery	10t-20t HGV

- 5.2.3 **Table 5.1** shows that the majority of materials and plant delivery is to be transported to the site via articulated and rigid HGVs. There will be no abnormal loads on site, similarly no external infrastructure works form any part of this application.

- 5.2.4 The construction period is estimated to last for up to nine months (36 weeks), with deliveries fluctuating within this period. It is envisaged that the majority of movements would be Monday to Friday with only a limited number of movements on a Saturday. Deliveries will vary in amount per day during the construction period with an average of twelve deliveries (twelve inbound plus twelve outbound movements) per day over the 36-week construction period.
- 5.2.5 **Table 5.2** below provides an indicative construction programme and details the number of HGV movements expected on site during the construction period.

Table 5.2: Indicative Construction Programme

Activity	Week																																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36								
Ground Works	32 deliveries per week																																											
Mounting Systems					25 deliveries per week																																							
Panel Fitting																45 deliveries per week																												
Testing and Commissioning																																	14 deliveries per week											

- 5.2.6 **Table 5.2** shows that deliveries will peak around week 16, with 20 HGVs expected on site each day. This peak will last for approximately one to two weeks. On average there will around 24 two-way HGV trips per day over the 36-week construction period.
- 5.2.7 The vast majority of these HGVs will access the site via the two central compounds located to the east and west of Bishton Road, then shuttled across the site (internally) to various parcels of land using tractor and trailer. Where appropriate (i.e., in convoy situations, dawn and dusk or peak times i.e., harvest, or busier periods on the highway network) an escort vehicle will be used to ensure that these vehicles do not conflict with any other road users.
- 5.2.8 It should however be noted that on some occasions, there may be a requirement to access various land parcels by road, this is due to the fragile nature of some deliveries. This will however be kept to a minimum (less than 10% of total vehicle movements) so as not to increase HGV traffic along local roads.
- 5.2.9 The Access Strategy (attached at **Appendix 2**) includes both the swept path analysis and visibility splays at each of the site accesses and demonstrates that visibility is in accordance with the recorded 85th percentile vehicle speeds, and each access can accommodate a tractor and trailer.

5.3 Dwell Times

- 5.3.1 Delivery vehicles are likely to attend the Site for approximately one hour per vehicle. There will be sufficient space within the designated curtilage of the Site compounds to ensure that no vehicles would have to wait on the surrounding highway network.
- 5.3.2 Further measures that will be employed to control the number and frequency of vehicles arriving at the Site are detailed further below.

5.4 Construction Staff

- 5.4.1 During construction, there is a balance to be made between the intensity of on-site activity and duration of activity. However, the Applicant estimates that there may be up to a maximum of 80 staff on site per day. The Applicant's experience of similar developments elsewhere suggests that car sharing is prevalent within the construction industry and can reduce the number of cars on site to 40. This will be achieved through management of staff travel patterns and actively encouraging car sharing.
- 5.4.2 All staff are anticipated to arrive at the construction Site during the 30-minute period preceding the start of the operating day (i.e. 07:30 to 08:00 Monday to Saturday) and depart during the 30-minute period that follows the end of the operating day (i.e. 18:00 to 18:30 Monday to Friday and 13:00 to 13:30 on Saturdays). Staff trips are likely to travel to / from different origins / destinations and hence spread their movement across the highway network.
- 5.4.3 Provision will be made to enable all vehicles to park within the construction compounds to avoid obstruction to the operation of the public highway and this shall be strictly enforced

5.5 Maintenance

- 5.5.1 Once operational, the Proposed Development will not require significant maintenance, except for occasional visits made by 4x4 vehicles or panel van vehicles.
- 5.5.2 The impact of maintenance vehicles is negligible given the infrequent nature of maintenance visits.

5.6 Decommissioning

- 5.6.1 The proposed use is temporary and reversible, and the land will be restored to agriculture at the end of the Farm's life which is estimated to be approximately 40 years. After the expected life of the project, the Solar Farm can be dismantled, and the components recycled. The site can be reclaimed and returned to its original state.

- 5.6.2 The decommissioning of the Proposed Development will be expected to generate a similar (or fewer) number of trips as the construction phase, since there is not the same requirement to transport the material separately. The traffic associated with the decommissioning phase will be discussed with the Highway Authority prior to commencement, and appropriate measures will be agreed as necessary at that time.
- 5.6.3 The decommissioning phase is expected to take less time than the construction and will consist of the exact opposite construction sequence: starting with disconnecting the plant from the grid, removing the ancillary units, opening of trenches to remove DC and / or AC cables, disconnecting all solar modules, removing the modules and dismantling the supporting structure.
- 5.6.4 The requirements for a Decommissioning Report will be secured via an appropriately worded planning condition and will be produced at an appropriate time towards the end of the 40-year consent period. The Decommissioning Report will fully detail the impacts arising from decommissioning. However, from experience, decommissioning is rarely more onerous than commissioning.

6.0 Construction Traffic Mitigation

6.1 General

- 6.1.1 This section of the Construction Management Plan sets out the mitigation measures that could be employed during construction to minimise the impact of construction traffic on the local residents, businesses, and the local highway network.

6.2 Construction Manager

- 6.2.1 There will be a designated Site Manager to deal with any complaints and enquiries from the general public and any other interested parties. Any changes to the designated Site Manager will be notified to NCC.
- 6.2.2 The details of the Site Manager (including a 24-hour phone number) will be provided to NCC prior to activities beginning on-site. The Site Manager's details will also be advertised at the site entrance.
- 6.2.3 The Site Manager for the project will undertake the transport co-ordination role for the site. In this respect, their main responsibilities should include:
- Managing the implementation of the Construction Management Plan;
 - Vehicle scheduling;
 - Informing local residents, and NCC of the commencement of construction works;
 - Informing local residents and NCC of any major or noise intensive works associated with the construction of the site to avoid / minimise disruption;
 - Checking for scheduled road works, special events and incidents on Roadworks and road closures | Traffic Wales websites;
 - Handling any complaints; and
 - Acting as a point of contact for employees, contractors, NCC, and the general public.
- 6.2.4 The Site Manager should be responsible for keeping neighbours within the site's vicinity informed of the construction progress. In this respect, the Site Manager should ensure that there is adequate liaison between the following key stakeholders throughout the construction period:
- The Contractor;
 - The Developer;
 - Site neighbours;
 - NCC; and

- Other local stakeholders such as emergency services or local transport providers.

6.2.5 Regular review meetings and telecommunication should be held between the Site Manager and local authority. It is envisaged that update meetings/ telecommunication should be held on an ad-hoc basis with an update provided to NCC approximately every 6 weeks. Furthermore, the Site Manager should provide any monitoring data, delivery schedules, complaints, or breaches of agreements to NCC if requested.

6.3 Subcontractors

6.3.1 Individual subcontractors involved in activities such as waste removal should be required to incorporate the relevant requirements from the CTMP into their activities as well as statutory requirements. Any potential sub-contractors will be required to show how they will comply with the CTMP and how targets will be achieved and impacts minimised.

6.4 Good Neighbours Policy

6.4.1 The contractor will strive to be 'Good Neighbours', with systems employed to ensure local issues are understood. As part of this, the contractor could sign up to the Considerate Constructor Scheme (CCS).

6.4.2 Communication with local residents and businesses will begin prior to commencement of construction and will be provided with information on the planned construction including times and contact details by a senior manager based on site.

6.4.3 An induction specific to the development site will be provided to all personnel before construction commences. This will incorporate health and safety; on-site construction works and issues and sensitivities in the context of the surrounding community.

6.5 Dust and Dirt Control

6.5.1 The control of dust and dirt is a prime concern for all construction projects, particularly during periods of dry and windy weather. Best practice guidance 'Dust and Air Mitigation Measures' guidance provided by the Institute for Air Quality Management will be utilised to control dust.

6.5.2 Mud and debris on the road are regarded as one of the main environmental nuisances and safety problems arising from construction sites. All HGVs removing spoil from the site will be fully sheeted to minimise the risk of any mud over spilling onto the highway.

6.5.3 Further to this, all skips and storage area for cement, sand and fine aggregates will be sheeted / covered when not in use. All HGVs serving the site will be required to

ensure that their wheels have been cleared of mud and debris, with wheel washing facilities provided on site. Similarly, provision will be made for cleaning of the road whenever required.

- 6.5.4 Pavements and carriageway fronting the access used for the construction will be swept daily, and the need for this will be continuously monitored throughout the day, in light of site operations and weather conditions. Goods, waste material and wheelbarrows will be secured and covered prior to being transported to and from the site to prevent the escape of debris and dust.
- 6.5.5 The contractor will ensure that the area around the site including the public highway is regularly and adequately swept to prevent any accumulation of dust and dirt.
- 6.5.6 The Site Manager will undertake daily inspections of the site and the roads surrounding the site to ensure that dust control measures are complied with. The Site Manager will record and respond to all dust and air quality pollutant emissions complaints and will maintain a log of any complaints and any action taken to resolve the issues.
- 6.5.7 The frequency of site inspections will increase when activities with a high potential to produce dust are being carried out as well as during periods of prolonged dry or windy conditions.

6.6 Fuel Consumption / Emissions

- 6.6.1 The contractor will strive to procure local contractors for the project, thereby minimising transport costs and impact on the local environment. The use of the booking system for deliveries will also help to ensure that the construction site is serviced in an efficient manner which will help to minimise the number of vehicle movements that would be generated.
- 6.6.2 A further measure that will be employed is encouraging all delivery vehicles to switch off engines as they are waiting at the site, thereby preventing unnecessarily idling vehicles.

6.7 Mud on Roads

- 6.7.1 A wheel cleaning procedure will be used in order to mitigate the amount of mud that could potentially be deposited on the highways by vehicles exiting the site. An area close to the site exit will be utilised for wheel washing prior to vehicles leaving site. A power washer will be used to wash off any mud from the vehicle's wheels, with excess mud/slurry being collected and disposed of.
- 6.7.2 The wheel wash station will remain on site until the development is complete. The proposed wheel cleaning procedure will consist of:

- Before leaving the site, vehicles will be inspected for any heavy deposit left on wheels. If present, these will be removed manually;
- Following inspection, all wheels are to be washed down using a high-pressure jet wash until clear of all deposits; and
- Vehicles will be permitted to leave site following approval of the site manager / site representative that the above steps have been completed to a satisfactory standard.

6.7.3 The site will be kept as free of mud as is practical during ground working operations. Machine and wagon trafficking around the site will be kept to a minimum in order to reduce the effects of rain on 'broken' ground.

6.7.4 The construction site access into the site will be secured. The site will be secured whenever construction personnel are not present. Site contact details and out of hours emergency contact details will also be prominently displayed on site hoardings. Daily inspections will be undertaken in the vicinity of the site and on footways to check for potential hazards (including blocked footways and the build-up of rubbish).

6.8 Impacts along Bishton Road

6.8.1 It has been established above that the development site would generate approximately 24 two-way HGV movements per day over the 36-week construction period.

6.8.2 This would peak at approximately 40 two-way HGV movements per day for approximately one to two weeks around week 16 of the construction programme. During the peak of construction, deliveries would be spread across a 10-hour working-day period, therefore it is estimated there could be potentially four two-way HGV movements an hour for one to two weeks.

6.8.3 It is envisaged that additional traffic management measures could be introduced to fully mitigate the impact these additional vehicles would have on the local highway network. This could include the following options which would need to be further explored when a more detailed programme of construction is available:

- Escort vehicles to escort HGVs from the central compound to the Bishton Road / Waltwood Road junction;
- The introduction of temporary signals during very peak times (i.e., during the peak of construction deliveries for a one-to-two-week period) to shuttle working along Bishton Road; and
- The use of banksmen to ensure that HGVs accessing and egressing the site can do so in a safe and considerate manner.

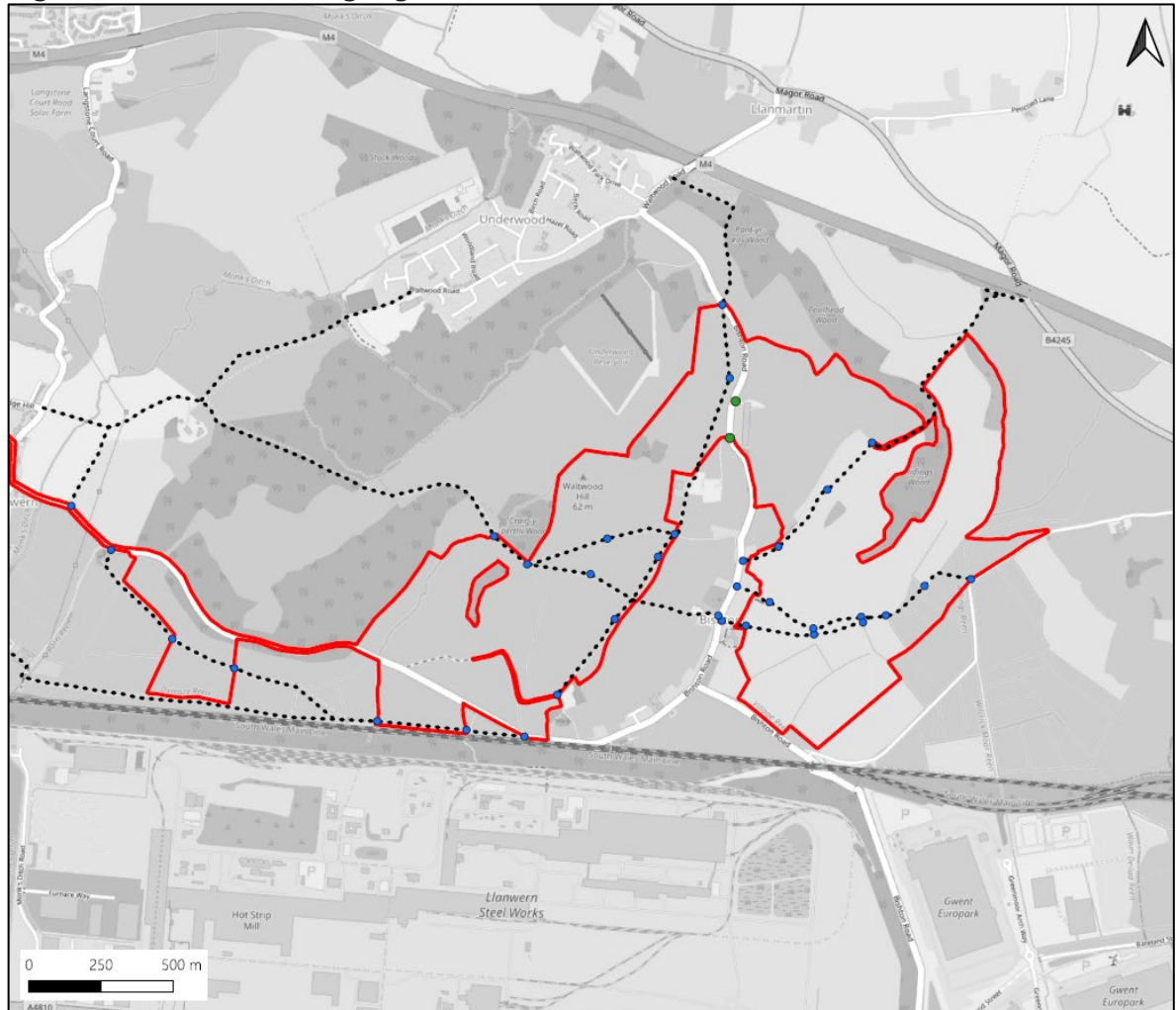
6.9 Pedestrian Safety Measures

- 6.9.1 Pedestrian safety throughout the construction programme will be paramount. To ensure pedestrian safety during loading and unloading activity, a Banksman / traffic marshal should be present to minimise the likelihood of conflict with pedestrians. Warning signage will be provided locally to the site to ensure that vehicles, pedestrians, and cyclists are aware that construction activity is taking place. The site will be properly secured, helping to ensure that pedestrians and the general public cannot access the construction site unauthorised.

Public Rights of Way

- 6.9.2 There are several Public Rights of Way (PRoW) that route across the Proposed Development site. Access to these PRoW would be maintained at all times, with appropriate signage erected at key locations, i.e., hedge lines, warning pedestrians that there will be construction traffic within the fields.
- 6.9.3 **Figure 6.1** below shows the locations of these existing PRoW, and field boundaries where signage should be implemented.

Figure 6.1: PRow and Signage



- 6.9.4 Concern was raised during the previous DNS application regarding whether there were appropriate waiting spaces and visibility at locations where PRow users and construction HGVs would interact. Following a site visit it was concluded that visibility and waiting areas are achievable at key locations where pedestrians and HGVs could meet along the PRow that route through the site.
- 6.9.5 Notwithstanding this, it is proposed that appropriate signage is erected at key locations shown on **Figure 6.1**.

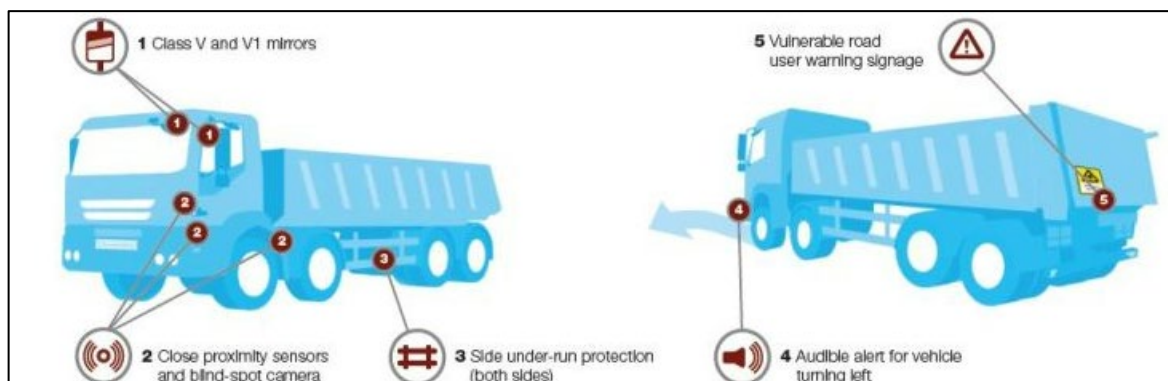
6.10 Additional Measures

- 6.10.1 Site contact details and out of hours emergency contact details will also be prominently displayed on site hoardings. Daily inspections should be undertaken in the vicinity of the site and on footways to check for potential hazards (including blocked footways and the build-up of rubbish).
- 6.10.2 Heavy goods vehicles associated with the construction of the development must:

- Have Side Guards fitted, unless it can be demonstrated to the reasonable satisfaction of the Employer, that the Lorry will not perform the function for which it was built, if Side Guards are fitted;
- Have a close proximity warning system fitted comprising of a front mounted, rear facing CCTV camera (or Fresnel Lens where this provides a reliable alternative), a Close Proximity Sensor, an in-cab warning device (visual or audible) and an external warning device to make the road user in close proximity aware of the driver's planned manoeuvre;
- Have a Class VI Mirror; and
- Bear prominent signage on the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.

6.10.3 The Site Manager should ensure that all contractors and fleet operators at the site sign with vehicles over 3.5 tonnes will be required to have the vulnerable road user safety kit fitted, as outlined in **Figure 6.2**.

Figure 6.2: Safety Measures



- 6.10.4 The Site Manager should undertake checks of vehicles accessing the site. In the event that a vehicle arrives at the site and is not fitted with the above safety kit then the vehicle may be refused entry and a non-conformance report completed.
- 6.10.5 The Site Manager / Contractor should ensure that all contractors and fleet operators accessing the site have received the correct level of training and have had driver license checks.

6.11 Engagement with Local Residents and Sensitive Sites

- 6.11.1 The applicant, or applicant representative, will liaise with all neighbouring residents and businesses to ensure they are aware of the construction programme and the development proposals. Communication with local residents and businesses will begin prior to commencement of construction. The appointed Main Contractor will

be required to follow best practice 'Considerate Constructor' guidelines and should appoint a Community Liaison Officer (CLO).

- 6.11.2 The CLO could initially host and attend community meetings. Following the initial meetings, the CLO will compile a list of stakeholders in the area. These stakeholders will be kept informed of progress and planned works on the site through the publication and distribution of progress newsletters which should include details of updates to the construction programme.
- 6.11.3 Adjacent residents and businesses will be provided with information on the planned construction including times and contact details by the CLO. They will be given the contact details of the developer and will be invited to raise any issues during the construction works. Additionally, the contractor's contact details will be provided on the outside of the site perimeter.
- 6.11.4 An induction specific to the development site will be provided to all personnel before construction commences. This will incorporate health and safety; on-site construction works and issues and sensitivities in the context of the surrounding community particularly in relation to local schools.

7.0 Travel Plan

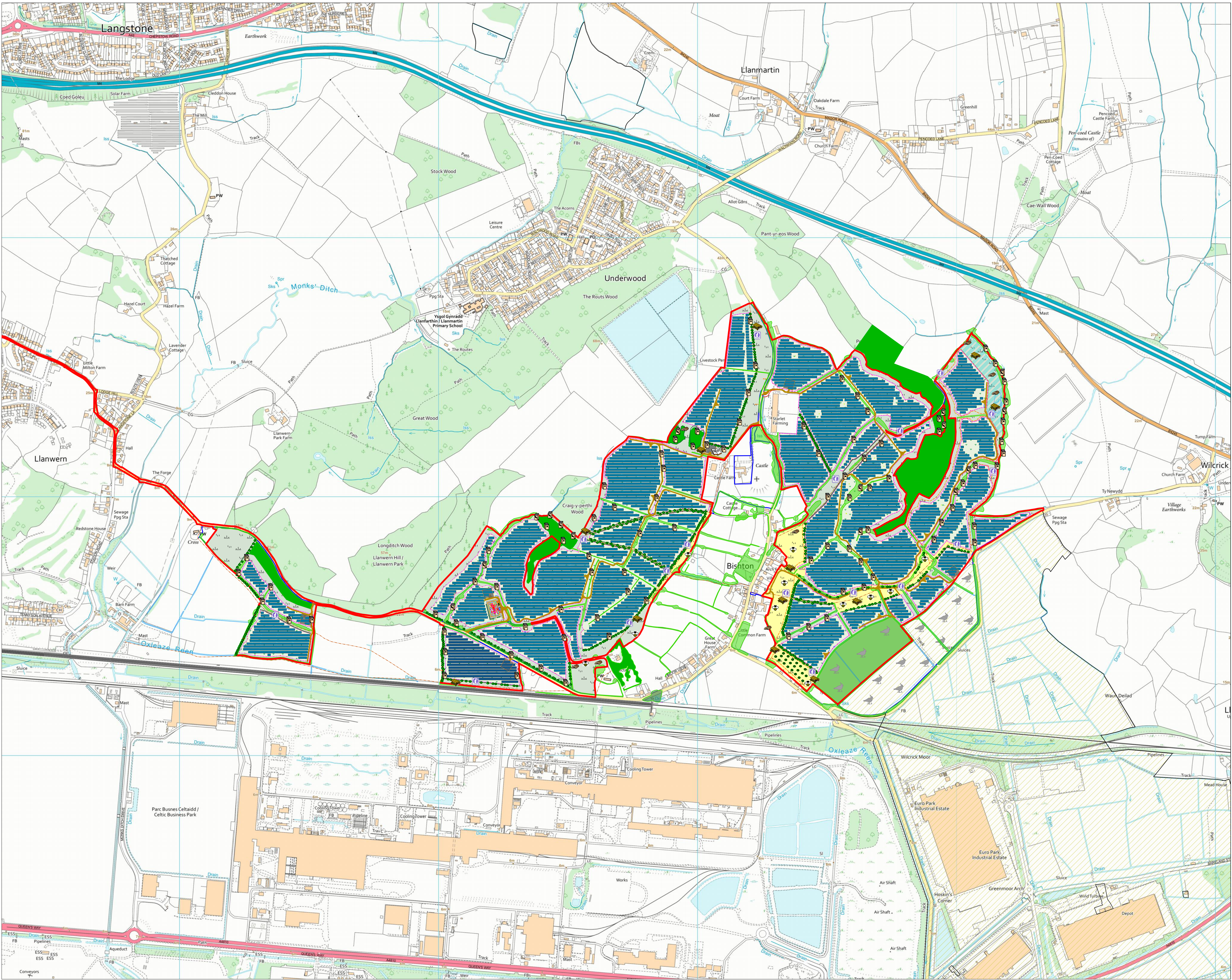
- 7.1.1 Construction The contractor will be encouraged as part of the contract to introduce a Travel Plan for its staff to limit the number of private car trips to the site. The Travel Plan will form part of the final Construction Management Plan and will be agreed with NCC prior to works beginning on site.
- 7.1.2 It is possible to access the site via public transport links which serve the area suggesting that some staff could be encouraged to travel to work sustainably.
- 7.1.3 The construction site will provide facilities to encourage sustainable travel such as drying area, storage facilities and secure bike parking. Where staff are required to travel to site by car, they will be encouraged to do so outside the peak traffic hours.

8.0 Summary and Conclusions

- 8.1.1 Tetra Tech have been commissioned by RWE Renewables UK to produce a Construction Traffic Management Plan (CTMP) to accompany a planning application for a large-scale Solar Farm on land around Bishton between the M4 and the Newport to London Paddington main railway line.
- 8.1.2 The proposed Solar Farm extends to approximately 196 hectares (484 acres) in size and is located in a predominantly rural area approximately 8km east of Newport City Centre. The Proposed Development site is intersected by the hamlet of Bishton and consists of several parcels of agricultural land.
- 8.1.3 The application is yet to be determined, on that basis, all exacting details on how construction will be progressed are as yet unknown. Notwithstanding the contractor (when instructed) will adhere to all the principles of construction set out within this plan.
- 8.1.4 Information regarding the refined timescales of construction will be communicated before construction commences. Any significant changes in the build program will also be communicated to NCC.
- 8.1.5 In order to reduce the impact of vehicles accessing the site from local roads, two centralised site compounds will be implemented. The purpose of these compounds is to allow all deliveries to be made to two centralised areas, then shuttled across the site (internally) to various parcels of land using tractor and trailer. The centralised compounds will be accessed from the east and west of Bishton Road via existing accesses, the first currently serving the egg factory, the second serving Castle Farm Dairy.
- 8.1.6 It should however be noted that on some occasions, there may be a requirement to access various land parcels by road, this is due to the fragile nature of some deliveries, it will however be kept to a minimum, so as not to increase HGV traffic along local roads.
- 8.1.7 All plant and materials will be delivered here before being transported around the site to different parcels of land using a tractor and trailer to limit disruption on the local road network.
- 8.1.8 All construction HGVs will arrive to the site from the north via the M4. Vehicles can exit the motorway at J23A which routes directly onto the B4245. Vehicles would there turn to travel southbound along Waltwood Road before utilising Bishton Road to access the site. Vehicles can also exit the motorway at J24 and route onto the A48 before turning right onto the B4245. Vehicles will then travel along Waltwood Road and Bishton Road before accessing the site. Use of the agreed vehicle routes will be communicated to all individuals associated with construction.

- 8.1.9 All construction vehicles accessing the site will be required to book a time slot in advance using the Booking System controlled by the Site Manager who will keep a record of the schedule of all deliveries on a daily and weekly basis. A Banksman will be on hand to oversee any manoeuvring that does need to occur as well as the loading / unloading of deliveries. The Banksman will also ensure that, appropriate pedestrian and road safety information is relayed to local users, and vehicle checks are made.
- 8.1.10 The construction process will be managed by the designated Site Manager. Any changes to the designated Site Manager will be notified to NCC. The Site Manager will be responsible for acting as a central point of contact for NCC, the general public and any other key stakeholders. Further to this, they will also be responsible for vehicle scheduling, construction route compliance and ensuring all vehicle checks are made including checking for mud on wheels before vehicles leave the site.

Appendix 1 – Masterplan



NOTES

- 1. All details are indicative only.
- 2. Dimensions are in metres unless stated otherwise.
- 3. Refer to HSE document "Avoiding danger from overhead power lines – Guidance Note GS6" to ensure safe operation of machinery in proximity to overhead power lines.

LEGEND

- Planning Red Line
- Landowners Property
- Access track
- Solar panels
- Solar panels subject to freeboard
- Deer Fence
- Existing Hedges
- Proposed Hedge Planting
- Grazing Grassland
- Wildflower EM2 or similar enhanced with Shrill Corder Food Plants
- Wildflower EM10 enhanced with Shrill Corder Food Plants
- Existing Woodland
- Nesting Bird Habitat
- Nesting Bird Habitat in SSSI (Secured via condition or S106)
- Gwent Levels – Redwick and Llandeenny SSSI
- Wetland Meadow EM8 or similar
- Transformer Container
- Spares Container
- Customer Switch Gear Container
- CCTV
- Access Gate
- Temporary Construction Compound
- Public Rights Of Way
- Permissive Path
- Native Tree Planting
- Orchard Tree Planting
- Substation
- 132kV Cable Route
- Inland Drains
- Outdoor Classroom
- Picnic Bench
- Bird Box
- Bat Box
- Bee Hotel
- Information Board
- Reptile Hibernacula



DETAILS

TITLE	Craig-Y-Perthi Solar
LABEL	Figure 2
DATE	14 May 2026
CONFIGURATION	Fixed design
REVISION	14

Appendix 2 – Access Strategy

CRAIG Y PERTHI SOLAR FARM

Access Strategy

JNY11484-01e
Land at Craig y Perthi
Access Strategy
Version 01e
29 November 2023

Document Status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
-	Access Strategy	Louise Sheppard	Emma O'Neill	Emma O'Neill	30 November 2022
01a	Access Strategy	Louise Sheppard	Emma O'Neill	Emma O'Neill	01 December 2022
01b	Access Strategy	Louise Sheppard	Emma O'Neill	Emma O'Neill	30 May 2023
01c	Access Strategy	Joanna Gunn	Joanna Gunn	Joanna Gunn	06 June 2023
01d	Access Strategy	Joanna Gunn	Emma O'Neill	Emma O'Neill	13 June 2023
01e	Access Strategy	Charlotte Routledge	Emma O'Neill	Emma O'Neill	29 November 2023

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Prepared by:

Prepared for:

RPS Consulting Services Ltd

JBM Solar

Emma O'Neill
Technical Director- Transport

Robin Johnson

20 Western Avenue, Milton Park,
Abingdon, Oxfordshire OX14 4SH

33 Broadwick Street,
London W1F 0DQ

T 01235 432 190
E emma.oneill@rpsgroup.com

Contents

1	INTRODUCTION.....	1
2	DELIVERY AND CONSTRUCTION TRAFFIC ROUTING	3
3	ACCESS OPTIONEERING.....	12
4	SUMMARY AND CONCLUSION	21

Appendices

APPENDIX 1 – MASTERPLAN

APPENDIX 2 – RPS TECHNICAL DRAWINGS PACKAGE

1 INTRODUCTION

Background

- 1.1 JBM Solar are proposing to submit a planning application for a large-scale Solar Farm on land around Bishton between the M4 and the Newport to Paddington main railway line.
- 1.2 The proposed development site is intersected by the hamlet of Bishton and extends to approximately 239 hectares (590 acres) and consists of several parcels of agricultural land. The site layout plan is attached at **Appendix 1**.
- 1.3 The site when built, would have an export capacity of approximately 99.9 MW, with battery storage co-located strategically within the Site. The electricity generated would be enough to provide electricity for approximately 45,374 typical Welsh homes¹ and result in an approximate saving of over 3,180,368 tonnes of CO2 over the life of the development, compared with generation from fossil fuels.
- 1.4 Initial scoping discussions were undertaken with both the planning and highway authorities at Newport City Council (NCC) and comments have been received from the highway officer on the proposed scheme. In the majority these comments were related to access arrangements, and proposed routing of vehicles, especially during the construction phases, when the impact from traffic is most significant.
- 1.5 In addition, NCC recently provided comments on the draft Access Strategy, and following a brief meeting with NCC's Highway Officers, all matters raised were discussed and an appropriate way forward agreed. This Access Strategy incorporates all comments received and will be formally submitted as part of the planning application.
- 1.6 JBM Solar have therefore instructed RPS Transport to produce an initial Access Appraisal and Strategy. The purpose of this note is to clearly establish how vehicles would access the development site, taking account of the suitability of existing access points, ensuring that any access options proposed are policy compliant and appropriate for the types of vehicles likely to use them.
- 1.7 When an application is submitted it will be accompanied by a Transport Assessment and Construction Traffic Management Plan. These reports will fully analyse the developments impacts on the network

¹ Subnational Electricity and Gas Consumption Statistics Regional and Local Authority, Great Britain, 2021
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1126284/subnational_electricity_and_gas_consumption_summary_report_2021.pdf

Report Structure

- 1.8 This brief report has been produced in line with all comments recently received from highway officers at Newport City Council.
- **Chapter 2** – Delivery and construction traffic routing;
 - **Chapter 3** – Access optioneering and site servicing; and
 - **Chapter 4** – Summary and Conclusion.

2 DELIVERY AND CONSTRUCTION TRAFFIC ROUTING

- 2.1 The proposed Solar Farm extends to approximately 239 hectares in size and is located in a predominantly rural area with local roads commensurate with its location.
- 2.2 The applicant is therefore keen to minimise the impact this development will have on local roads especially during construction, when the number of vehicles generated by the development will be highest. Recent consultation with highway officers at Newport City Council, also confirmed that the impact of the development (especially during construction) should be minimised where possible.

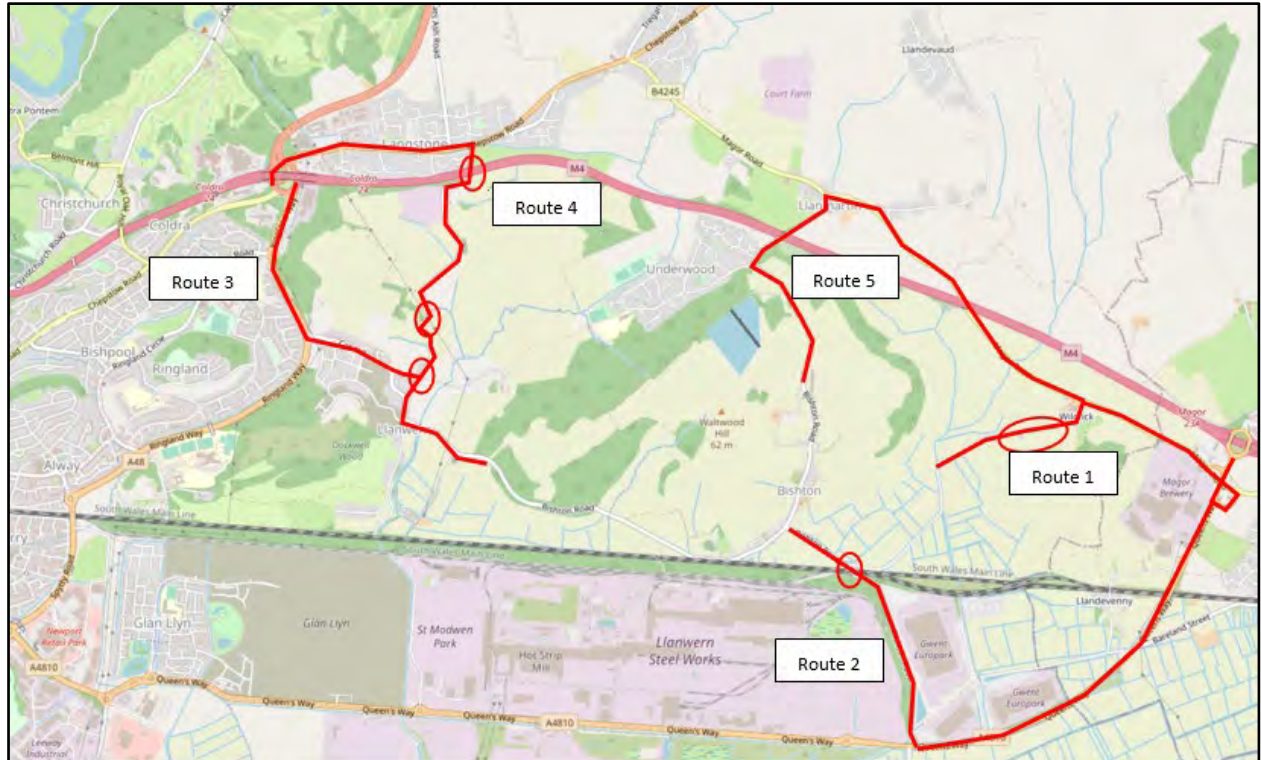
Site Compounds

- 2.3 In order to reduce the impact of vehicles accessing the site from local roads, centralised site compounds will be implemented. The purpose of these compounds is to allow all deliveries to be made to two centralised areas, to the east and west of Bishton Road then (in most instances) shuttled across the site (internally) to various parcels of land using a tractor and trailer. It should however be noted that on some occasions, there may be a requirement to access various land parcels by road, this is due to the fragile nature of some deliveries, it will however be kept to a minimum, so as not to increase HGV traffic along local roads.
- 2.4 The compounds would include areas for materials and storage, contractors' plant, offices and facilities, and would be designed to accommodate 16.5m articulated lorries, as the largest vehicle expected on site.
- 2.5 The compounds are located to the east and west of Bishton Road, access to each central compound will be promoted via existing accesses, the first currently serving the egg factory, the second serving Castle Farm Dairy.

Site Compound Location

- 2.6 The proposed Solar Farm extends to approximately 239 hectares and is bound and intersected by several minor local roads, along its northern, southern, eastern and western boundaries. There are therefore several options for access to the compound, all of which route from the M4. These are described further below and shown on **Figure 1**.

Figure 1: Potential Route Options



- Route 1** – Access could be provided along the site’s eastern boundary, by egressing the M4 at Junction 23A routing southbound along the A4810 before routing westbound along the B4245. Construction HGVs would then route southwest along an unnamed road to access the site from the eastern boundary. Any access promoted via this route, would require HGVs to route along long straight section of road, with limited opportunities to pass, potentially causing issue between local traffic and vehicles associated with the Solar Farm construction.
- Route 2** – Access to the main compound could also be promoted from the site’s southern boundary, by egressing the M4 at Junction 23A routing southbound along the A4810 before turning right onto an unnamed road to travel northbound to access the site. However, this route would be reliant on HGV’s using the existing level crossing of the railway line that forms the sites southern boundary, or routing under the bridge where height restrictions are in place for all vehicles over 1.7m. This restriction makes this route an impracticable route choice for all HGVs.
- Route 3** – Access could be provided along the site’s western boundary by egressing the M4 at Junction 24 and routing southbound along the A48 before travelling eastbound through Milton and Llanwern and accessing the site via the western access junctions. However, the existing roads to the sites west are particularly constrained with restrictions at Lodge Hill / Langstone Lane corner as HGVs would be unable to manoeuvre safely.

- **Route 4** – Access to the main site compound could also be promoted from the site's western boundary, this route leads from the M4 at junction 24 to route eastbound along A48 before travelling southbound along Langstone Lane. Construction HGVs would then route eastbound to the site. This route would include travelling under a bridge with height restrictions in place for all vehicles over 4.1m. The route also includes bends whereby HGVs would be unable to manoeuvre safely.
 - **Route 5** – Access to the main site compound could be promoted from the site's northern boundary. Construction HGVs would exit the M4 at Junction 23A or 24 and route along the B4245 before turning to travel southbound along Waltwood Road, construction HGVs would utilise an unnamed road to access the site from the north. There is a newly constructed egg production plant located along Bishton Road. It is proposed that access to the compound could be promoted via a new access located to its immediate north. Access from this location for HGVs has been established through the planning application (18/0756).
- 2.7 It has been agreed with Highway Officers at NCC that Routes 2, 3 and 4 are not suitable. However, and as discussed with highway officers at NCC, Routes 1 and 5, are somewhat comparable in both length of travel on unclassified highways. On that basis, further analysis has been undertaken to assess the impacts of diverting construction traffic along each route.
- 2.8 Both routes divert construction traffic along Magor Road which is a classified 'B' road, approximately 6m in width and therefore suitable for accommodating the volume and type of heavy vehicles generated by the site during construction.

Route 1

- 2.9 Route 1 directs construction off the B4245 Magor Road at its junction with an un-named road, close to Enghouse Systems and Consensus Support - New Horizons Day Centre. HGVs would then need to route along this un-named road for approximately 1.1km to reach an access to the Solar Farm, of which 900m is along a straight section of narrow carriageway road with approximately four passing points, provided both formally and informally.
- 2.10 **Figures 2 and 3** below show examples of the existing passing points along this stretch of road.

Figure 2 and 3: Examples of Passing Points Along Route 1



- 2.11 The photos above show that this route comprises a narrow carriageway approximately 2.3m in width, with a ditch running parallel with the road for much of its length.
- 2.12 There is also a small collection of houses located along this route, as shown below. The carriage width directly outside these homes is particularly narrow with no opportunity (without infringing onto private property) to facilitate passing vehicles. This is shown below on **Figure 4**.

Figure 4: Carriageway Outside Small Collection of Houses Along Route 1



- 2.13 The Solar Farm will have two central compounds, which are located to the east and west of Bishton Road, approximately 1km west (over farmland) from the proposed access into the site from Route 1. The purpose of these compounds is to allow all deliveries to be made to two

centralised areas, then shuttled across the site (internally) to various parcels of land using tractor and trailer.

- 2.14 Access via Route 1 would result in HGVs having to route across the full development site (approximately 1km), via tracks and fields to access these central compounds.

Route 5

- 2.15 Route 5 directs construction traffic off the B4245 Magor Road (which is suitable for HGV traffic), it is then routed along Waltwood Road, which has a carriage width of approximately 7m, and is again suitable for the volume and type of heavy vehicles generated by the development during construction.
- 2.16 Construction traffic is then directed to the Solar Farm site via Bishton Road at its junction with Waltwood Road. HGVs would then need to route for approximately 800m, to reach the central compound access, of which 200m is along a straight section of narrow carriageway. There are approximately five passing points, provided both formally and informally.
- 2.17 **Figures 5 and 6** below show examples of the existing passing points along this stretch of road.

Figure 5 and 6: Examples of Passing Points along Route 5

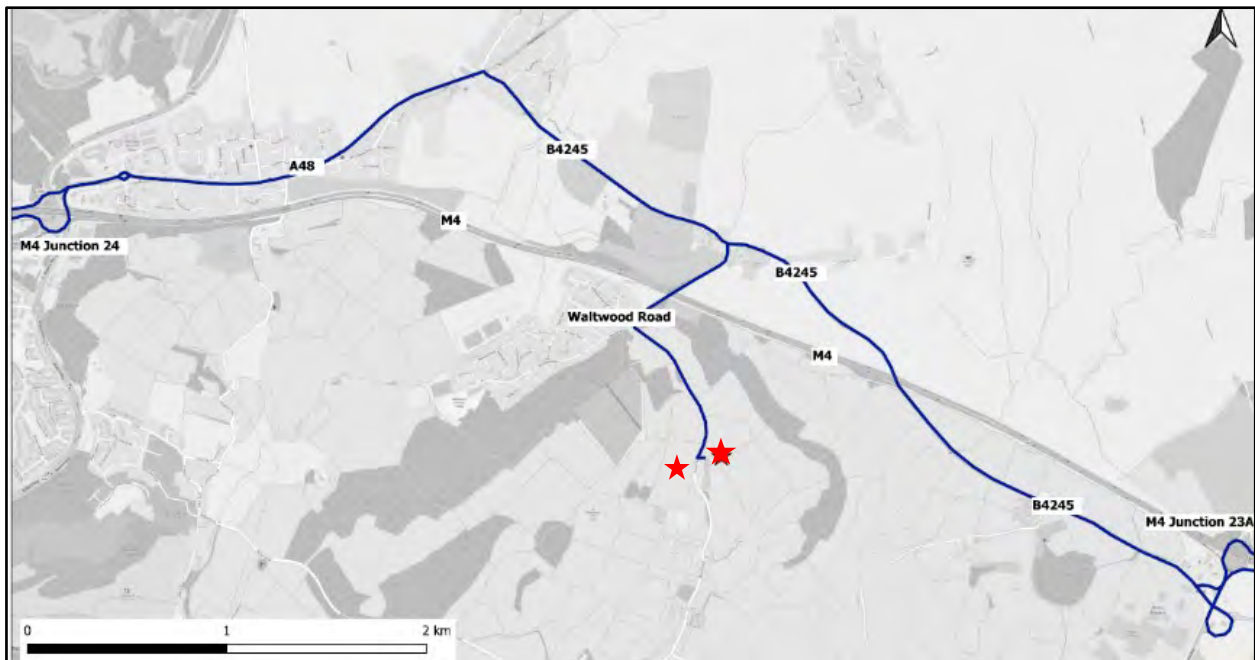


- 2.18 The photos above show that this route comprises a narrow carriageway approximately 2.7m in width, which although still narrow, it is marginally wider than the Route 1 carriageway.
- 2.19 There are no businesses (with the exception of the egg factory, which is supportive of the Solar Farm) or houses located along Bishton Road that would be directly impacted by the routing of construction vehicles.
- 2.20 Access to the central compounds is taken directly from Bishton Road, thus minimising any requirement for vehicles to route across the development site, like what would be required using Route 1.
- 2.21 On the basis of the above, Route 5 is deemed the preferred option for the following reasons:
- It is marginally wider, 2.7m in width compared to 2.3m in width for Route 1;
 - It has a journey length of 800m along unclassified B roads, compared to 1.1km for Route 1;

- There are no sensitive receptors located along Route 5 which would be adversely impacted by the increase in HGVs; and
- The Solar Farms central compounds are directly accessed via Route 5, therefore minimising the need for HGVs to route through the full development site.

2.22 Temporary access to the site compounds for all HGVs would therefore be promoted using Route 5 exiting the M4 at junction 23A or 24 and accessing the site from the north via the B4245 and Waltwood Road as presented in **Figure 7** below. The proposed location of the site compounds is also shown in **Figure 7**.

Figure 7: Construction Access Route (M4 J23A / 24 to Site Access)



2.23 RPS Drawing numbers JNY11484-RPS-0100-001C,003C and 020A included as **Appendix 2**, show a 16.5m Artic and 12m rigid HGV accessing and egressing via these existing accesses without issue. It is noted that the articulated HGV vehicle must utilise the full carriage width, however, this could be safely managed through banksmen restricting traffic movements at both the site access and Bishton Road as required.

HGV Routing

- 2.24 The details of the proposed construction routeing have been agreed with Newport City Council as part of pre-application discussions. As discussed in the previous section, the site is fairly constrained with regards to routing options, with all HGVs accessing the site via a centralised compound accessed from Bishton Road.
- 2.25 It is likely that the vast majority of construction trips (especially HGVs) will arrive to the site from the north via the M4. Vehicles can access the motorway at J23a or J24. The motorway is part of

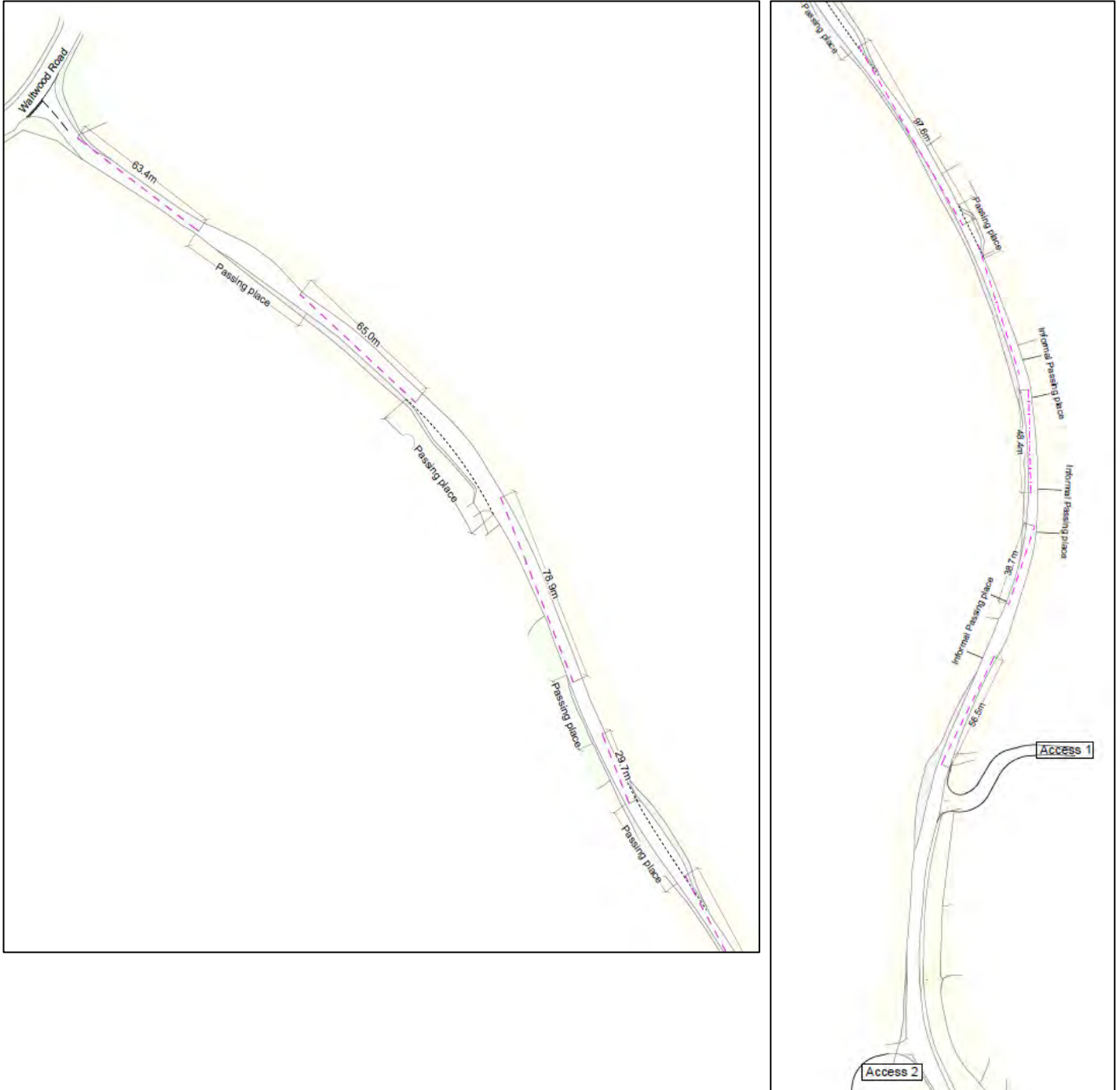
the strategic road network and therefore suitable for larger vehicles. All construction traffic will be encouraged where possible to utilise the above access route, shown graphically in **Figure 2**.

- 2.26 Upon entering the compound all construction materials would be off loaded and tractors with trailers used to transport them to the various parcels of land that make up the site.

Passing Places along Route 5

- 2.27 Route 5 along Bishton Road is approximately 800m in length, with five formal passing places, and three informal places. The locations of these are shown below on **Figure 8** along with the distance in metres between each passing place. This is also attached at **Appendix 2** (RPS Drawing Number 001-RPS-TRP-00017-001).

Figure 8: Route 5 Passing Places



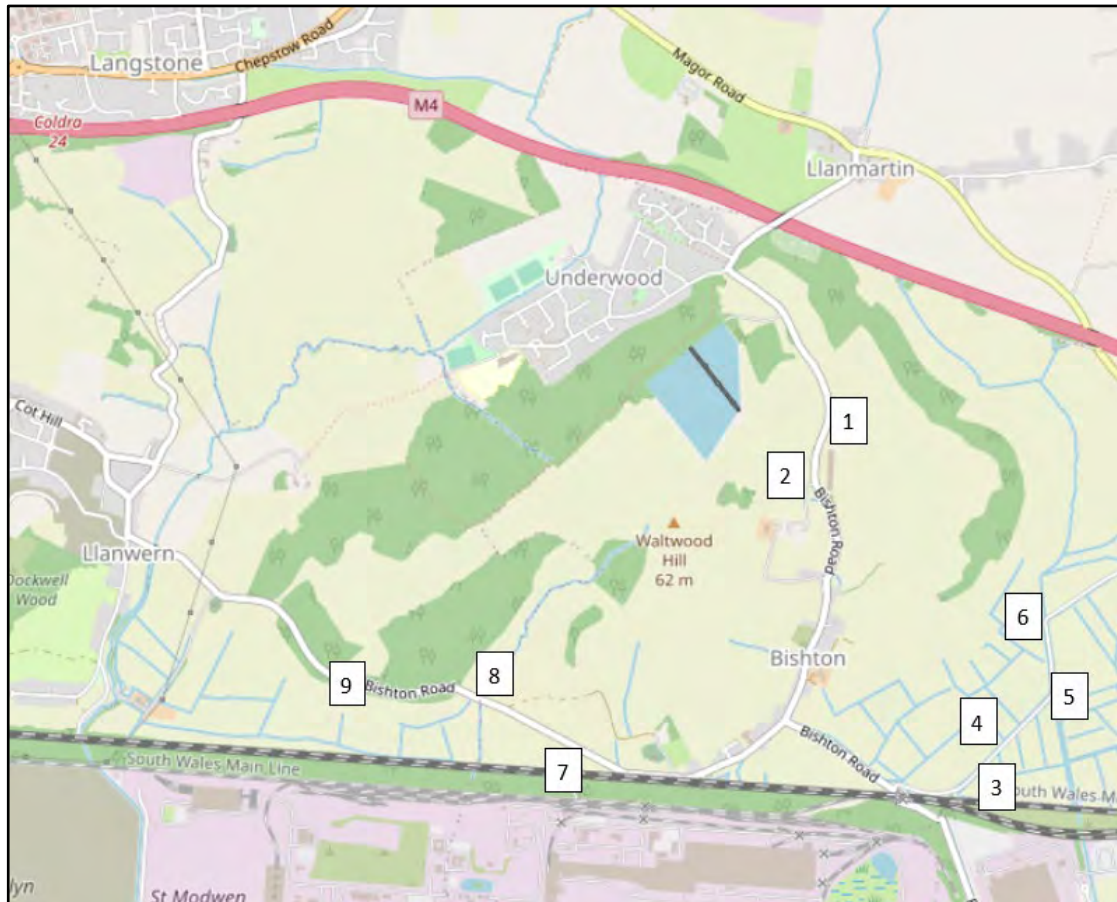
- 2.28 **Figure 8** shows that there are currently five formal passing places, and three informal passing places along this stretch of road, with an average of 60m between each passing place. RPS have however reviewed the potential to provide additional passing places along Bishton Road. Bishton Road has high quality hedging along both sides of its carriageway and any new passing places along this road would result in the loss of this hedging in order to address a temporary issue.
- 2.29 It is envisaged that the impact the proposals have on Bishton Road during construction can be mitigated for with the use of temporary lights (when appropriate), banksmen and escort vehicles, none of which have any lasting detrimental impacts on the local ecology.

3 ACCESS OPTIONEERING

Context

- 3.1 The proposals suggest that two centralised compounds will be used to manage how construction traffic accesses and egresses the site. It has been established that two existing accesses (located to the east and west) of Bishton Road could be used in this regard. These accesses currently serve the egg factory, on the eastern side of the carriageway and Castle farm on the western side of the carriageway. In most instances tractors and trailers transporting goods to individual land parcels across fields rather than on the external road network.
- 3.2 However, on some occasions it may be necessary to transport materials directly to various parcels. While it is envisaged that this would not be a regular occurrence, an assessment of how this could be facilitated has been undertaken with a swept path analysis showing a 12m rigid lorry accessing and egressing at each identified access without issue.
- 3.3 The proposed Solar Farm extends to approximately 239 hectares and is currently in agricultural use. The site as a whole benefits from nine existing accesses, currently serving various parcels of farmland. These accesses are generally gated accesses onto minor roads which extend along the site's southern boundary and through Bishton.
- 3.4 **Figure 9** shows the location of the existing accesses currently serving the development site.

Figure 9: Existing Access Locations



Access Appraisal Study

- 3.5 An access appraisal study has been undertaken to determine the suitability of using these accesses to serve the proposed development site if required. This study has been informed by undertaking seven-day Automatic Traffic Counts within the vicinity of each of the existing site accesses.
- 3.6 These counts continuously record traffic volumes and speeds and the data collected will be used to determine the suitability of providing an access at that location. This methodology was proposed by highway officers in their recent scoping response.
- 3.7 The counts were undertaken on 20 September 2022 until 26 September 2022. Due to the volume of the raw data this has not been appended however this can be provided upon request.
- 3.8 **Figure 10** below shows the locations of each of these counts, while **Table 1** provides a summary of the 85th percentile speeds recorded at each location, alongside traffic volumes.

Figure 10: ATC Locations

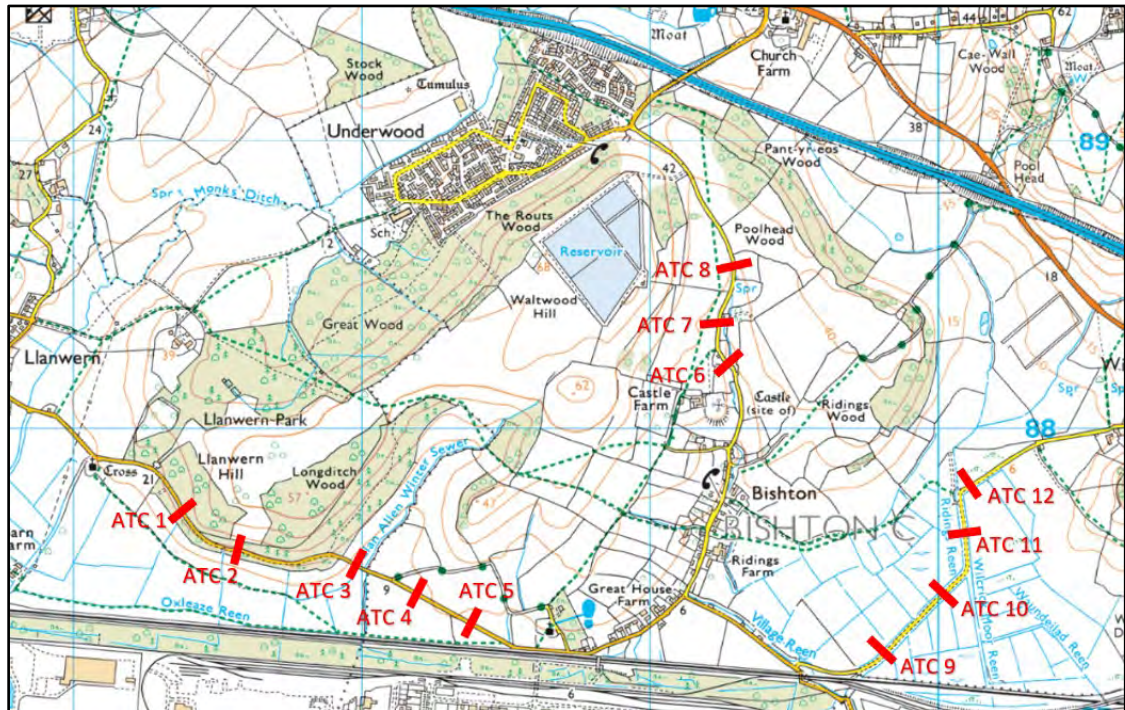


Table 1: Recorded Traffic Volumes and Speeds

Site	Direction	Volume	85th% Speeds	% HGV
1	EB	1,026	37.1	0.6
	WB	1,315	36.9	0.8
	Two Way	2,341	-	0.7
2	EB	1,044	34.6	0.7
	WB	1,306	34.5	0.8
	Two Way	2,350	-	0.7
3	EB	1,046	44.6	0.5
	WB	1,305	44.5	0.5
	Two Way	2,351	-	0.5
4	EB	1,048	49.3	0.6
	WB	1,303	48.3	0.7
	Two Way	2,351	-	0.6
5	EB	1,046	47.6	0.5
	WB	1,303	47.6	0.3
	Two Way	2,349	-	0.4
6	NB	1,061	28.7	0.7
	SB	1,213	30.1	0.7
	Two Way	2,274	-	0.7
7	NB	1,288	31.1	0.9
	SB	1,419	31.9	1.2
	Two Way	2,707	-	1.1
8	NB	1271	29.5	0.9
	SB	1424	29.6	1.2
	Two Way	2695	-	1.0
9	NB	505	31.1	1.0
	SB	434	32.5	1.6
	Two Way	939	-	1.3

Site	Direction	Volume	85th% Speeds	% HGV
10	NB	506	30.7	0.8
	SB	441	30.1	0.7
	Two Way	947	-	0.7
11	NB	489	25.9	0.2
	SB	451	27.6	2.0
	Two Way	940	-	1.1
12	NB	544	33.5	0.7
	SB	480	37.6	1.0
	Two Way	1024	-	1.0

- 3.9 The table above shows that two-way traffic volumes along the roads within the immediate site vicinity were recorded as approximately 1,900 per day, of which on average 0.8% were HGVs. Site 7 recorded most vehicles with 2,707 two-way vehicle movements observed, with 1.1% HGVs recorded.
- 3.10 On average 85th percentile speed was recorded as being 35.6mph. This is significantly lower than the posted speed restriction, which is 60mph along most local roads, reducing to 30mph through the village of Bishton. The recorded speeds however are reflective of the rural and narrow nature of the roads within the site's vicinity.

Existing Accesses

- 3.11 The development site as a whole benefits from nine existing access points, these however are in the majority minor gated accesses currently serving farmland.
- 3.12 An appraisal has been undertaken to determine the suitability of each of these accesses with regards to promoting them as a primary service access serving the proposed Solar Farm. All drawings are attached at **Appendix 2**.

Access 1

- 3.13 Access 1 is located between the two northern parcels of the site along Bishton Road. This access is an existing access serving an Egg production plant. The location of this access is shown on **Figure 9** above. Access 1 has been identified as the most appropriate access to serve a main compound for the proposed Solar Farm development.
- 3.14 This access is located closest to traffic surveys 7 and 8. Two way traffic volumes within the vicinity of this access on average were recorded as 2,701 vehicles per day. 85th percentile vehicle speeds in the northbound direction were recorded at 31.1mph whilst 85th percentile vehicle speeds in the southbound direction were recorded at 29.6mph. These recorded 85th percentile vehicle speeds are well within the posted speed limit of 60mph.

- 3.15 RPS Drawing Number JNY11484-RPS-0100-001C (included within **Appendix 2**) shows a 16.5m articulated HGV accessing and egressing the site via the north without issue. This vehicle is likely to be the largest vehicle on site during both the construction and operational period. RPS Drawing Number JNY11484-RPS-0100-001C also shows a 12m rigid HGV accessing and egressing the site to the south without issue.
- 3.16 RPS Drawing Number JNY11484-RPS-0100-002C (included within **Appendix 2**) shows that maximum visibility splays of 57m can be achieved in a southbound direction and 91m can be achieved in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded in the vicinity of the access.
- 3.17 On the basis of the above it is evident that the existing site access 1 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development.

Access 2

- 3.18 Access 2 currently serves the Castle Farm Shop. The location of the access is shown on **Figure 9** above. Access 2 has also been identified as the most appropriate access to serve a compound for the proposed Solar Farm development.
- 3.19 This access is located closest to surveys 6 and 7. Two-way traffic volumes within the vicinity of this access on average were recorded as 2,490 per day. 85th percentile vehicle speeds in the northbound direction were recorded at 28.7mph and whilst 85th percentile vehicle speeds in the southbound direction were recorded at 31.9mph. These recorded 85th percentile vehicle speeds are well within the posted speed limit of 60mph.
- 3.20 RPS Drawing Number JNY11484-RPS-0100-003C shows a 12m rigid HGV accessing and egressing the site, and RPS Drawing Number JNY11484-RPS-0100-020A shows a 16.5m articulated HGV accessing and egressing the site.
- 3.21 RPS Drawing Number JNY11484-RPS-0100-004C (included within **Appendix 2**) shows that maximum visibility splays of 80m can be achieved in a southbound direction and 91m can be achieved in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded in the vicinity of the access.
- 3.22 It is noted however that existing hedgerow along Bishton Road in a northbound direction impacts slightly on the visibility splay. This hedgerow is of high quality and for environmental reasons should be maintained where possible. It should however be trimmed back away from the carriageway during the construction period to facilitate visibility during this time.
- 3.23 In addition, there will be banksmen on site throughout the construction period. These banksmen will facilitate the movement of HGVs into and out of the central compounds where necessary.
- 3.24 On the basis of the above it is evident that the existing site access would be suitable to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

Access 3

- 3.25 Access 3 is located by the eastern parcels of the site along an unnamed road, the location of the access is shown on **Figure 3** above. This access is located closest to surveys 9 and 10. Two-way traffic volumes within the vicinity of this access on average were recorded as 943 per day. 85th percentile vehicle speeds in the northbound direction were recorded at 31.1mph and whilst

85th percentile vehicle speeds in the southbound direction were recorded at 30.1mph, this is within the posted speed limit of 60mph.

- 3.26 RPS Drawing Number JNY11484-RPS-0100-006B shows that maximum visibility splays of 188m can be achieved in a southbound direction and 215m in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded.
- 3.27 RPS Drawing Number JNY11484-RPS-0100-005B shows a 12m rigid HGV accessing and egressing the site.
- 3.28 On the basis of the above it is evident that the existing site access 3 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

Access 4

- 3.29 Access 4 is located by the eastern parcels of the site along an unnamed road, the location of the access is shown on **Figure 9** above. This access is located closest to surveys 9 and 10. Two-way traffic volumes within the vicinity of this access on average were recorded as 943 per day. 85th percentile vehicle speeds in the northbound direction were recorded at 31.1mph and whilst 85th percentile vehicle speeds in the southbound direction were recorded at 30.1mph, this is within the posted speed limit of 60mph.
- 3.30 RPS Drawing Number JNY11484-RPS-0100-008B shows that maximum visibility splays of 215m can be achieved in a southbound direction and 215m in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded. RPS Drawing Number JNY1148-RPS-0100-007B shows a 12m rigid HGV accessing and egressing the site.
- 3.31 On the basis of the above it is evident that the existing site access 4 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

Access 5

- 3.32 Access 5 is located by the eastern parcels of the site along an unnamed road, the location of the access is shown on **Figure 9** above. This access is located closest to surveys 10 and 11. Two-way traffic volumes within the vicinity of this access on average were recorded as 943 per day. 85th percentile vehicle speeds in the northbound direction were recorded at 30.7mph and whilst 85th percentile vehicle speeds in the southbound direction were recorded at 27.6mph, this is within the posted speed limit of 60mph.
- 3.33 RPS Drawing Number JNY11484-RPS-0100-010B shows that maximum visibility splays of 215m can be achieved in a southbound direction and 215m in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded. RPS Drawing Number JNY11484-RPS-0100-009B shows a 12m rigid HGV accessing and egressing the site.

On the basis of the above it is evident that the existing site access 5 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

Access 6

- 3.34 Access 6 is located by the eastern parcels of the site along an unnamed road, the location of the access is shown on **Figure 9** above. This access is located closest to surveys 11 and 12. Two-way traffic volumes within the vicinity of this access on average were recorded as 982 per day. 85th percentile vehicle speeds in the northbound direction were recorded at 25.9mph and whilst 85th percentile vehicle speeds in the southbound direction were recorded at 37.6mph, this is within the posted speed limit of 60mph.
- 3.35 RPS Drawing Number JNY11484-RPS-0100-012B shows that maximum visibility splays of 215m can be achieved in a southbound direction and 92m in a northbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded. RPS Drawing Number JNY11484-RPS-0100-011B shows a 12m rigid HGV accessing and egressing the site.
- 3.36 On the basis of the above it is evident that the existing site access 6 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

Access 7

- 3.37 Access 7 is located by the western parcels of the site along an unnamed road, the location of the access is shown on **Figure 9** above. This access is located closest to surveys 4 and 5. Two-way traffic volumes within the vicinity of this access on average were recorded as 2350 per day. 85th percentile vehicle speeds in the eastbound direction were recorded at 49.3mph and whilst 85th percentile vehicle speeds in the westbound direction were recorded at 47.6mph, this is within the posted speed limit of 60mph.
- 3.38 RPS Drawing Number JNY11484-RPS-0100-014B shows that maximum visibility splays of 215m can be achieved in a westbound direction and 215m in an eastbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded. RPS Drawing Number JNY11484-RPS-0100-013B shows a 12m rigid HGV accessing and egressing the site.
- 3.39 On the basis of the above it is evident that the existing site access 7 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

Access 8

- 3.40 Access 8 is located by the western parcel of the site along an unnamed road, the location of the access is shown on **Figure 9** above. This access is located closest to surveys 3 and 4. Two-way traffic volumes within the vicinity of this access on average were recorded as 2351 per day. 85th percentile vehicle speeds in the eastbound direction were recorded at 44.6mph and whilst 85th percentile vehicle speeds in the westbound direction were recorded at 48.3mph, this is within the posted speed limit of 60mph.

- 3.41 RPS Drawing Number JNY11484-RPS-0100-016B shows that maximum visibility splays of 127m can be achieved in a westbound direction and 198m in an eastbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded. RPS Drawing Number JNY11484-RPS-0100-015B shows a 12m rigid HGV accessing and egressing the site.
- 3.42 On the basis of the above it is evident that the existing site access 8 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

Access 9

- 3.43 Access 9 is located by the western parcel of the site along an unnamed road, the location of the access is shown on **Figure 9** above. This access is located closest to survey 2. Two-way traffic volumes within the vicinity of this access on average were recorded as 2350 per day. 85th percentile vehicle speeds in the eastbound direction were recorded at 34.6mph and whilst 85th percentile vehicle speeds in the westbound direction were recorded at 34.5mph, this is within the posted speed limit of 60mph.
- 3.44 RPS Drawing Number JNY11484-RPS-0100-018B shows that maximum visibility splays of 79m can be achieved in a westbound direction and 82m in an eastbound direction from a point 2.4m behind the proposed access give way line. This is in accordance with the 85th percentile vehicle speeds recorded. RPS Drawing Number JNY11484-RPS-0100-017B shows a 12m rigid HGV accessing and egressing the site.
- 3.45 On the basis of the above it is evident that the existing site access 9 would be suitable subject to internal reconfiguration to serve the proposed Solar Farm development on an adhoc basis, should the requirement arise.

4 SUMMARY AND CONCLUSION

- 4.1 JBM Solar are proposing to submit a planning application for a large-scale Solar Farm on land around Bishton between the M4 and the Newport to Paddington main railway line. The proposed development site is intersected by the hamlet of Bishton, it extends to approximately 239 hectares (590 acres) and consists of several parcels of agricultural land.
- 4.2 Initial scoping discussions have been undertaken with both the planning and highway authorities at Newport City Council and comments have been received from the highway officer on the proposed scheme. In the majority these comments were related to access arrangements, and proposed routing of vehicles, especially during the construction phases, when the impact from traffic is likely to be most significant.
- 4.3 In addition, NCC have recently provided comments on the draft Access Strategy, and following a brief meeting with NCC's Highway Officers, all matters raised were discussed and an appropriate way forward agreed. This updated Access Strategy incorporates all comments received and will be formally submitted as part of the planning application.
- 4.4 An initial Access Appraisal and Strategy has therefore been produced which clearly establishes how vehicles would access the development site, taking account of the suitability of existing access points, ensuring that any access options proposed are policy compliant and appropriate for the types of vehicles likely to use them.
- 4.5 The proposals suggest that two centralised compounds located to the east and west of Bishton Road will be used to manage how construction traffic accesses and egresses the site. It has been established that two existing accesses from Bishton Road could be used in this regard, with tractors and trailers(in most instances) transporting goods to individual land parcels across fields rather than on the external road network.
- 4.6 An appraisal of all other local accesses has been undertaken, this showed that visibility is achievable from all identified access points serving the development. The extent of required visibility splay was established through ATCs continuously recording speeds and volumes for a seven-day period.
- 4.7 It is understood that on rare occasions there maybe a requirement to transport fragile goods to different parcels of the site on the local network. This would occur very occasionally when fragile parts of the solar farm are required to be delivered. A swept path analysis has been undertaken at each of the secondary accesses to show a 12m rigid HGV accessing and egressing these accesses without issue.

Conclusion

- 4.8 Access to the Solar Farm is achievable and from multiple locations. Any forthcoming planning application will be accompanied by a Transport Assessment and Construction Traffic Management Plan which will assess the development sites impact on the local network.

Appendices

Appendix 1 – Masterplan

NOTES

1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.
3. Refer to HSE document "Avoiding danger from overhead power lines – Guidance Note GS8" to ensure safe operation of machinery in proximity to overhead power lines.

LEGEND

- Planning Red Line
- Landowners Property
- Road
- Solar panels
- Solar panels subject to freeboard
- Fence
- Existing Hedges
- Proposed Hedges
- Wildflower
- Grassland
- Existing Woodland
- Bird Habitat
- Wetland Meadow
- Inverter Container
- Battery/Inverter Units
- Containerized Battery/Inverter Units
- Spares Container
- Customer Switch Gear Container
- OCTV
- Access Gate
- Temporary Construction Compound
- Public Rights Of Way
- Permissive Path
- Acoustic Fencing
- Culvert



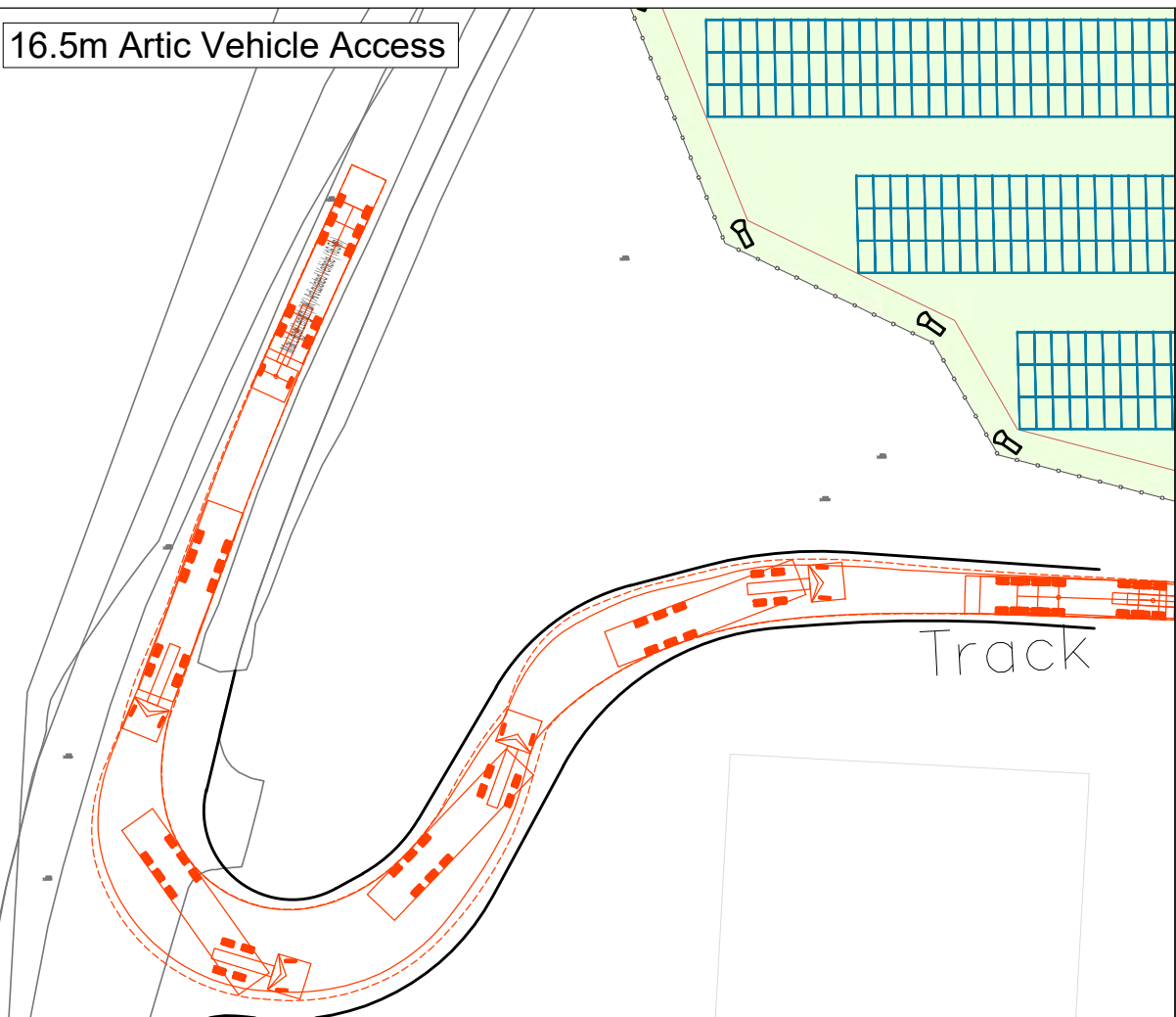
DETAILS

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LOCATION	NP18 2DW
DATE	13 June 2023
DESCRIPTION	Fixed design
REVISION	8

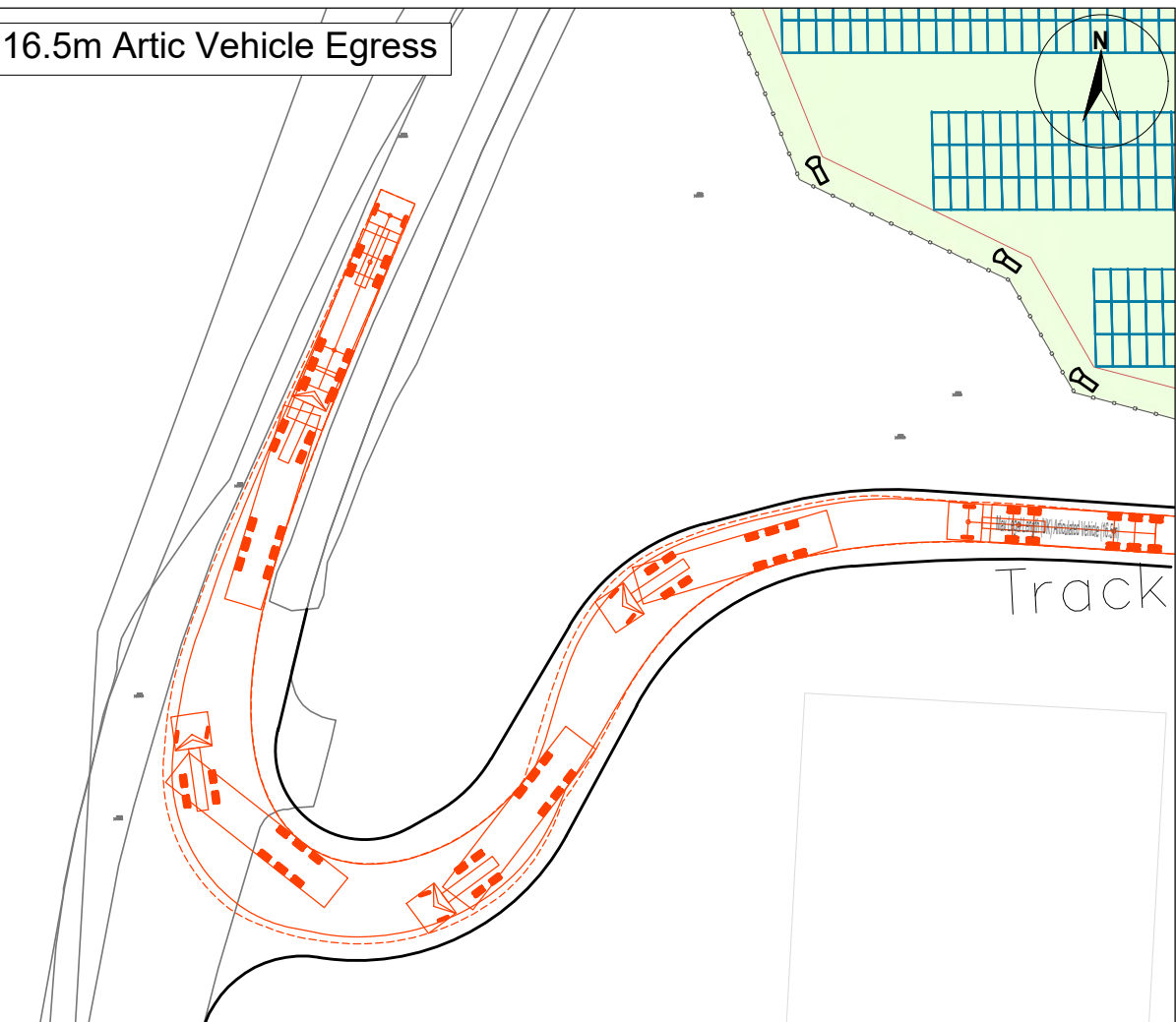


Appendix 2 – RPS Technical Drawings Package

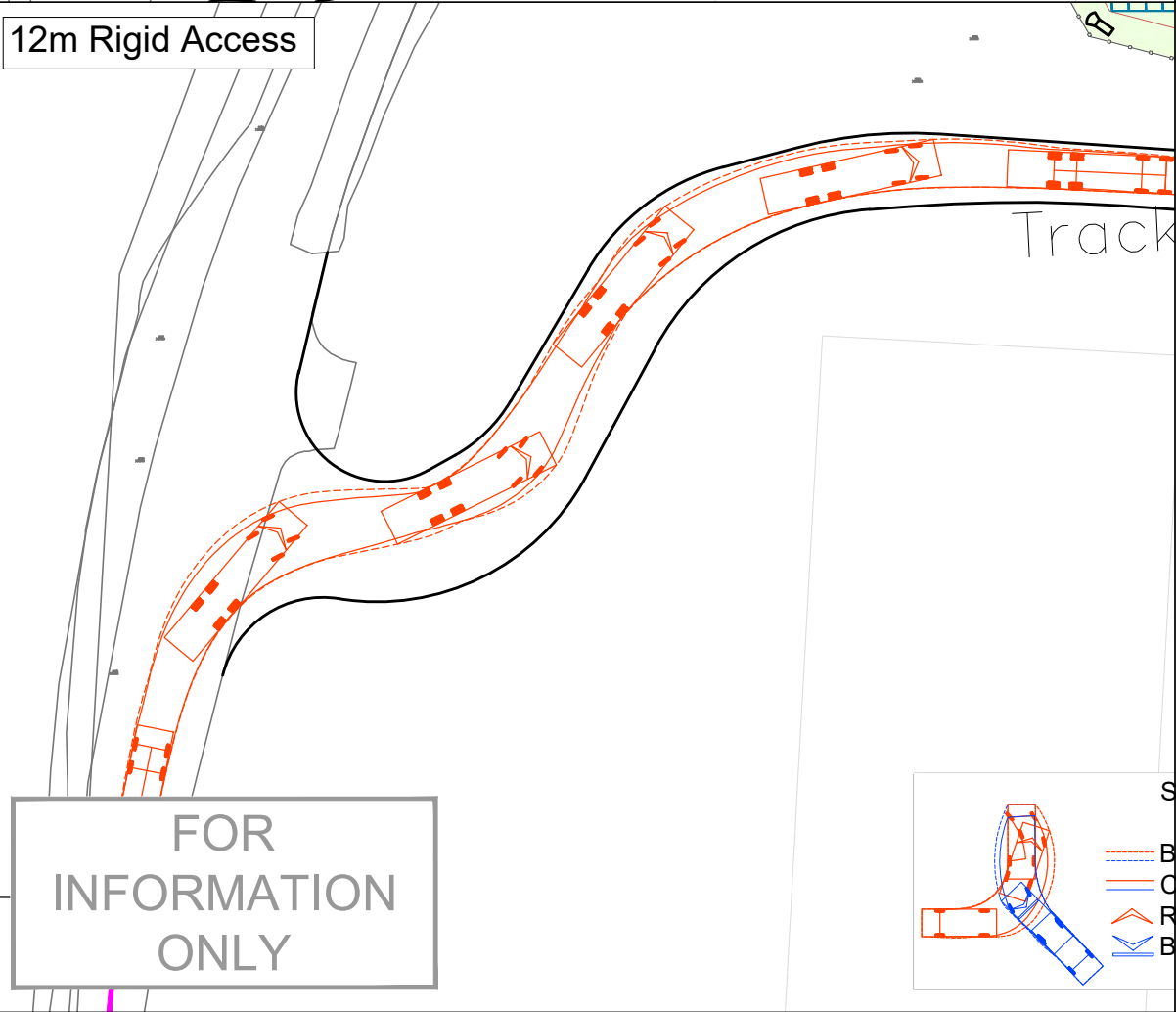
16.5m Artic Vehicle Access



16.5m Artic Vehicle Egress



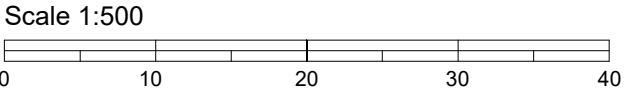
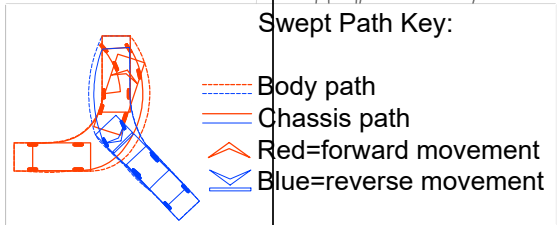
12m Rigid Access



12m Rigid Egress

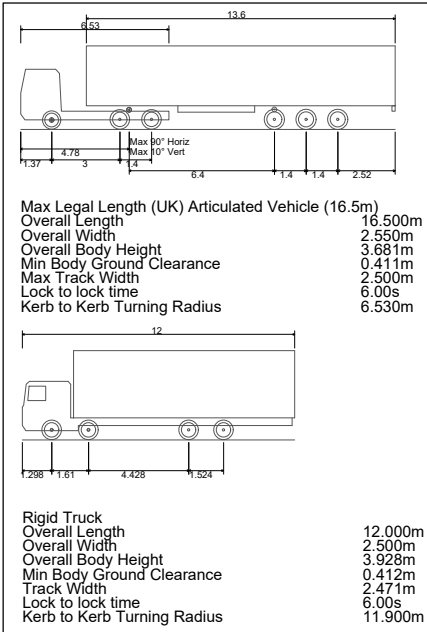


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Vehicle Profiles



C	Latest layout added (J026A_Post Consultation_Rev7)	AJ	EON	12/06/2023
B	Latest layout added (J026A_Post Consultation_Rev5)Access 1 relocated and realigned	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) Tractor& trailer tracks replaced with 12m rigid vehicle	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



20 Farringdon Street, London EC4A 4AB
T: +44(0)20 3691 0500 E: transport@rpsgroup.com

Client J B M Solar

Project Craig y Perthi

Title Access 1
16.5m Artic & 12m Rigid
Swept Path Analysis

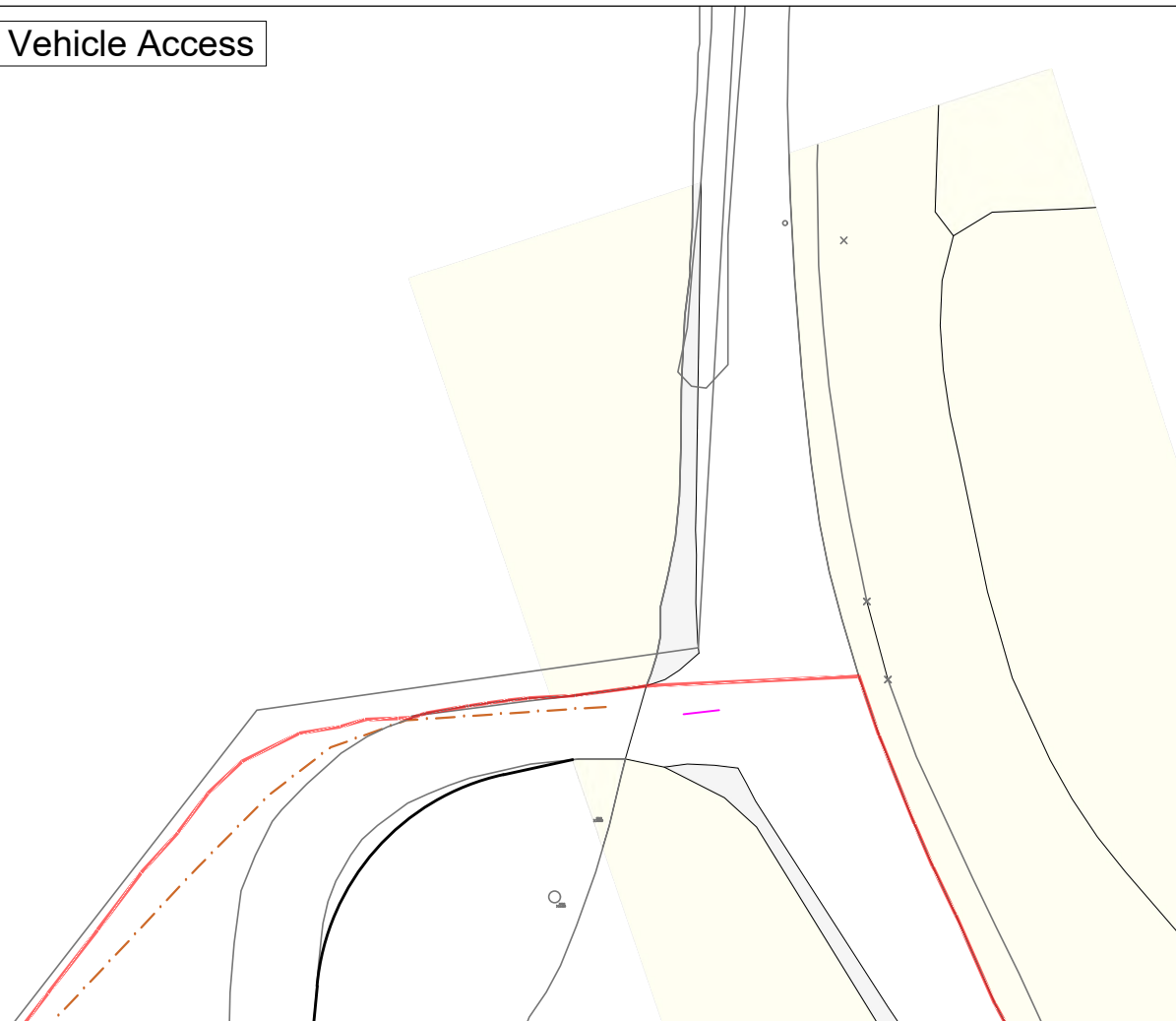
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PRELIMINARY AJ EON

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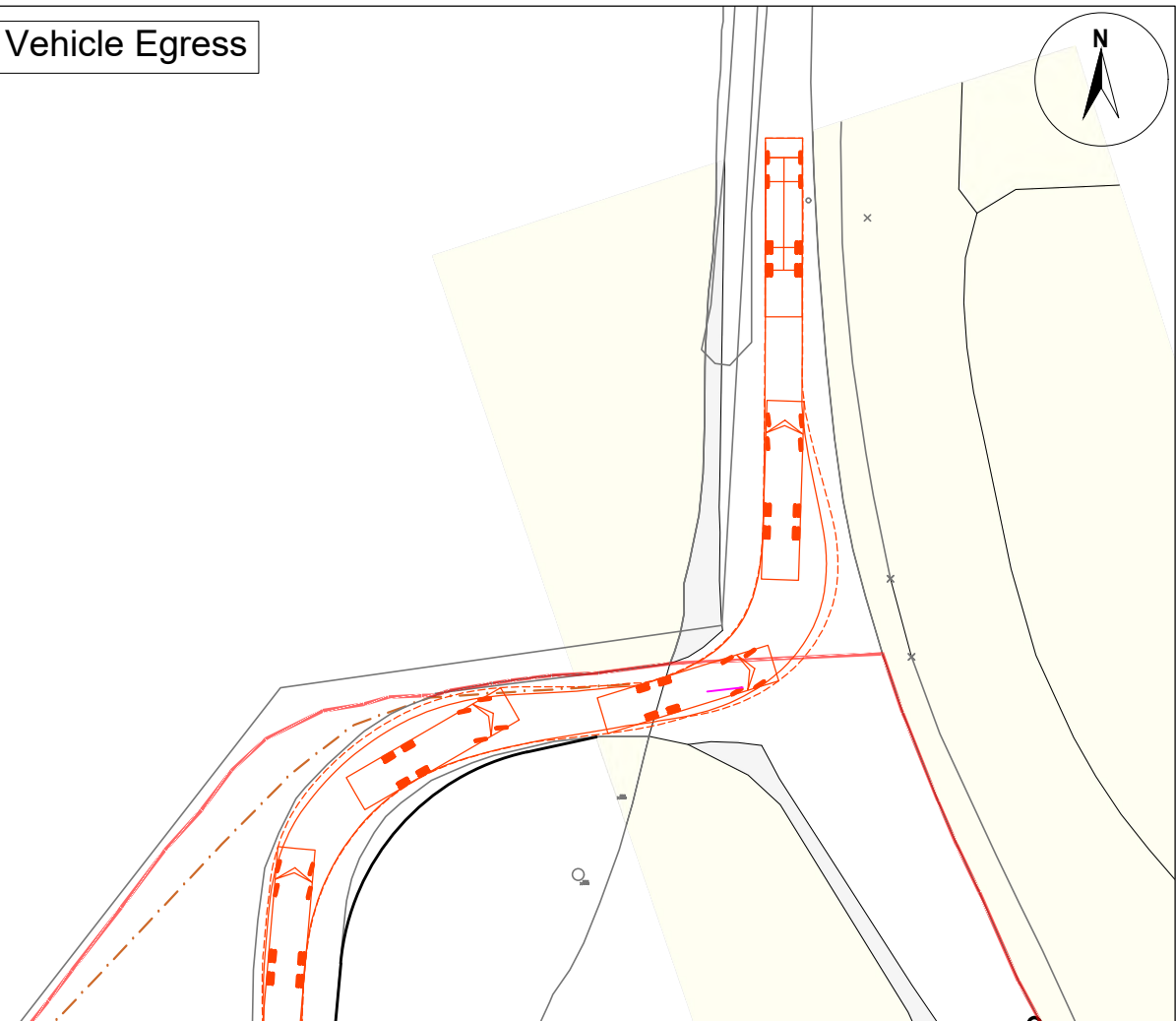
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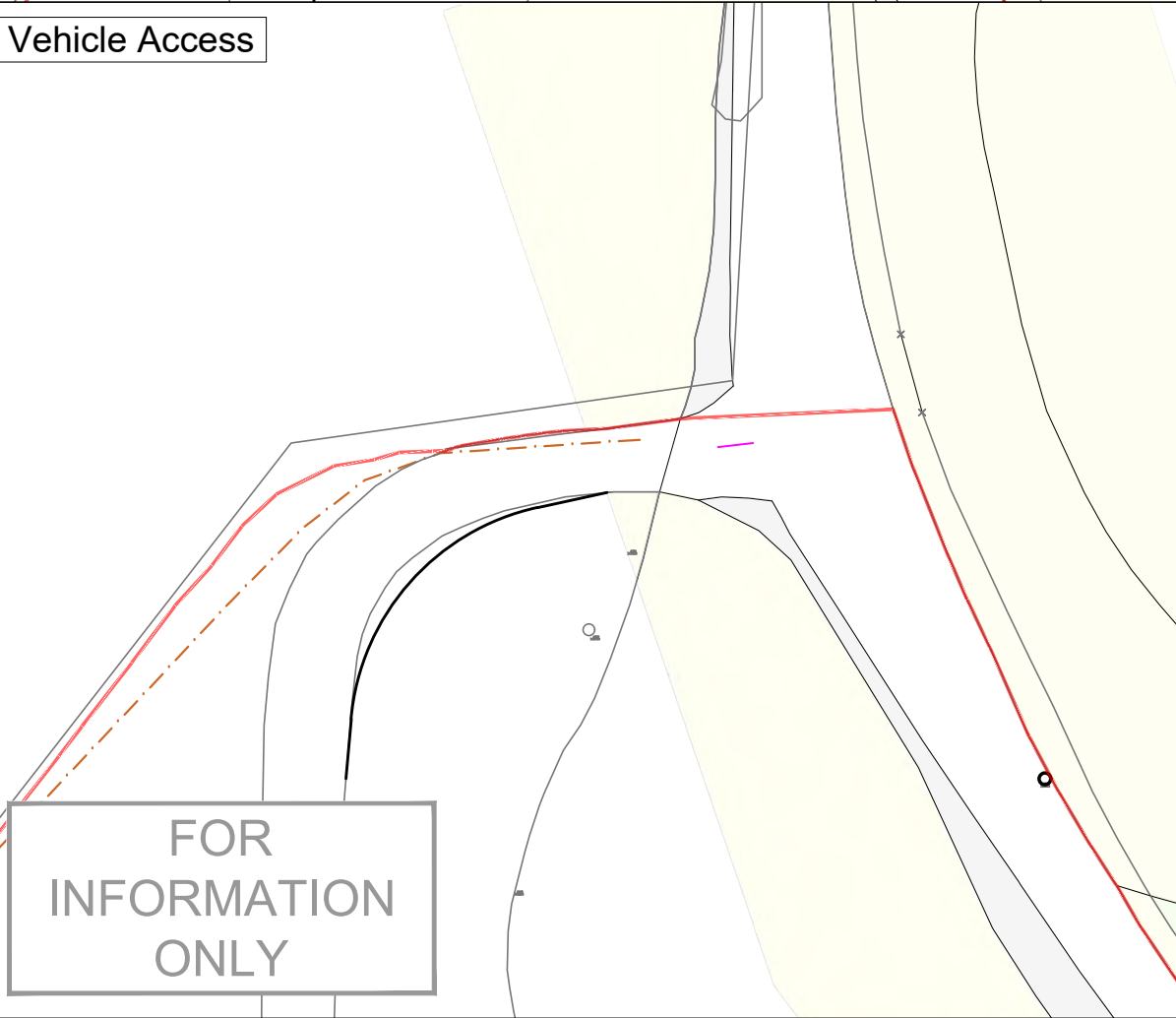
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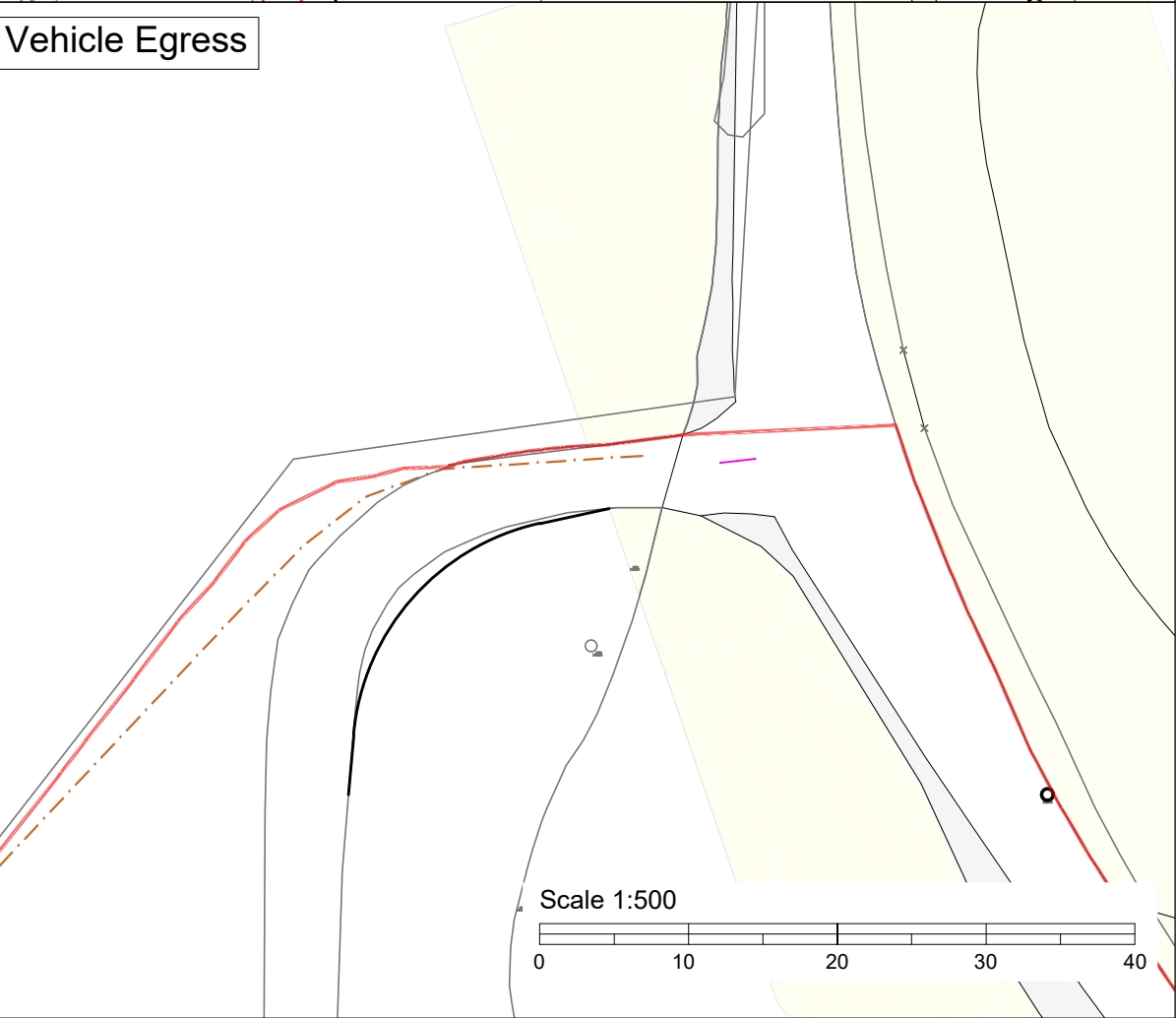
Vehicle Egress



Vehicle Access



Vehicle Egress



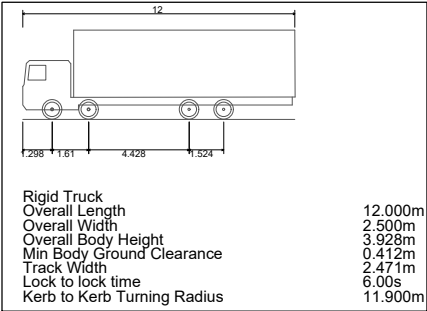
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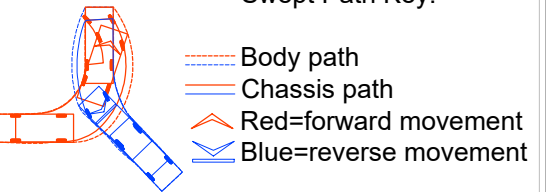
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Vehicle Profiles



Swept Path Key:



C	Latest layout added (J026A_Post Consultation_Rev7)	AJ	EON	12/06/2023
B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



20 Farringdon Street, London EC4A 4AB
T: +44(0)20 3691 0500 E: transport@rpsgroup.com

Client J B M Solar

Project Craig y Perthi

Title Access 2
12m Rigid Vehicle
Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:500 12/01/2023

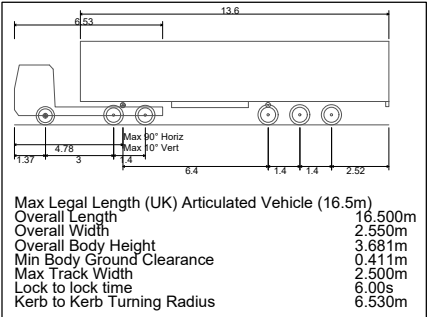
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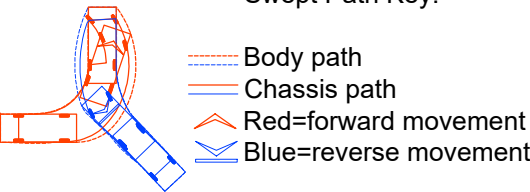


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Vehicle Profiles

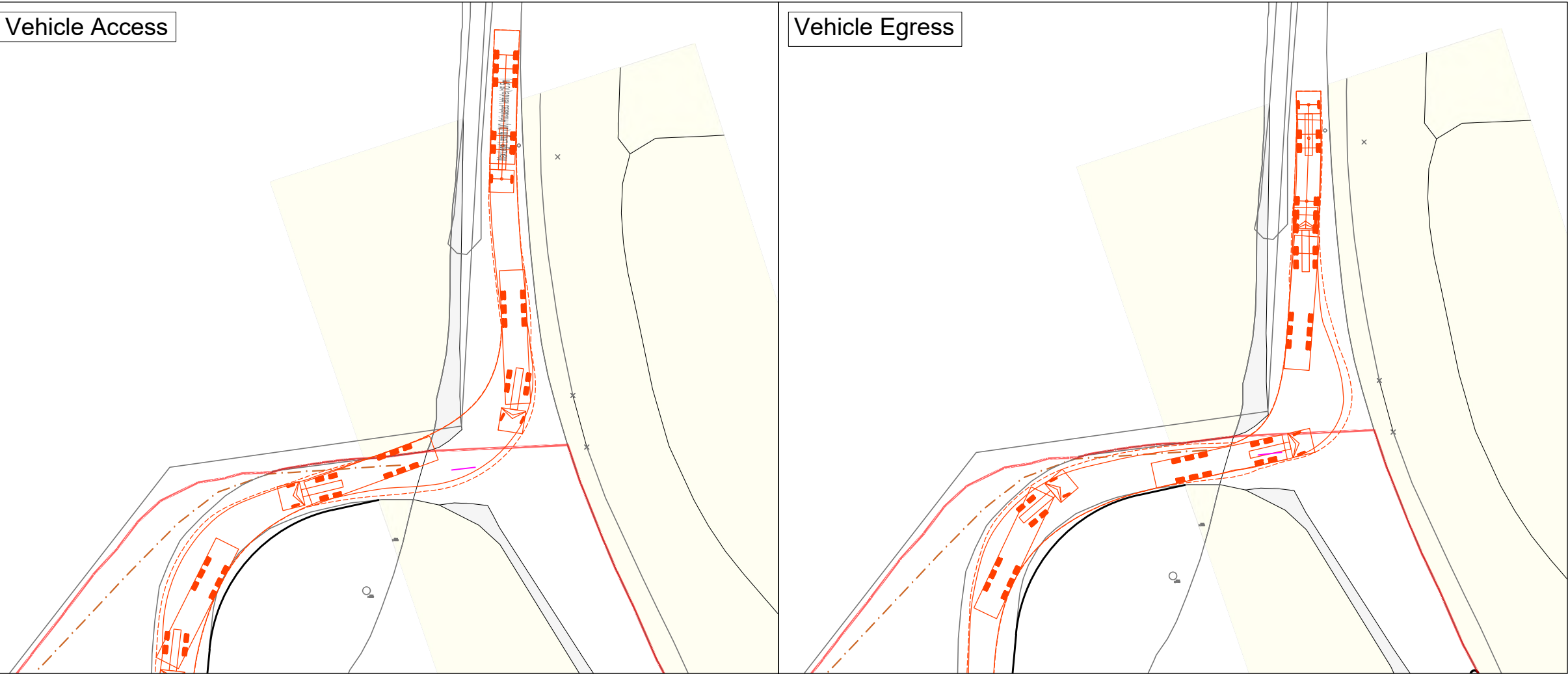


Swept Path Key:



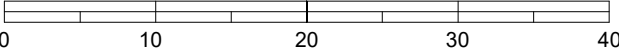
Vehicle Access

Vehicle Egress



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Scale 1:500



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Client J B M Solar

Project Craig y Perthi

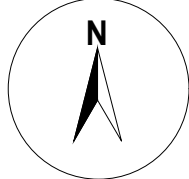
Title Access 2
12m Rigid Vehicle
Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:500 12/01/2023

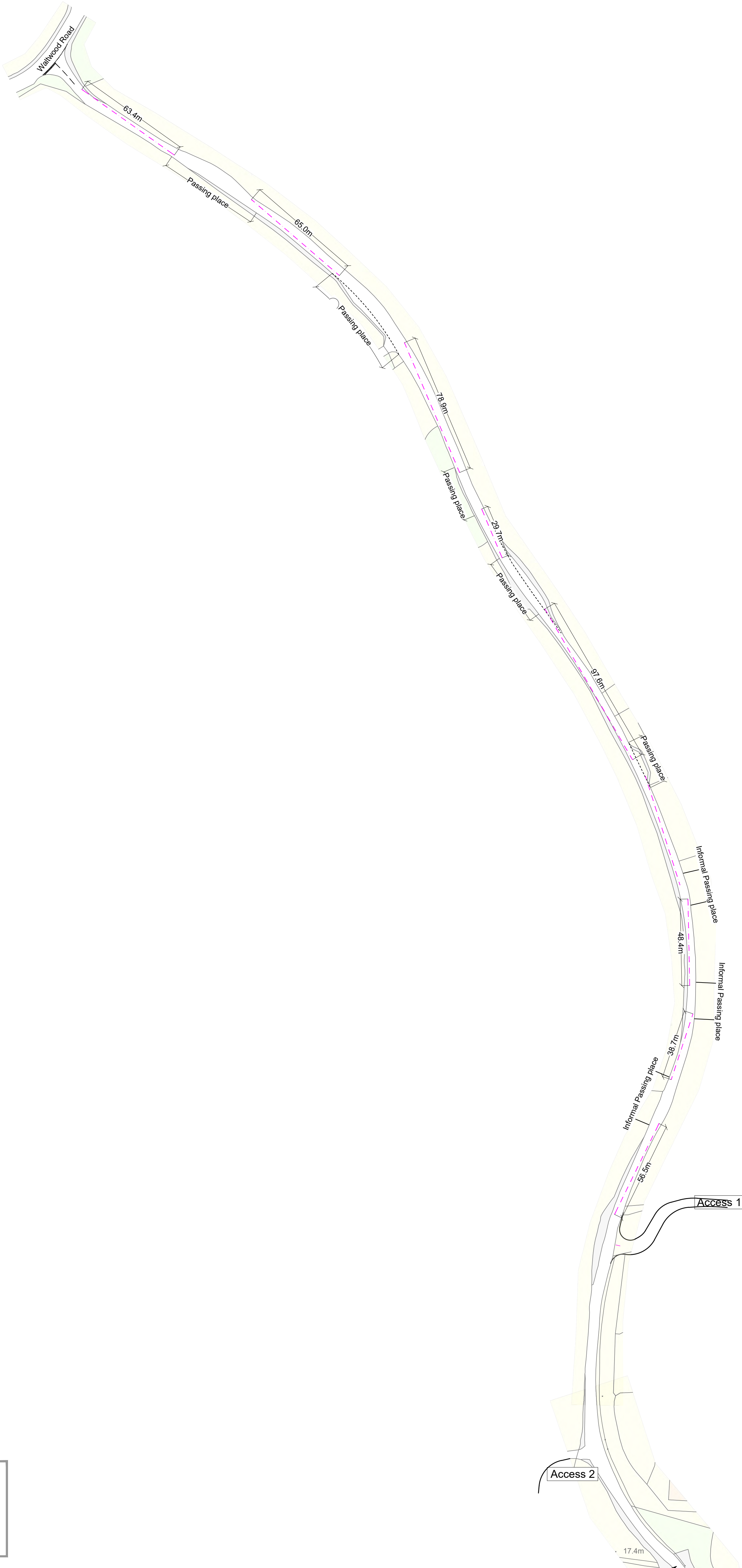
RPS Drawing/Figure Number Rev
JNY11484-RPS-0100-020 A

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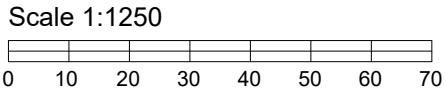


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Client JBM Solar Projects 25 LtdClient

Project Craig y Perthi Solar Farm

Title Bishton Road
Existing Passing Points

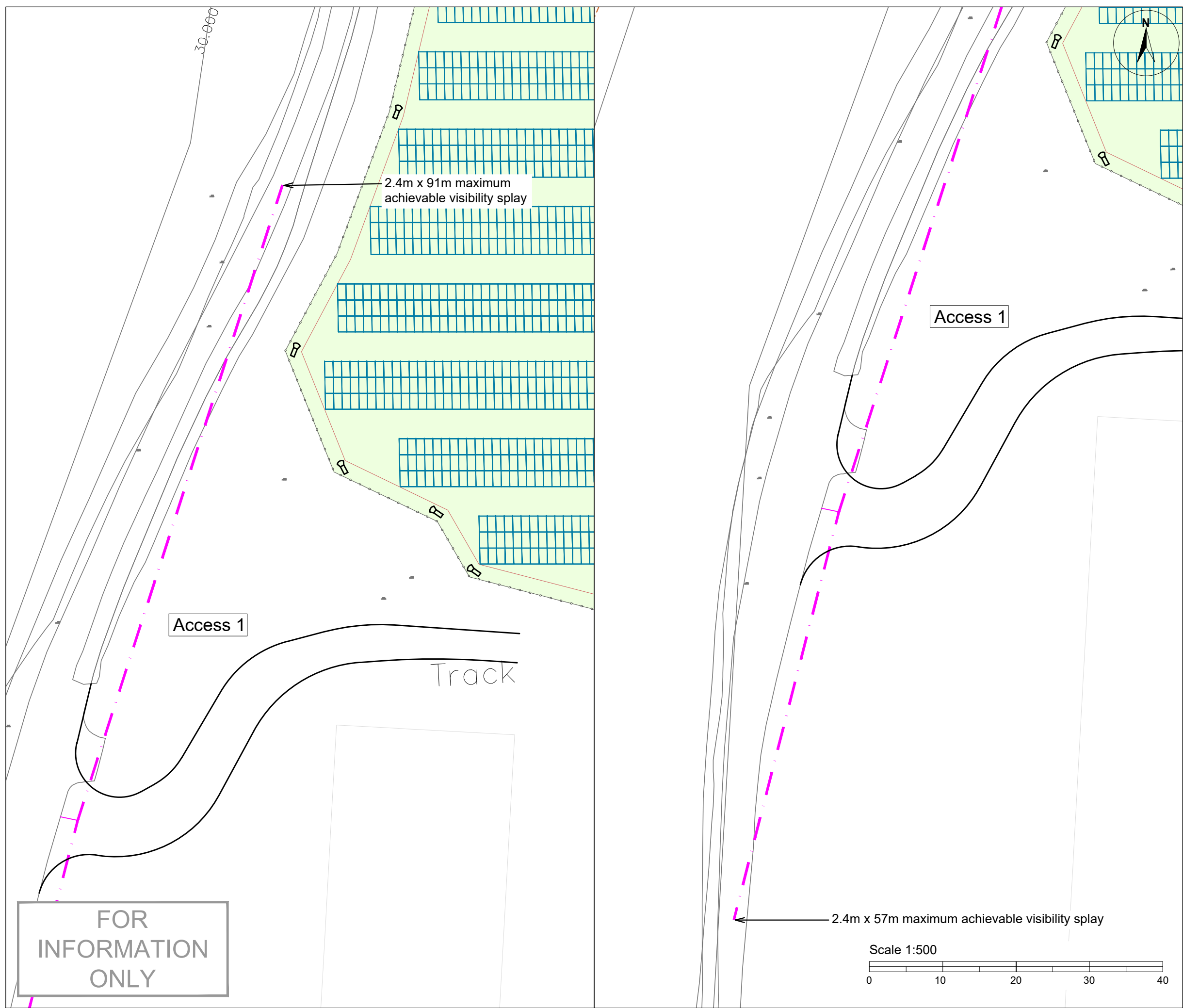
Status Drawn By PM/Checked by
INFORMATION AJ EON

Project Number Scale @ A1 Date Created
TRP-00017 1:1250 13/11/2023

RPS Drawing/Figure Number Rev
RPS-TRP-00017-001 -

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Rev	Description	By	CB	Date
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C	Latest layout added (J026A_Post Consultation_Rev7)	AJ	EON	12/06/2023
B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



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Client J B M Solar

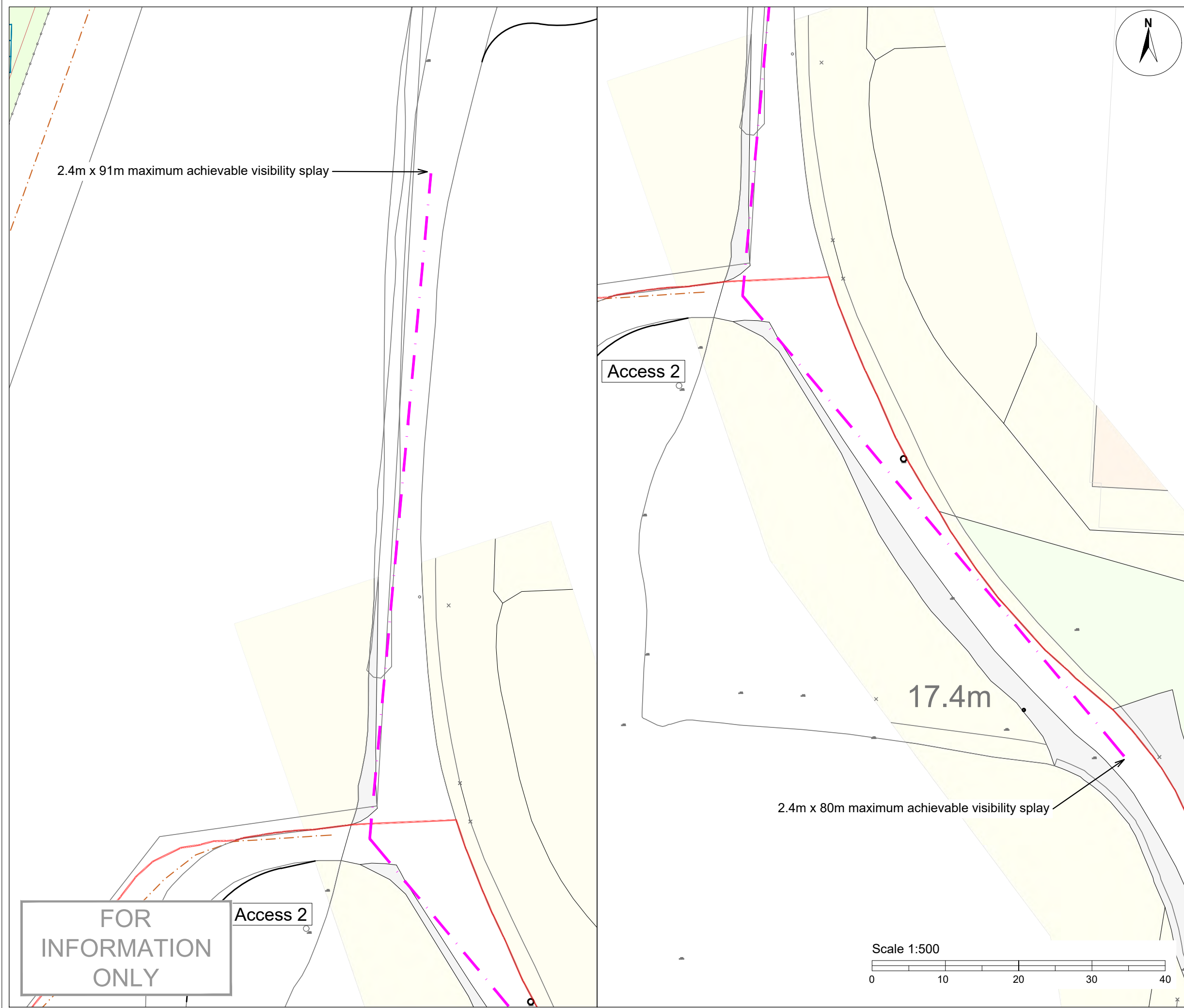
Project Craig y Perthi

Title Access 1
Visibility Splay

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	EON
Project Number	Scale @ A3	Date Created
JNY11484	1:500	12/01/2023

RPS Drawing/Figure Number	Rev
JNY11484-RPS-0100-002	C

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C	Latest layout added (J026A_Post Consultation_Rev7)	AJ	EON	12/06/2023
B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



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Project Craig y Perthi

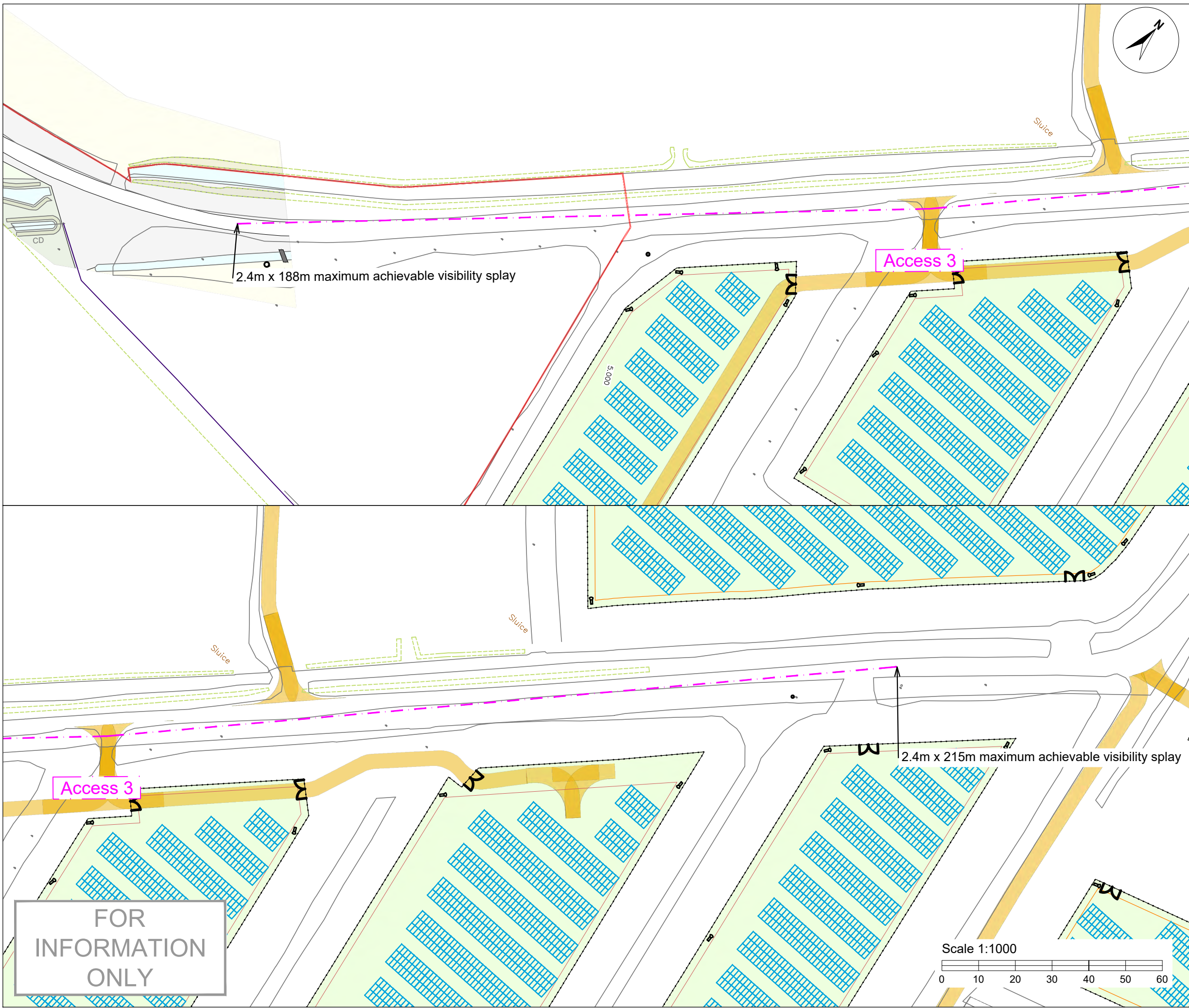
Title Access 2
Visibility Splay

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	EON

Project Number	Scale @ A3	Date Created
JNY11484	1:500	12/01/2023

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B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
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Client J B M Solar

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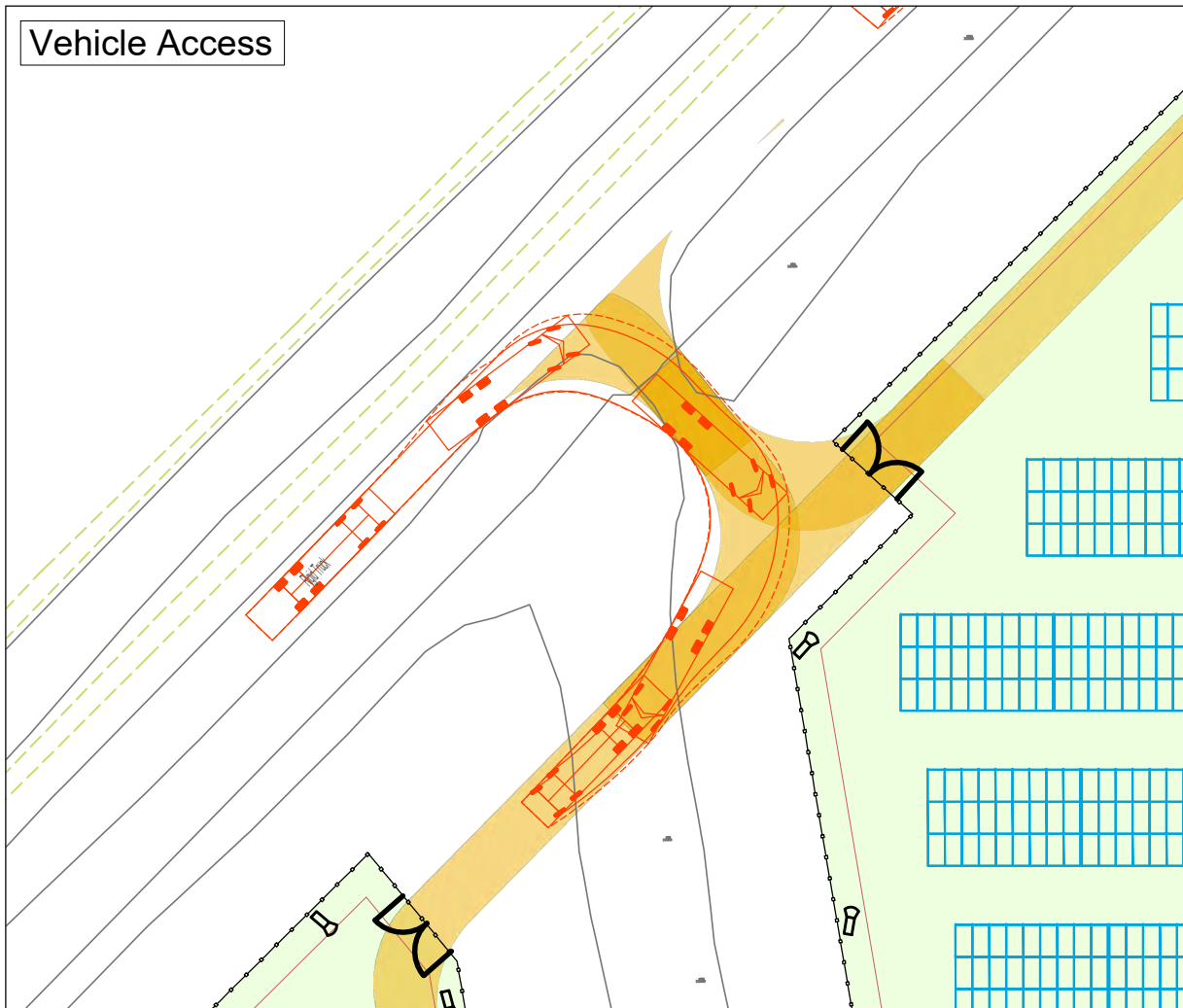
Title Access 3
Visibility Splay

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	EON
Project Number	Scale @ A3	Date Created
JNY11484	1:1000	12/01/2023

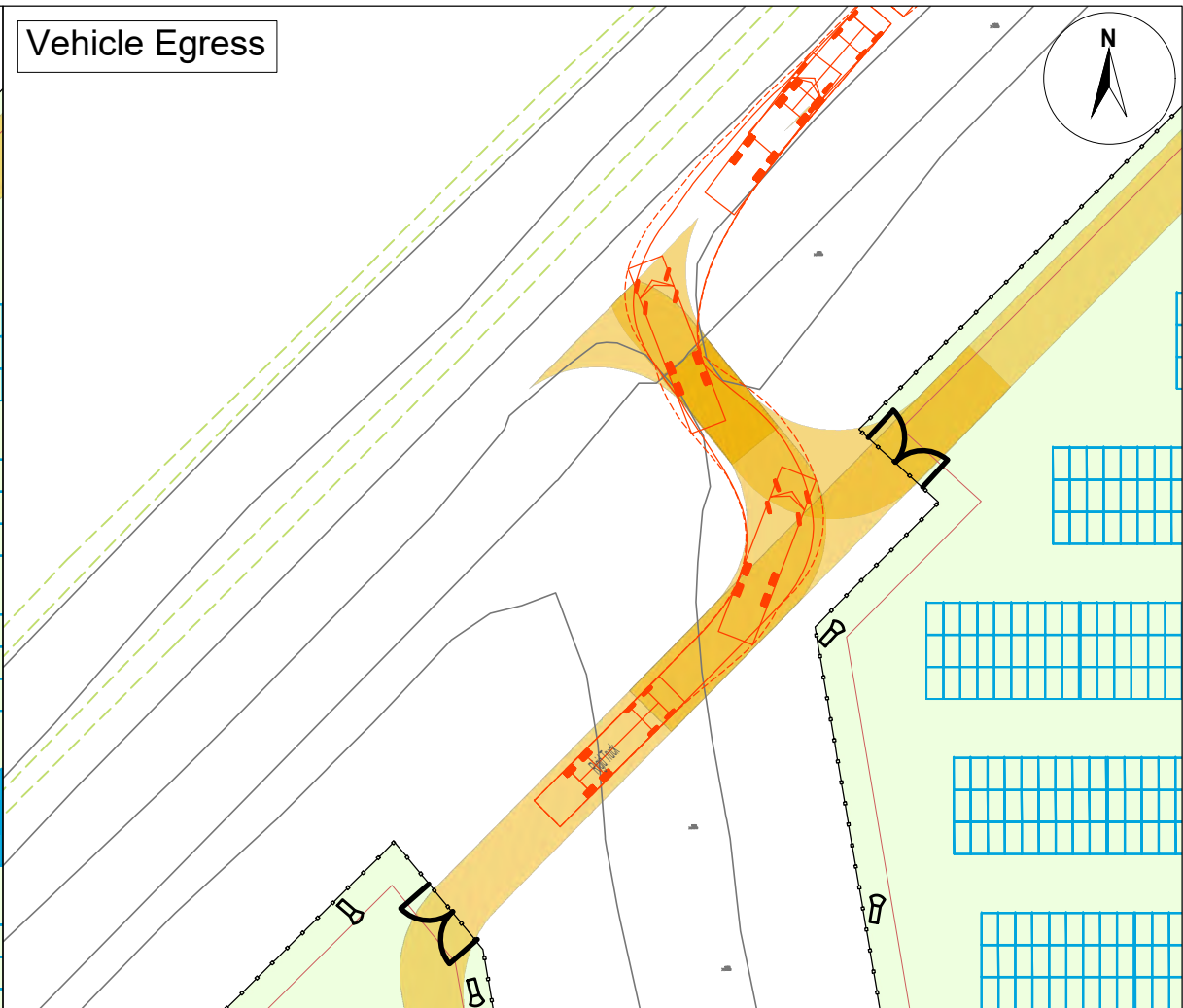
RPS Drawing/Figure Number	Rev
JNY11484-RPS-0100-006	B

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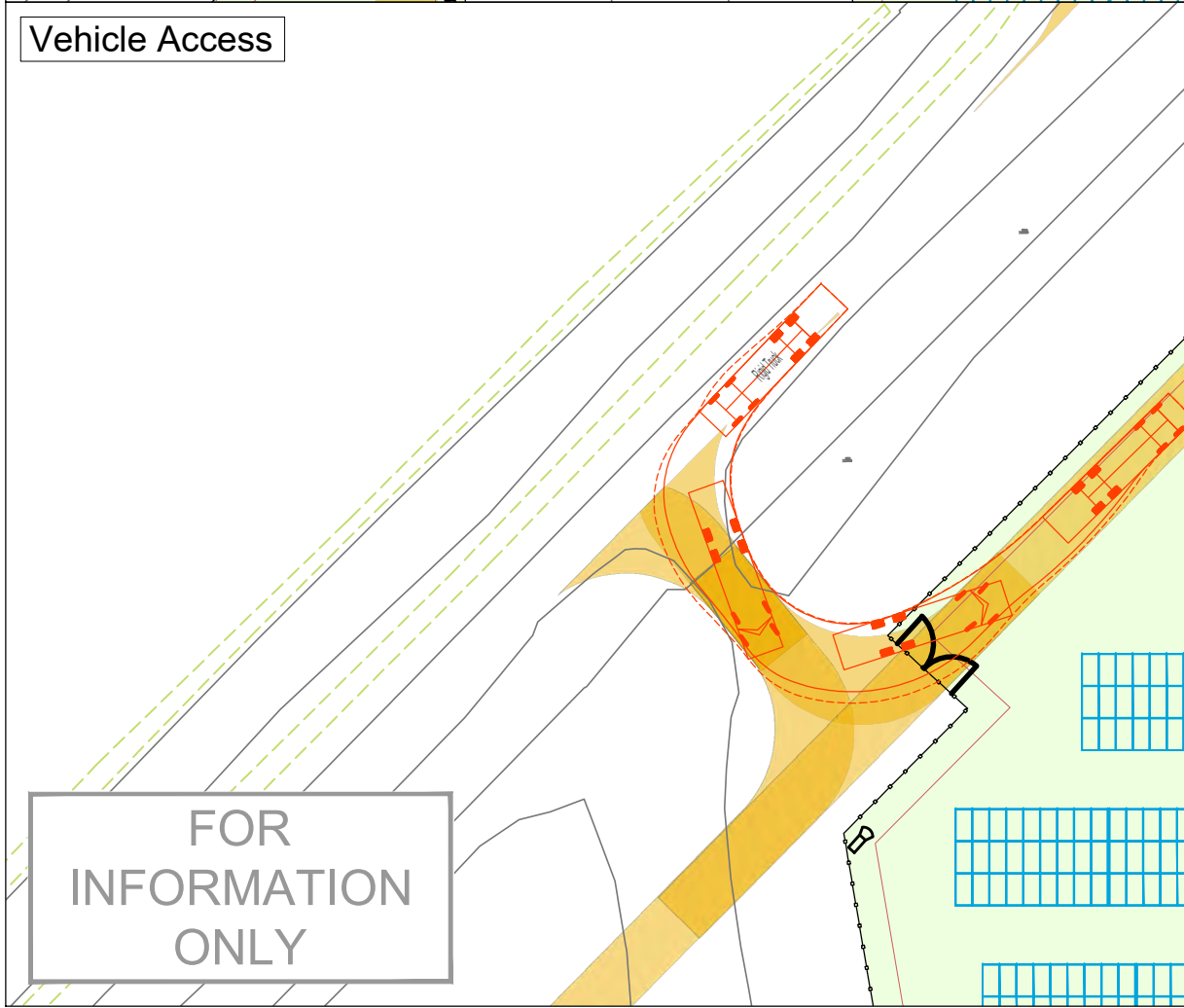
Vehicle Access



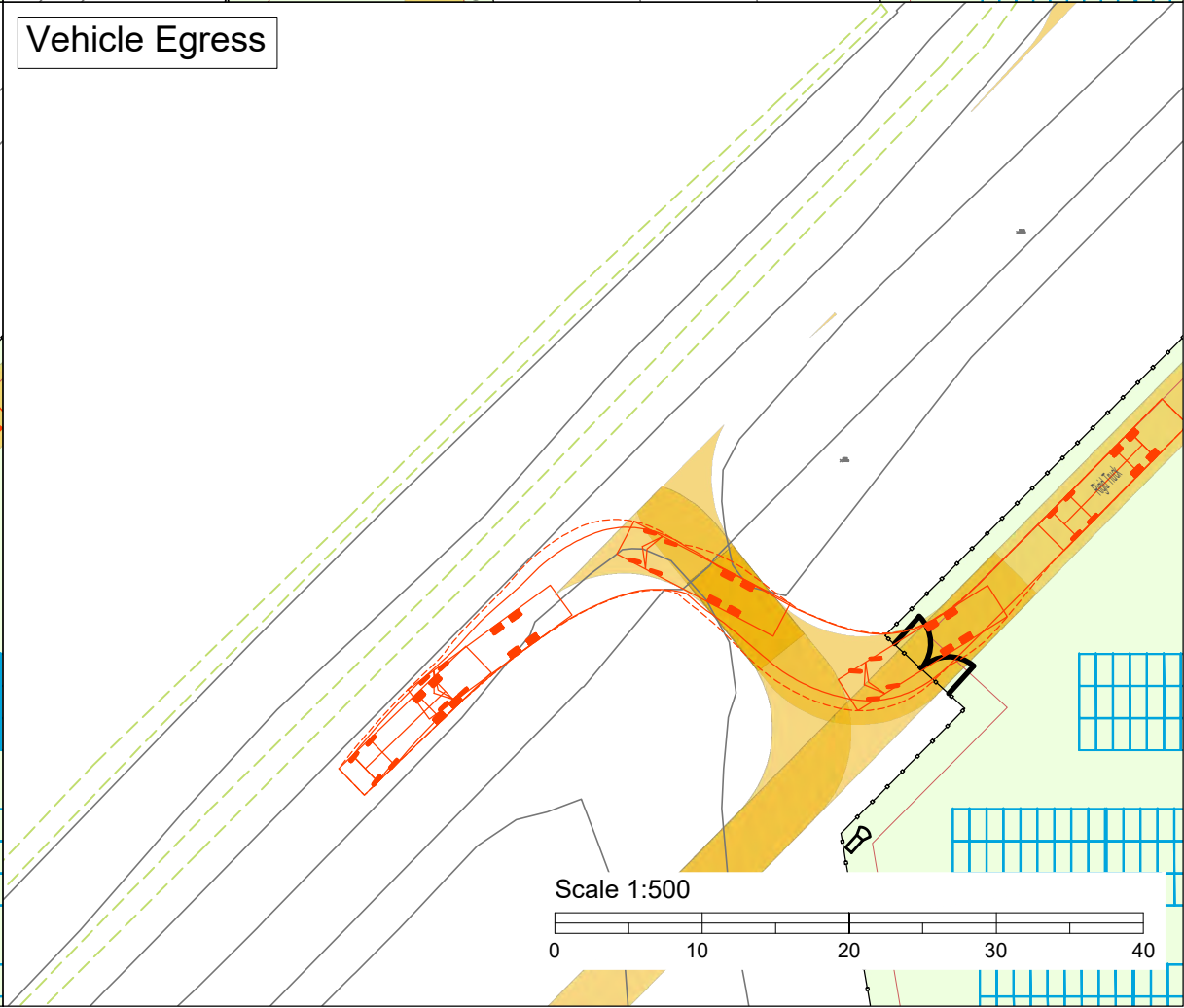
Vehicle Egress



Vehicle Access



Vehicle Egress

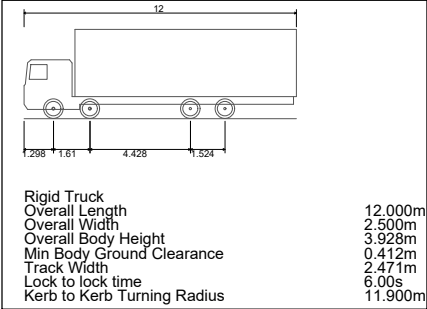


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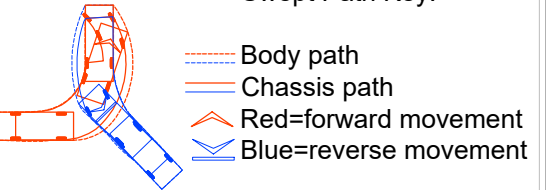
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Vehicle Profiles



Swept Path Key:



B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	25/05/2023
Rev	Description	By	CB	Date



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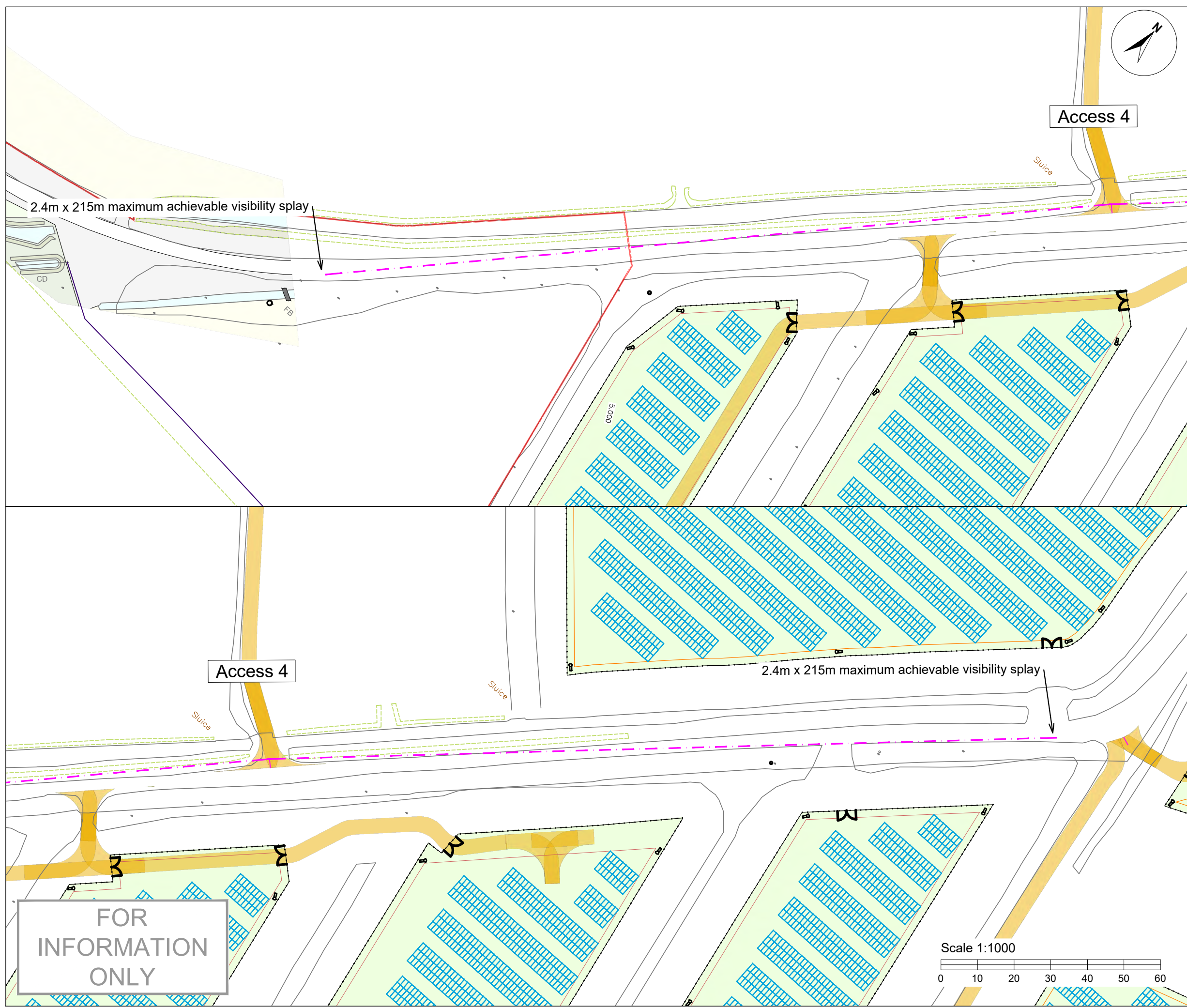
Title Access 3
Tractor & Trailer
Swept Path Analysis

Status PRELIMINARY Drawn By AJ PM/Checked by EON

Project Number JNY11484 Scale @ A3 1:500 Date Created 12/01/2023

RPS Drawing/Figure Number JNY11484-RPS-0100-005 Rev B

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B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



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Title Access 4
Visibility Splay

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	EON
Project Number	Scale @ A3	Date Created
JNY11484	1:1000	12/01/2023
RPS Drawing/Figure Number	Rev	
JNY11484-RPS-0100-008	B	

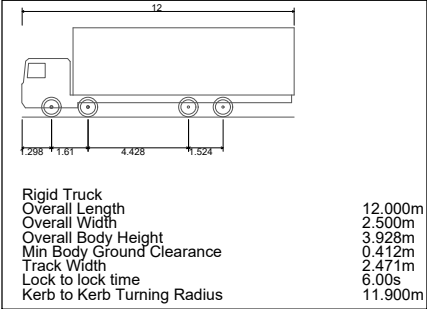
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Vehicle Access

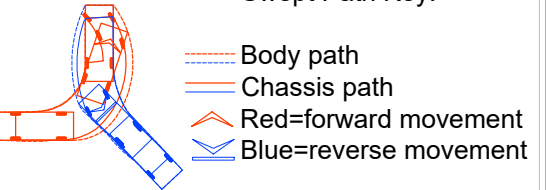
Vehicle Egress

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Vehicle Profiles



Swept Path Key:



Vehicle Access

Vehicle Egress

B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	25/05/2023
Rev	Description	By	CB	Date



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Client J B M Solar

Project Craig y Perthi

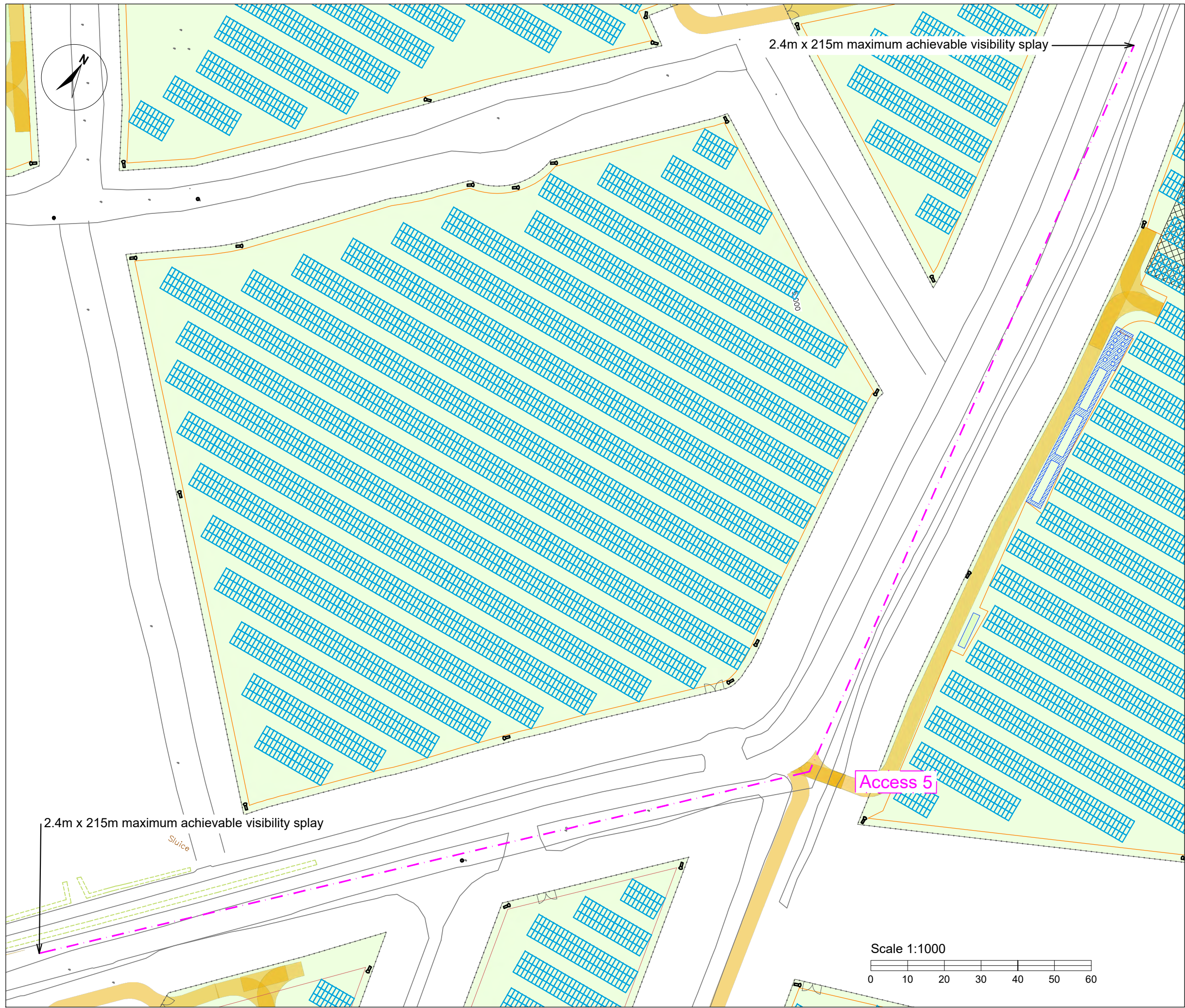
Title Access 4
12m Rigid Vehicle
Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:500 12/01/2023

RPS Drawing/Figure Number Rev
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B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



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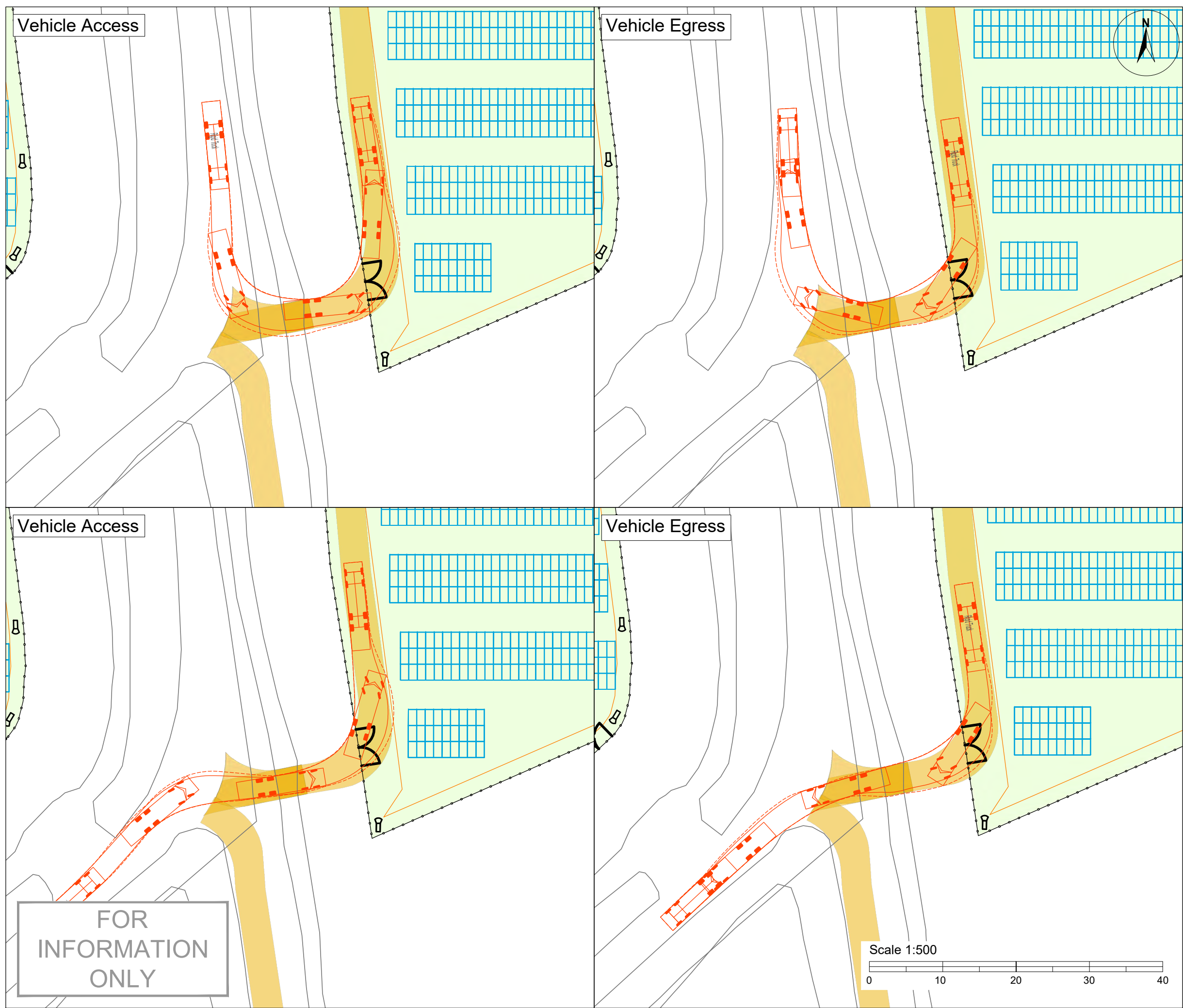
Client J B M Solar

Project Craig y Perthi

Title Access 5
Visibility Splay

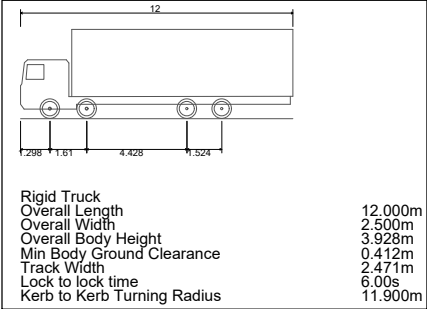
Status	Drawn By	PM/Checked by
INFORMATION	AJ	EON
Project Number	Scale @ A3	Date Created
JNY11484	1:1000	12/01/2023
RPS Drawing/Figure Number	Rev	
JNY11484-RPS-0100-010	B	

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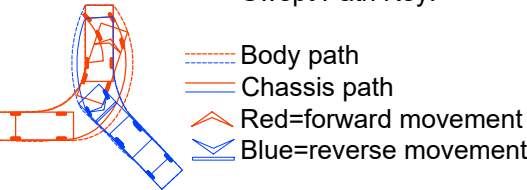


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Vehicle Profiles



Swept Path Key:



B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	25/05/2023
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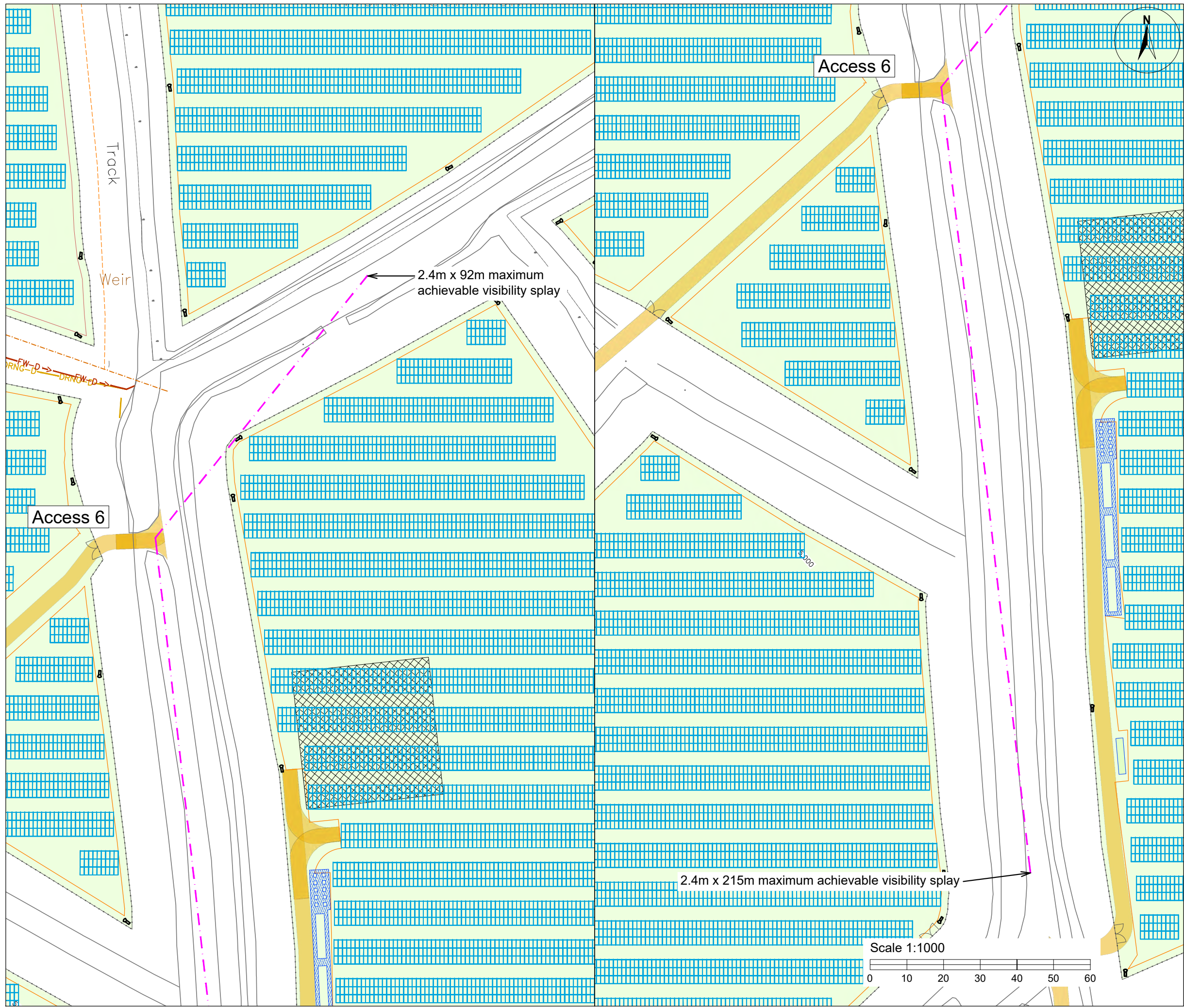
Title Access 5
12m Rigid Vehicle
Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:500 12/01/2023

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B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
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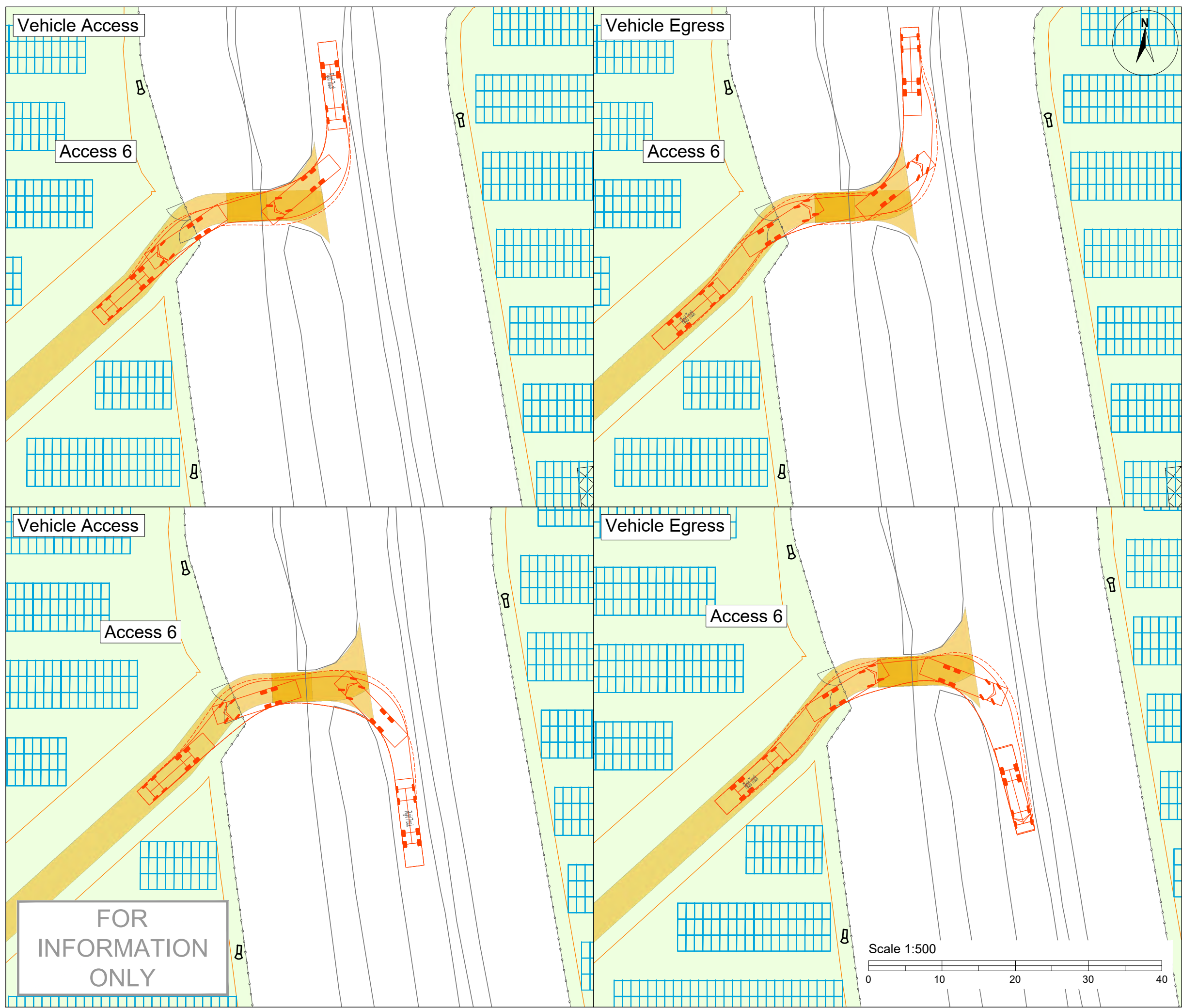
Client J B M Solar

Project Craig y Perthi

Title Access 6
Visibility Splay

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	EON
Project Number	Scale @ A3	Date Created
JNY11484	1:1000	12/01/2023
RPS Drawing/Figure Number		Rev
JNY11484-RPS-0100-012		B

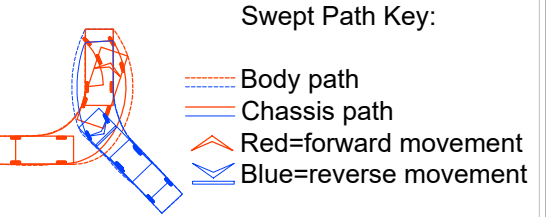
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Vehicle Profiles

Rigid Truck
Overall Length 12.000m
Overall Width 2.500m
Overall Body Height 3.928m
Min Body Ground Clearance 0.412m
Track Width 2.471m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 11.900m



B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	25/05/2023
Rev	Description	By	CB	Date



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Client J B M Solar

Project Craig y Perthi

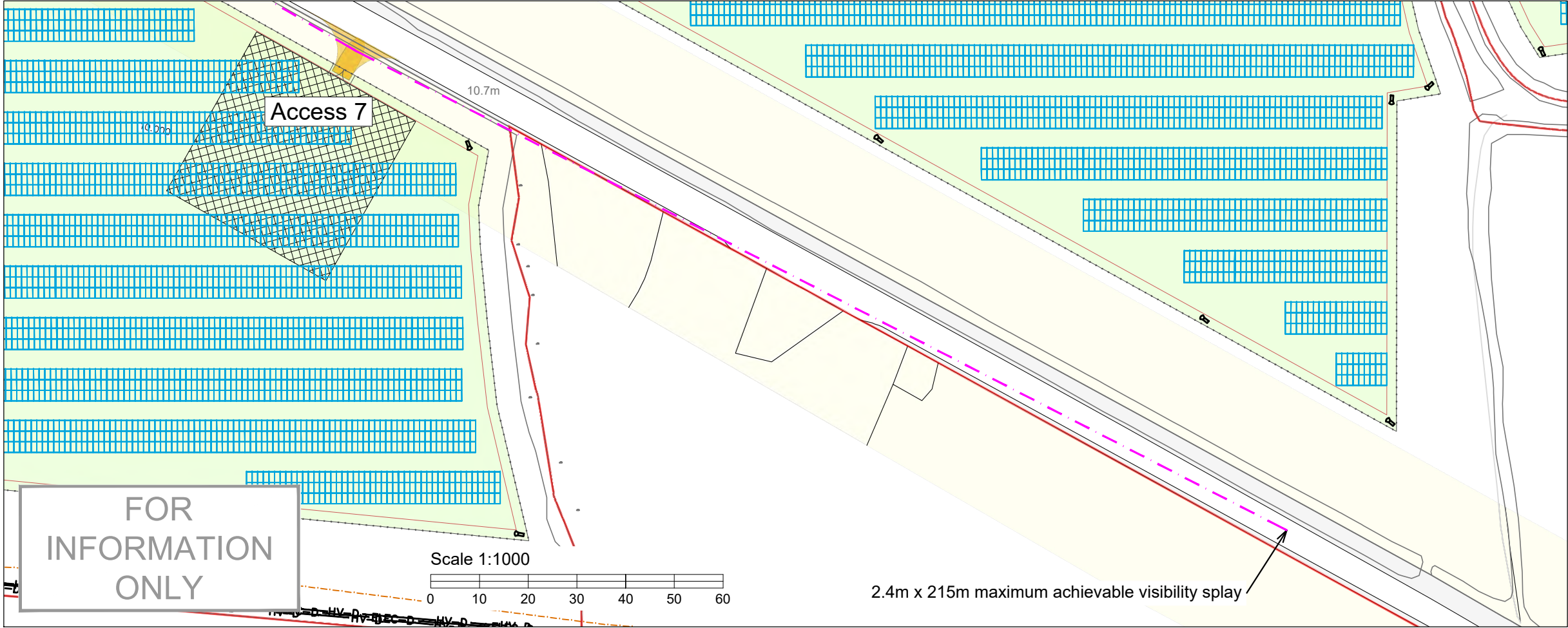
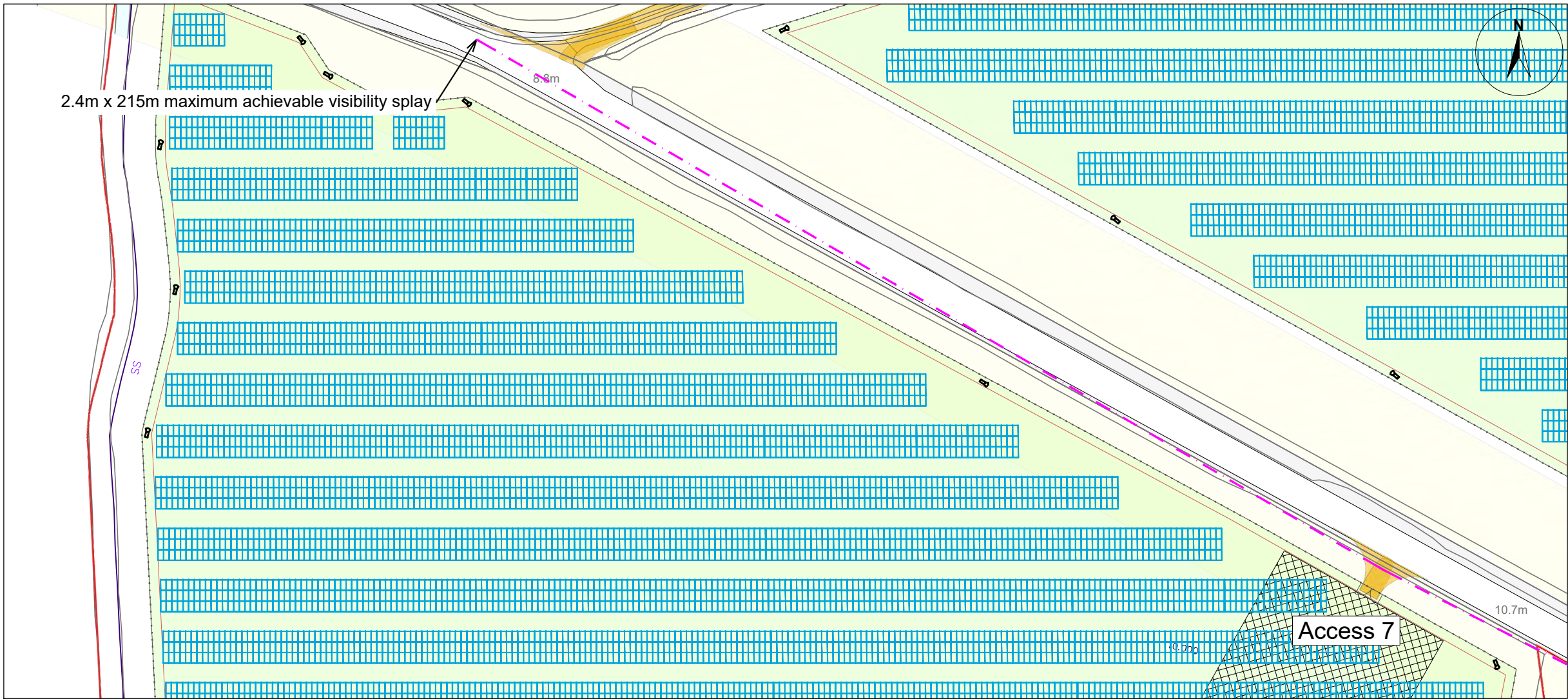
Title Access 6
12m Rigid Vehicle
Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:500 12/01/2023

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B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
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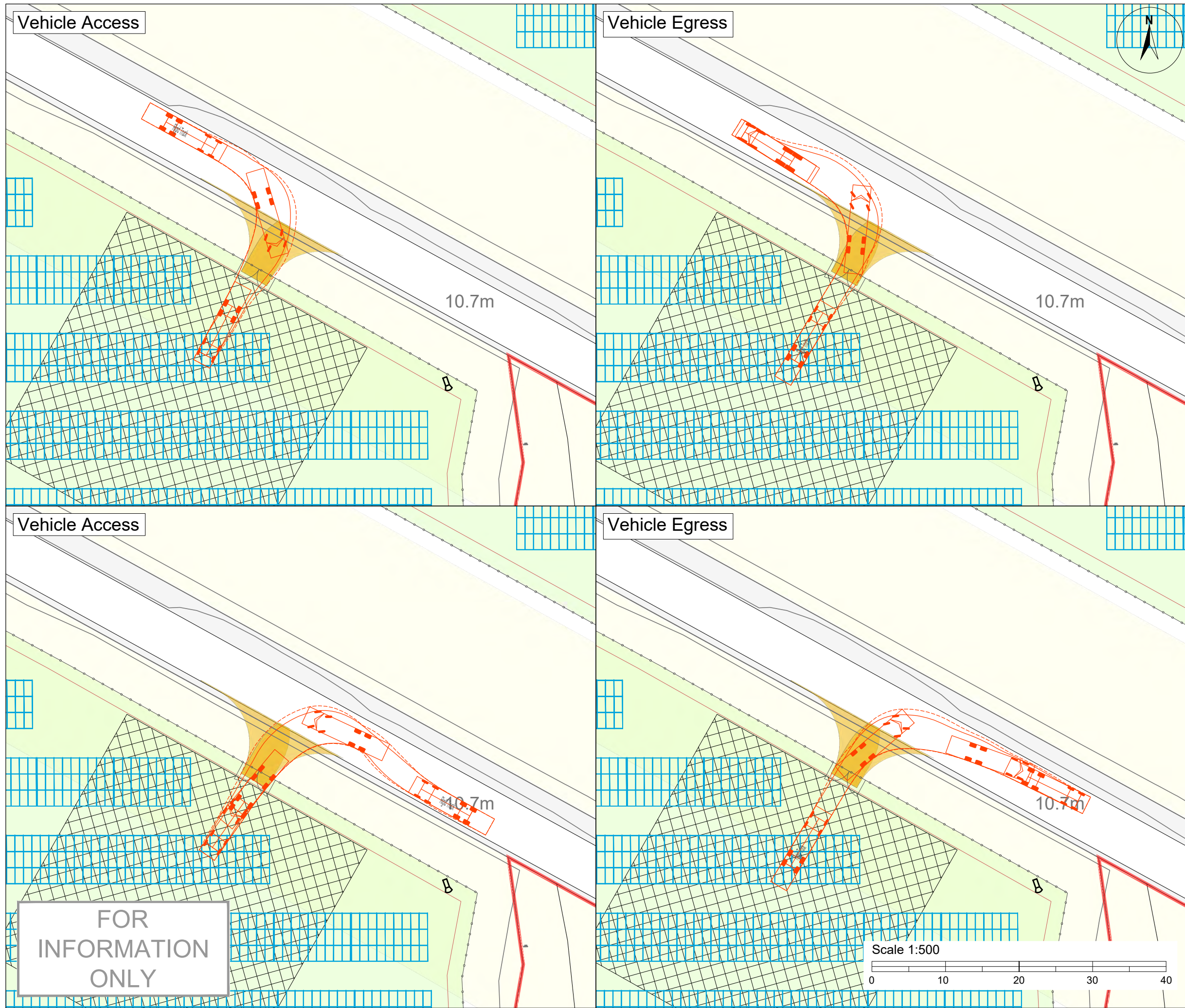
Title Access 7
Visibility Splay

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:1000 13/01/2023

RPS Drawing/Figure Number Rev
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Vehicle Profiles

Rigid Truck
Overall Length 12.000m
Overall Width 2.500m
Overall Body Height 3.928m
Min Body Ground Clearance 0.412m
Track Width 2.471m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 11.900m

Swept Path Key:

- Body path
- Chassis path
- Red=forward movement
- Blue=reverse movement

B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	25/05/2023
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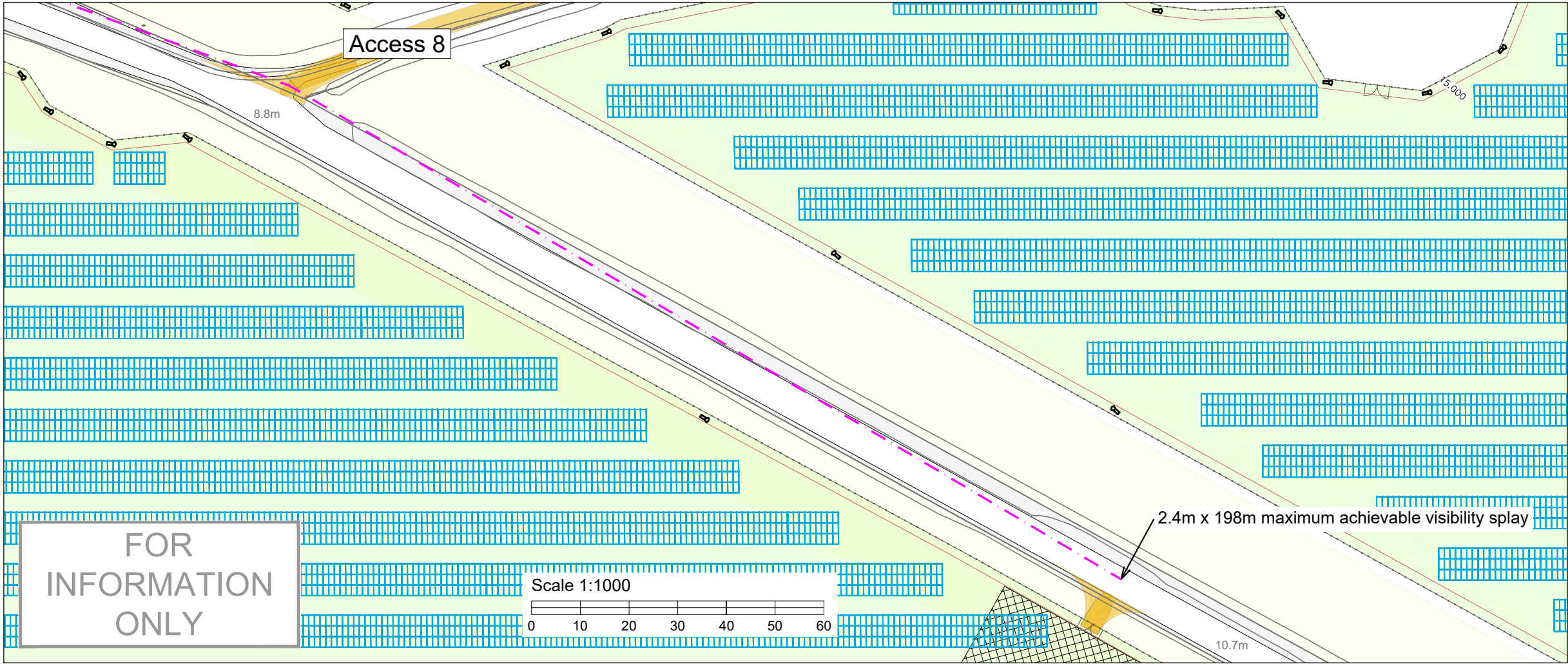
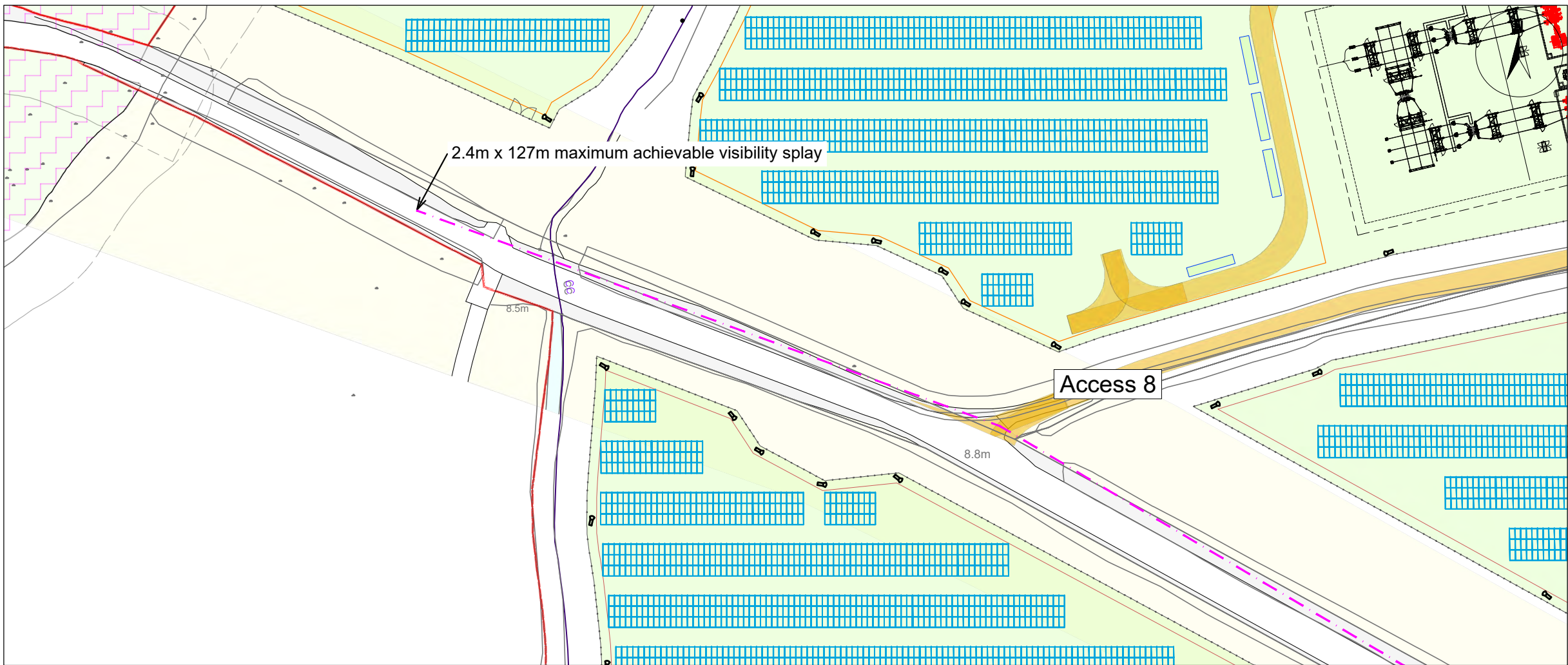
Client J B M Solar

Project Craig y Perthi

Title Access 7
Tractor & Trailer
Swept Path Analysis

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	EON
Project Number	Scale @ A3	Date Created
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B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
Rev	Description	By	CB	Date



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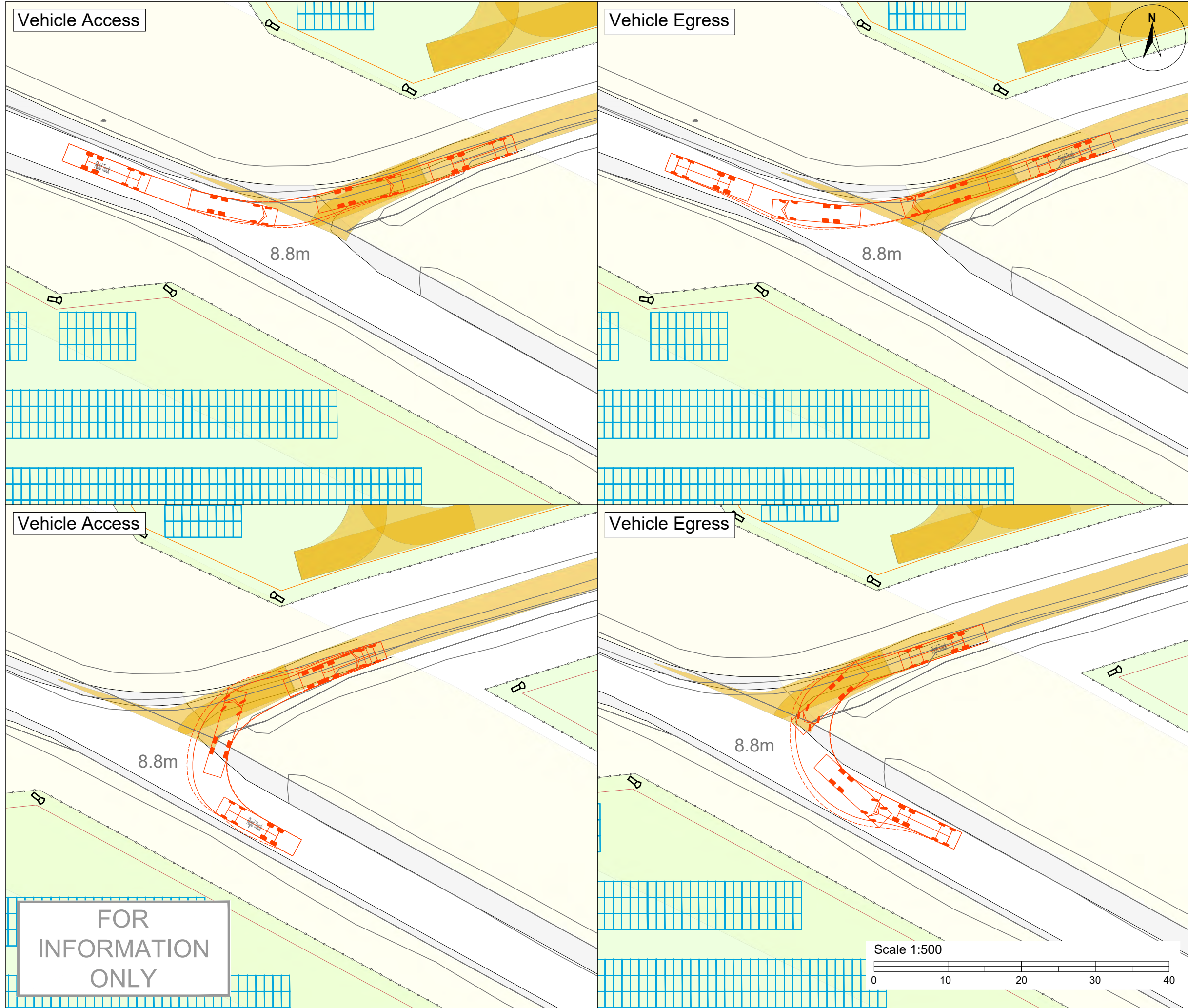
Client J B M Solar

Project Craig y Perthi

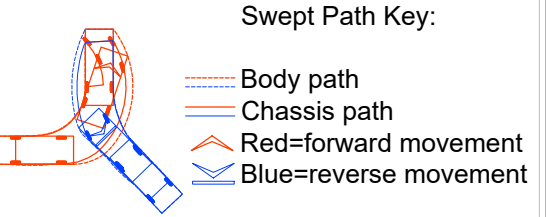
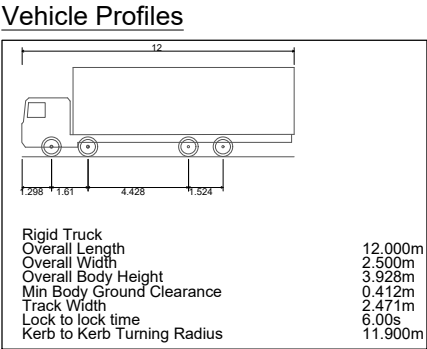
Title Access 8
Visibility Splay

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	EON
Project Number	Scale @ A3	Date Created
JNY11484	1:1000	13/01/2023
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B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	25/05/2023
Rev	Description	By	CB	Date



20 Farringdon Street, London EC4A 4AB
T: +44(0)20 3691 0500 E: transport@rpsgroup.com

Client J B M Solar

Project Craig y Perthi

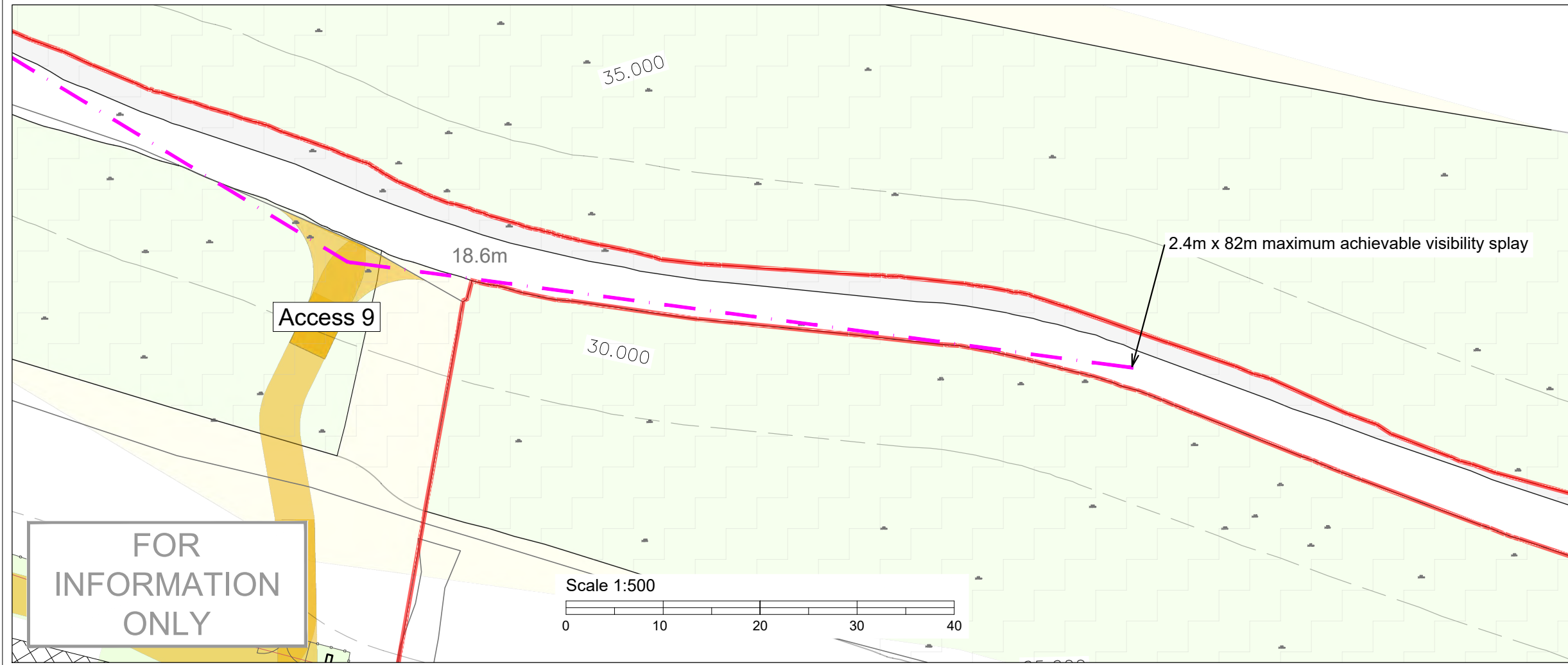
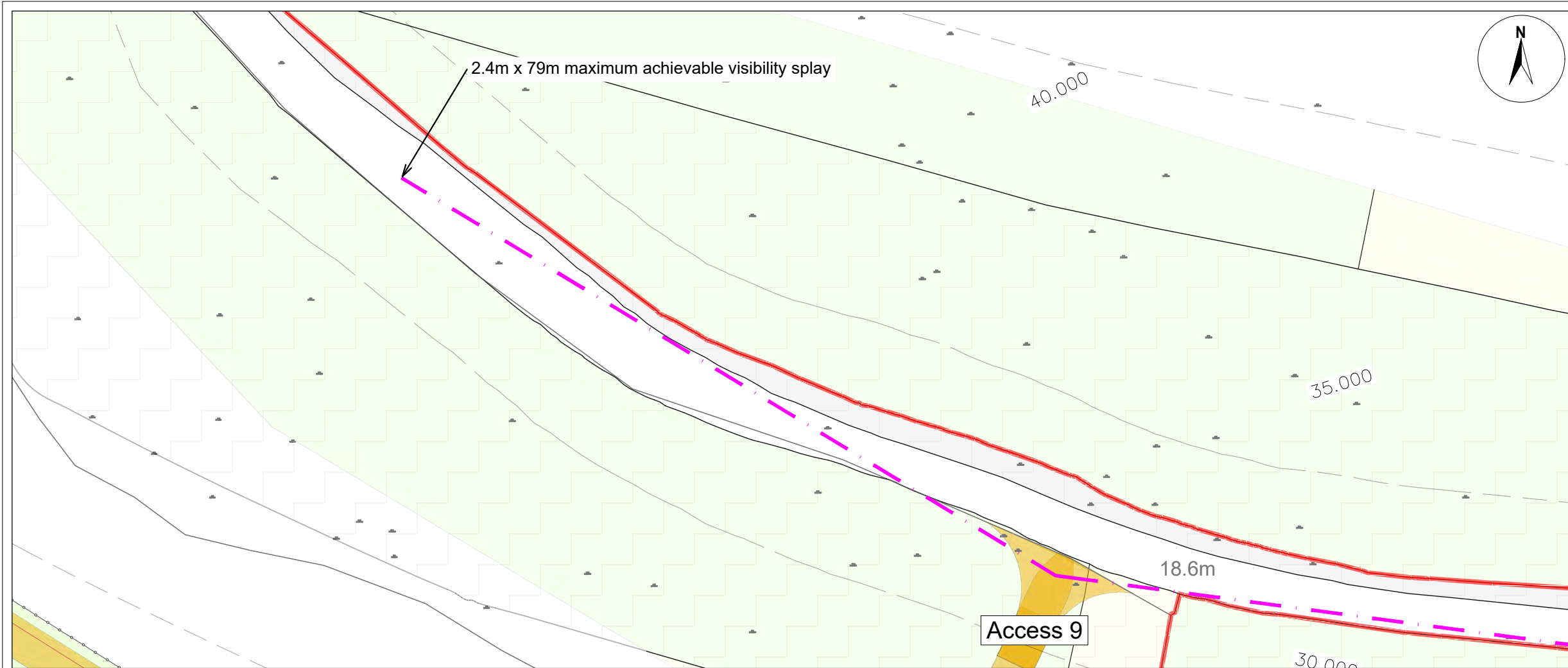
Title Access 8
12m Rigid Vehicle
Swept Path Analysis

Status Drawn By PM/Checked by
PRELIMINARY AJ EON

Project Number Scale @ A3 Date Created
JNY11484 1:500 13/01/2023

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A	Latest layout added (J026A_Post Consultation_Rev4 (3))	AJ	EON	23/05/2023
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Client J B M Solar

Project Craig y Perthi

Title Access 9
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Project Number	Scale @ A3	Date Created
JNY11484	1:500	13/01/2023
RPS Drawing/Figure Number	Rev	
JNY11484-RPS-0100-018	B	

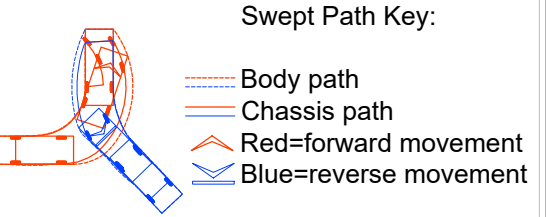
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Vehicle Profiles

Rigid Truck
Overall Length 12.000m
Overall Width 2.500m
Overall Body Height 3.928m
Min Body Ground Clearance 0.412m
Track Width 2.471m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 11.900m



B	Latest layout added (J026A_Post Consultation_Rev5)	AJ	JG	02/06/2023
A	Latest layout added (J026A_Post Consultation_Rev4 (3)) tractor & trailer tracks replaced with 12m rigid	AJ	EON	25/05/2023
Rev	Description	By	CB	Date



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T: +44(0)20 3691 0500 E: transport@rpsgroup.com

Client J B M Solar

Project Craig y Perthi

Title Access 9
12m Rigid Vehicle
Swept Path Analysis

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Project Number Scale @ A3 Date Created
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Appendix 5 – Noise Report



NOISE ASSESSMENT

CRAIG Y PERTHI SOLAR FARM

RWE RENEWABLES UK SOLAR AND STORAGE LIMITED

JUNE 2026

LF Acoustics Ltd
Pond Farm
7 High Street
Pulloxhill, Beds
MK45 5HA

t: 01525 888046
e: mail@lfacoustics.co.uk

Registered in England
Company Reg: 8434608



NOISE ASSESSMENT

CRAIG Y PERTHI SOLAR FARM

RWE RENEWABLES UK SOLAR AND STORAGE LIMITED

JUNE 2026

Revision	Prepared By	Date
3.0	L Jephson BEng (Hons) MIOA	10/6/26
2.3	L Jephson BEng (Hons) MIOA	16/6/23
1.0	L Jephson BEng (Hons) MIOA	25/10/22

This report has been prepared using all reasonable skill and care within the resources and brief agreed with the client. LF Acoustics Ltd accept no responsibility for matters outside the terms of the brief or for use of this report, wholly or in part, by third parties.

Contents

1.	Introduction	1
2.	Standards and Guidelines	2
3.	Site Description and Identification of Potentially Affected Dwellings	5
4.	Baseline Noise Assessment	6
5.	Calculation and Assessment of Noise from the Operation of the Solar Farm	10
6.	Summary	19

References

Figures

Appendices

1. Introduction

LF Acoustics Ltd have been appointed by RWE Renewables UK Solar and Storage Limited to undertake an operational noise assessment for the proposed Craig Y Perthi Solar Farm.

RWE Renewables UK ('the Applicant'), a part of the RWE Group, is proposing to develop a solar farm and associated development ('the Proposed Development') on land to the east of Newport near the Craig Y Perthi Wood and the village of Bishton. The site is west of the Magor Brewery, south of the M4 motorway, northwest of the Tesco Distribution centre, and north of Llanwern steelworks, separated by the South Wales Main Line.

The Proposed Development would be classed as a Development of National Significance ('DNS'), as it relates to an electricity generating station that has an installed generating capacity of between 10 and 350 MW. Any application for the Proposed Development would be determined by Planning and Environment Decisions Wales ('PEDW'), with a decision being made by the Welsh Ministers.

The Applicant is part of the largest power producer in Wales and the country's number one renewable energy producer, with over 1 GW of renewable energy generation, responsible for around a quarter of Wales' renewable energy production. The Applicant is a major Welsh employer, with around 300 people working out of their dedicated offices in Baglan, Port of Mostyn and Dolgarrog

Section 2 of this report presents an overview of the relevant standards and guidelines applicable when assessing noise from this type of facility. Section 3 provides a description of the site, its surroundings and proposed operation, with an assessment of the existing noise environment provided in Section 4. The calculation and assessment of noise levels associated with the operation of the solar farm is provided in Section 5. Finally, Section 6 provides a summary of the assessment.

2. Standards and Guidelines

A description of the noise units referred to in this report is provided in Appendix A.

2.1. Planning Policy Wales

Planning Policy Wales (PPW) revised in February 2024 [1], sets out the Government's planning policies for Wales and how these should be applied. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.

With regards renewable and low carbon developments, PPW advises:

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

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

A number of Technical Advice Notes (TAN) accompany PPW. TAN 11 [2] relates to noise. For noise generating development, TAN 11 advises:

Local planning authorities must ensure that noise generating development does not cause an unacceptable degree of disturbance. They should also bear in mind that if subsequent intensification or change of use results in greater intrusion, consideration should be given to the use of appropriate conditions.

For industrial and commercial developments, TAN 11 advises that BS 4142 should be adopted to assess potential impacts. The 1990 revision of the Standard is indicated within the document, has been withdrawn and consideration has therefore been given to the current revision of the Standard within this assessment.

2.2. British Standard BS 4142:2014+A1:2019

BS 4142 [3] is the British Standard for rating and assessing noise of a commercial or industrial nature and is relevant to the noise associated with the operation of the proposed plant.

BS 4142 is a comparative standard in which the estimated noise levels from the proposed development are compared to the representative / typical background noise level from existing uses.

BS 4142 relates the likelihood of adverse impact to the difference between the Rating Level of the noise being assessed and the background noise level.

The background noise level is the L_{A90} noise level, usually measured in the absence of noise from the source being assessed, but may include other existing industrial or commercial sounds. The background noise levels should generally be obtained from a series of measurements each of not less than 15-minute duration.

The Rating Level of the noise being assessed is defined as its L_{Aeq} noise level (the 'specific noise level'), with the addition of appropriate corrections should the noise exhibit a marked impulsive and/or tonal component or should the noise be irregular enough in character to attract attention. The extent of the correction is dependent upon the degree of tonality or character in the noise

and is determined either by professional judgement, where the plant is not operational at present, or by measurement.

Where the noise is tonal in nature, the standard imposes the following penalties when assessing the rating level:

- 2 dB for a tone which is just perceptible;
- 4 dB where the tone is clearly perceptible; and
- 6 dB where the tone is highly perceptible.

Methods for identifying whether noise is tonal in nature are provided within BS 4142.

Where noise exhibits other sound characteristics, the Standard advises a penalty of 3 dB should be applied.

During the daytime, the specified noise levels are determined over a reference time interval of 1 hour, with a 15 minute reference period adopted when assessing night-time noise.

If the Rating Level of the noise being assessed exceeds the background level by 10 dB or more BS 4142 advises that there is likely to be an indication of a significant adverse impact, depending upon context. A difference between background level and Rating Level of around 5 dB is likely to be an indication of an adverse impact, depending upon context. The lower the Rating Level is, relative to the background noise level, the less likely the specific source will have an adverse or significant adverse impact. Where the Rating Level does not exceed the background noise level is an indication of a low impact, depending upon context.

The assessment method outlined above is intended for the assessment of external noise levels and is not intended to assess the extent of impact at internal locations.

Where the initial assessment of impact, based upon an assessment of the external noise levels, needs to be modified due to the context, all pertinent factors should be taken into account, including:

- The absolute level of sound;
- Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night; and
- The sensitivity of the receptor and whether the premises will already incorporate measures to ensure good internal and/or external acoustic conditions.

The current revision of BS 4142 does not define low background or rating levels. The previous revisions of the Standard described very low background sounds as being less than 30 dB L_{A90} and low rating levels as being less than 35 dB $L_{Aeq,T}$. The Association of Noise Consultants have prepared a technical note to accompany the current revision of BS 4142 [4]. The document advises that it would not be unreasonable to adopt similar lower limits when assessing noise levels against the current revision of the Standard

2.3. British Standard BS 8233

British Standard BS 8233 [5] principally provides design guidance for new buildings. For residential premises, the guidance advises for steady external noise sources, levels of noise internally not exceeding 30 dB $L_{Aeq, 8 \text{ hour}}$ within bedrooms at night are desirable, with a level of 35 dB $L_{Aeq, 16 \text{ hour}}$ representing a desirable standard of noise within living rooms and bedrooms for resting purposes during daytime periods.

Externally within gardens and amenity spaces, the guidance recommends a general limit of 50 dB $L_{Aeq, T}$.

2.4. World Health Organisation Guidelines

The World Health Organisation guidance [6] provides additional guidance upon potential effects in relation to noise.

The guidance advises:

- few people are moderately annoyed by noise levels of below 50 dB L_{Aeq} during the daytime;
- for a good night's sleep, noise levels within bedrooms should not exceed 30 dB L_{Aeq} , with individual noise events not exceeding 45 dB L_{Amax} ; and
- special attention should be given to noise sources in an environment with low background noise levels and to noise sources with low frequency components.

Assuming an open window provides a reduction in noise levels of between 10 – 15 dB(A), during the night-time the WHO guidance indicates that external noise levels should remain below 40 – 45 dB L_{Aeq} to maintain the restorative processes of sleep.

The WHO produced additional noise guidance in relation specifically to night-time noise in 2009 [5], which is generally considered to be the most noise sensitive period. This report provides a description of the no observed adverse effect level (which is equivalent to a No Observed Effects Level, NOEL) and advises for night-time noise (which is considered to be the most sensitive period of the day) that this concept is less useful, as the adversity of effects are less clear. Instead, it advises the use of the observed effects thresholds, above which an effect starts to occur or shows itself to be dependent upon the exposure level.

The guidance is presented in terms of external and internal recommendations to minimise any potential adverse effects. Externally, the guidance advises that an average night-time noise level L_{night} (the $L_{Aeq, 8 \text{ hour}}$) of 40 dB is equivalent to the Lowest Observed Adverse Effect Level (LOAEL) and advises this guideline value is recommended for the protection of public health from night-noise. However, below this level there was no change in the small number of awakenings identified and hence a reason for considering that the NOEL was not an appropriate descriptor in noise terms for identifying adverse effects and hence recommend the use of the observed effects threshold as an appropriate descriptor to identify the potential for the onset of adverse effects.

The guidance, however, advises that an external night-time noise level of 30 $L_{Aeq, 8 \text{ hour}}$ would be equivalent to the NOEL, as their research indicated that there were no detectable effects on sleep observed below this level.

The potential for Significant Observed Adverse Effects (SOAEL) were identified to occur at levels considerably above 40 dB $L_{Aeq, 8 \text{ hour}}$.

3. Site Description and Identification of Potentially Affected Dwellings

The location of the proposed solar farm is as indicated on Figure 1, with the proposed layout indicated on Figure 2.

As indicated on Figure 2, the site would be split across two main areas either side of the village of Bishton, with a smaller separate area to the west.

The solar panels would be connected to string inverters that would be distributed around the site and positioned beneath the solar panels.

The inverters would be operational during daylight periods when the solar panels were generating electricity. The inverters would be actively cooled, with the operation of the fans being temperature controlled, and would only operate at full speed (i.e. generating the highest levels of noise) when the temperatures were high, which would occur during the middle of the day when solar generation was at a peak. Typically, the individual solar inverters would switch in and out during the day, thus generally not all of the inverters would be operating concurrently. During the early morning and late evening periods, when solar energy was lower, the fans would generally not be operating or only running at very low speeds, thus generating lower levels of noise.

The inverters would be connected to a number of Transformer Stations distributed around the site. This plant would also be fan cooled, with the fans temperature controlled.

A substation would be constructed within the southern area of the site, to enable the generated electricity to be supplied to the grid. The main source of noise within the substation would be associated with the operation of a 132kV / 45MW power transformer. Whilst the transformer would typically generate low levels of noise, particularly overnight, it would be fan cooled, with the fans potentially operating during periods of high temperatures.

There are a number of noise sensitive properties surrounding the proposed solar farm that have the potential to be affected by noise attributable to the operation. Those identified and considered within this assessment are indicated on Figure 1.

4. Baseline Noise Assessment

4.1. Unattended Noise Surveys

Unattended noise surveys have been undertaken at six positions representative of the surrounding noise sensitive properties to establish the prevailing background noise levels over the periods the solar farm would be operational.

The survey was carried out between Thursday 29 September and Monday 10 October 2022.

Given that there have been no major changes in the surrounding area since the surveys were undertaken, noise levels monitored at the time are considered to be representative of the current baseline noise climate at the neighbouring noise sensitive properties.

Rion NL-52 Class 1 Sound Level Meters were used for the exercise, which were calibrated before and after the exercise using a Rion NC-74 Class 1 Acoustic Calibrator, with the instruments reading 94.0 dB on each occasion. All the instrumentation used had been laboratory calibrated within the past 12/24 months in accordance with national standards; copies of the calibration certificates can be provided upon request.

Measurements were made at the positions indicated on Figure 1.

At each position, the microphone was set free-field and at a height of 1.3 metres from the ground. The microphones were fitted with Rion WS-15 outdoor microphone protection to ensure Class 1 performance was maintained under a wide range of weather conditions.

The instruments were configured to monitor over 15-minute periods throughout the duration of the survey, in accordance with the requirements of BS 4142.

Each instrument had an audio recording option card installed, which enabled periodic audio snapshots of the noise environment to be captured, along with any particular activities giving rise to high noise levels, thus enabling particular sources to be identified.

The survey period was selected to ensure weather conditions remained favourable for undertaking environmental surveys. Conditions during the majority of the survey period remained generally dry, with light winds.

A summary of the weather conditions during the survey is provided below.

Date		Conditions	Wind Strength	Wind Direction
Thursday	29/9/22	Dry	Light	NNE / NNW
Friday	30/9/22	Period of rain during afternoon	Light - moderate	SSW
Saturday	1/10/22	Dry	Very Light	Variable
Sunday	2/10/22	Dry	Very Light	Variable
Monday	3/10/22	Dry	Very Light	Variable
Tuesday	4/10/22	Light rain shower pm	Light	SSW
Wednesday	5/10/22	Mainly dry	Light	WSW
Thursday	6/10/22	Dry	Very Light	SW
Friday	7/10/22	Mainly dry	Very Light	SW
Saturday	8/10/22	Dry	Very Light	Variable
Sunday	9/10/22	Dry	Very Light	Variable
Monday	10/10/22	Dry	Very Light	Variable

Table 4.1 Summary of Weather Conditions

The results of the noise monitoring exercise carried out at each location are summarised and discussed in the following sub-sections.

4.2. Results of Noise Monitoring Carried Out at Position 1 – St Mary’s Church (West)

The noise monitoring equipment at this location was positioned within the application site, located within the field directly to the east of St Mary’s Church. This position was considered representative of the noise environment at the church and within Llanwern to the west.

Noise levels monitored at this location were principally influenced by road traffic associated with vehicles travelling along the M4 to the north, livestock, and train movements on the railway line to the south.

The results of the noise monitoring at this location are provided within Appendix B.

To establish the typical background noise levels, a statistical analysis of the measured noise levels has been undertaken for the early morning, daytime and evening periods, when the solar panels would be operational.

The statistical analysis is presented in Appendix B, with the typical levels determined from the analysis provided below:

- Early Morning (05:30 – 07:00 hours) – 40 dB $L_{A90,15 \text{ min}}$;
- Daytime (07:00 – 19:00 hours) – 39 dB $L_{A90,15 \text{ min}}$;
- Evening (19:00 – 23:00 hours) – 38 dB $L_{A90,15 \text{ min}}$.

4.3. Results of Noise Monitoring Carried Out at Position 2 – Bishton Village Hall

The noise monitoring equipment at this location was positioned within the field to the north of Bishton Village Hall.

Noise levels monitored at this location were influenced by traffic on the M4 motorway, and movements on the railway line to the south.

The results of the noise monitoring at this location are provided within Appendix C.

To establish the typical background noise levels, a statistical analysis of the measured noise levels has been undertaken for the early morning, daytime and evening periods, when the solar panels would be operational.

The statistical analysis is presented in Appendix C, with the typical levels determined from the analysis provided below:

- Early Morning (05:30 – 07:00 hours) – 43 dB $L_{A90,15 \text{ min}}$;
- Daytime (07:00 – 19:00 hours) – 44 dB $L_{A90,15 \text{ min}}$;
- Evening (19:00 – 23:00 hours) – 38 dB $L_{A90,15 \text{ min}}$.

4.4. Results of Noise Monitoring Carried Out at Position 3 – Castle Farm

The noise monitoring equipment at this location was positioned within the fields to the south of Castle Farm.

Noise levels at this location were observed to be higher, with noise from the M4 more audible at this location.

The results of the noise monitoring at this location are provided within Appendix D.

To establish the typical background noise levels, a statistical analysis of the measured noise levels has been undertaken for the early morning, daytime and evening periods, when the solar panels would be operational.

The statistical analysis is presented in Appendix D, with the typical levels determined from the analysis provided below:

- Early Morning (05:30 – 07:00 hours) – 39 dB $L_{A90,15 \text{ min}}$;
- Daytime (07:00 – 19:00 hours) – 41 dB $L_{A90,15 \text{ min}}$;
- Evening (19:00 – 23:00 hours) – 37 dB $L_{A90,15 \text{ min}}$.

4.5. Results of Noise Monitoring Carried Out at Position 4 – Underwood

The noise monitoring equipment at this location was positioned along the northern site boundary at a position representative of the properties within Underwood to the north.

Noise levels at this location were observed to be mainly influenced by the M4 traffic.

The results of the noise monitoring at this location are provided within Appendix E.

The statistical analysis of the background (L_{A90}) noise levels is presented in Appendix E, with the typical levels determined from the analysis provided below:

- Early Morning (05:30 – 07:00 hours) – 43 dB $L_{A90,15 \text{ min}}$;
- Daytime (07:00 – 19:00 hours) – 44 dB $L_{A90,15 \text{ min}}$;
- Evening (19:00 – 23:00 hours) – 41 dB $L_{A90,15 \text{ min}}$.

4.6. Results of Noise Monitoring Carried Out at Position 5 – Village Reen, Bishton

The noise monitoring equipment at this location was to the east of the properties along Village Reen, Bishton. The monitoring location was within the field adjacent to the properties.

Noise levels at this location were noted to be influenced by M4 traffic and train movements along the railway line. There was also activity within the neighbouring fields during the survey period, including hedge trimming and excavation of the ditches, that generated higher noise levels for short durations during the survey period.

The results of the noise monitoring at this location are provided within Appendix F.

The statistical analysis of the background (L_{A90}) noise levels is presented in Appendix F, with the typical levels determined from the analysis provided below:

- Early Morning (05:30 – 07:00 hours) – 42 dB $L_{A90,15 \text{ min}}$;
- Daytime (07:00 – 19:00 hours) – 43 dB $L_{A90,15 \text{ min}}$;
- Evening (19:00 – 23:00 hours) – 37 dB $L_{A90,15 \text{ min}}$.

4.7. Results of Noise Monitoring Carried Out at Position 6 – Ty Newydd

The noise monitoring equipment at this location was positioned along the eastern site boundary, at a position representative of the properties to the east, Ty Newydd

Noise levels at this location were noted to be influenced by a mix of M4 traffic and train movements along the railway line.

The results of the noise monitoring at this location are provided within Appendix G.

The statistical analysis of the background (L_{A90}) noise levels is presented in Appendix G, with the typical levels determined from the analysis provided below:

- Early Morning (05:30 – 07:00 hours) – 44 dB $L_{A90,15 \text{ min}}$;
- Daytime (07:00 – 19:00 hours) – 45 dB $L_{A90,15 \text{ min}}$;
- Evening (19:00 – 23:00 hours) – 40 dB $L_{A90,15 \text{ min}}$.

5. Calculation and Assessment of Noise from the Operation of the Solar Farm

5.1. Proposed Plant and Equipment

The solar panels would be connected to a number of string inverters that would be distributed across the site at positions where appropriate connections could be made to the solar arrays. The string inverters would be mounted at the end of the rows of solar panels and positioned beneath the panels. The inverters would be connected to a number of Transformer stations that would be distributed around the site.

For the purposes of this assessment, the string inverters have been distributed around the site, with the Transformer stations positioned as indicated on Figure 2. The positions for the string inverters would be finalised during the detailed design stage.

During peak daytime periods, the string inverter fans would operate up to their highest speed, with the operation of the fans during the early morning and evening periods lower, as the solar generation and ambient temperatures would be lower.

In addition, there would be a substation, located within the southern area of the site. The substation would house the main DNO transformer.

Unmitigated source term noise levels for the proposed plant have been obtained from manufacturers' specifications and are provided in Table 5.1 below.

Plant	Sound Power Level SWL [dB(A)]	Octave Band Sound Power Level SWL [dB]						
		63	125	250	500	1k	2k	4k
String Inverter Daytime	82	87	77	79	84	73	70	69
String Inverter Early / Evening	75	80	70	72	77	66	63	62
Transformer Station	70	67	80	76	66	56	42	39
DNO Transformer	90	83	101	95	85	74	61	58

Table 5.1 Source Term Noise Levels

5.2. Calculation of Noise Levels

As indicated above, the main noise generating elements of the proposed development would be attributable to the operation of the string inverters, transformer stations and substation.

Calculations of the noise levels attributable to the operation of the site have been made using the SoundPlan computer modelling package, which implements the calculation methodology from ISO 9613-2:2024.

The modelling has assumed the following parameters:

- ground absorption across the surrounding fields assumed to be soft ($G=1$);
- temperature 20°C
- pressure 1013 mbar;
- relative humidity 50%;

- meteorological conditions (Cmet) = 0;
- inclusion of the solar panels as reflective noise barriers, placed 1 metre off the ground and 2m in height.

Calculations have been prepared on the basis of all plant fully operational for early morning, day and evening periods, which represents the likely worst-case conditions during the peak daytime periods.

The operation of the cooling fans within the plant and equipment are temperature controlled. During the early morning periods, when temperatures are lower and solar energy low, it is less likely that the fans would need to operate and if so, they would only operate at very low speed, thus generating lower levels of noise. The fans would be most likely to operate at full speed during the mid-part of the day when the sun is at its highest level and thus generating the maximum energy. During the evening periods, the output from the solar panels would reduce as the sun sets and thus the requirement for the cooling fans to operate would gradually reduce later into the evening. As indicated previously, there would be no requirement for the fans on the solar inverters to operate overnight, during hours of darkness.

Noise levels have been calculated on the basis of the site layout indicated on Figure 2.

Figures 3 and 4 present the calculated worst case operational noise levels for the early morning / evening periods and the daytime periods. The results are presented in graphical format and additionally provide the calculated façade noise levels in numerical form at the properties potentially most likely to be affected by the operation of the solar farm. The calculated noise levels at the potentially most affected properties are additionally summarised in Table 5.2 below.

Location	Calculated Façade Noise Level at First Floor Level [dB L _{Aeq,T}]	
	Early Morning / Evening	Daytime
St Mary's Church	17	24
Llanwern Village	17	22
Bishton (South)	28	35
Bishton (Central)	31	38
Bishton (Castle Farm)	30	37
Underwood	13	18
Village Reen, Bishton	29	35
Ty Newydd	24	31

Table 5.2 Noise Levels Generated by Operation of Proposed Solar Farm

5.3. Assessment Criteria

As indicated previously, background noise levels in the vicinity are mainly influenced by the traffic using the M4 motorway to the north of the site, with traffic noise audible throughout the day and night-time periods.

The solar panels and inverters would only be operational during daylight hours, potentially between 05:30 – 22:00 hours during summer months.

To provide a worst-case assessment therefore, the noise levels attributable to the full daytime operation have been assessed for daytime, early morning (05:30 – 07:00 hours) and evening (19:00 – 22:00 hours) periods.

BS 4142 advises that the significance of sound of an industrial / commercial nature depends upon both the margin by which the rating level of noise exceeds the background noise levels and the context in which the sound occurs.

An initial estimate of the potential impacts associated with the operation of the proposed solar farm has been made in accordance with the guidance within BS 4142 by subtracting the measured background noise levels from the calculated rating level of noise.

BS 4142 advises where the initial assessment needs to be modified due to the context, all pertinent factors should be taken into consideration. This includes the absolute levels of noise and in situations where background and rating levels are low, as at this site, the absolute noise levels might be as, or more, appropriate, rather than by the amount the rating level exceeds the background noise levels, which is especially true at night.

For night-time noise, which is relevant to the early morning periods, consideration has therefore also been given to absolute noise level criteria contained within BS 8233 and by the WHO, which provides guidance on absolute noise levels to ensure potential adverse impacts are minimised.

BS 8233 advises for steady state external noise sources, such as those associated with the operation of the solar farm, it is desirable that the internal ambient noise level does not exceed a level of 35 dB $L_{Aeq,16\text{ hour}}$ during the daytime period within living rooms and bedrooms and 30 dB $L_{Aeq,8\text{ hour}}$ within bedrooms at night. On the basis of an open window typically providing a sound reduction of between 10 – 15 dB(A), equivalent external levels below 45 dB $L_{Aeq,16\text{ hour}}$ daytime and 40 dB $L_{Aeq,8\text{ hour}}$ night-time, would ensure an acceptable noise environment was maintained within the surrounding properties.

Additionally, for steady state noise, the WHO night-noise guidance advises that an external level of 40 dB $L_{Aeq,8\text{ hour}}$ represents the Lowest Observed Adverse Effect Level (LOAEL) overnight, which is equivalent to the BS 8233 guidance for night noise, assuming an open window. The guidance advises a level of 30 dB $L_{Aeq,8\text{ hour}}$ externally would represent the No Observed Effects Level (NOEL).

5.4. Assessment

As indicated previously, noise would only be generated from the operation of the inverters associated with the solar panels during daylight hours, when the panels are producing electricity.

As discussed, the highest noise levels that have been calculated would only occur during the mid-daytime periods whilst the solar panels were operating at full capacity, thus an assessment based upon the peak operating conditions for the plant represents worst-case conditions, particularly during the early morning and evening periods.

With the exception of areas very close to the inverters (typically, within 25 metres), where high frequency noise from the operation of the inverters is likely to be clearly audible, the noise generated by the inverters would be principally associated with the operation of the cooling fans, which generate broadband noise. At the large distances between the inverters and neighbouring properties, any high frequency components of the noise would be effectively mitigated, as the higher frequencies attenuate at a higher rate over distance compared to lower frequencies.

The operation of the fans has a potential to generate noise that is characteristic in nature, compared to the existing noise environment. On this basis, a 3 dB other character correction has been applied when assessing the noise levels against the BS 4142 methodology to determine the rating level of noise.

Uncertainties in the calculations have been considered. Given that the assessment has been based upon all plant and equipment fully operational, which is considered unlikely, particularly during the most sensitive early morning periods, the calculations are likely to have overestimated the noise levels at the dwellings and thus cover any uncertainty in the noise levels attributable to the operation of the plant or within the calculation methodology. It is additionally noted that the source data used represents the maximum design level for the plant.

The calculated noise levels have been assessed against the guidance within BS 4142, BS 8233 and the WHO guidance to evaluate the likelihood of potential adverse effects.

The assessments of the noise levels at the potentially most affected dwellings are provided below. Noise levels at other surrounding properties would be lower and thus any potential for adverse impact at those properties would also be reduced.

St Mary's Church

St Mary's Church is only considered to be noise sensitive during the daytime periods, particularly when there is a service. Whilst an initial BS 4142 assessment has been prepared for the whole 24-hour period, consideration to the use has therefore been given when identifying potential adverse impacts.

The initial assessment is provided below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	17	24	17
Acoustic Feature Correction	3	3	3
Rating Level	20	27	20
Background Noise Level [dB L _{A90}]	40	39	38
Excess of Rating Over Background Level	-20	-12	-18
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.3 BS 4142 Assessment – St Mary’s Church

The initial BS 4142 assessment above indicates that the noise levels attributable to the operation of the solar farm would be very low at the church. The operational noise levels would be at least 10 dB(A) below the prevailing background noise levels and thus the operation of the plant would be unlikely to be audible at the church.

On this basis the operation would not result in any adverse impact on the use of the church.

Llanwern Village

The initial BS 4142 assessment for this location is provided in the table below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	17	22	17
Acoustic Feature Correction	3	3	3
Rating Level	20	25	20
Background Noise Level [dB L _{A90}]	40	39	38
Excess of Rating Over Background Level	-20	-14	-18
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.4 BS 4142 Assessment – Llanwern Village

Noise levels associated with the operation of the solar farm within this village would be very low, with the initial assessment indicating operational noise levels remaining at least 10 dB(A) below the prevailing background noise levels.

The operation of the solar farm would be highly unlikely to be audible within the village and therefore would not result in any adverse impacts.

Dwellings Within the Southern Part of Bishton Village

The initial BS 4142 assessment for this location is provided in the table below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	28	35	28
Acoustic Feature Correction	3	3	3
Rating Level	31	38	31
Background Noise Level [dB L _{A90}]	43	44	38
Excess of Rating Over Background Level	-12	-6	-6
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.5 BS 4142 Assessment – Bishton (South)

Noise levels attributable to the operation of the solar farm at this location would remain very low, with the assessment above indicating operational noise levels at least 6 dB(A) below the prevailing background noise levels and thus below a level which would result in adverse noise effects.

Noise levels at the properties within this part of the village would therefore remain acceptable and ensure any potential adverse noise impacts were minimised.

Dwellings Within the Central Part of Bishton Village

The initial BS 4142 assessment for this location is provided in the table below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	31	38	31
Acoustic Feature Correction	3	3	3
Rating Level	34	41	34
Background Noise Level [dB L _{A90}]	39	41	37
Excess of Rating Over Background Level	-5	0	-3
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.6 BS 4142 Assessment – Bishton (Central)

Noise levels attributable to the operation of the solar farm at this location are not anticipated to exceed the prevailing background noise levels during the peak daytime period and would remain below the background noise levels during the early morning and evening periods.

Consideration would be given during the detailed design stage to ensure that the string inverters are placed as far from the neighbouring properties as possible. This would seek to ensure noise levels are reduced further, compared to those assessed on the basis of the illustrative layout at this stage.

Noise levels at the properties within this part of the village would therefore remain acceptable and ensure any potential adverse noise impacts were minimised.

Dwellings Within the Northern Part of Bishton Village (Castle Farm)

The initial BS 4142 assessment for these properties, based upon the highest noise levels calculated is provided in the table below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	30	37	30
Acoustic Feature Correction	3	3	3
Rating Level	33	40	33
Background Noise Level [dB L _{A90}]	39	41	37
Excess of Rating Over Background Level	-6	-1	-4
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.7 BS 4142 Assessment – Bishton Village (North)

Noise levels attributable to the operation of the solar farm are not anticipated to exceed the prevailing background noise levels at this location throughout the day, indicating a low potential for adverse noise impacts.

The noise modelling indicates that the string inverters would be the main source of noise at this location and consideration would be given during the detailed design stage to ensure that the string inverters are placed as far from the neighbouring properties as possible. This would seek to ensure noise levels are reduced further, compared to those assessed on the basis of the illustrative layout at this stage.

Noise levels at these properties would therefore remain acceptable and ensure any potential adverse noise impacts were minimised.

Dwellings Within Underwood

These properties are some distance from the solar farm and are close to the M4 motorway. Consequently, the background noise levels at this location are relatively high both throughout the day and night-time periods. The initial BS 4142 assessment for this location is provided in the table below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	13	18	13
Acoustic Feature Correction	3	3	3
Rating Level	16	21	16
Background Noise Level [dB L _{A90}]	43	44	41
Excess of Rating Over Background Level	-27	-23	-25
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.8 BS 4142 Assessment – Underwood

Noise levels attributable to the operation of the solar farm at this location would be very low, with the assessment above indicating the operational noise levels remaining at least 23 dB(A) below the prevailing background noise levels.

The operation of the solar farm would not be audible within Underwood and would therefore not result in any adverse impacts.

Dwellings Along Village Reen, Bishton

The initial BS 4142 assessment for these properties, based upon the highest noise levels calculated is provided in the table below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	29	36	29
Acoustic Feature Correction	3	3	3
Rating Level	32	39	32
Background Noise Level [dB L _{A90}]	42	43	37
Excess of Rating Over Background Level	-10	-4	-5
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.9 BS 4142 Assessment – Village Reen, Bishton

The assessment of noise levels attributable to the operation of the solar farm above indicates operational noise levels remaining at least 4 dB(A) below the prevailing background noise levels, with the assessment indicating a low potential for adverse impacts.

Noise levels at these properties would therefore remain acceptable and ensure any potential adverse noise impacts were minimised.

Ty Newydd

These properties are located to the east of the solar farm. The initial BS 4142 assessment for these properties is provided in the table below.

	Assessment Period		
	Early Morning	Daytime	Evening
Specific Noise Level	24	31	24
Acoustic Feature Correction	3	3	3
Rating Level	24	34	27
Background Noise Level [dB L _{A90}]	44	45	40
Excess of Rating Over Background Level	-20	-11	-13
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact	Indication of Low Impact

Table 5.10 BS 4142 Assessment – Ty Newydd

Noise levels attributable to the solar farm at these properties would remain low, with operational noise levels remaining at least 10 dB(A) below the prevailing background noise levels. On this basis, noise attributable to the operation of the solar farm would be inaudible at these properties.

On this basis, the operation of the plant and equipment within the solar farm would not result in any adverse noise impacts at these properties.

6. Summary

LF Acoustics Ltd have been appointed by RWE Renewables UK Solar and Storage Limited to undertake an operational noise assessment for the proposed Craig Y Perthi Solar Farm.

RWE Renewables UK ('the Applicant'), a part of the RWE Group, is proposing to develop a solar farm and associated development ('the Proposed Development') on land to the east of Newport near the Craig Y Perthi Wood and the village of Bishton. The site is west of the Magor Brewery, south of the M4 motorway, northwest of the Tesco Distribution centre, and north of Llanwnern steelworks, separated by the South Wales Main Line.

Baseline noise monitoring has been carried out at several locations around the site at positions representative of the neighbouring noise sensitive properties to establish the prevailing background noise levels for the daylight periods upon which the assessment has been based.

This report has presented calculations and an assessment of the likely worst-case noise levels to be generated by the operation of the plant and equipment to be located around the site.

The calculated noise levels have been assessed against relevant standards and guidance, to ensure that the operation of the plant does not result in occupants of nearby properties being unacceptably affected by levels of noise.

The assessment concluded that the operation of the solar farm would generate low noise levels at surrounding properties throughout the day. An assessment of the noise levels against the requirements of BS 4142 concluded that the operation would result in a low potential for adverse impact, with noise levels remaining below the prevailing background noise levels at neighbouring properties. The operation of the solar farm would therefore not result in a potential for any adverse noise impacts at the neighbouring properties.

References

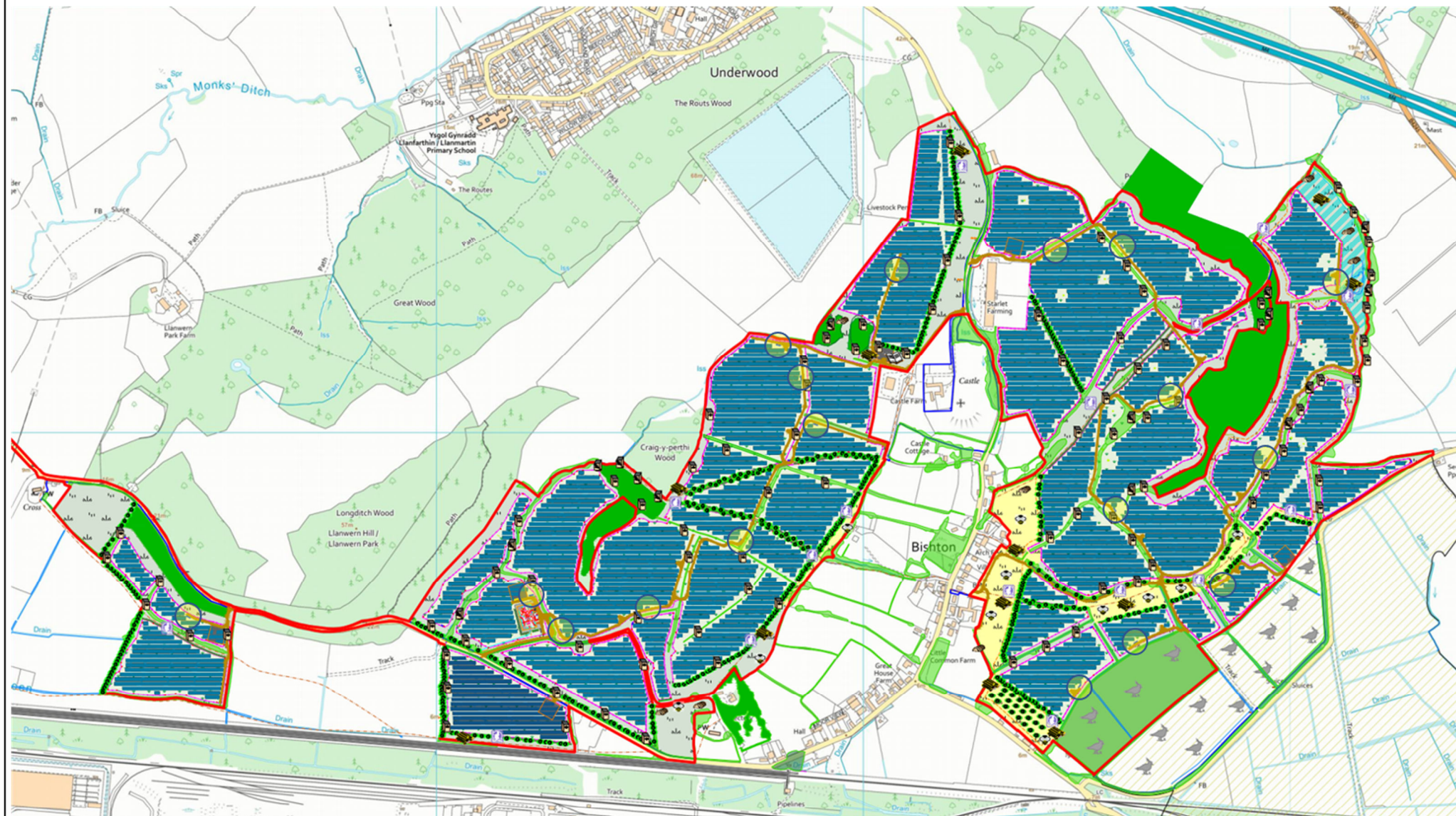
1. Welsh Government. Planning Policy Wales. Edition 12. February 2024.
2. Welsh Government. Planning Guidance (Wales). Technical Advice Note (Wales) 11, Noise – October 1997.
3. British Standards Institute. Methods for Rating and Assessing Industrial and Commercial Sound. BS 4142:2014 +A1:2019.
4. British Standards Institute. Guidance on Sound Insulation and Noise Reduction in Buildings. BS 8233: 2014.
5. World Health Organisation. Guidelines for Community Noise. 1999. WHO Geneva.
6. World Health Organisation. Night Noise Guidelines for Europe. 2009.

Figures



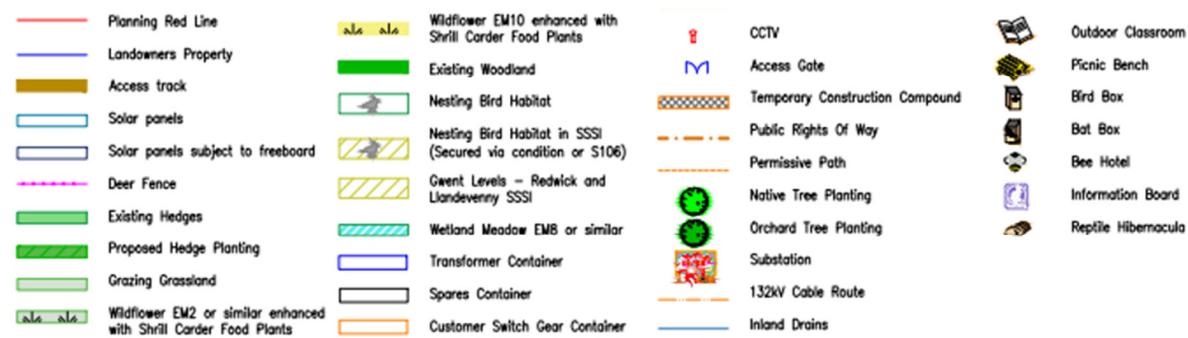
- Noise Sensitive Receptors
- Unattended Noise Survey Position

Figure 1:
Site Location and Noise
Monitoring Positions



Position of Transformer Stations

Figure 2:
Layout Plan





Noise Level $L_{Aeq,T}$
in dB(A)

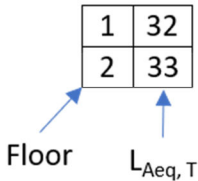
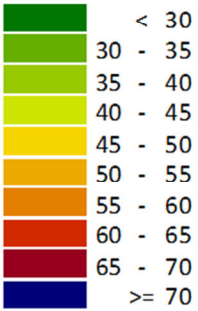
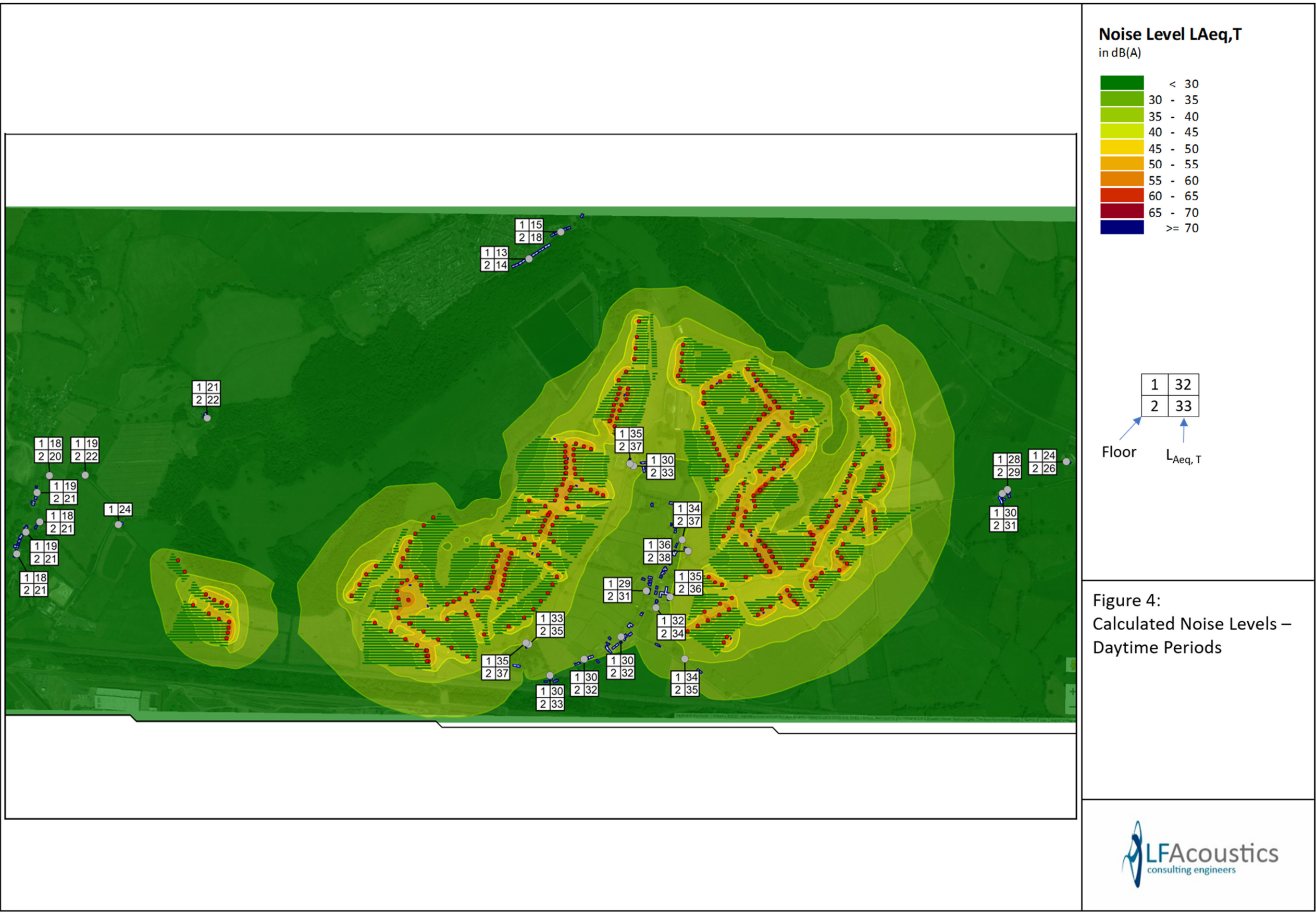


Figure 3:
Calculated Noise Levels –
Early Morning / Evening
Periods



Appendix A

Noise Units

Decibels (dB)

Noise can be defined as unwanted sound. Sound in air can be considered as the propagation of energy through the air in the form of oscillatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale firstly because the range of audible sound pressures is very great, and secondly because the loudness function of the human auditory system is approximately logarithmic.

The dynamic range of the auditory system is generally taken to be 0 dB to 140 dB. Generally, the addition of noise from two sources producing the same sound pressure level, will lead to an increase in sound pressure level of 3 dB. A 3 dB noise change is generally considered to be just noticeable and a 10 dB change is generally accepted as leading to the subjective impression of a doubling or halving of loudness. A 5 dB change is generally considered to be clearly discernible.

A-weighting

The bandwidth of the frequency response of the ear is usually taken to be from about 18 Hz to 18,000 Hz. The auditory system is not equally sensitive throughout this frequency range. This is taken into account when making acoustic measurements by the use of A-weighting, a filter circuit which has a frequency response similar to the human auditory system.

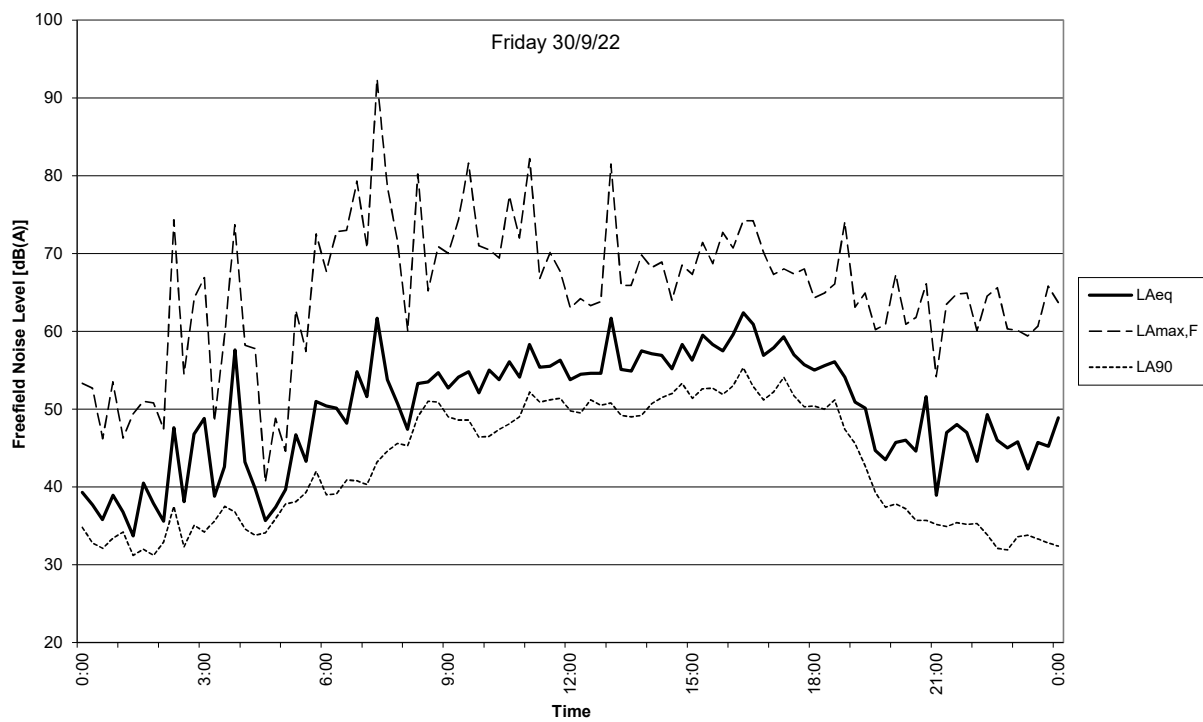
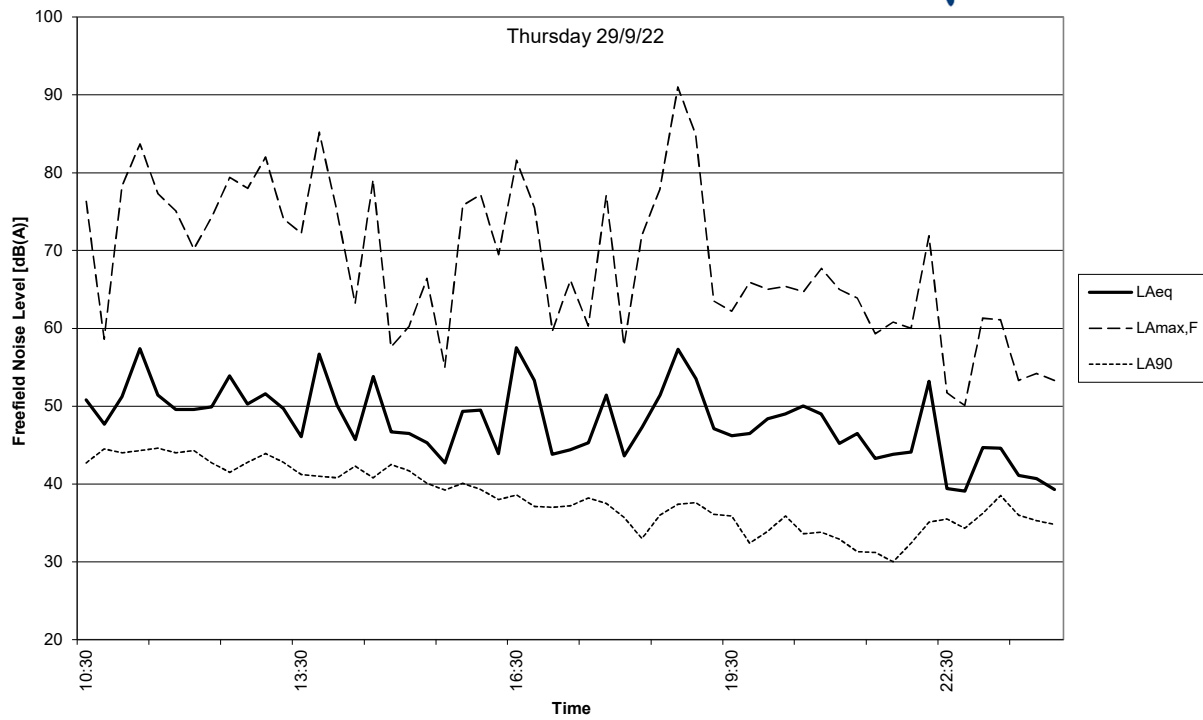
Units Used to Describe Noises Which Change Their Level with Time

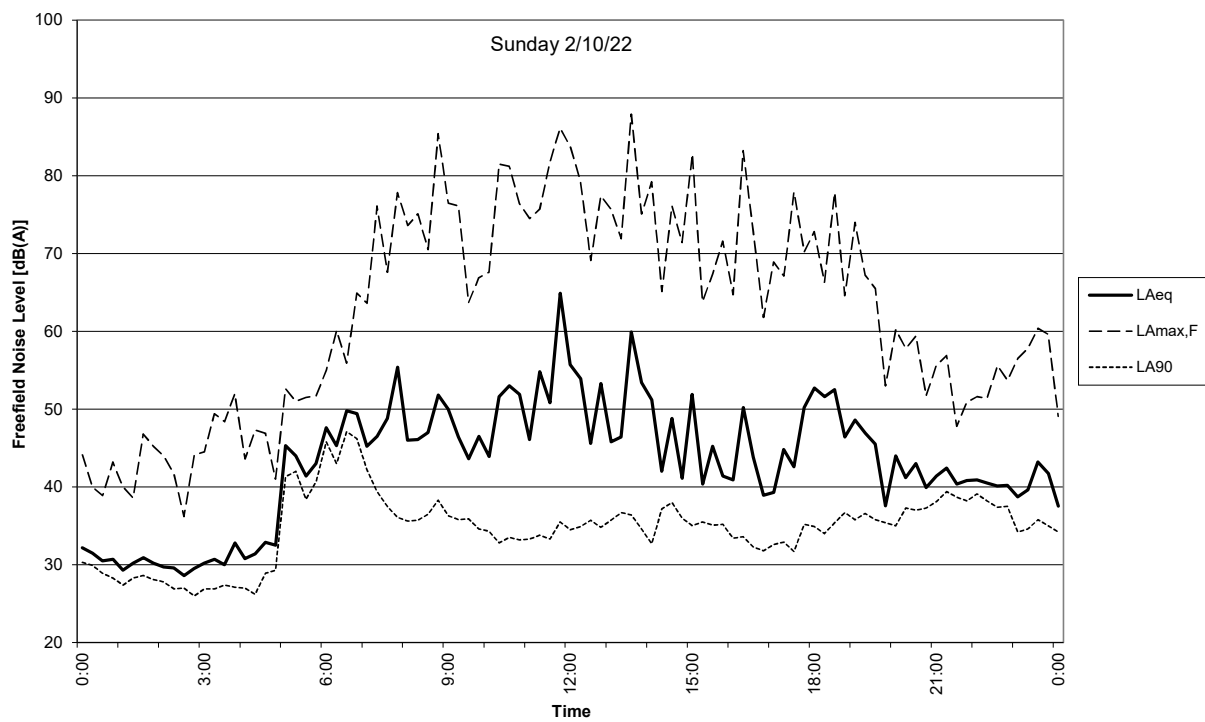
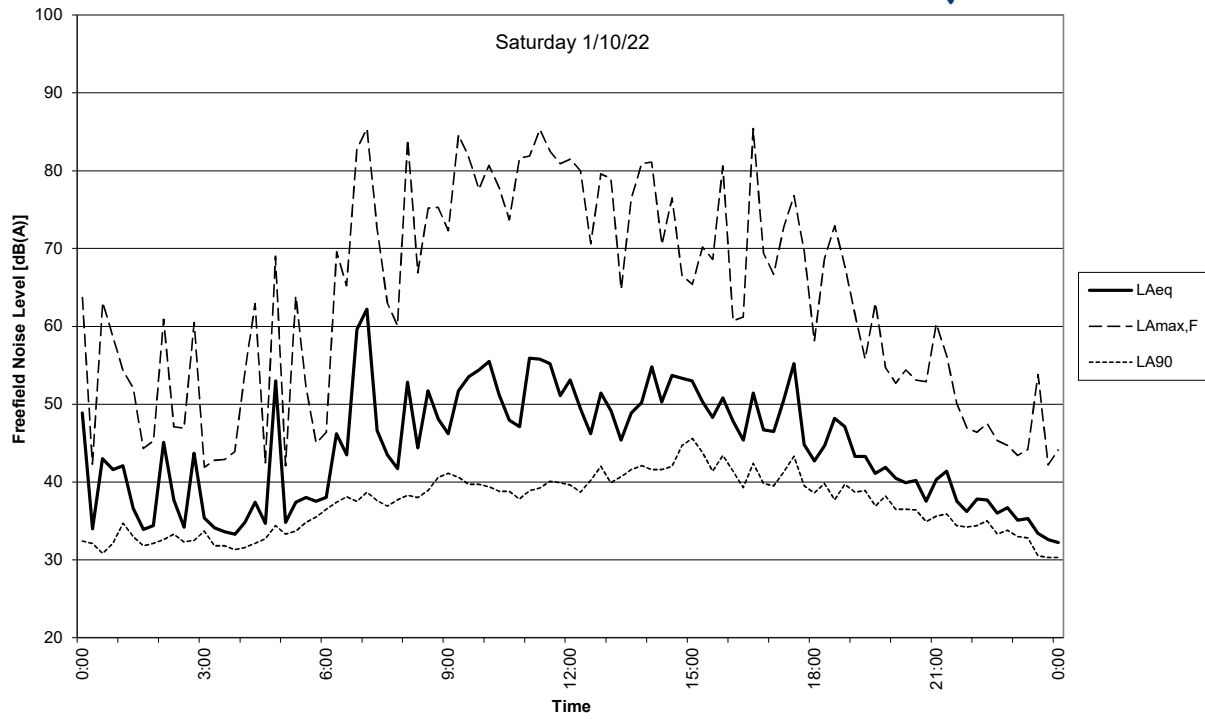
The Equivalent Continuous A-Weighted Sound Pressure Level ($L_{Aeq,T}$) is the principal measurement index for environmental noise. The $L_{Aeq,T}$ is defined as the A-weighted sound pressure level of the steady sound which contains the same acoustic energy as the noise being assessed over a specific time period, T.

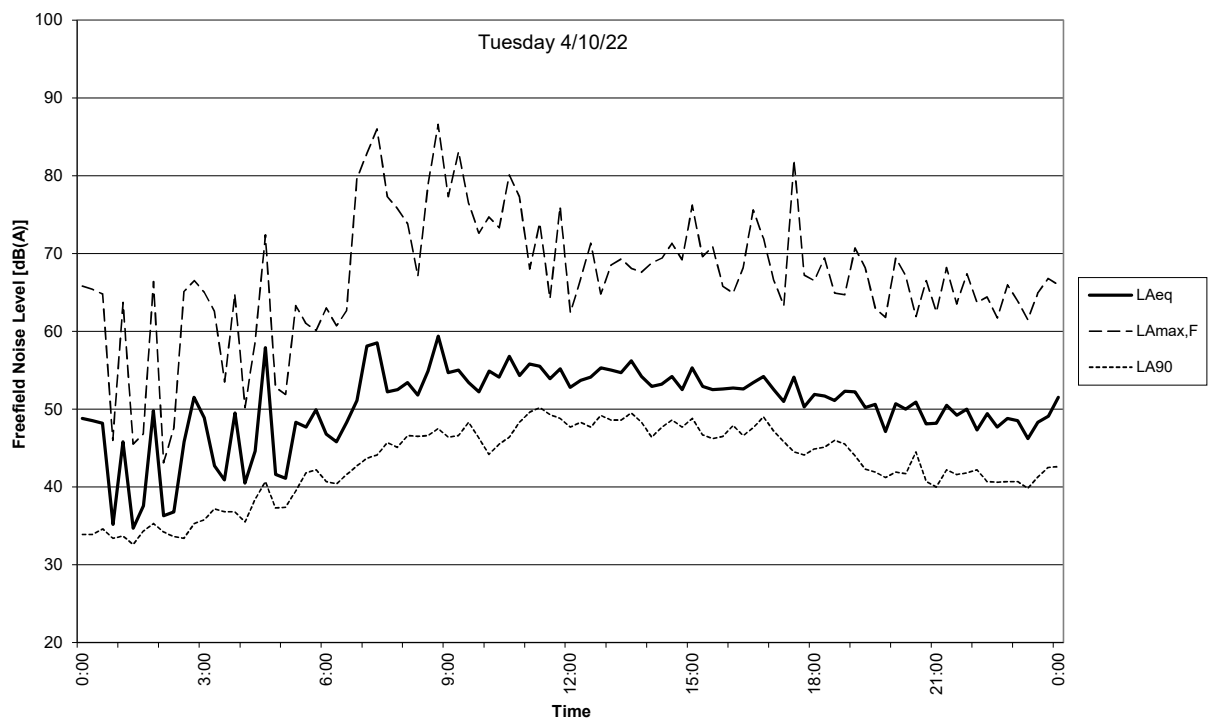
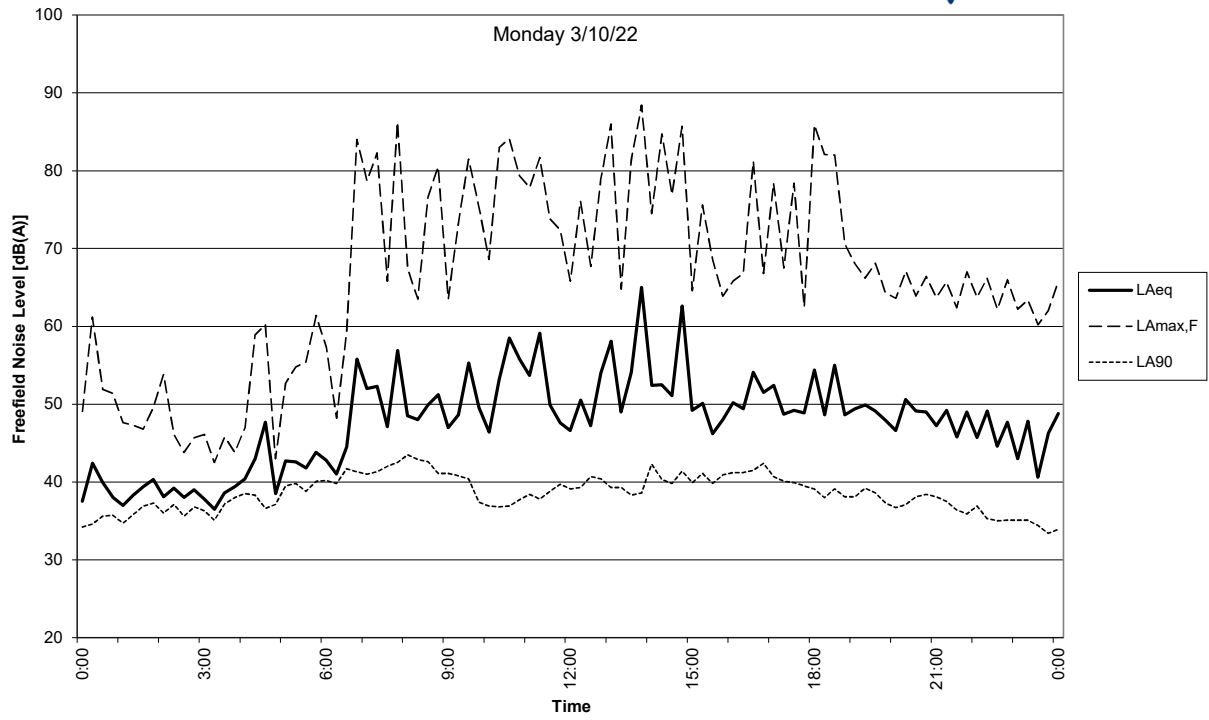
The L_{A90} is the noise level exceeded for 90% of the measurement period. It is generally used to quantify the background noise level, the underlying level of noise which is present even during the quieter parts of the measurement period.

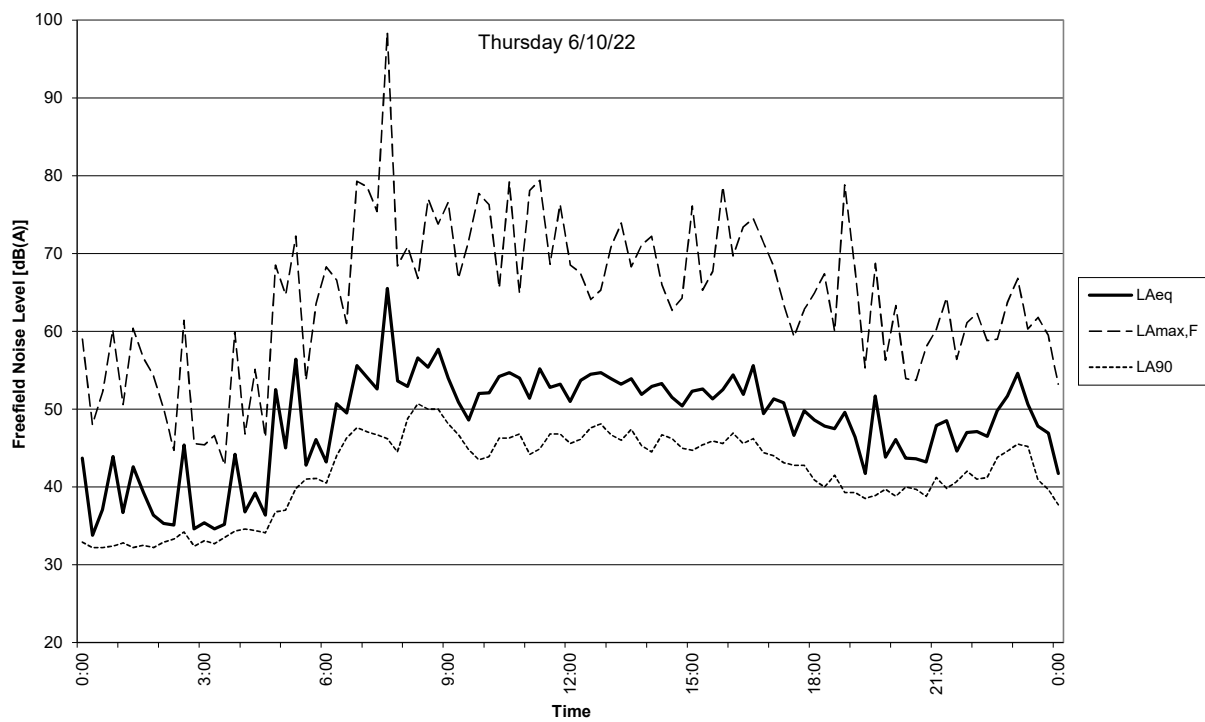
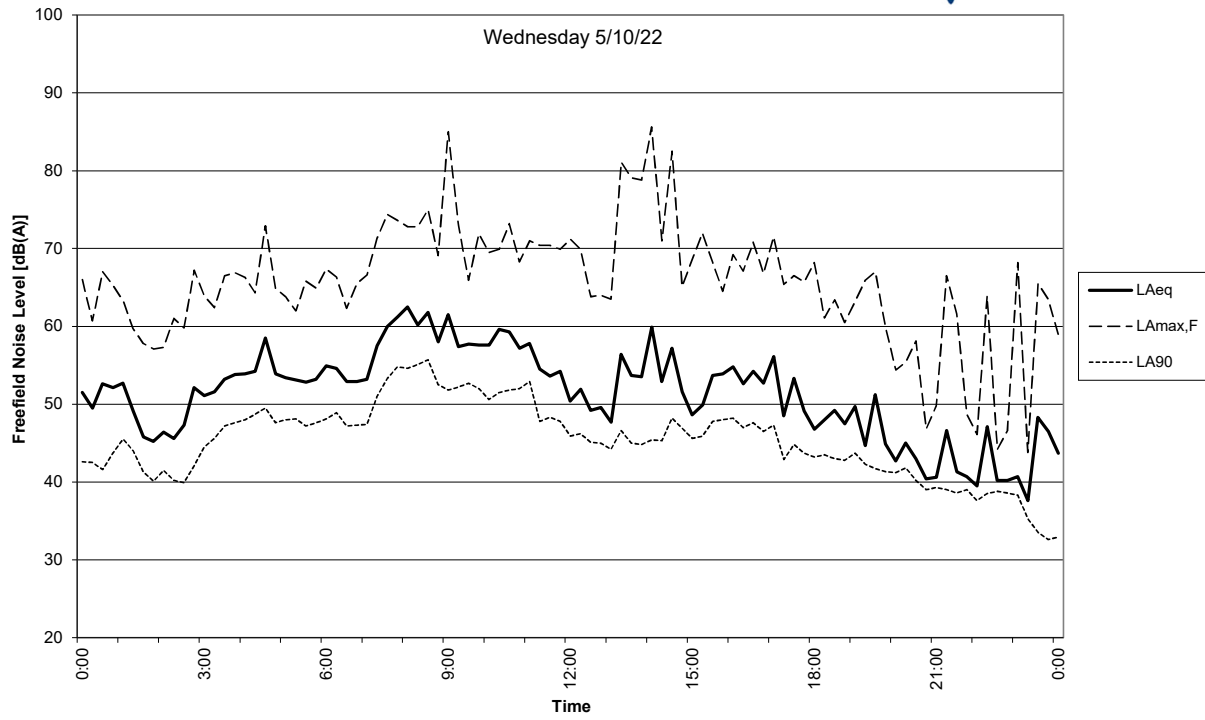
The L_{Amax} is the single maximum value that the A-weighted sound pressure level reaches during a measurement period. $L_{Amax F}$, or Fast, is averaged over 0.125 of a second and $L_{Amax S}$, or Slow, is averaged over 1 second. The measured L_{Amax} noise levels in this assessment are Fast.

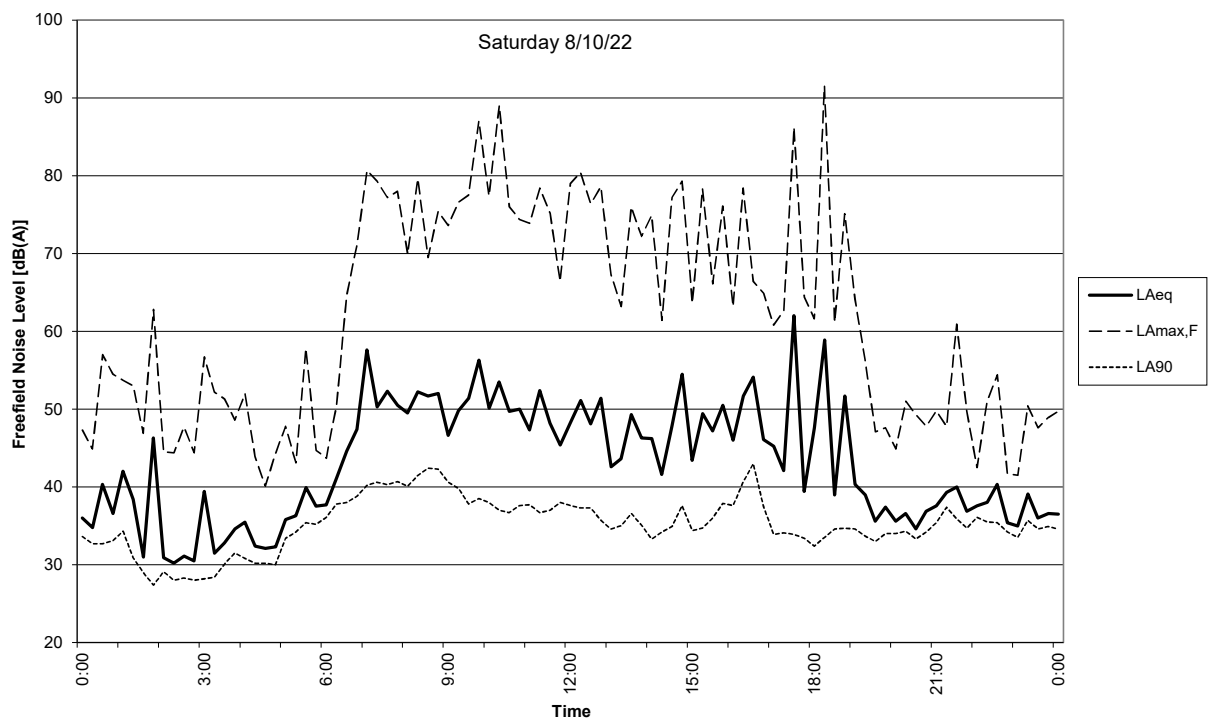
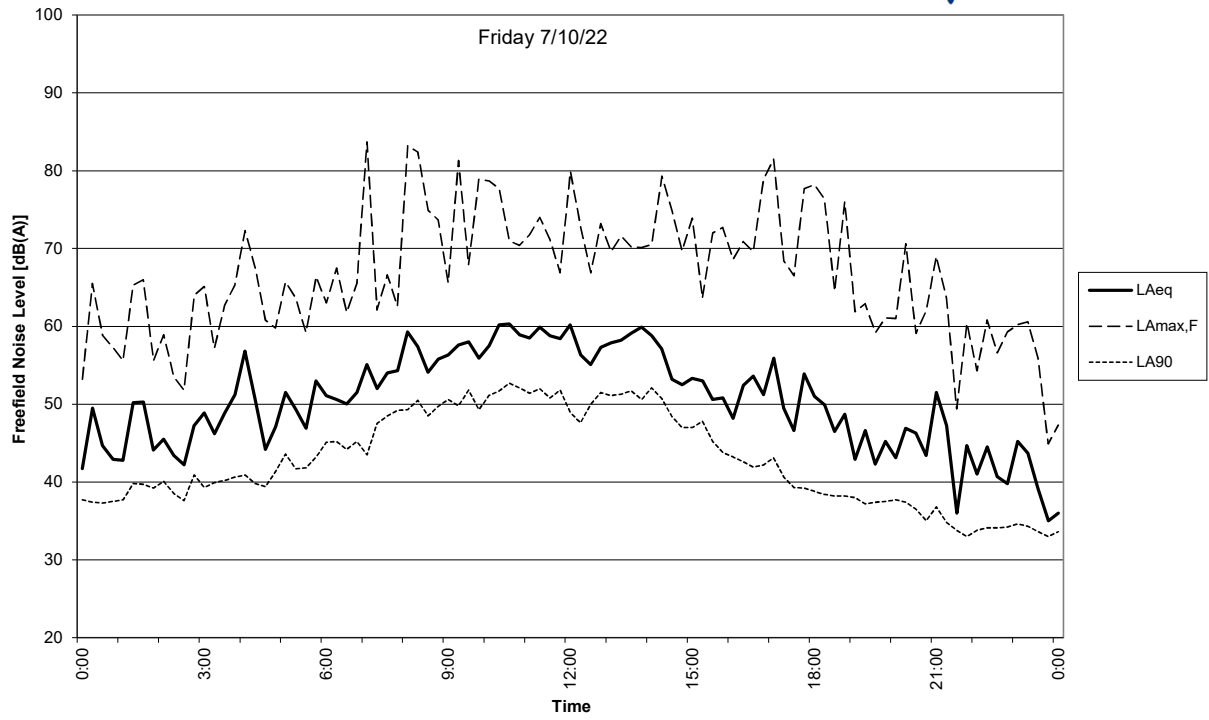
Appendix B
Results and Analysis of Noise Monitoring
at Position U1 – St Mary’s Church

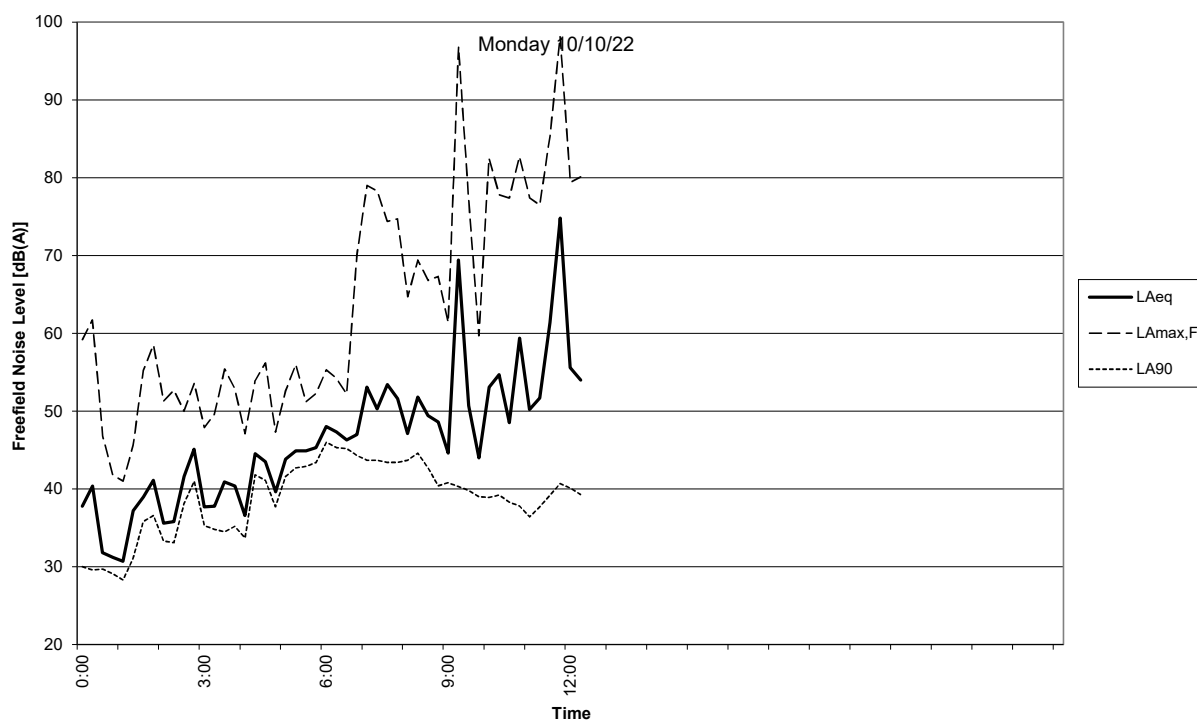
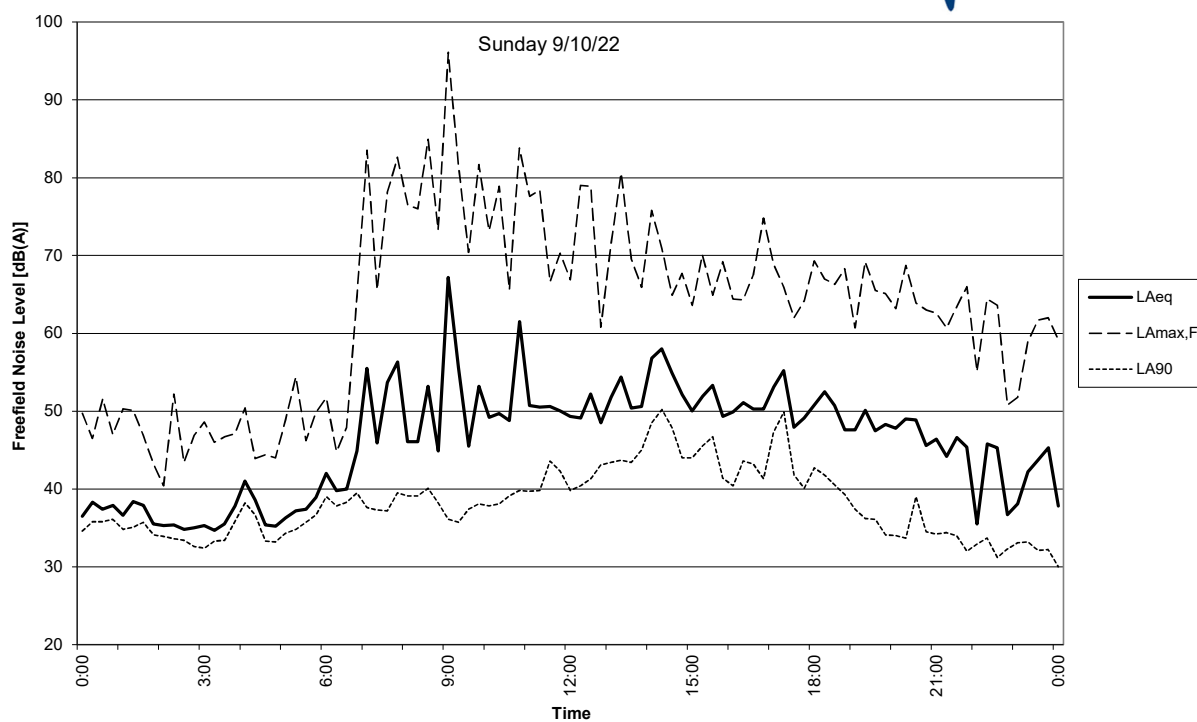


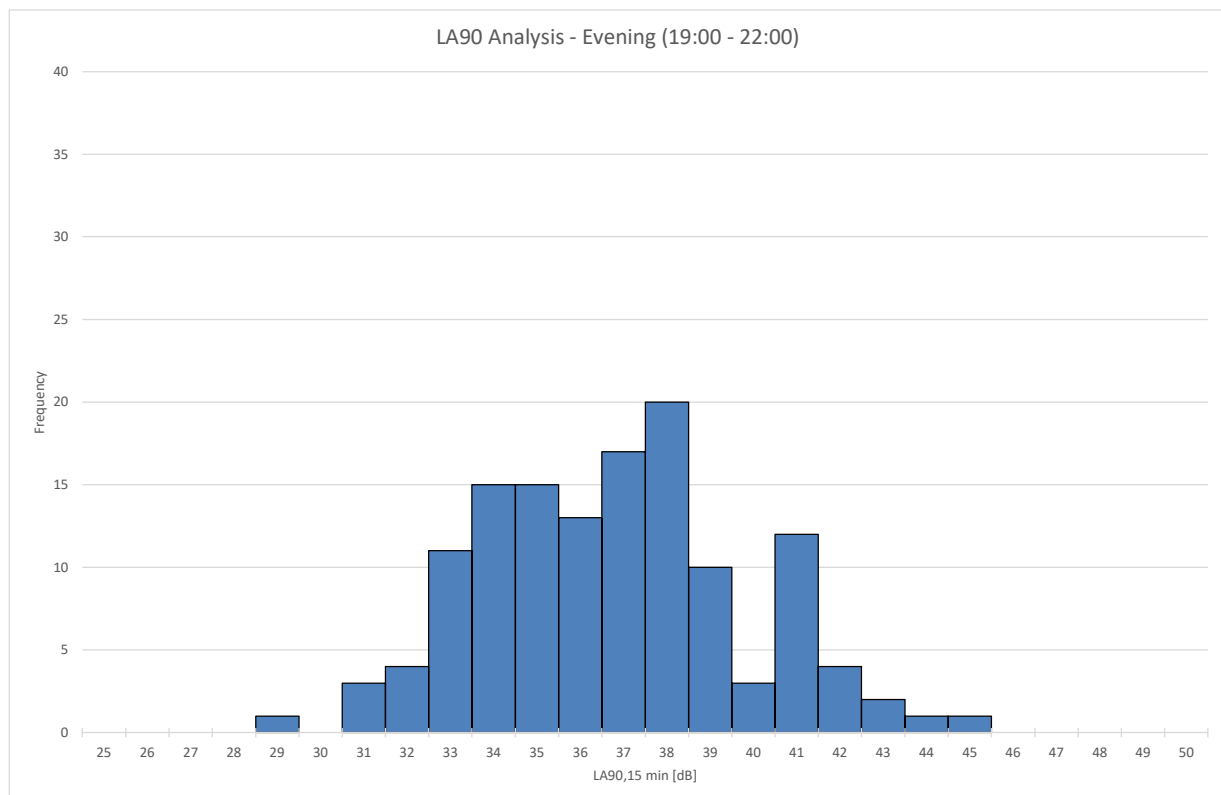
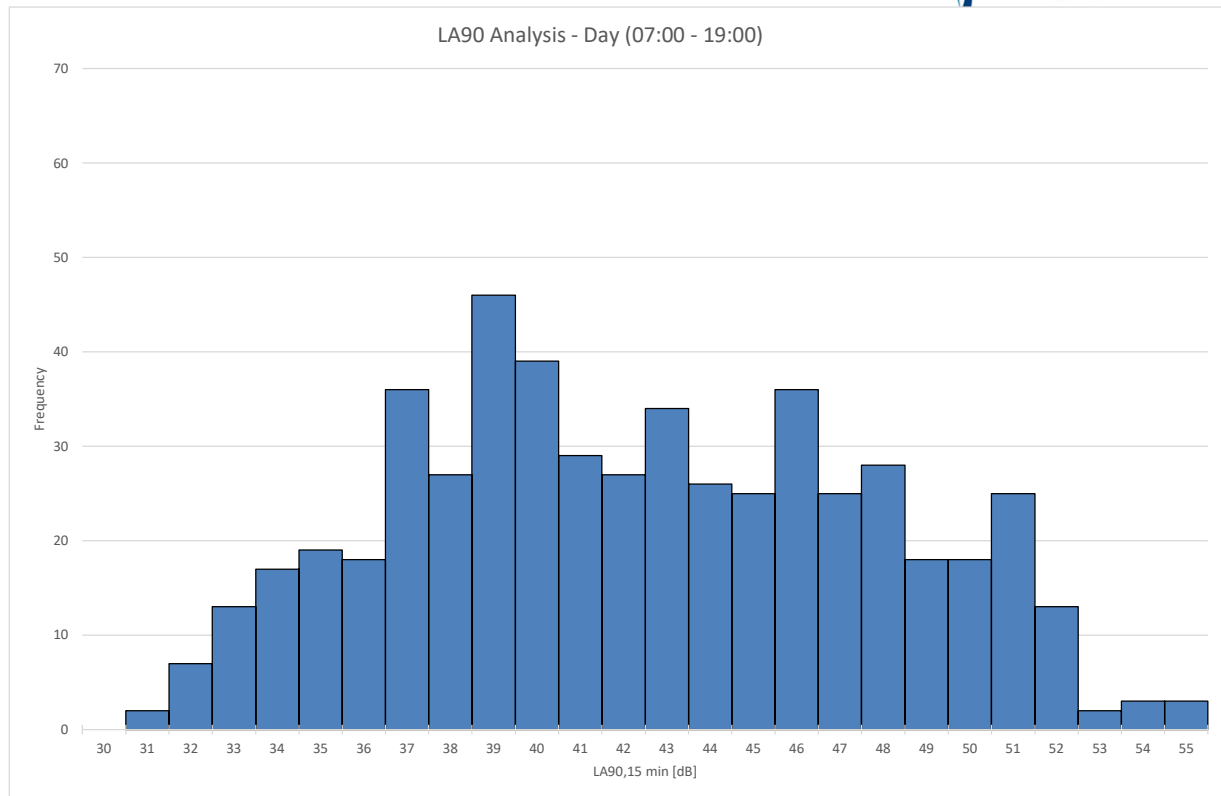


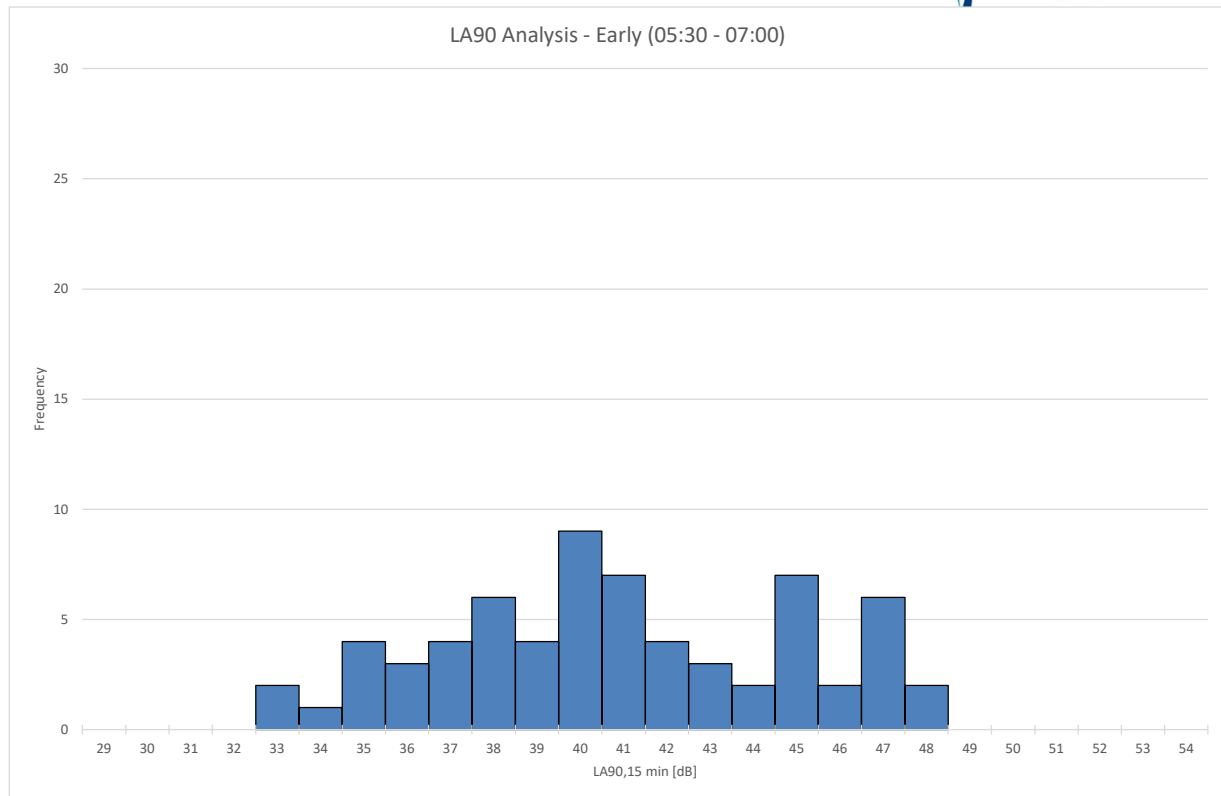




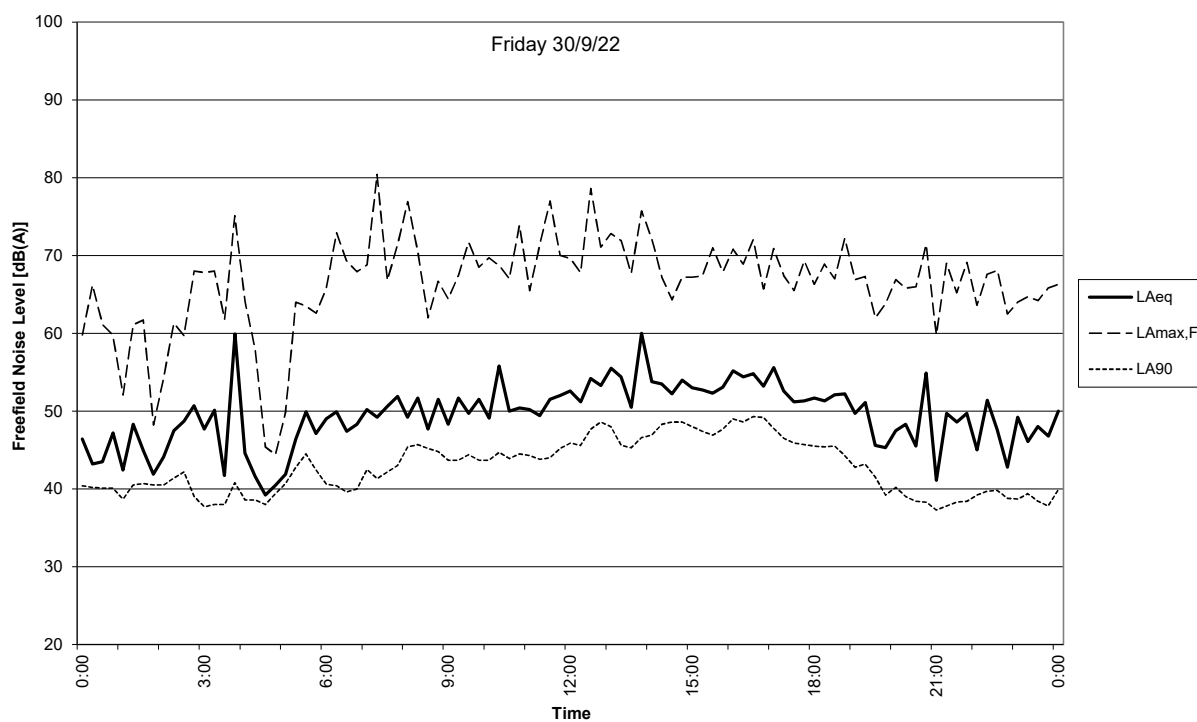
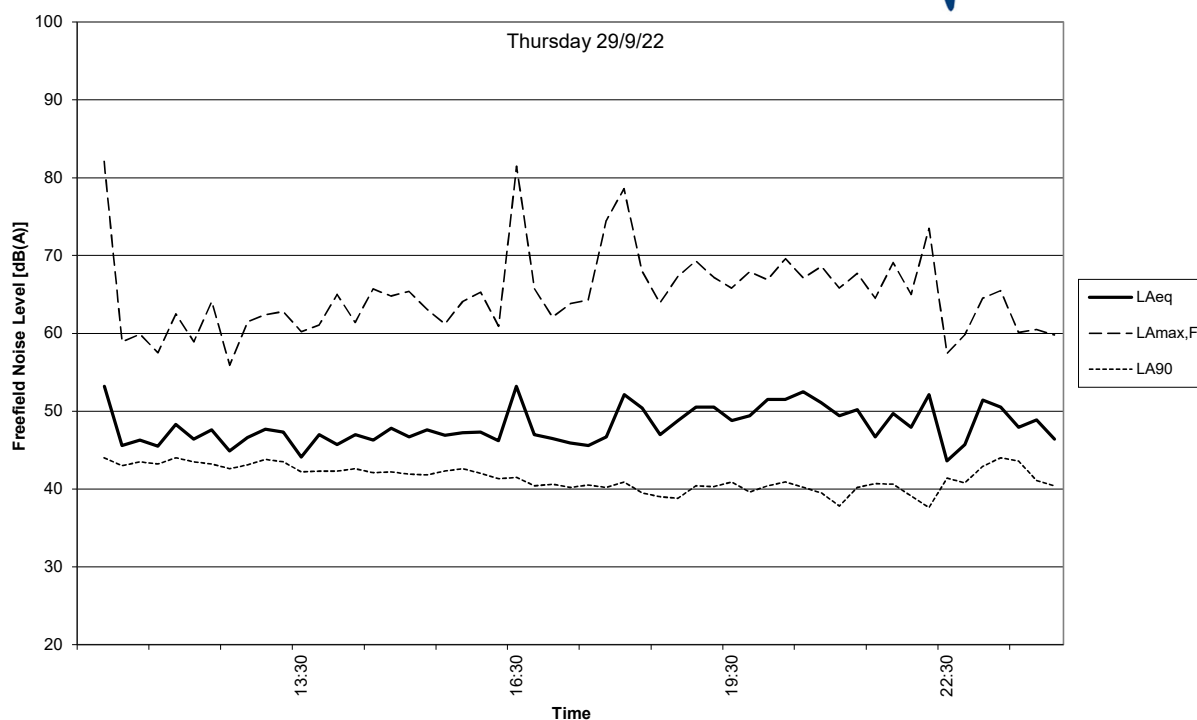


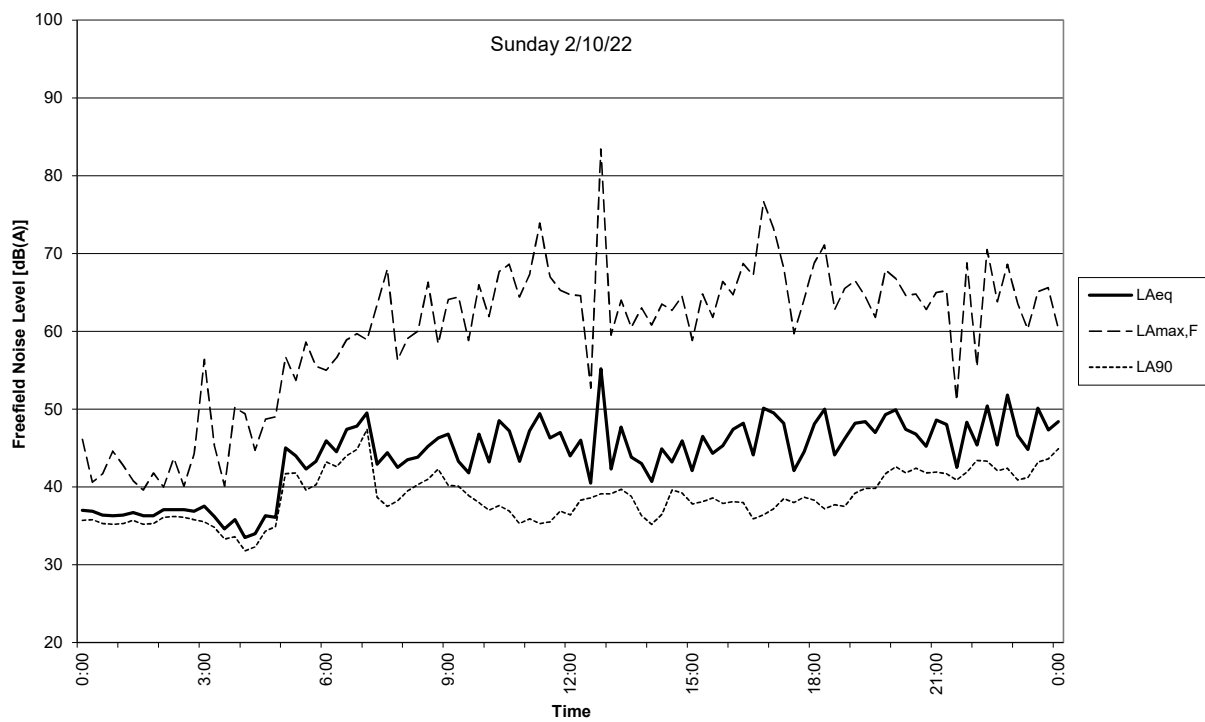
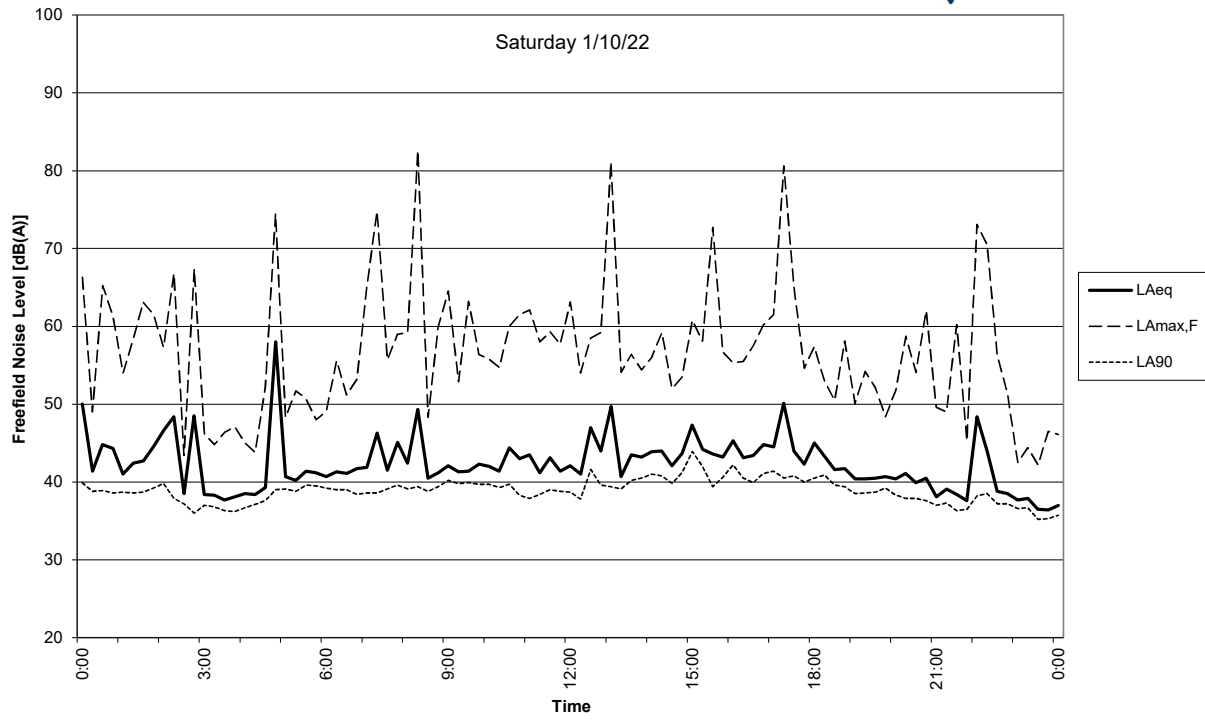


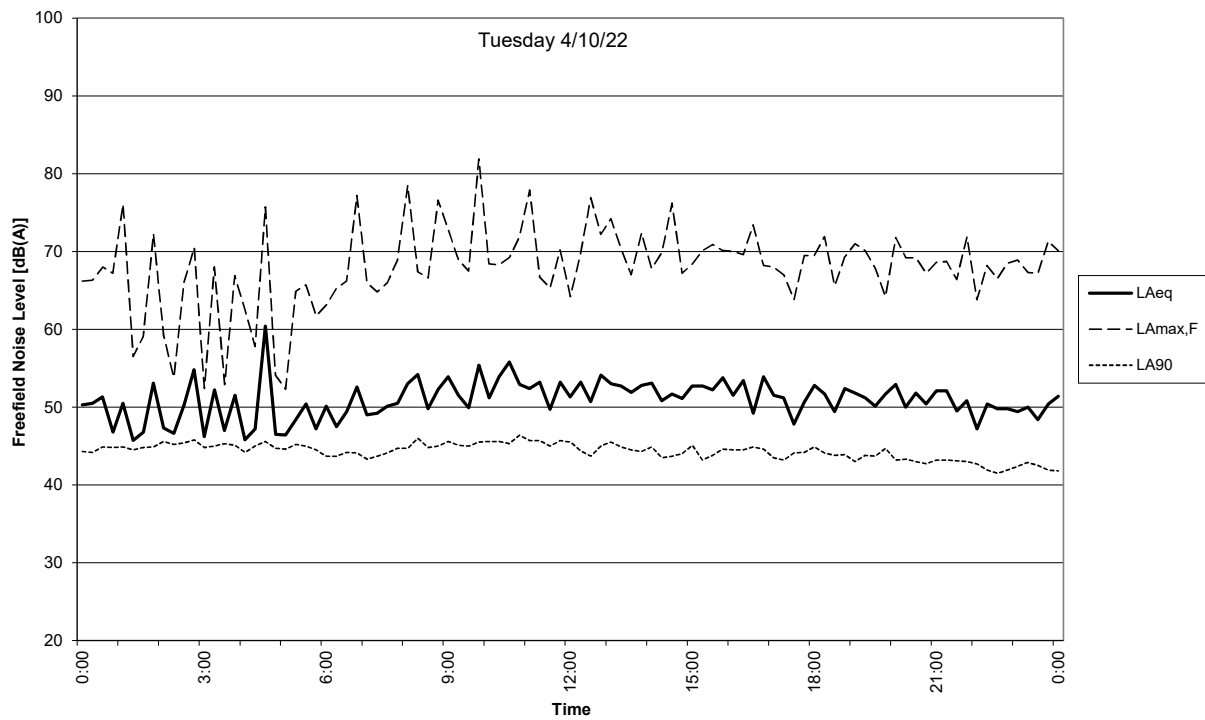
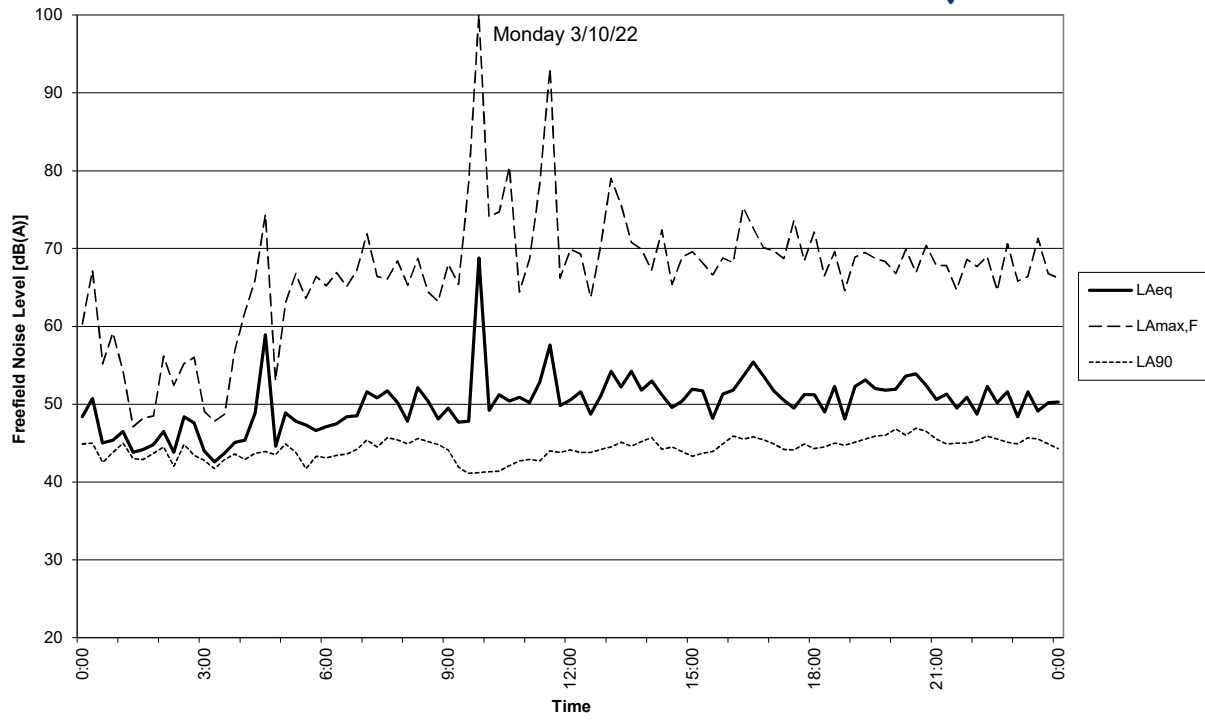


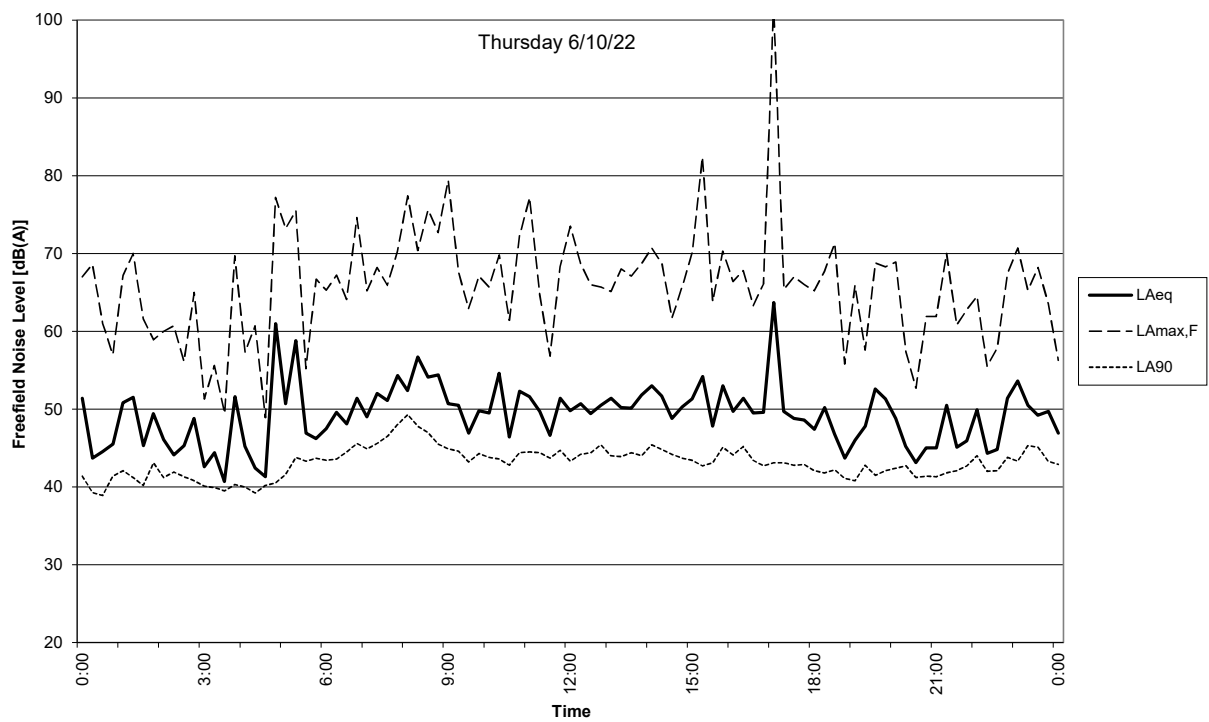
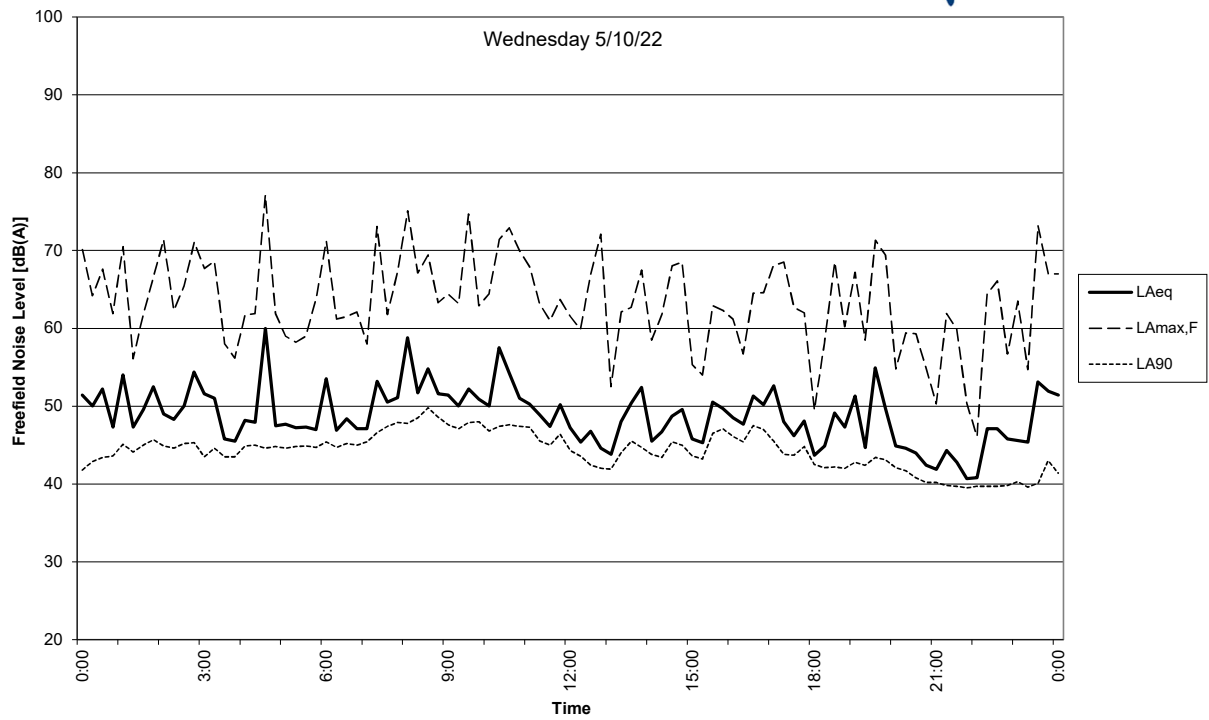


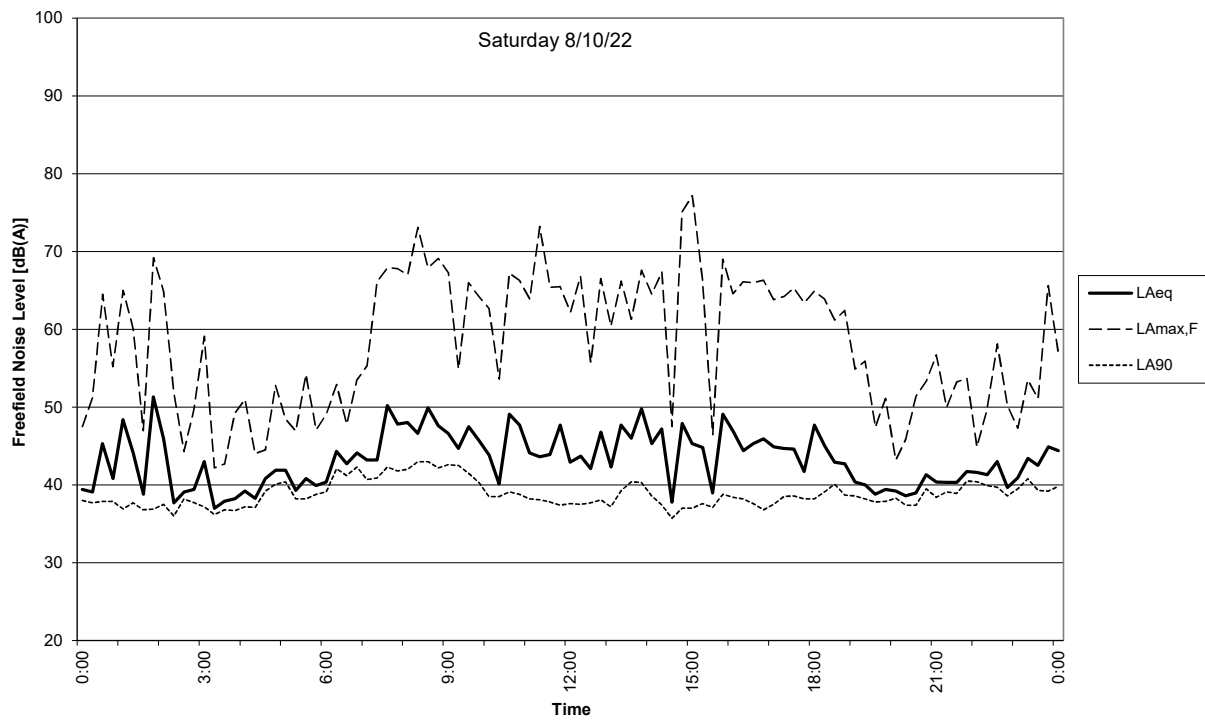
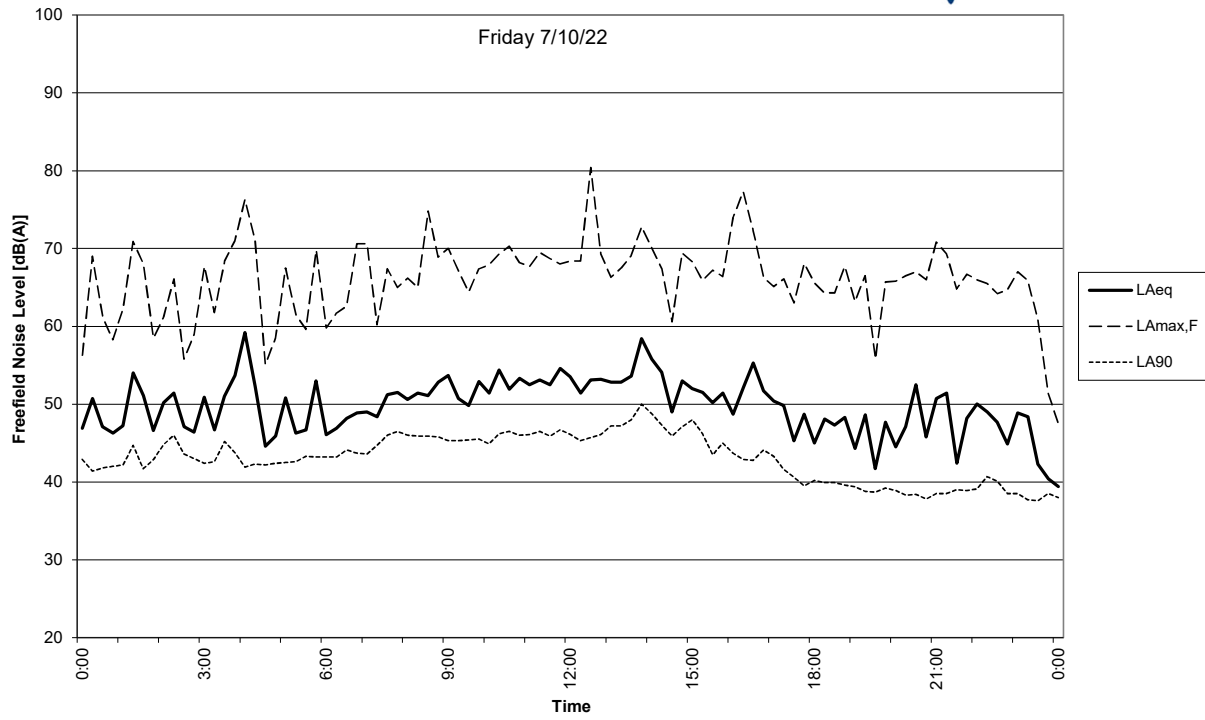
Appendix C
Results and Analysis of Noise Monitoring
at Position U2 – Bishton Village Hall

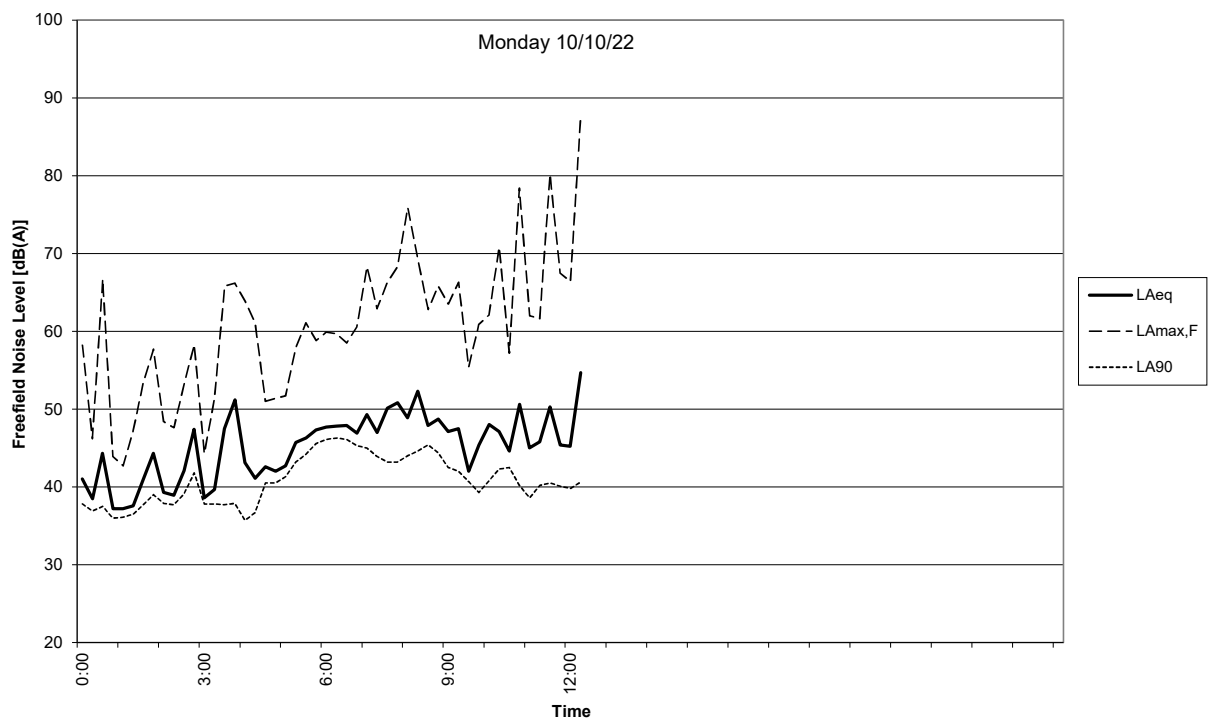
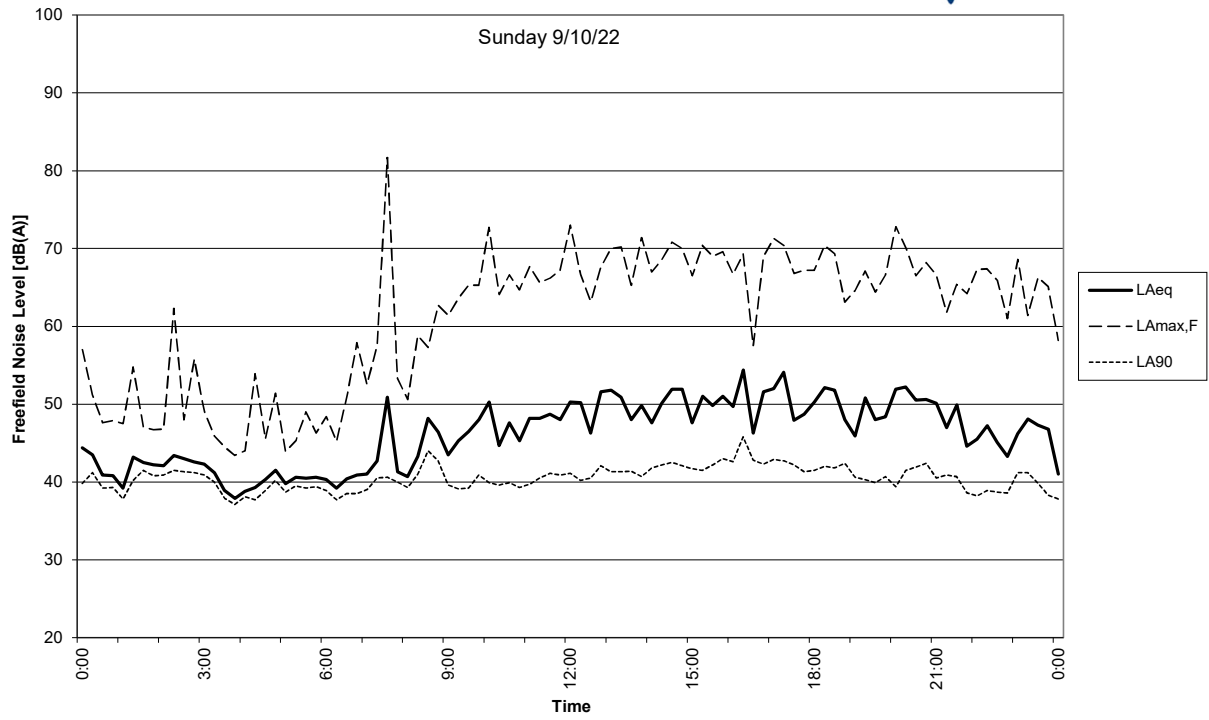


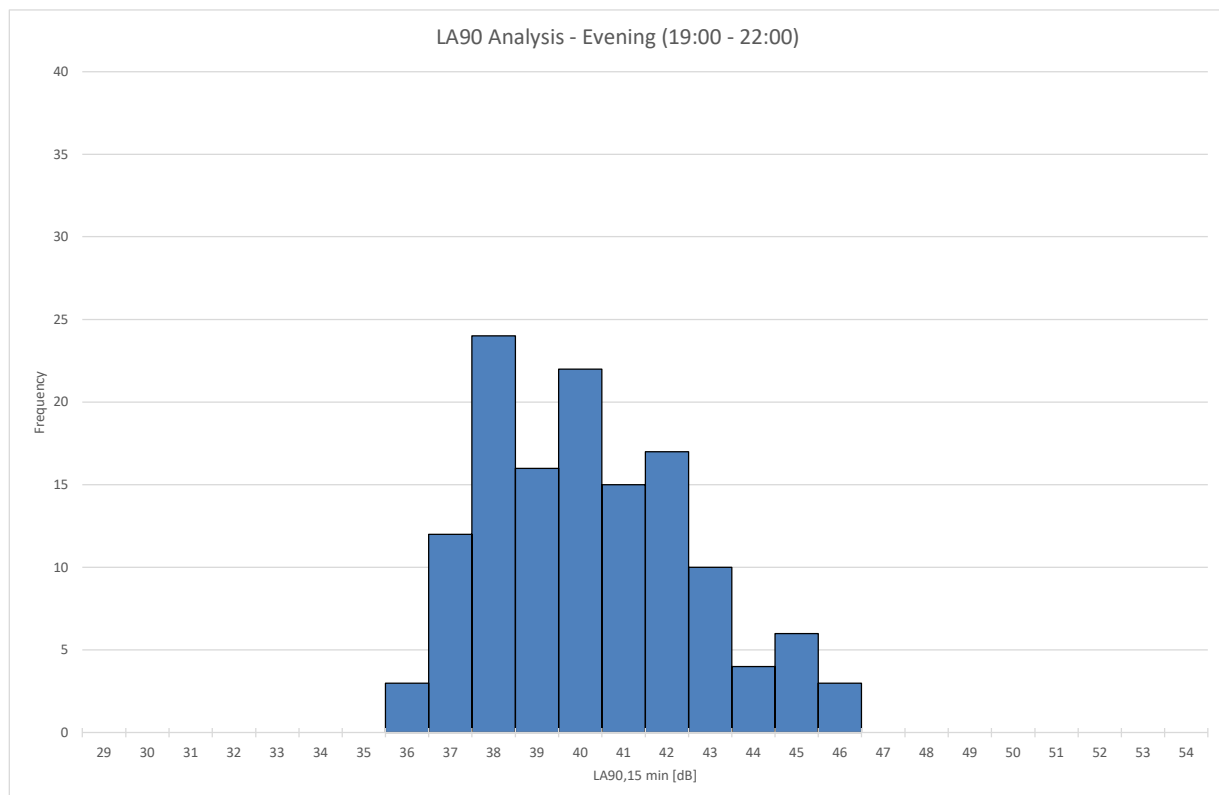
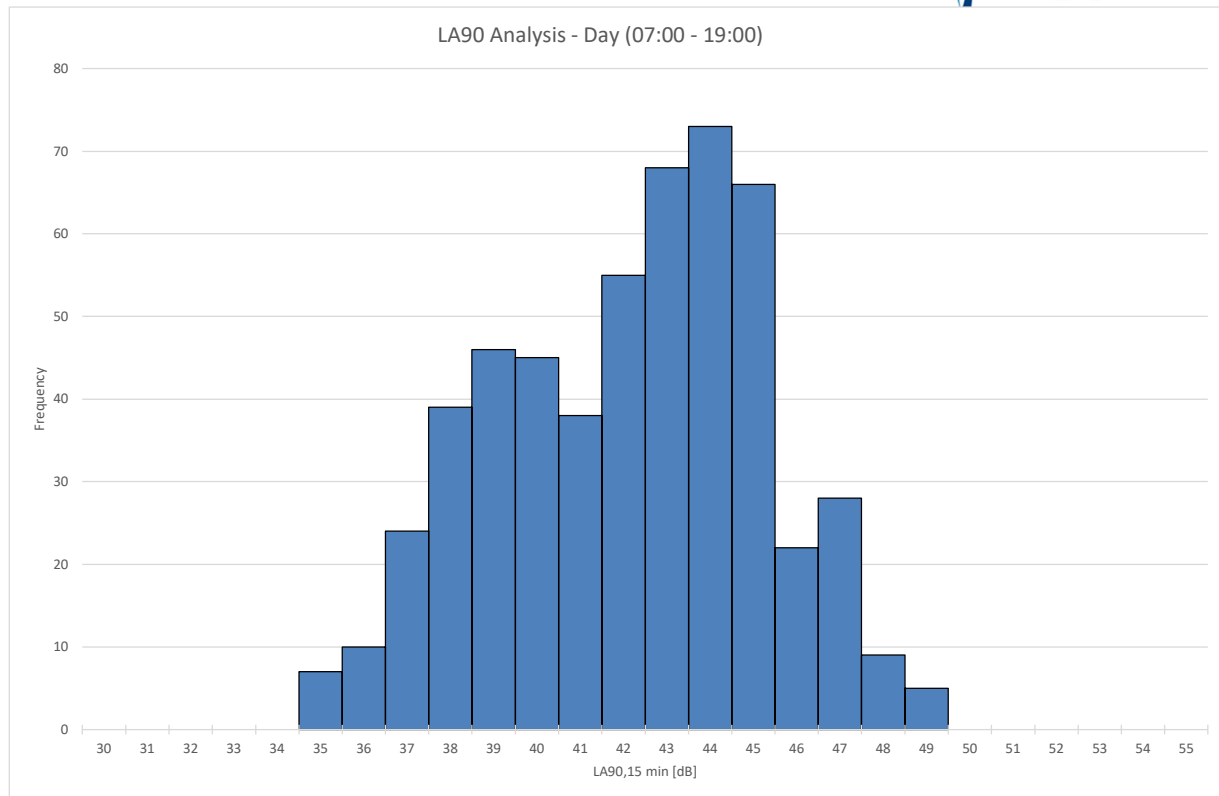


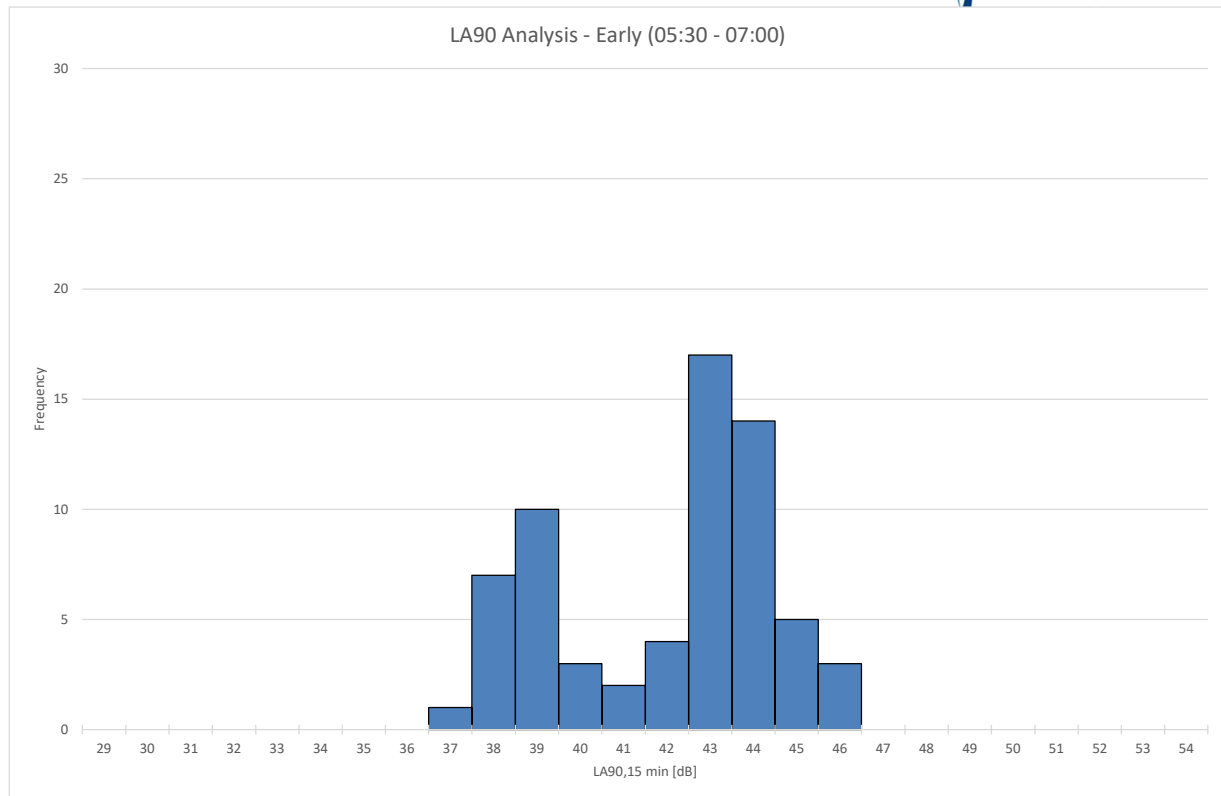




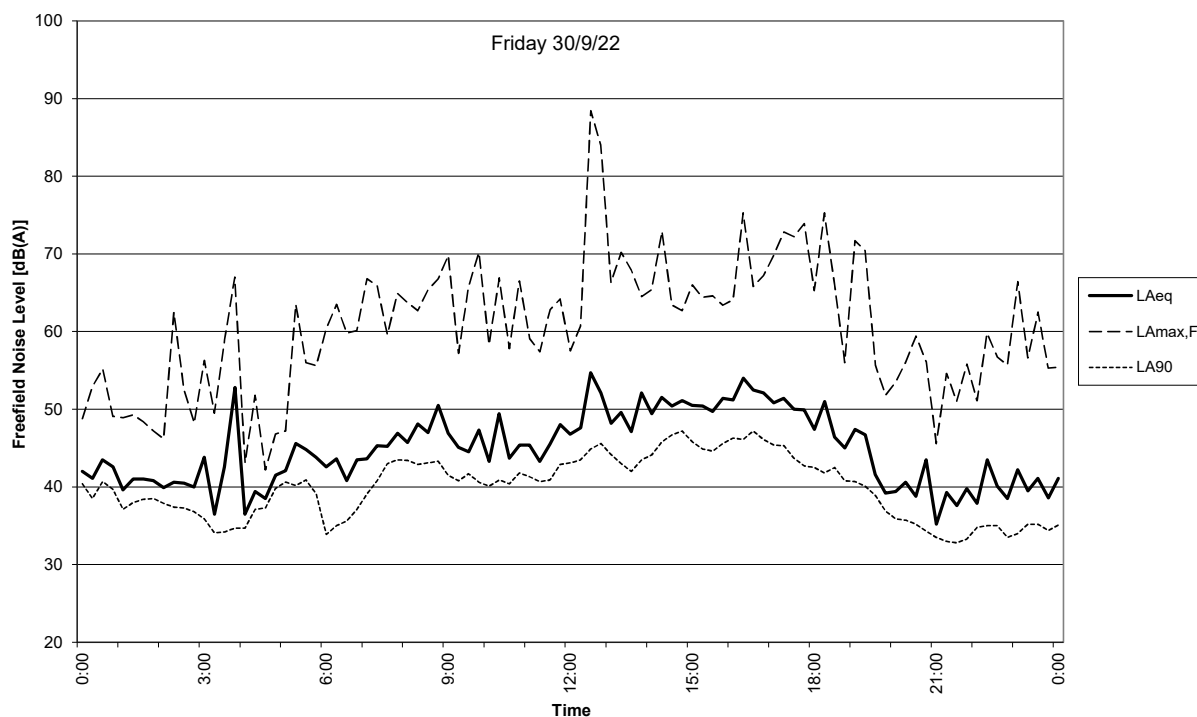
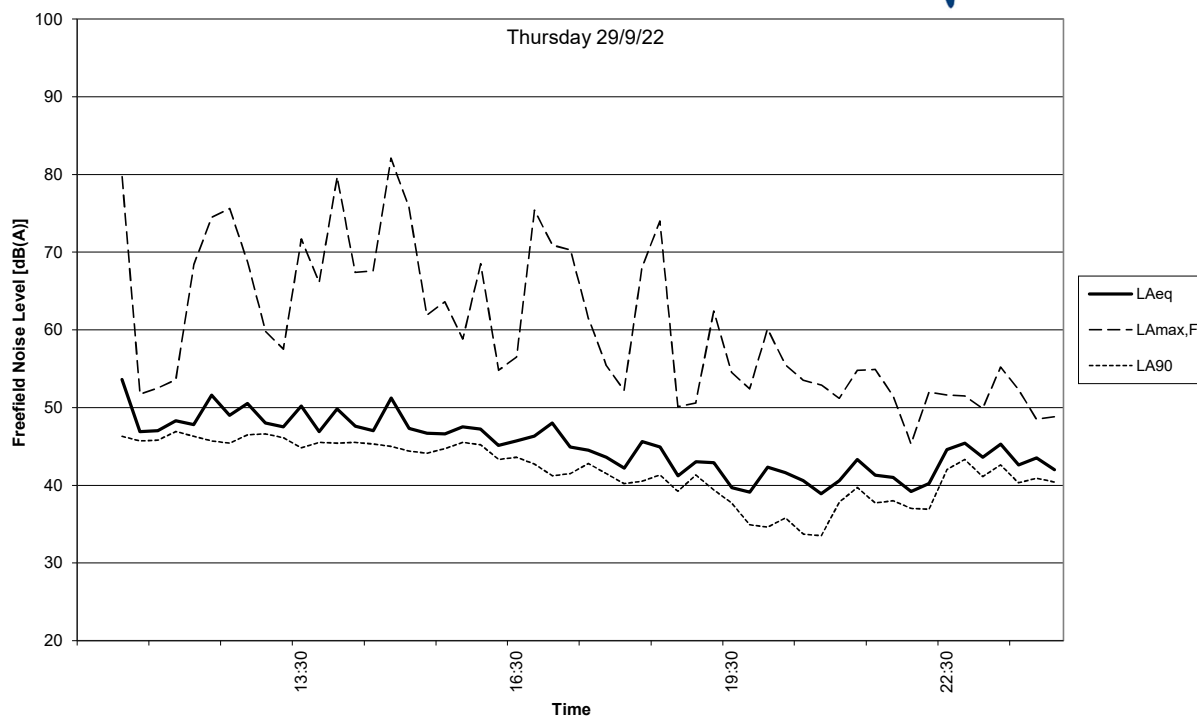


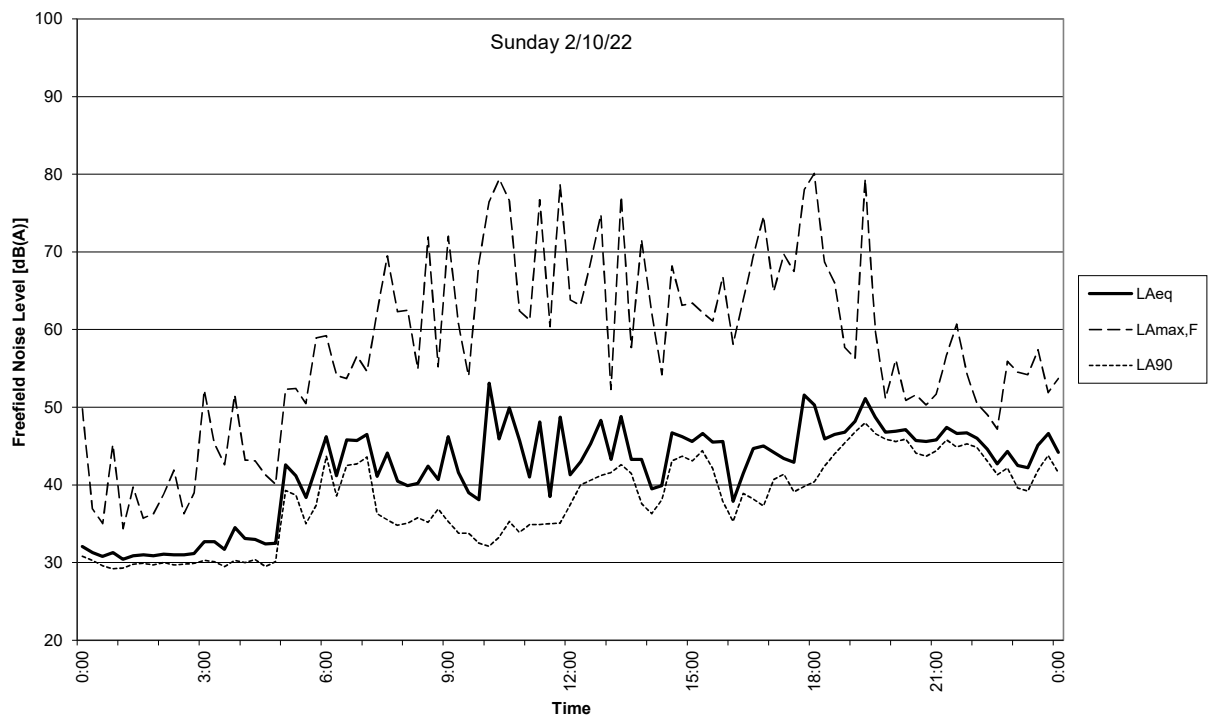
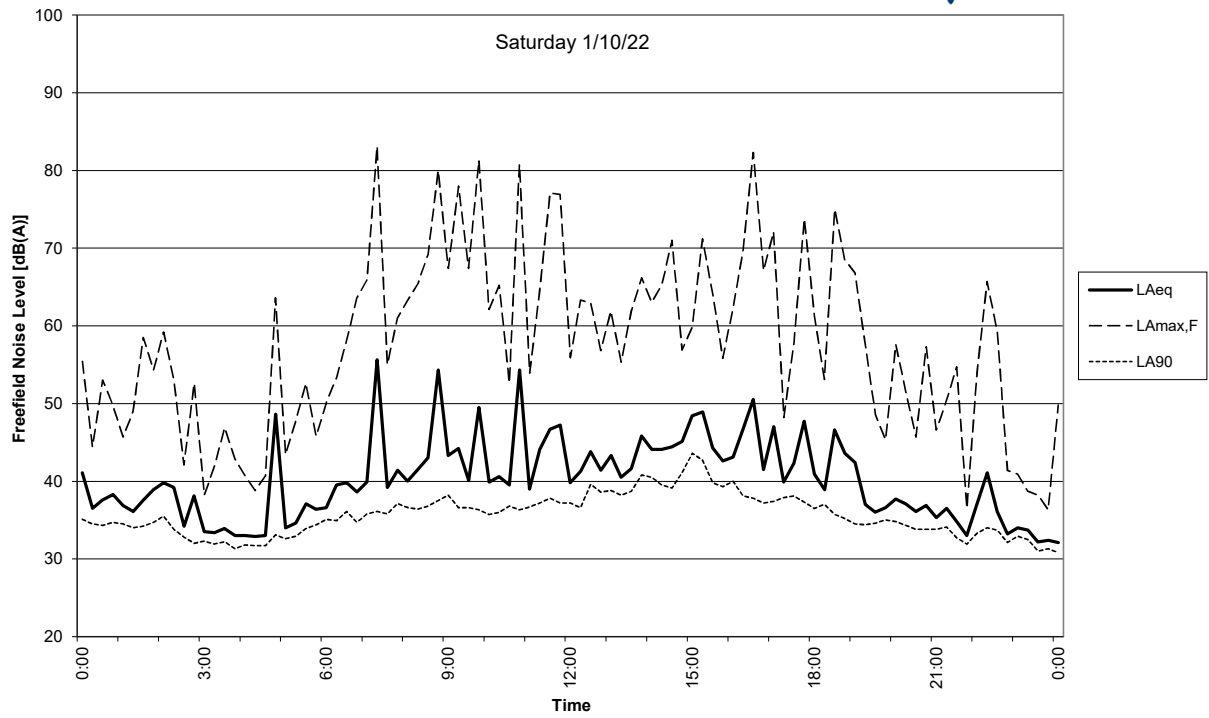


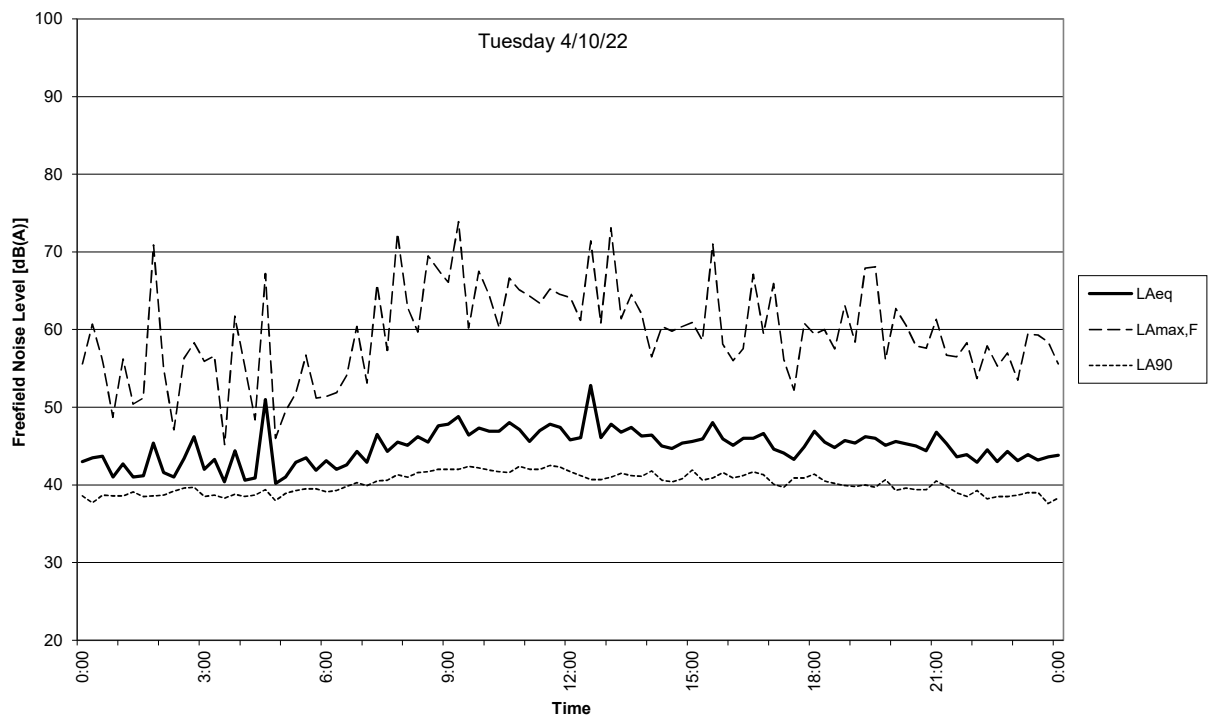
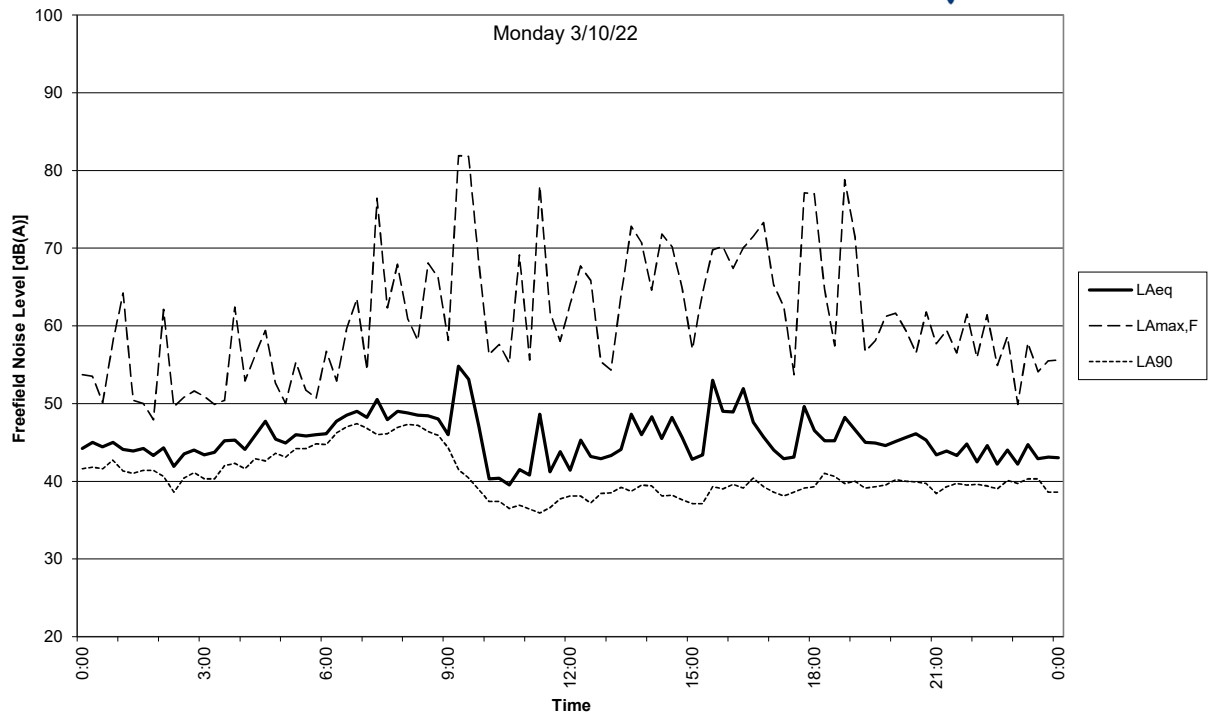


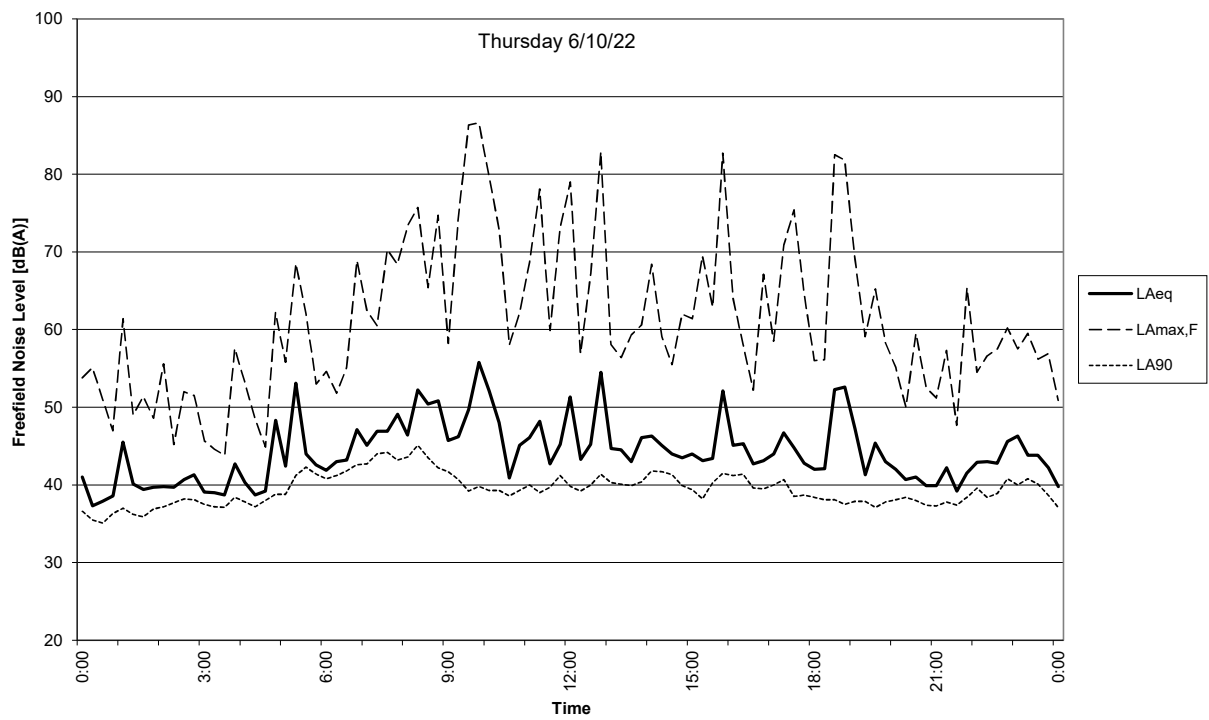
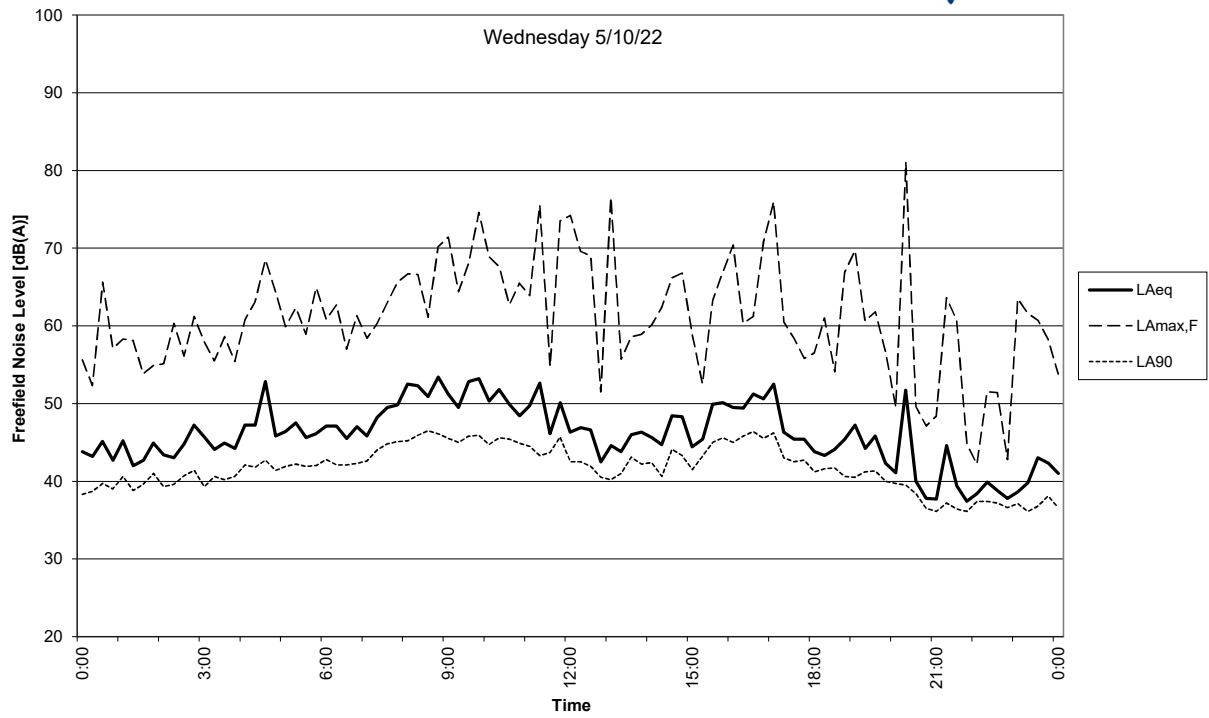


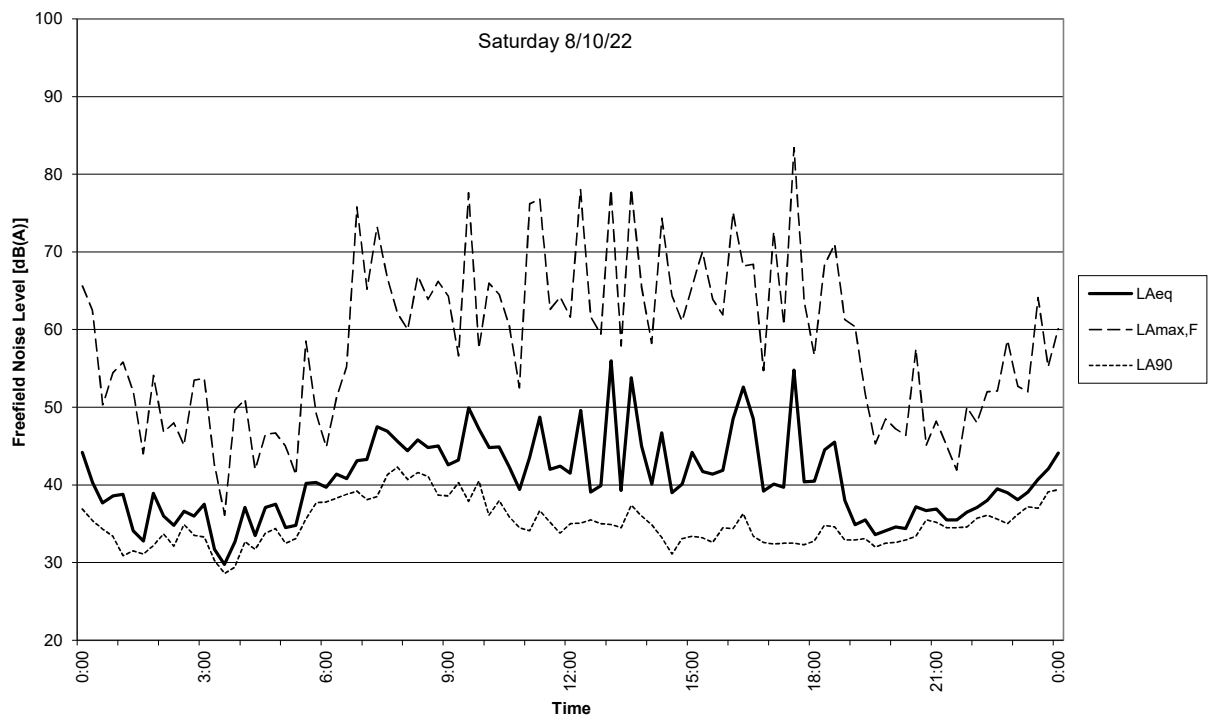
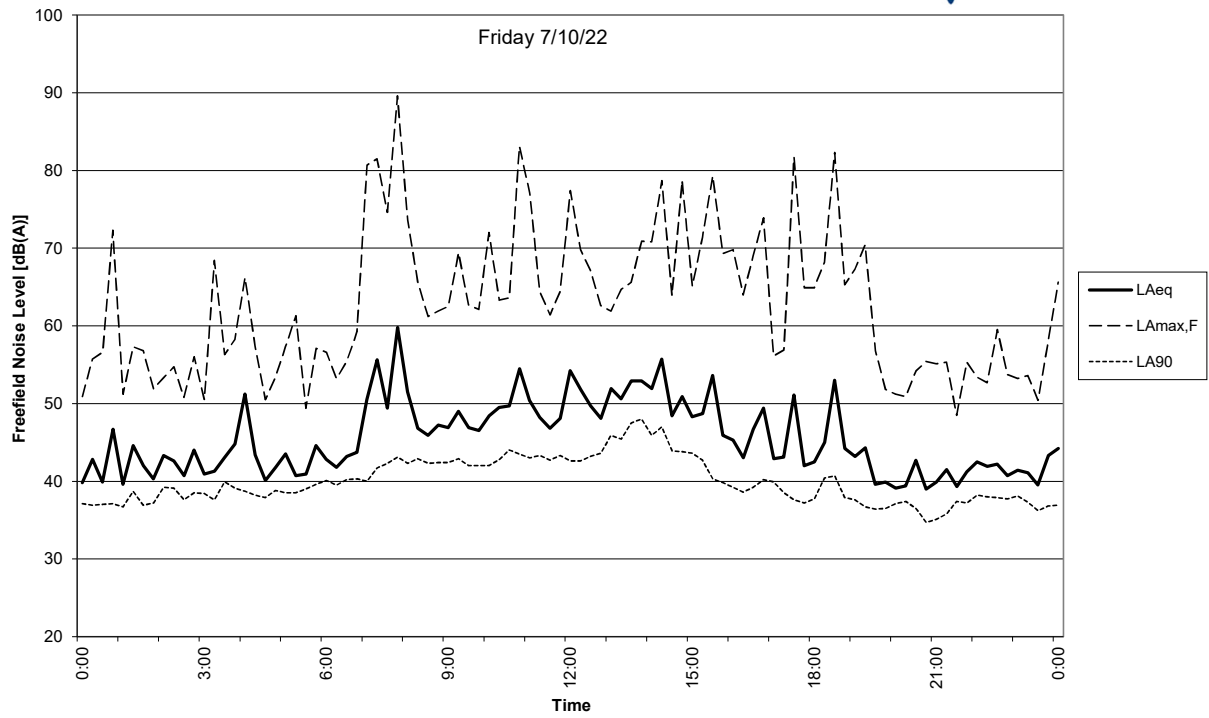
Appendix D
Results and Analysis of Noise Monitoring
at Position U3 – Castle Farm

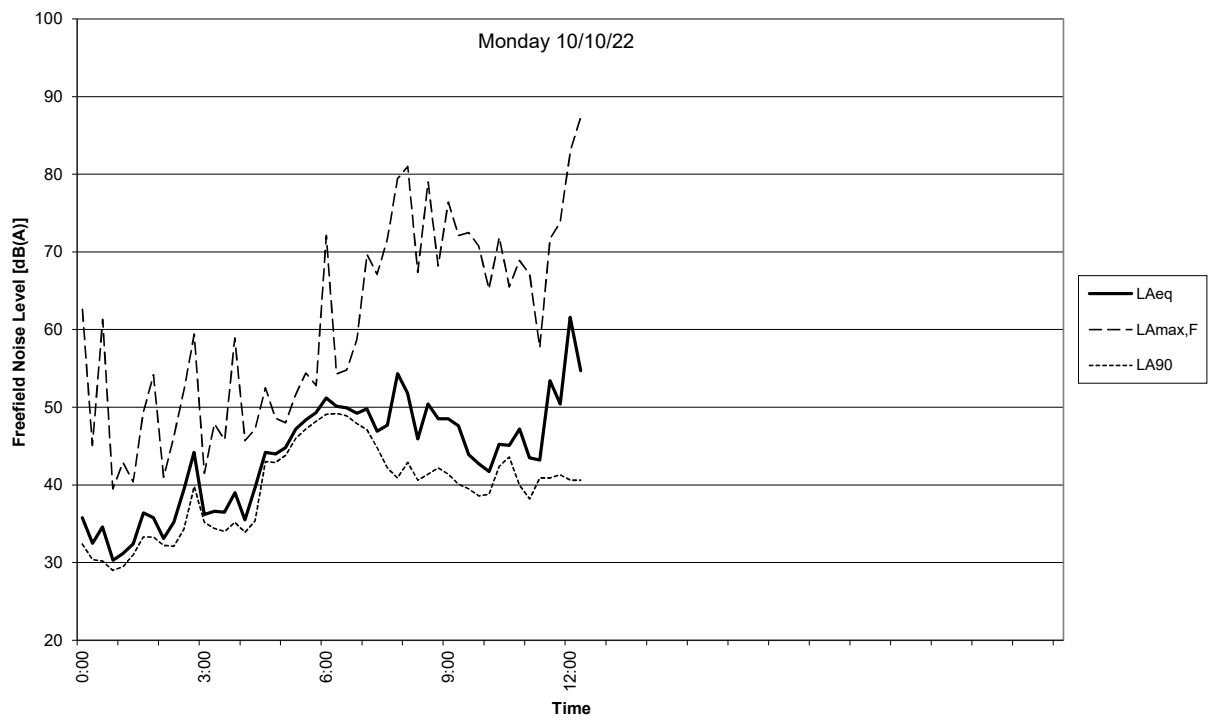
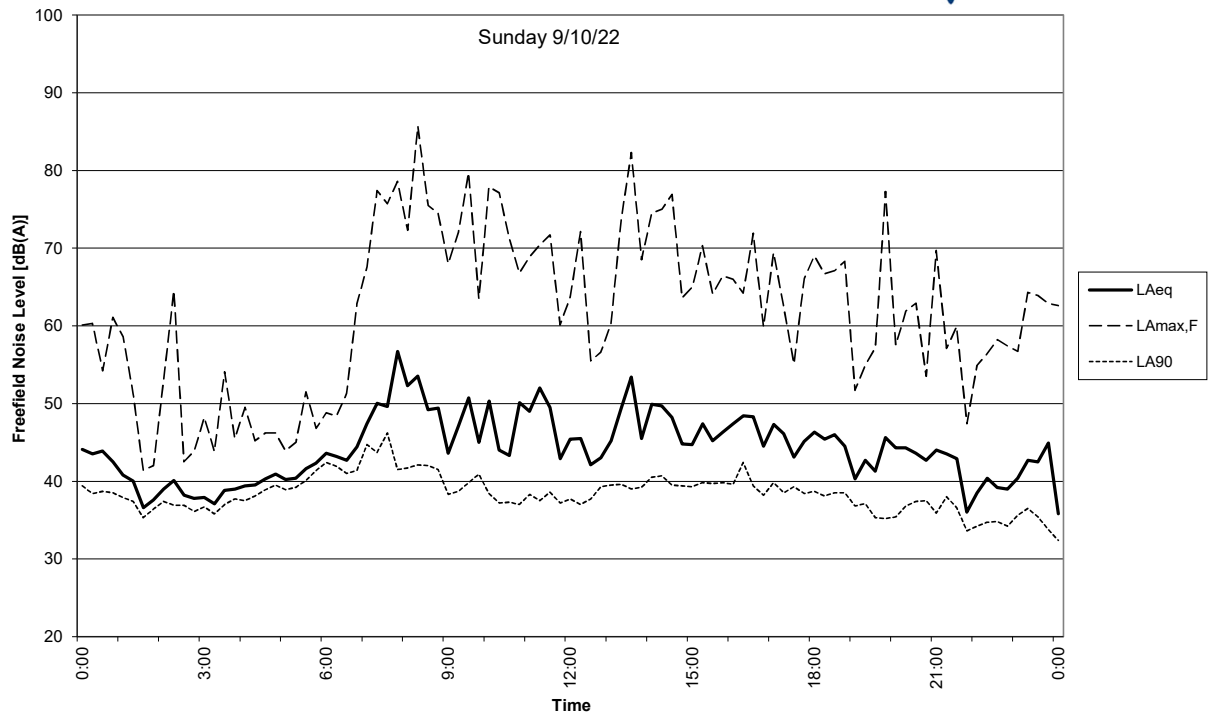


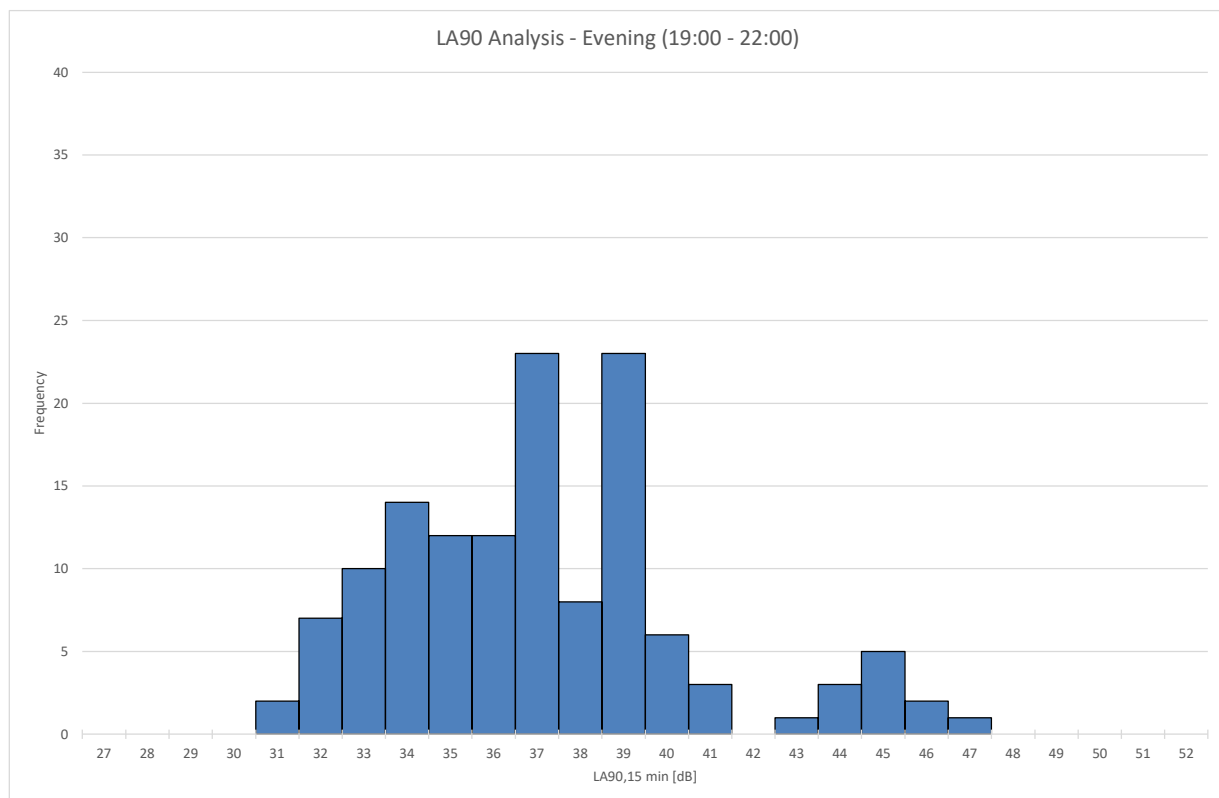
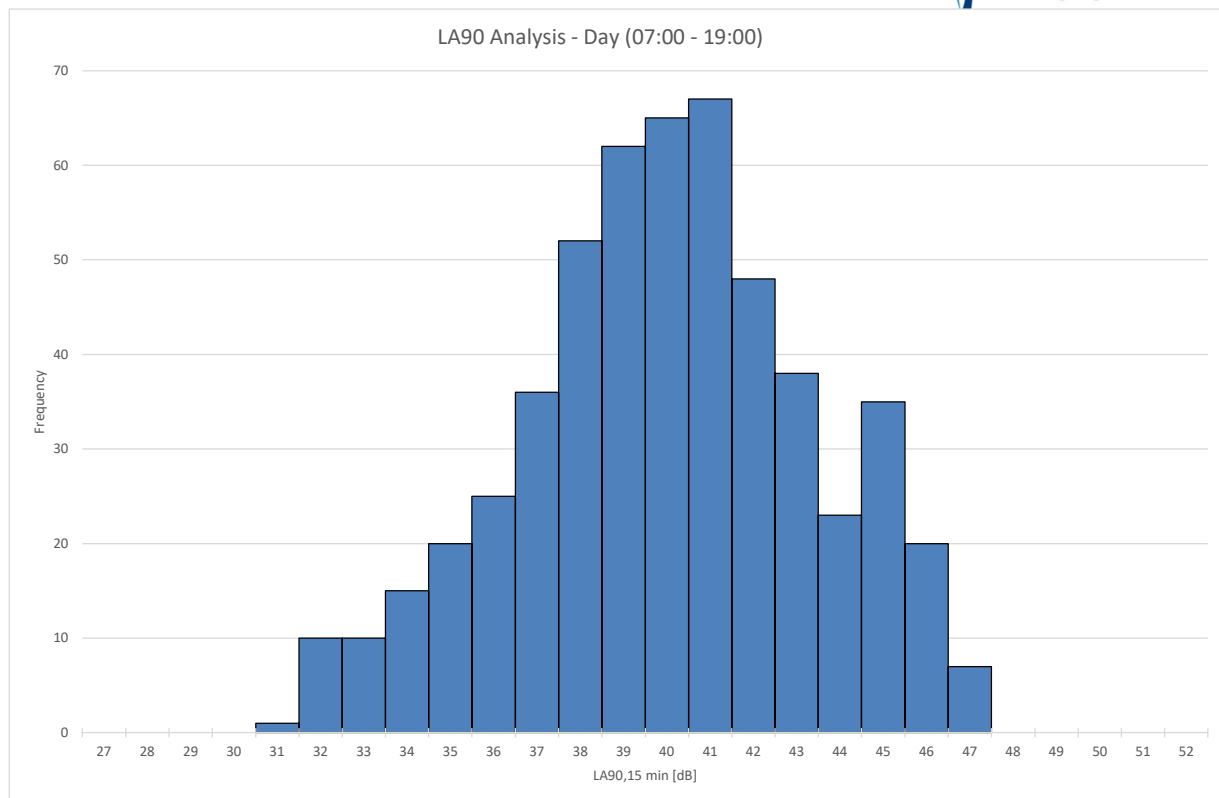


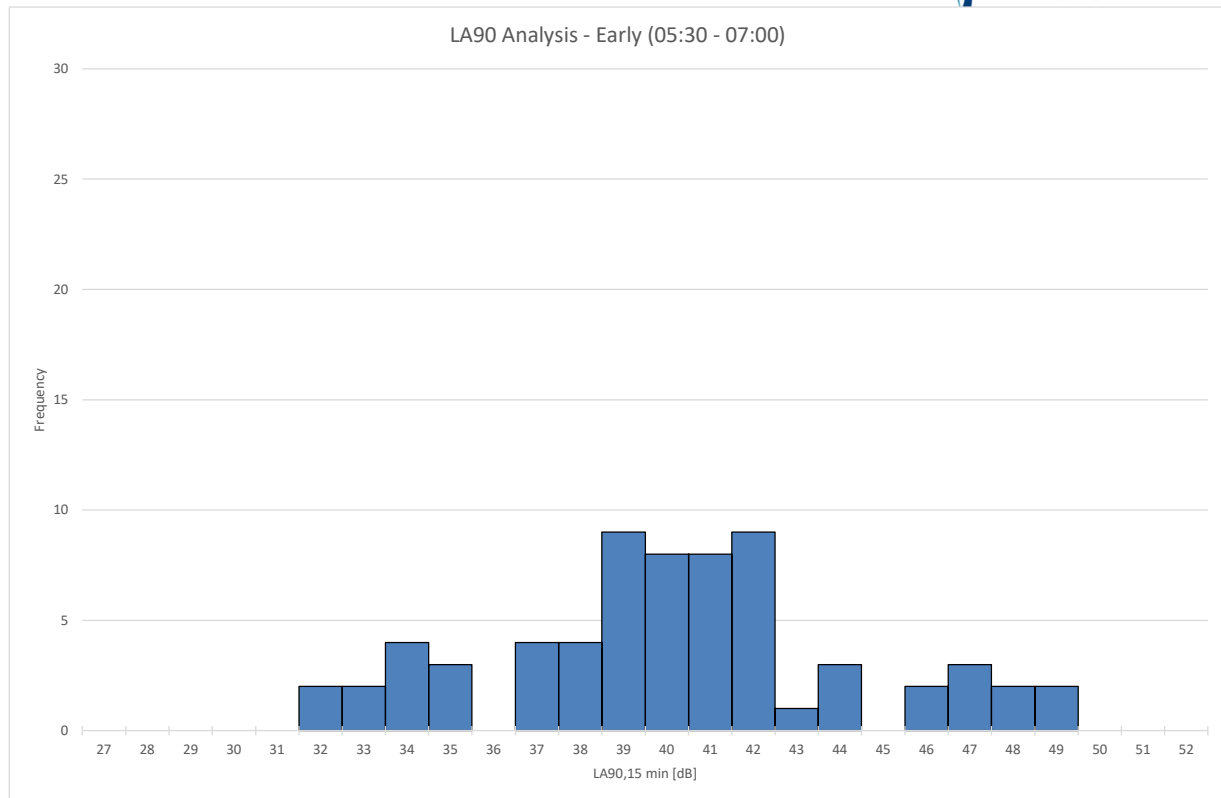




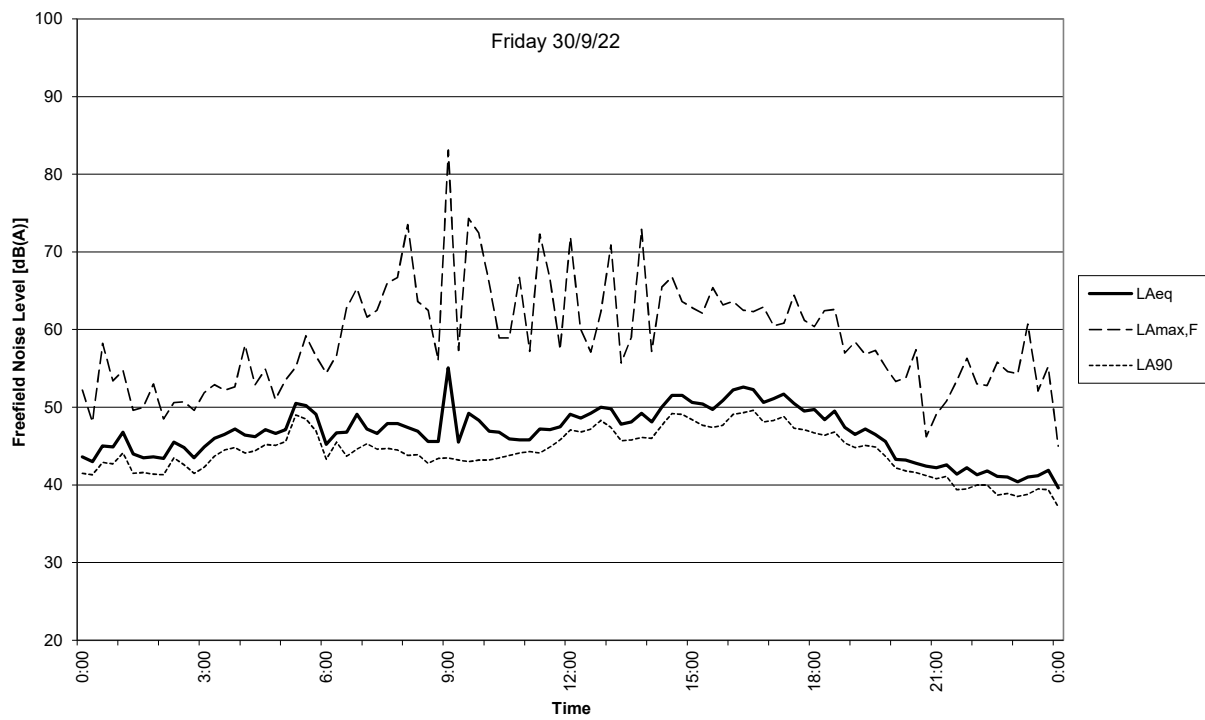
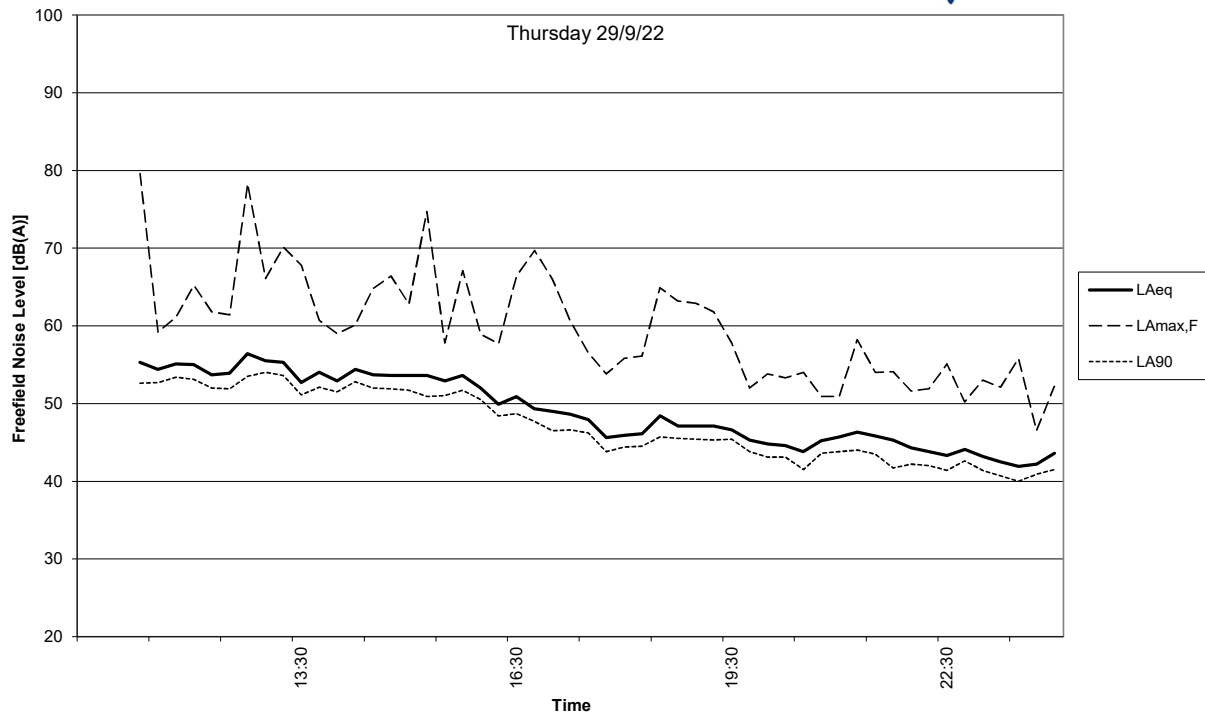


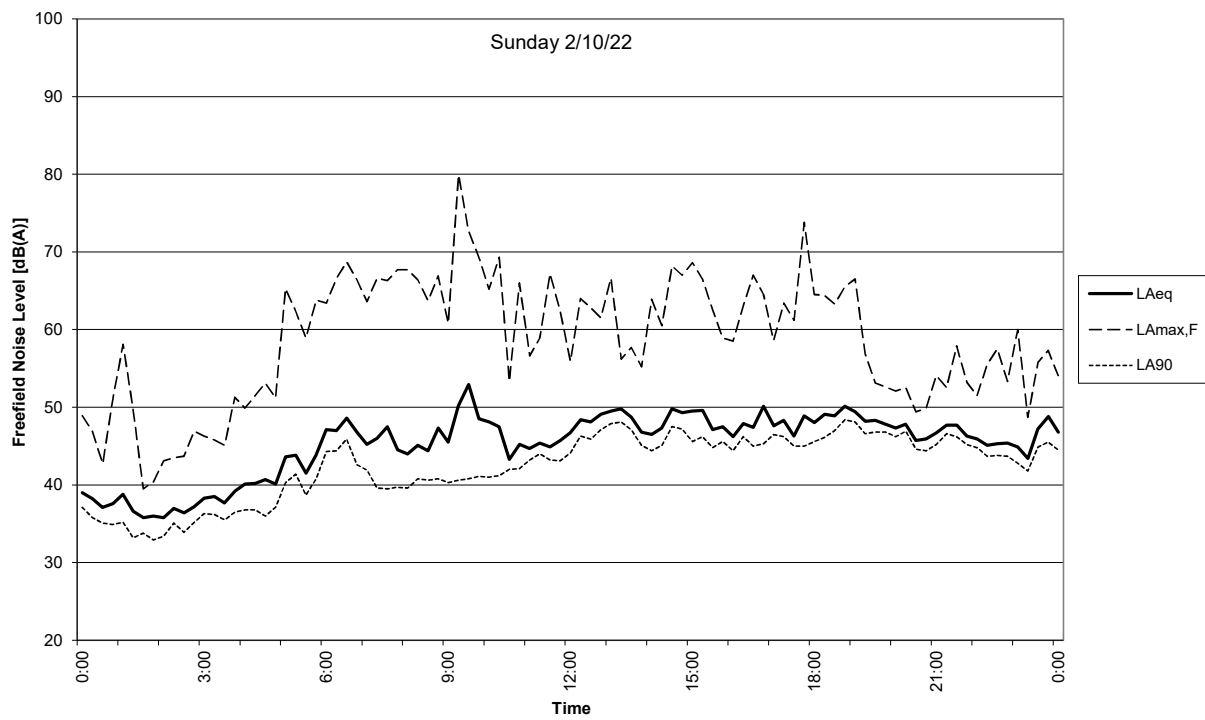
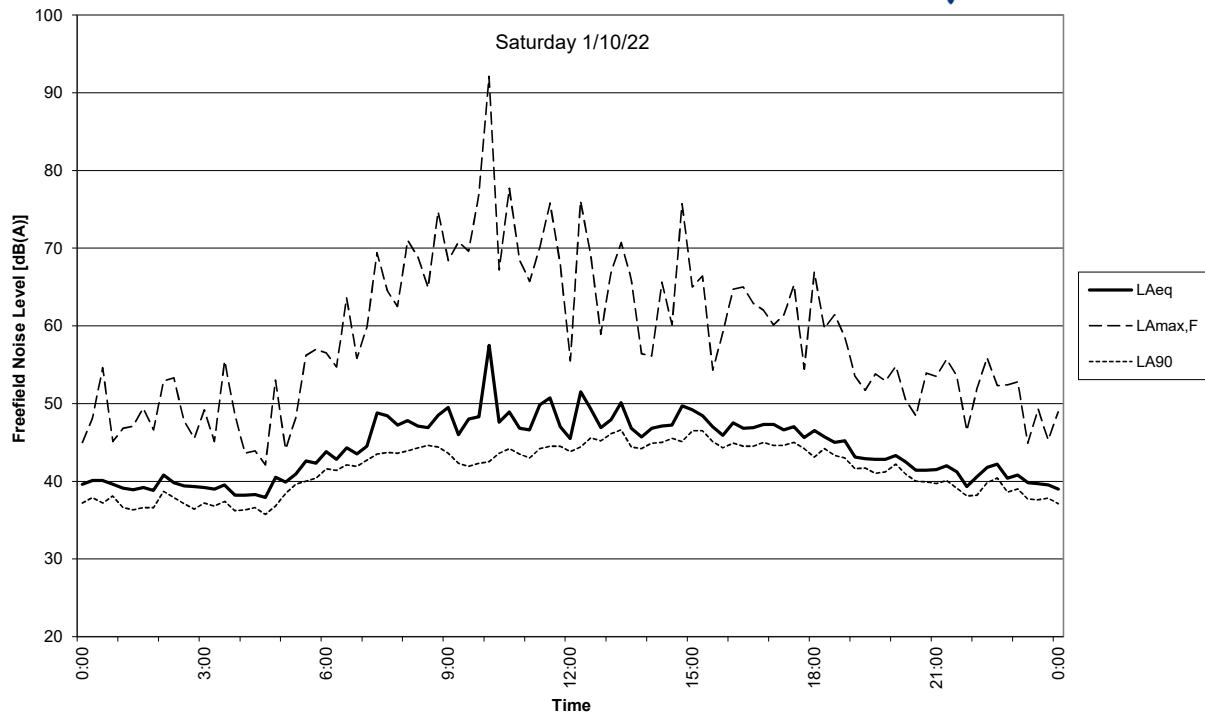


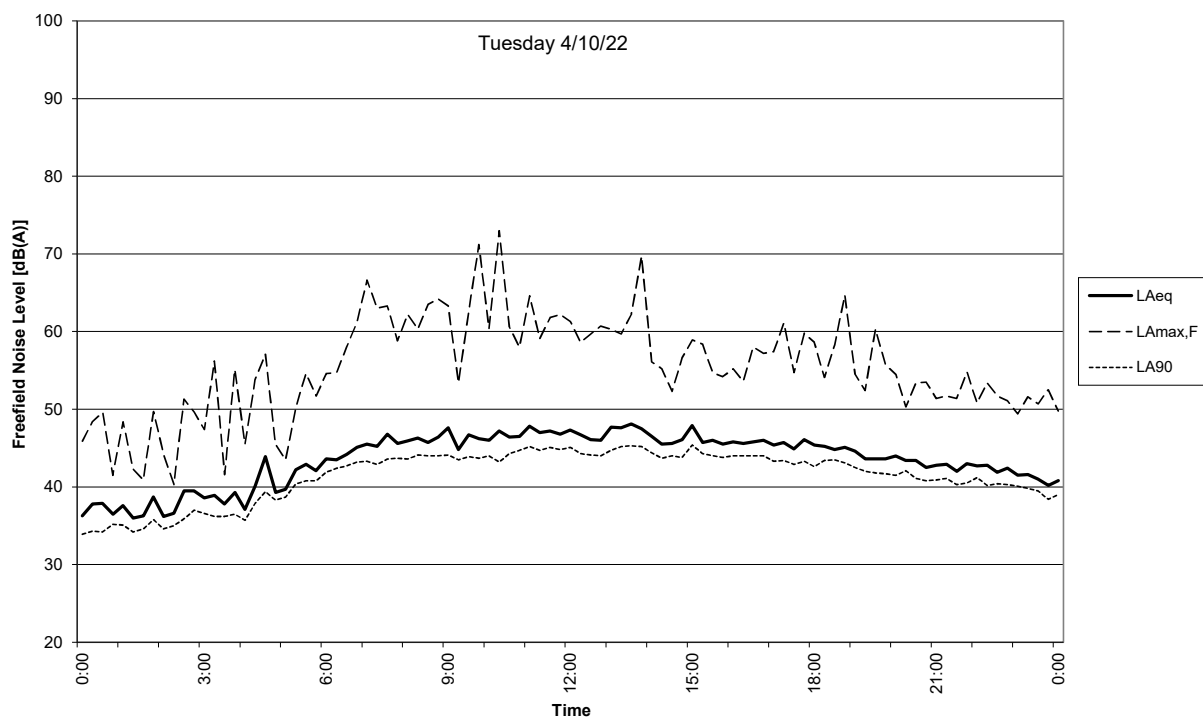
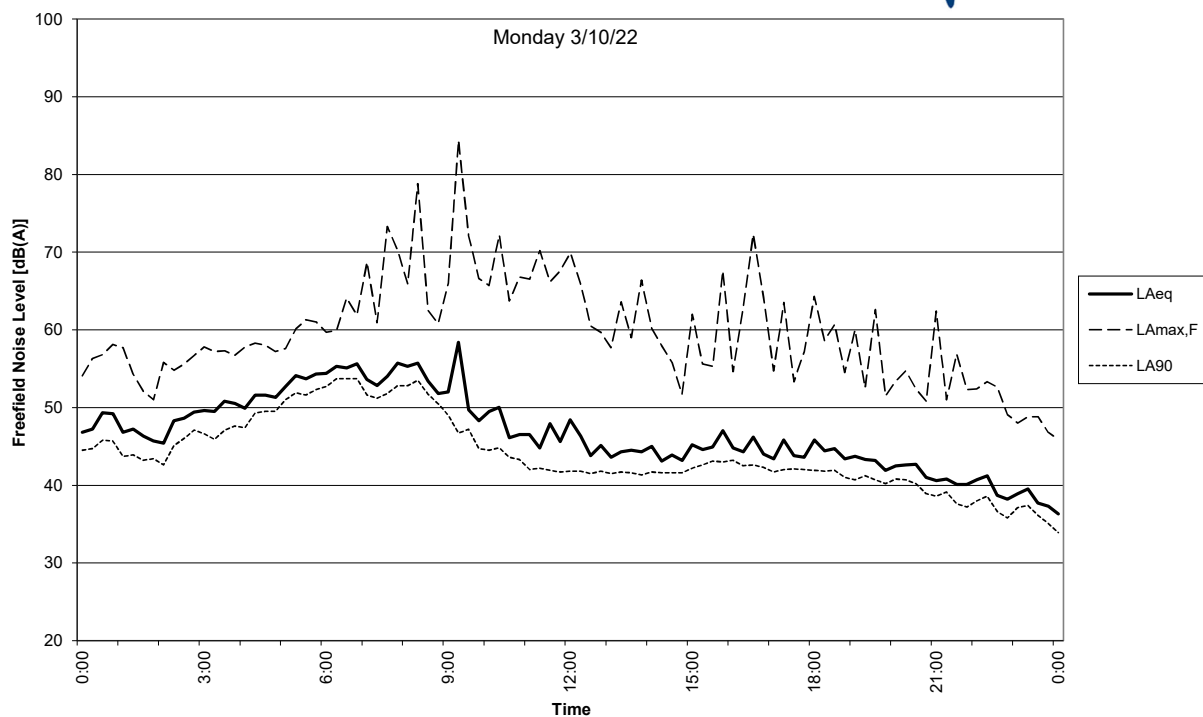


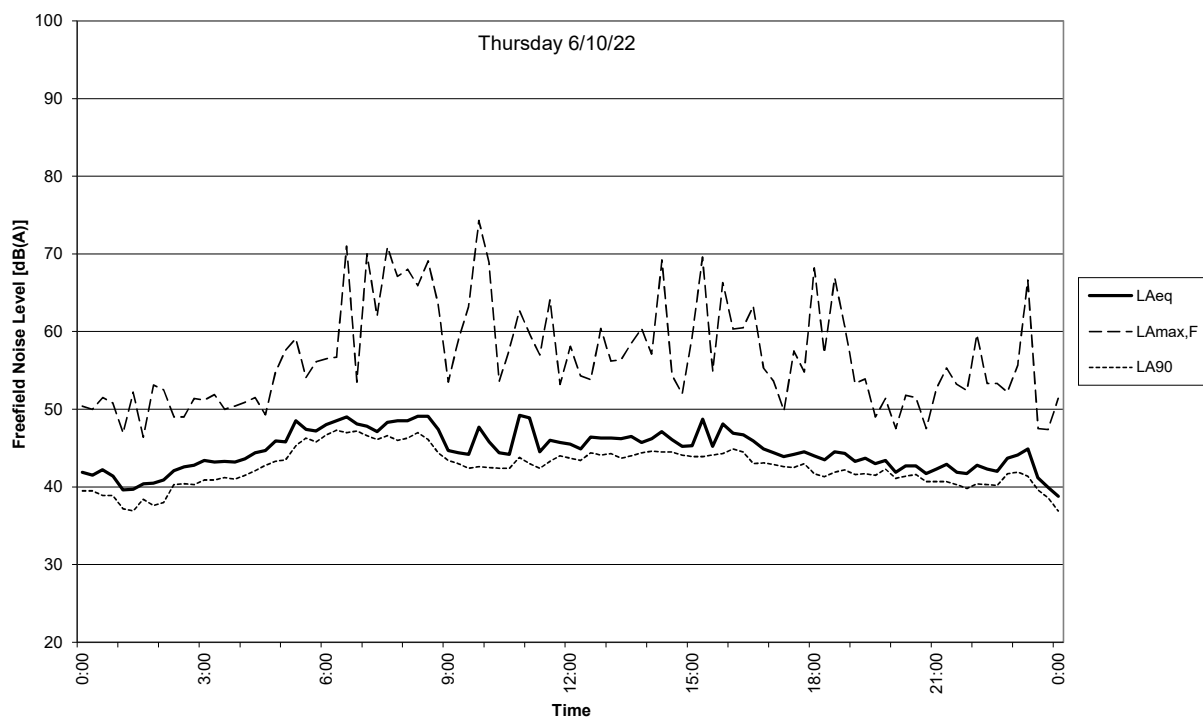
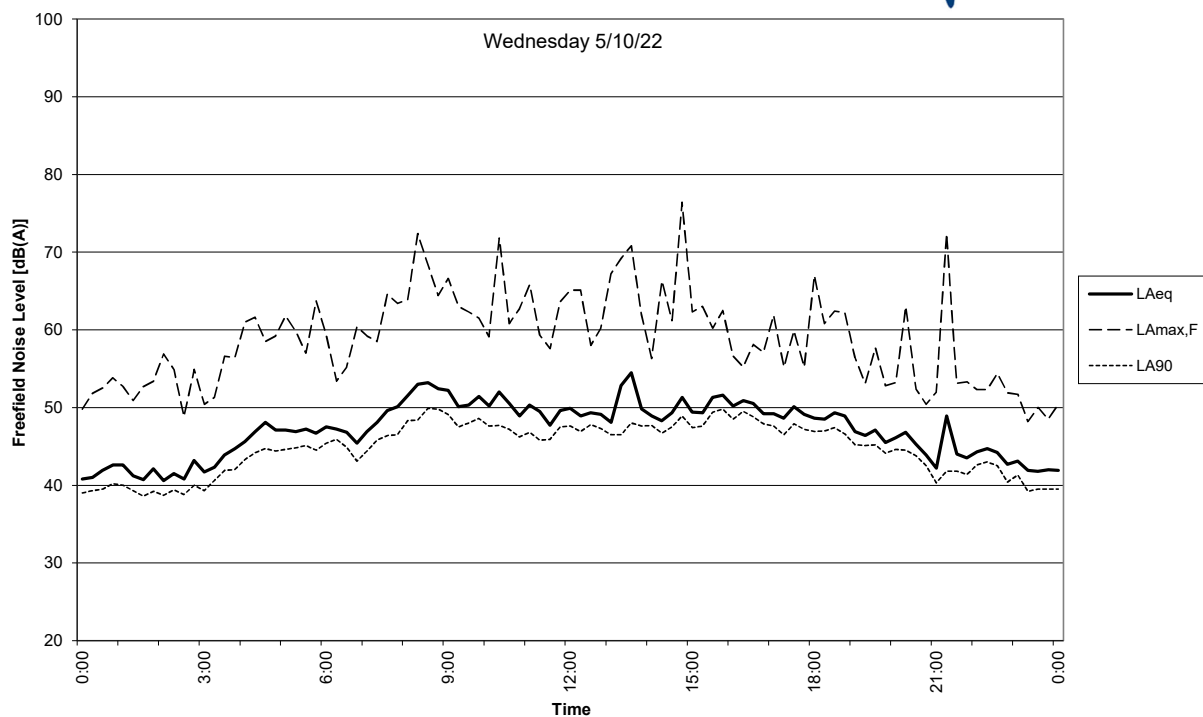


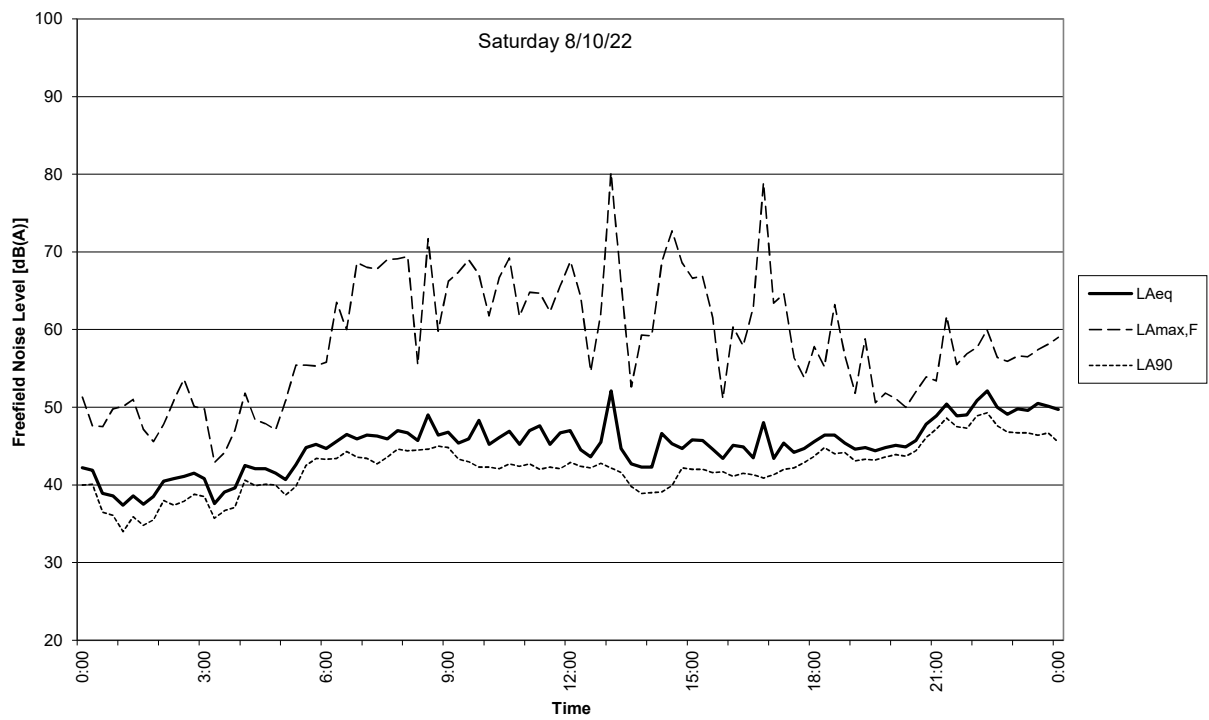
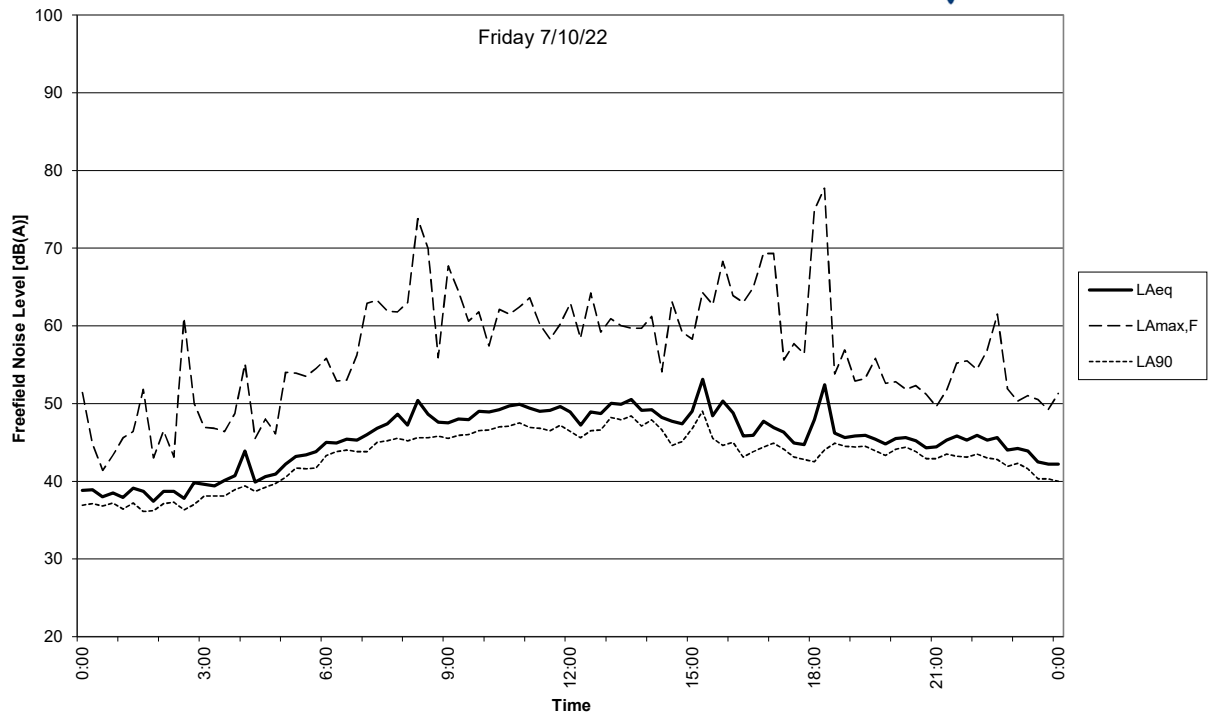
Appendix E
Results and Analysis of Noise Monitoring
at Position U4 – Underwood

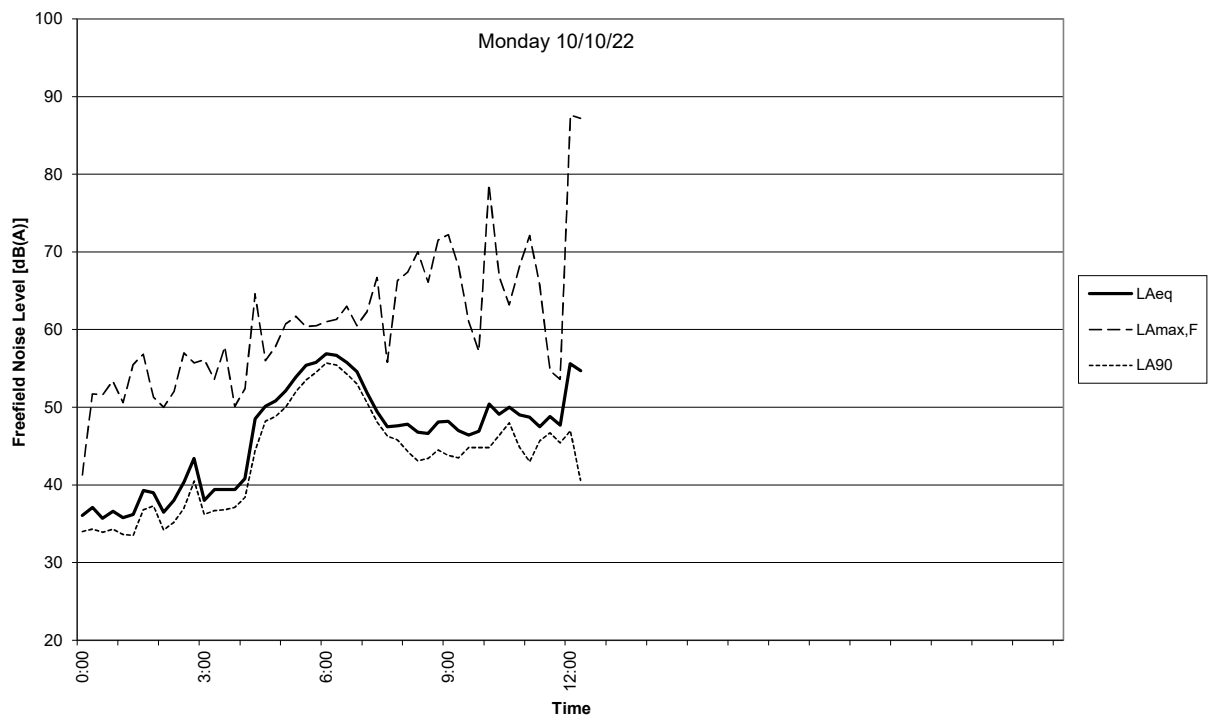
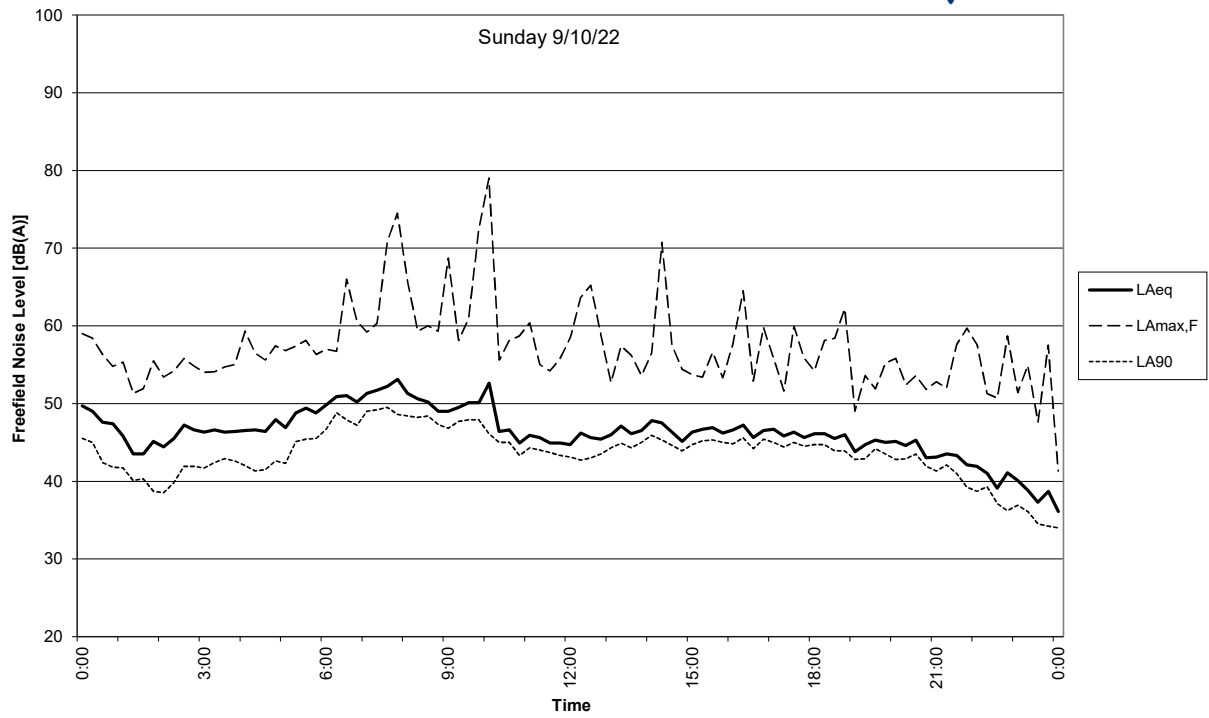


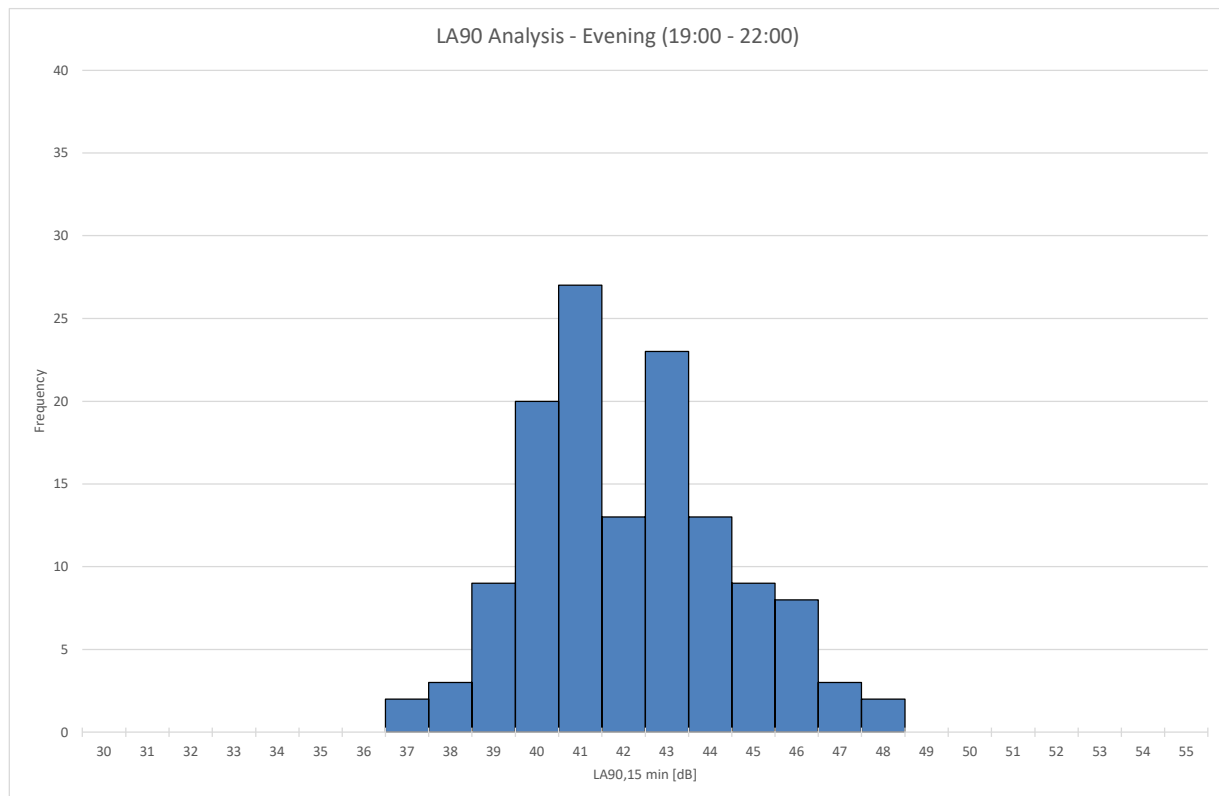
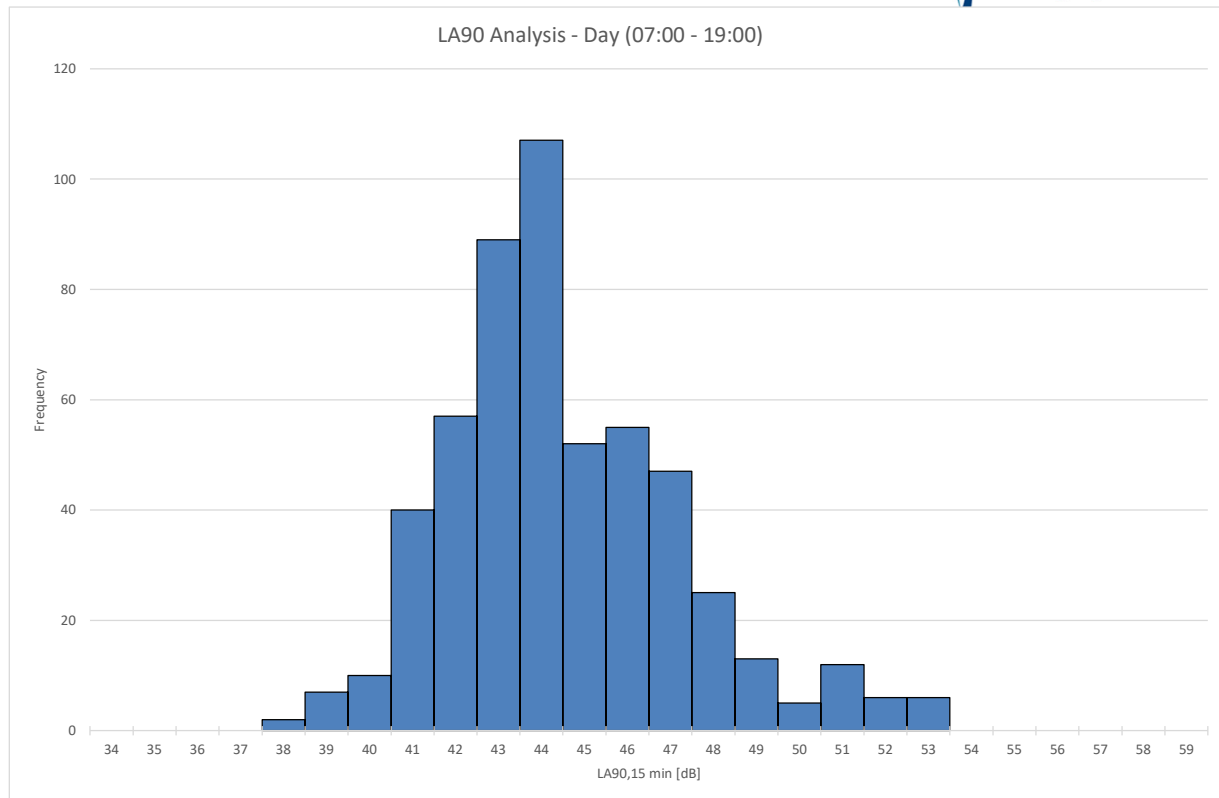


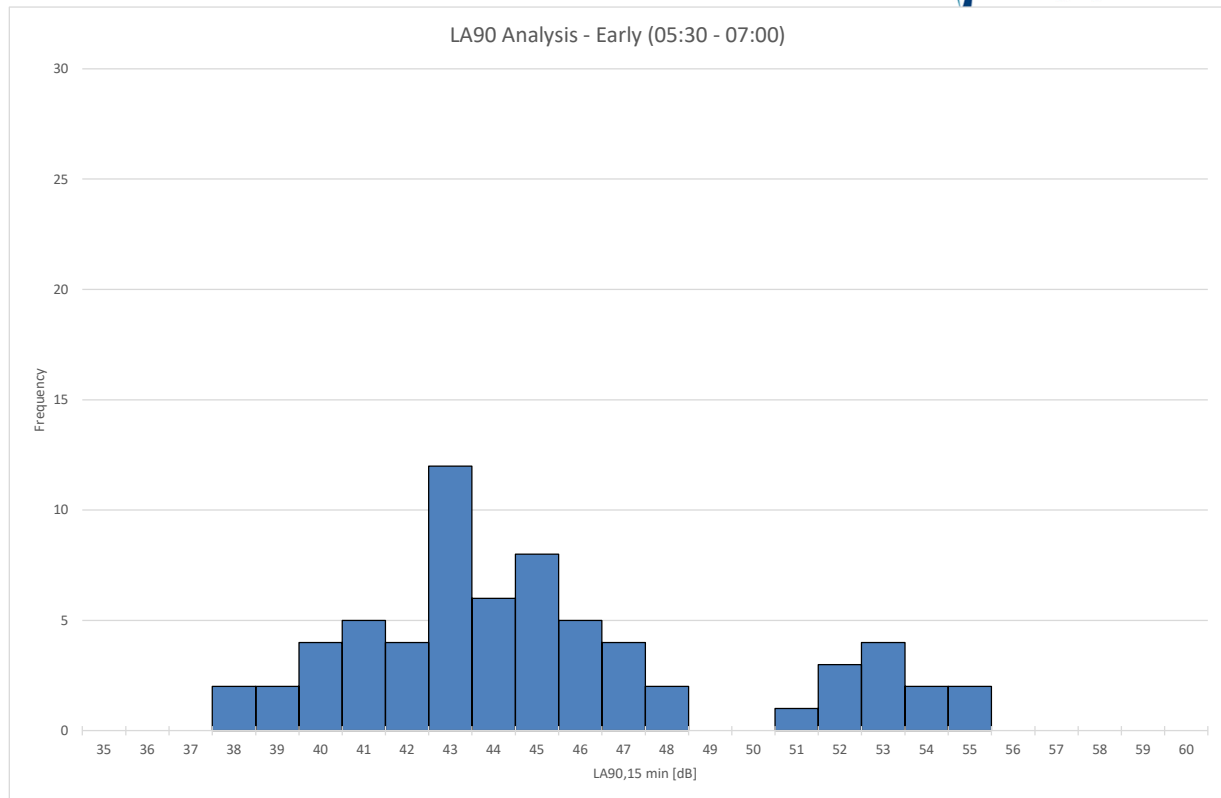




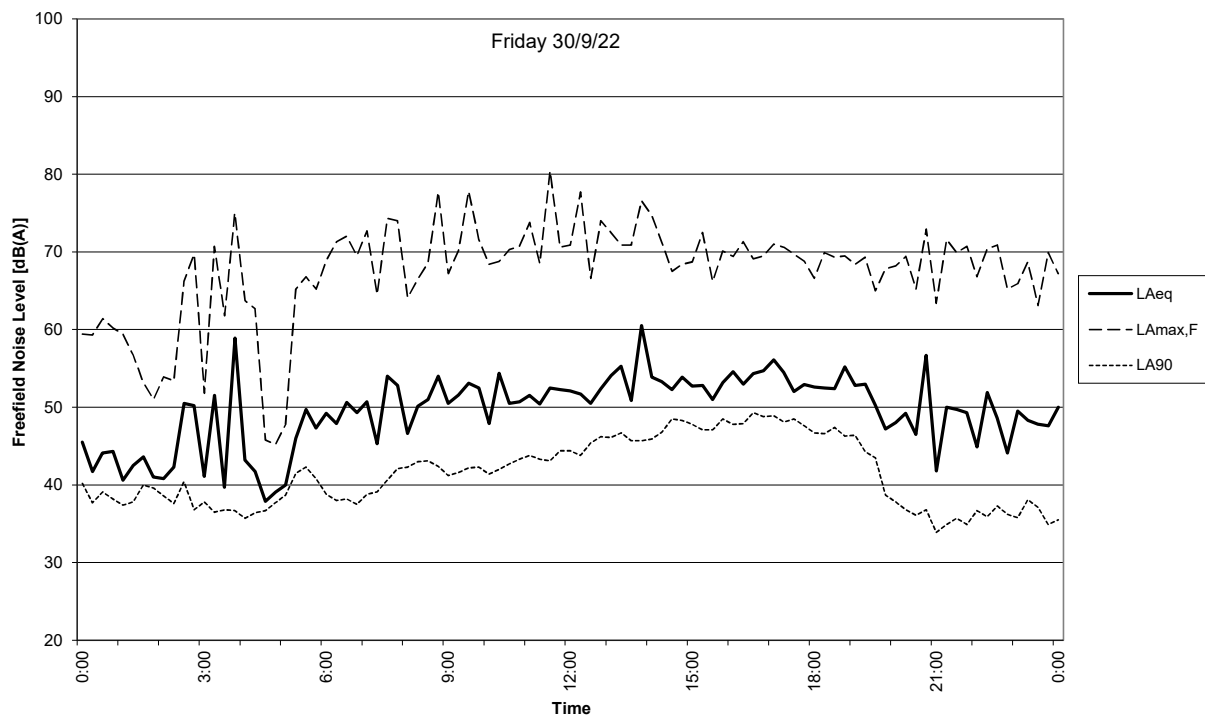
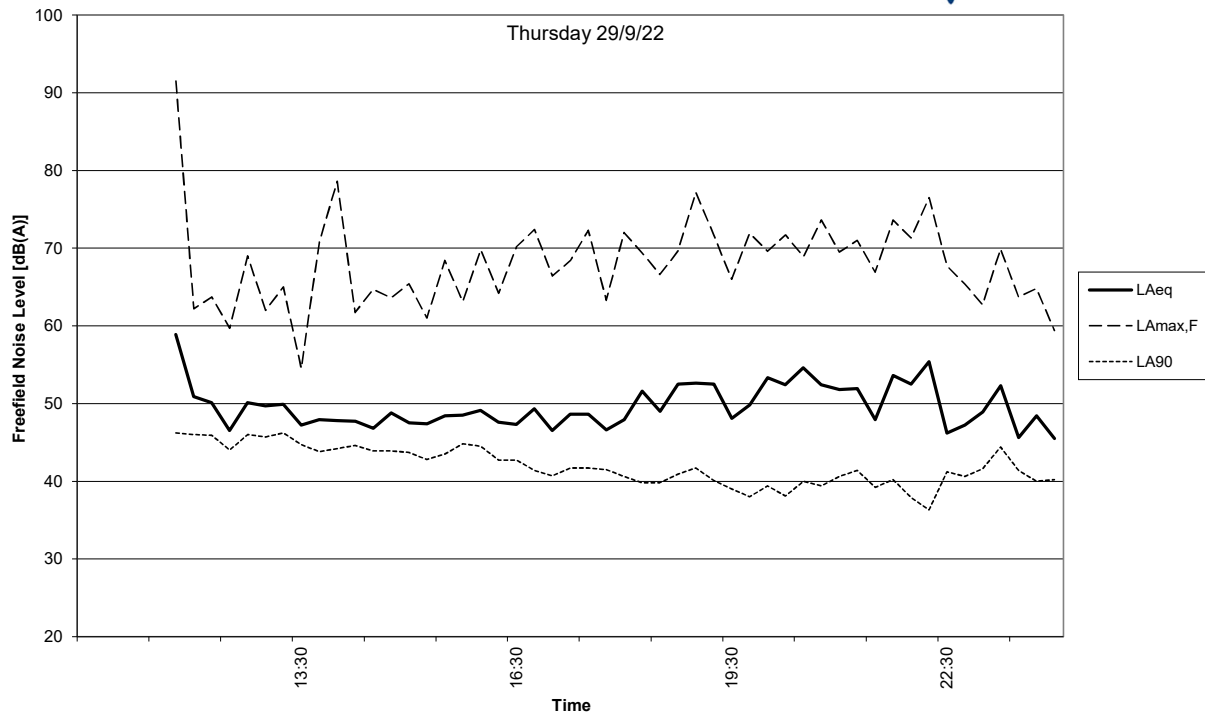


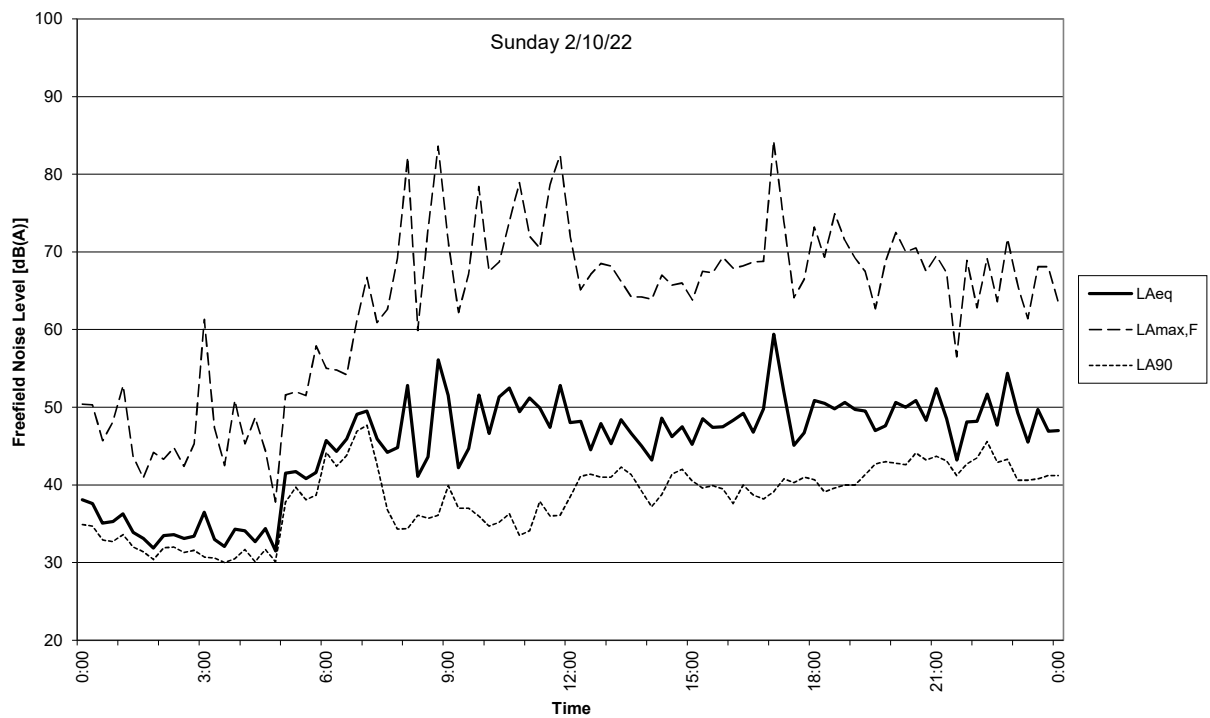
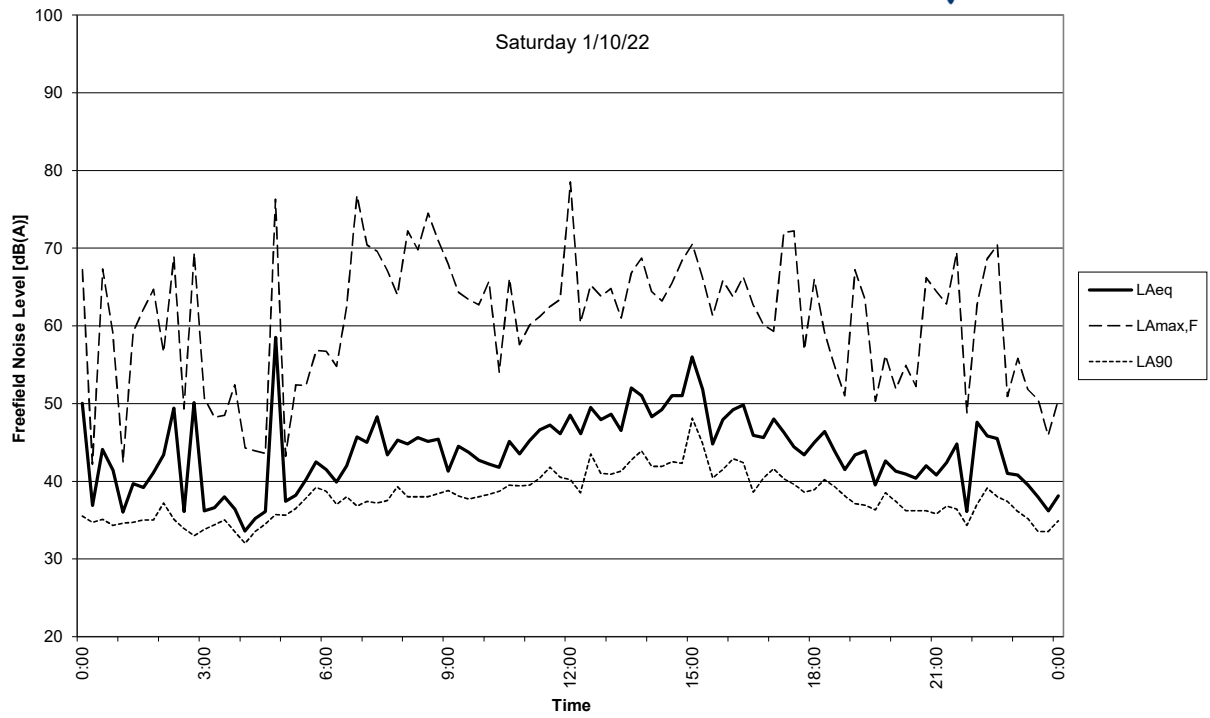


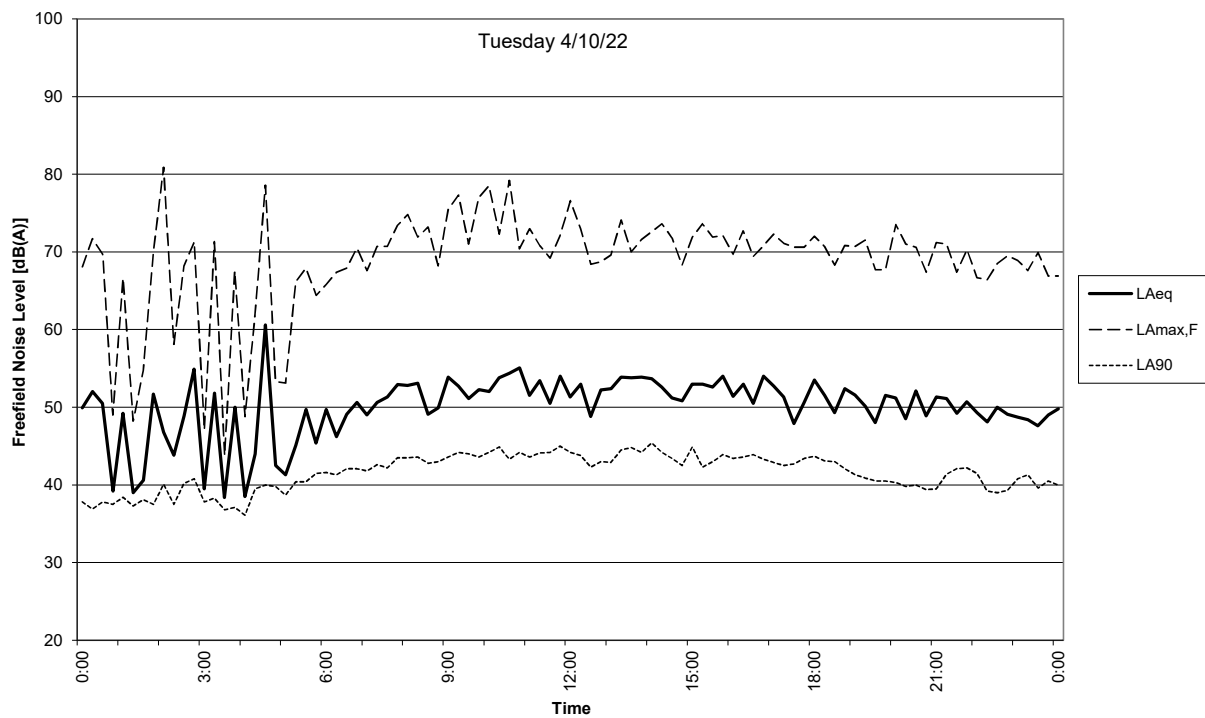
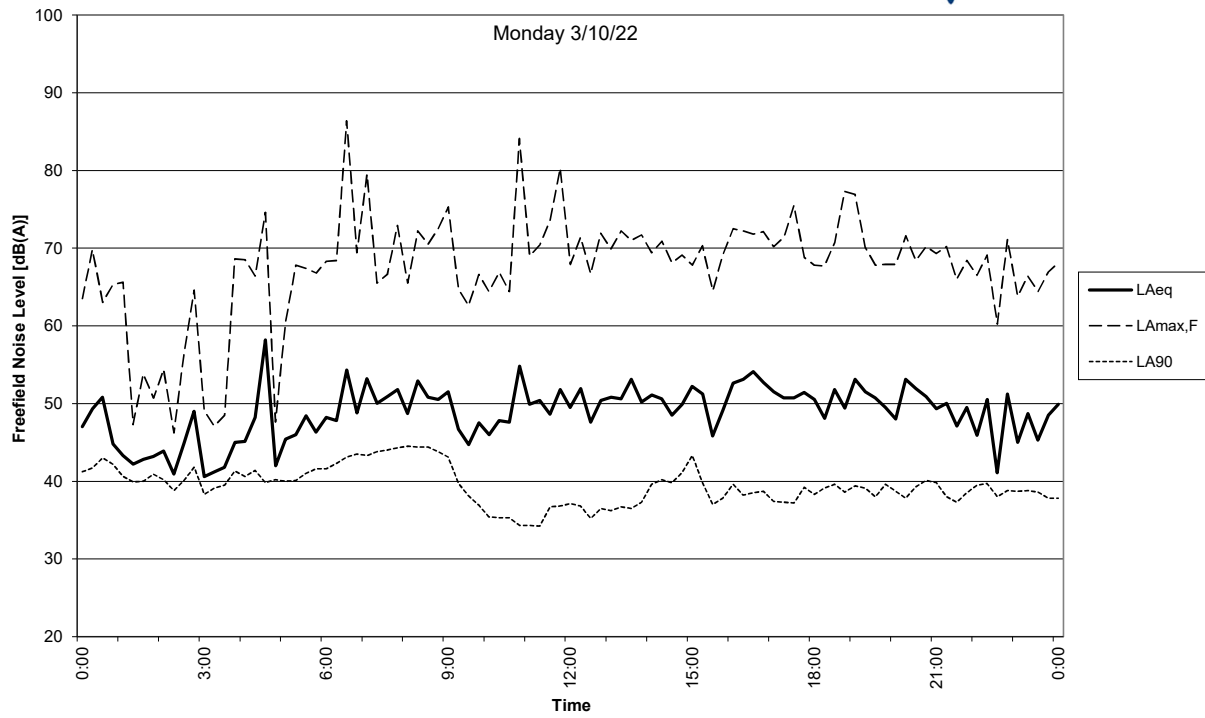


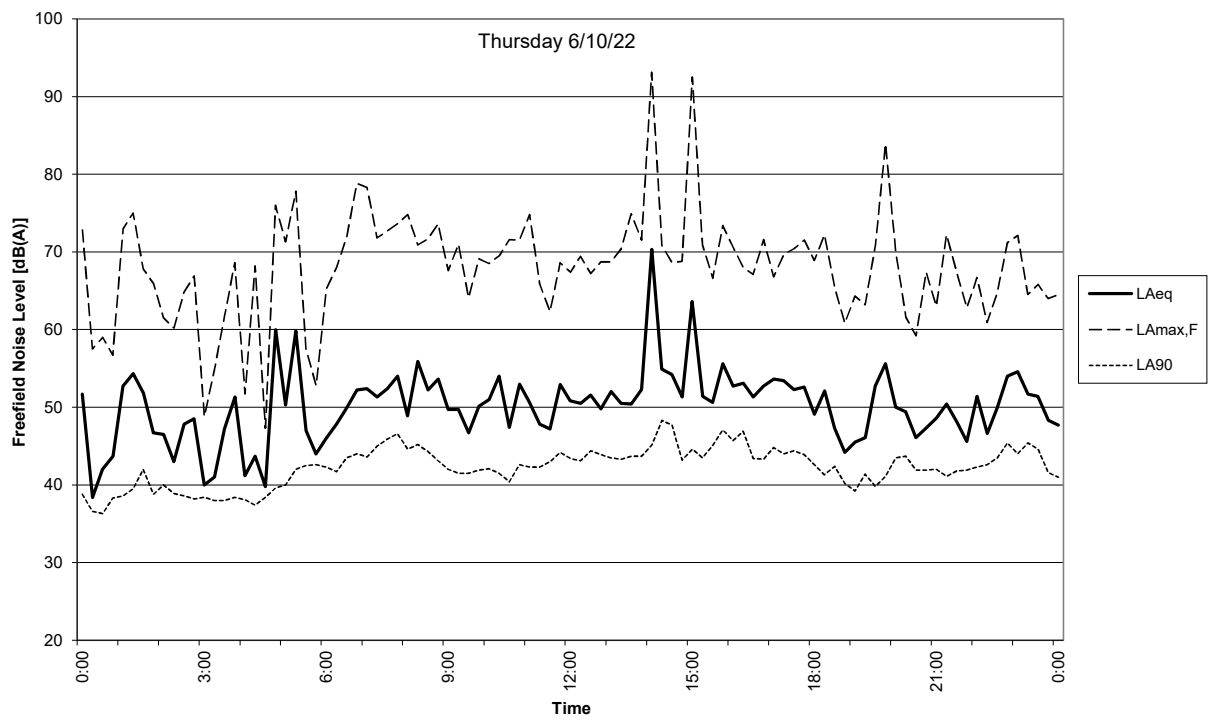
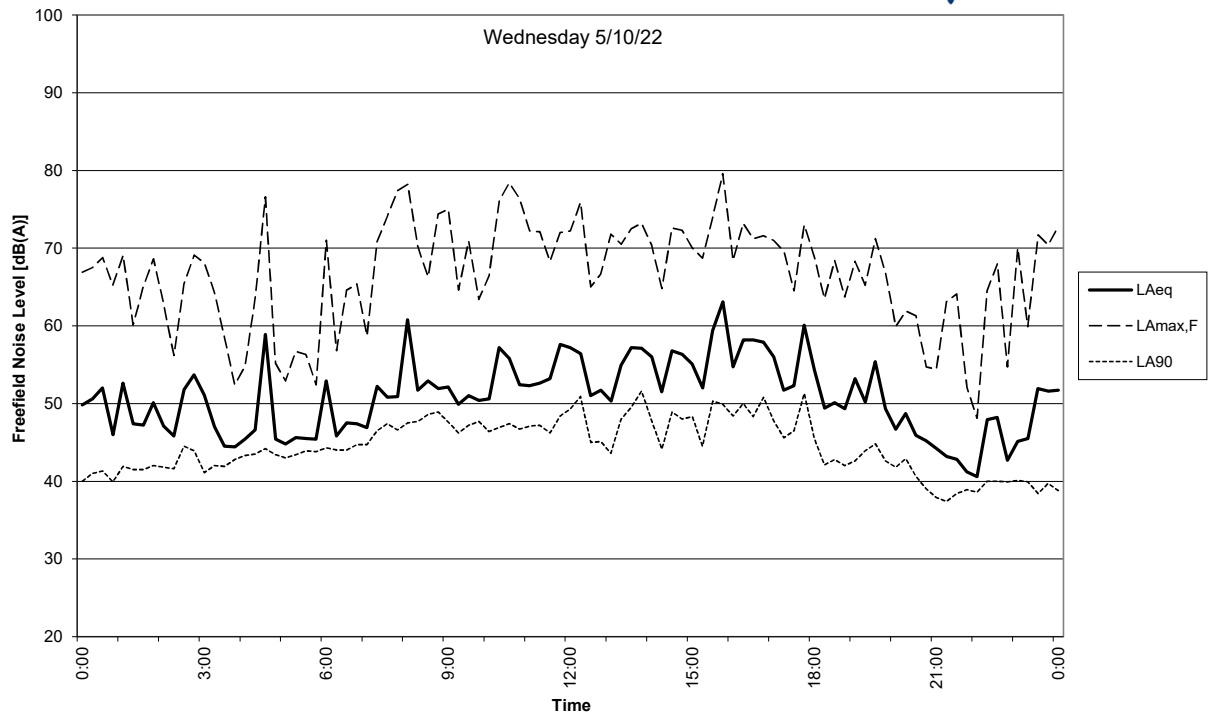


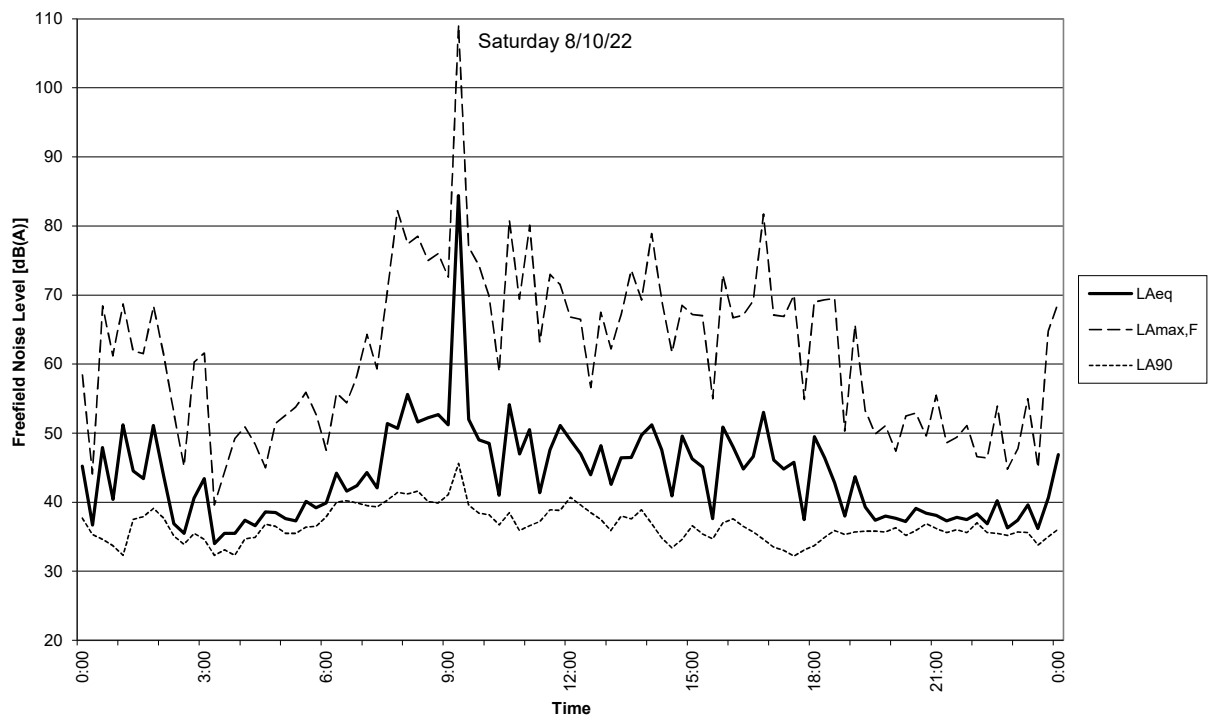
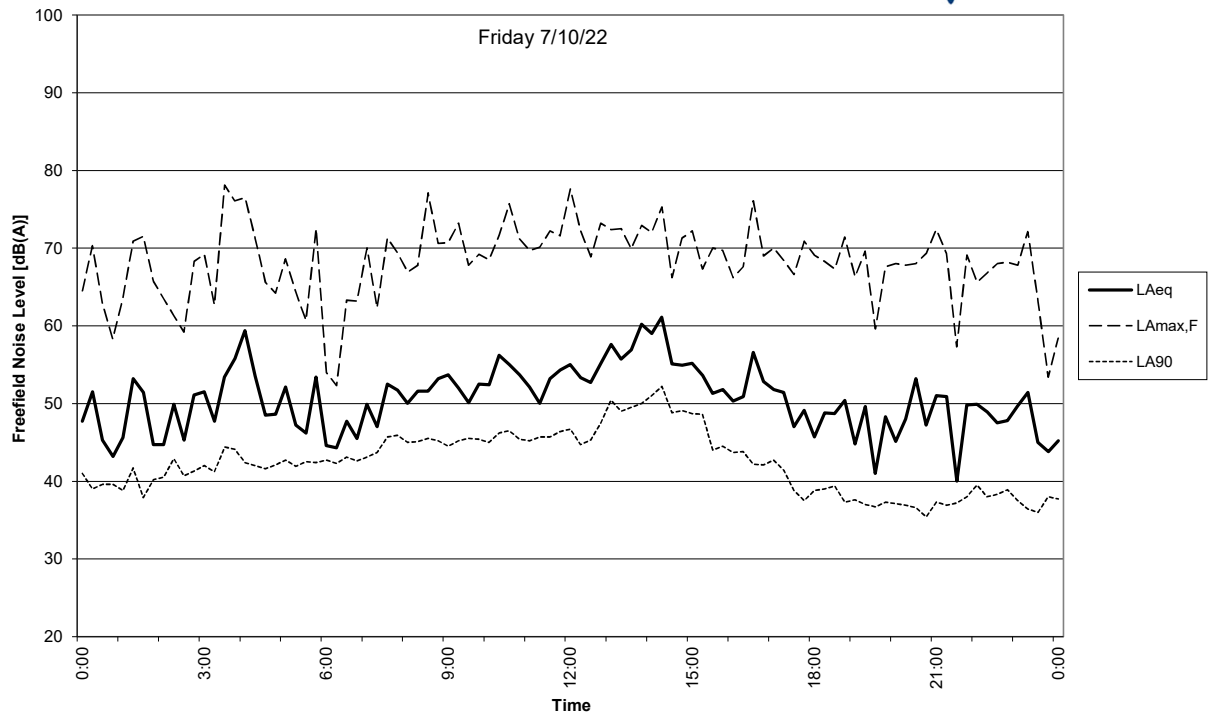
Appendix F
Results and Analysis of Noise Monitoring
at Position U5 – Village Reen, Bishton

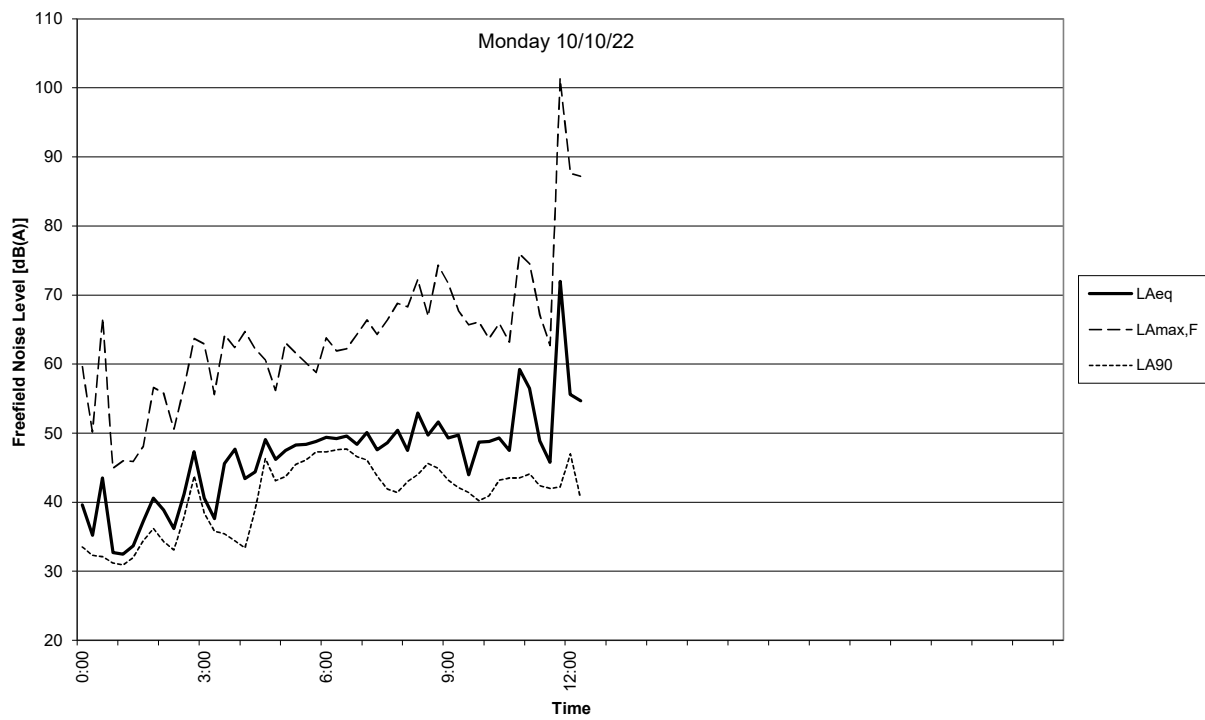
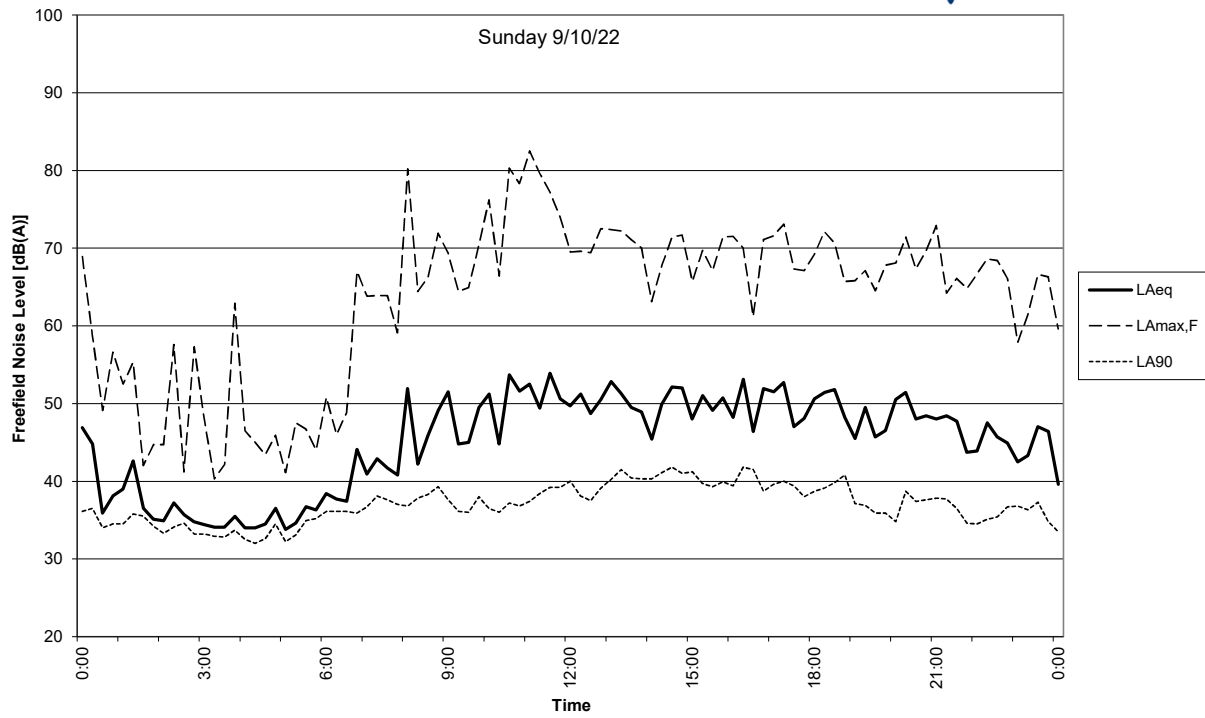


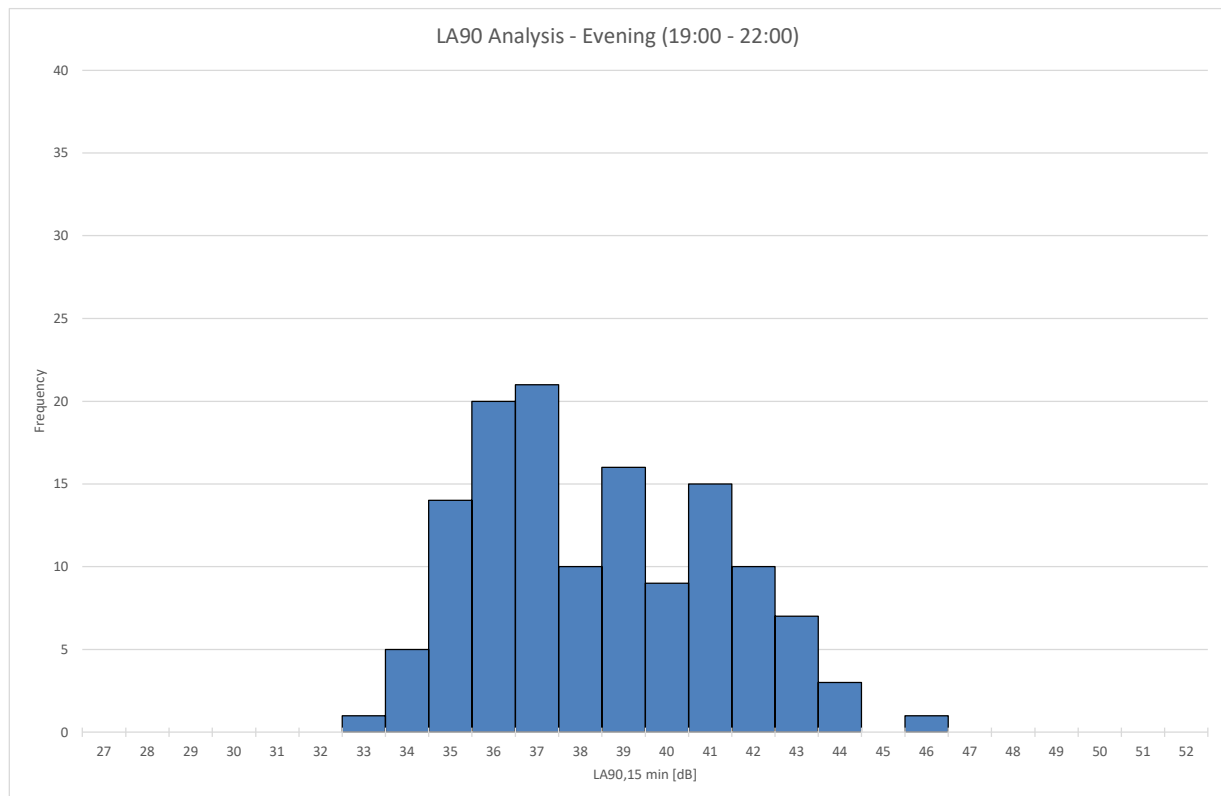
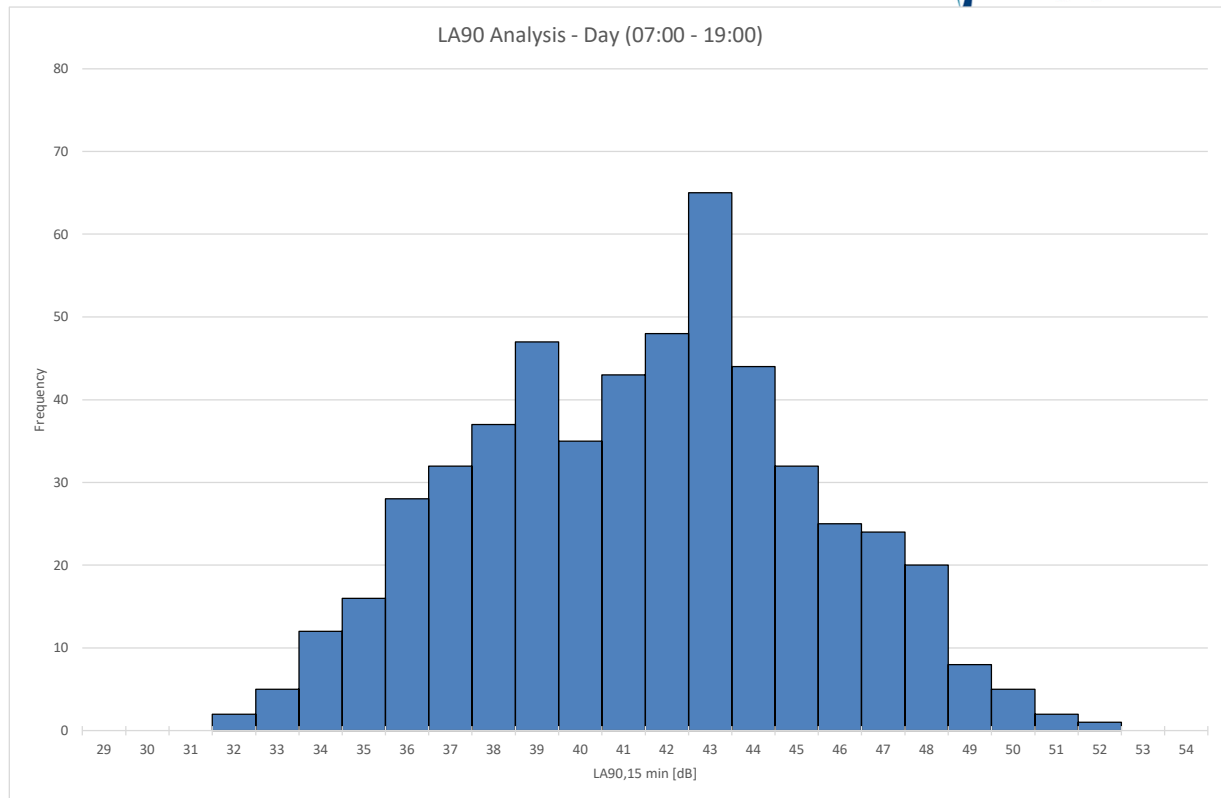


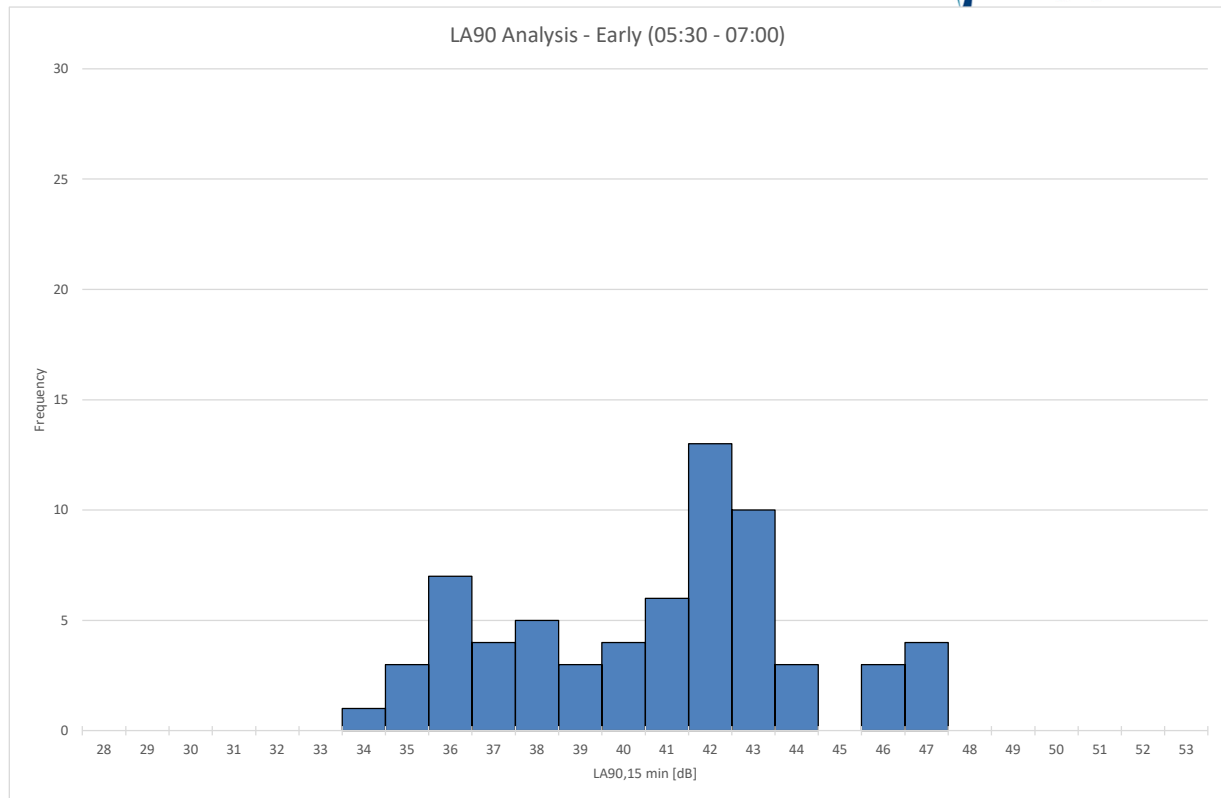












Appendix G
Results and Analysis of Noise Monitoring
at Position U6 – Ty Newydd

