Bonnyknox Solar Farm Design and Access Statement

Prepared by: Arthian Ltd.

For: Renewable Energy Systems Ltd.

Application Site: Bonnyknox Solar Farm

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Quality Assurance

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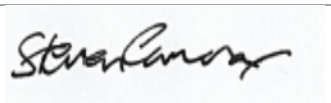
SC	Steven Cameron	Principal Planning Lead	

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1. Introduction

1.1 Planning Application

Renewable Energy Systems Ltd. (herein the Applicant) is applying to Angus Council for full planning permission for the construction and operation of Bonnyknox Solar Farm and its associated infrastructure (herein the Proposed Development). The Proposed Development would comprise the construction and operation of a maximum generation capacity 49.9MW solar array and its associated infrastructure on a site of approximately 95.45 hectares, on land located 2km west of Arbirlot, Angus, approximately centred on grid reference E356977, N741022.

The description of the Proposed Development is as follows:

"Construction and operation of a solar farm with all associated works, equipment and necessary infrastructure."

1.2 Requirements for a Design and Access Statement

This DAS has been prepared in accordance with the following legislation, policy and guidance:

- The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013[1];
- Planning Advice Note (PAN) 68: Design Statements[2];
- Planning Circular 3/2022: Development Management Procedures[3];
- CABE, Design & Access Statements: how to write read and use them[4]; and
- Angus Local Development Plan 2[5].

The aim of this DAS is to:

- Set out the narrative for the design of the Proposed Development.
- Identify the design principles and concepts that have been applied to the Proposed Development.
- Set out the key steps taken to appraise the context of the Proposed Development and the subsequent design.
- Identify how the Proposed Development is considered to be a suitable response to the Application Site and its setting, taking account of baseline information.
- Identify access for end users and how this corresponds with policies contained within the Angus Local Development Plan.

[1] The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013. Available online: The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 (legislation.gov.uk)
[2] Scottish Government: Planning Advice Note 68: Design Statements (2003). Available online: Planning Advice Note 68: Design Statements - gov.scot (www.gov.scot)
[3] Scottish Government: Planning Circular 3/2022: Development Management Procedures. Available online: 3. Making a Planning Application - Planning circular 3/2022: development management procedures - gov.scot (www.gov.scot)
[4] CABE (2006) Design and Access Statements, how to write, read and use them. Available online: Design and access statements: how to write, read and use them (designcouncil.org.uk)
[5] Angus Council: Local Development Plan (2016). Available online: Angus local development plan adopted September 2016 | Angus Council

Much of the above is covered in the Planning Statement which will also accompany the planning application. Repetition has been avoided as much as possible.

The remainder of this DAS is structured as follows:

- Section 2: Application Site Context;
- Section 3: Environmental Considerations;
- Section 4: Design Evolution
- Section 5: Design Solution;
- Section 6: Access;
- Section 7: Energy Statement; and
- Section 8: Conclusion.

This DAS should be read in conjunction with the following documents prepared to accompany the planning application:

- Design and Access Statement (this report);
- Planning Statement;
- Pre-Application Consultation (PAC) Report;
- Landscape and Visual Appraisal (LVA);
- LVA Photomontages;
- Illustrative Landscape Masterplan (ILMP);
- Preliminary Ecological Assessment;
- Protected Species Survey Report;
- Otter Monitoring Memorandum Report;
- Reptile Precautionary Method of Works (PMoW) Memorandum Report;
- Flood Risk Assessment and Drainage Strategy;
- Cultural Heritage Assessment;
- Transport Statement and Framework Construction Traffic Management Plan (CTMP);
- Glint and Glare Assessment;
- Noise Assessment;
- Land Capability Classification for Agriculture (LCCA) Report; and
- Arboricultural Implications Assessment and Arboricultural Method Statement.

2. Application Site Context

2.1 Introduction

For the purposes of this DAS, the term ‘Application Site’ refers to the red line boundary as shown on Image 2.1 below.

Image 2.1: Location Plan

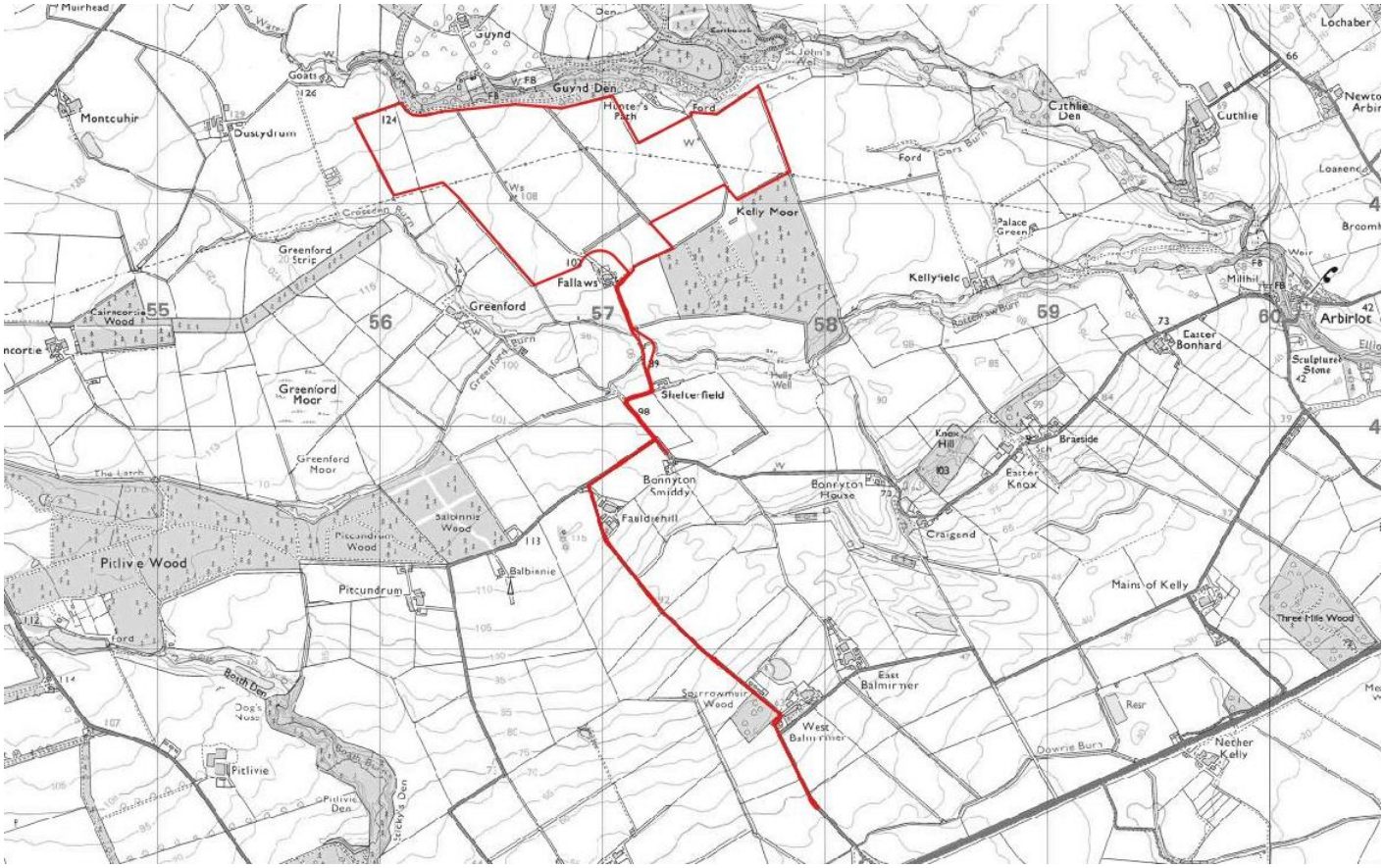
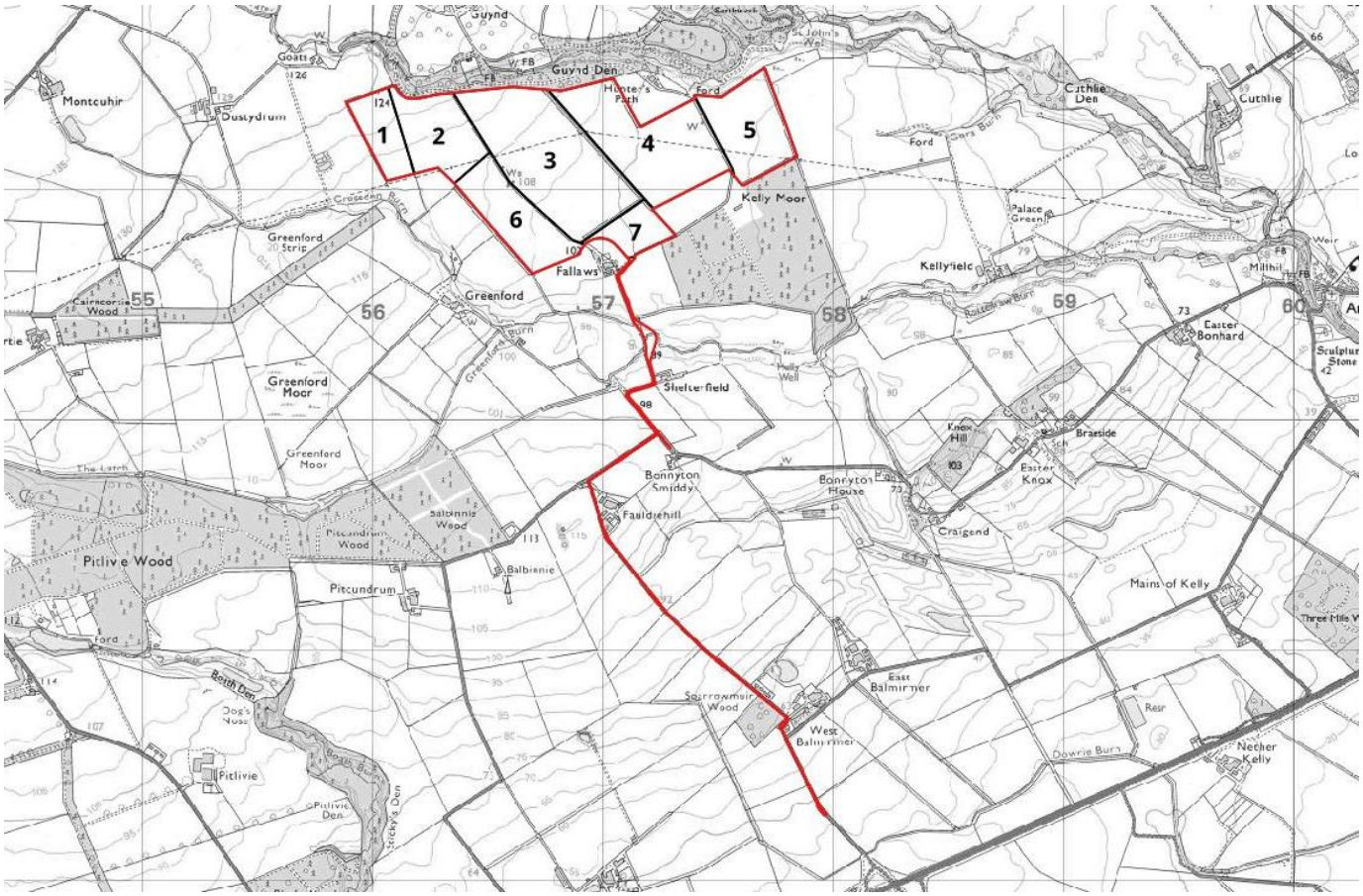


Image 2.2 below illustrates the Location Plan with Field Numbers that are referred to throughout the planning application.

Image 2.2: Location Plan with Field Numbers



2.2 Application Site Description

The Application Site comprises *95.45* hectares (Ha) of agricultural land which forms part of Fallaws Farm. The land within the Application Site is divided into *7* fields, which are largely screened from view by hedgerows, woodland and established trees. Figure 3: Field Numbers also details the division of these fields. To the north of the site, a 132kV overhead transmission line runs in a west-east direction through Fields 1-5.

According to Scotland's Soils Map[6], the soil groups within the Application Site largely consists of brown soils with an area of mineral podzols to the west.

According to Scotland's Soils Land Capability for Agriculture Map, the land within the Application Site comprises Class 3.1 land which is considered to be land capable of producing consistently high yields of narrow range of crops and/or moderate yields of a wider range where short grass leys are common. A Land Capability Classification for Agriculture (LCCA) Report is submitted alongside this planning application. The report determined that 50% of the Application Site is Class 3.1 land and 48.9% is Class 2 land both of which are

[6] Scotland's Soils: National Soil Map of Scotland. Available online: Scotland's Soils - soil maps (environment.gov.scot)

considered to be prime agricultural land. The remainder of the Application Site is 1.1% of non-agricultural land (i.e. tracks). Image 2.3 below details the location of these divisions and the key.

It is noted that the soil division between Class 2 and Class 3.1 can be affected by cropping practices. Fields that are in potato production, such as in the case of the Proposed Development, undertake a cultivation pass which is called de-stoning that involves removing stones from the ridged area and placing them in an adjoining furrow. Removing the impediment of stone gives an incorrect topsoil depth which is one of the criteria for land classification. In these areas, two thirds of the field would have artificially deep topsoil. As discussed in the LCCA report, soil borings carried out between sample points 103 and 122 could lead to interpretation issues as topsoil depth can be increased without the barrier of stones. This can then lead to an overestimate of land capability particularly from Grade 3.1 to Grade 2. The growing of potatoes subjects the soil to an intensive mechanical cultivation often taking several seasons to regain its structure and diversity. The use of the land for solar capture will mean that the soils will have 40 years to develop good structure and diverse fauna. On the return to arable farming, they will have improved resilience and productive potential.

Image 2.3: ALC Grade of the Application Site

Key:

Grade 2	
Grade 3 Division 1	

The Application Site comprises arable grassland with areas of woodland and trees present. The topographical survey data shows that the site slopes from 123 metres Above Ordnance Datum (m AOD) in the northwest corner to 92m AOD in the east to the site. Critically, the development will not alter the topography of the site.

2.3 Surrounding Area

The Application Site is located on land approximately 2.2km west of the village of Arbirlot. The surrounding area is characterised by a combination of agricultural, woodland and industrial uses at the Hunter's Path residential dwelling adjacent to the north of the Proposed Development. The hamlet of Greystone lies approximately 2.8km northwest at its closest, the hamlet of Redford lies approximately 2.8km north at its closest and the town of Arbroath lies approximately 5km east at its closest.

The Guynd Gardens and Designed Landscape lies adjacent to the Proposed Development to the north. The Application Site is also situated adjacent to the Kelly Moor woodland to the east alongside numerous other woodland areas within 1km of the Application Site.

The A92 is situated approximately 2km to the south of the Application Site. An unnamed C-classed road runs adjacent to the Application Site's southern boundary where access to the site is proposed to be taken from.

2.4 Accessibility

The proposed point of vehicular access to the Application Site is to be taken the A92, Bonnyton Road and a short length of an Unclassified Road between the junction with Bonnyton Road. The access will take the form of a priority junction with Bonnyton Road.

Details of this are noted in Section 5 of this DAS and within the Transport Statement submitted alongside the planning application.

Furthermore, a water crossing across the Rottenraw Burn to the north of Shelterfield in the form of a bridge is proposed for vehicles during all project phases, construction, operation and decommissioning phases. This alternative access route is to ensure that vehicles can access the project for its lifetime on land that the applicant has full control over.

2.5 Planning History of Application Site

There appears to be no planning history relevant to the Application Site.

A search was undertaken in May 2025 of any existing and/or approved solar PV developments located within a 5km vicinity of the Application Site. Table 2.1 details the developments found during the search.

Table 2.1: Cumulative Search of Solar PV Developments found within 5km of the Application Site.

Reference	Location	Decision
24/00589/FULL	Proposed new solar farm installation including battery storage facility | Land 200m west of Denfield, Arbroath (re-submission of planning application: 23/00706/FULL). Located approximately 4km NE of the Proposed Development	Approved Subject to Conditions
23/00706/FULL	Proposed new Solar Farm Installation including Battery Storage Facility | Land 200m west of Denfield, Arbroath. Located approximately 4km NE of Proposed Development.	Application Withdrawn
22/00337/FULL	Proposed Alterations & Extension and Change of Use from Stable Block to Dwellinghouse and erection of Ground Solar Panels | Smallburn, Greystone, Carmyllie, Arbroath, DD11 2RF. Located approximately 4.5km NW of Proposed Development.	Approved Subject to Conditions
15/00873/FULL	Installation of a Solar Farm up to 5MW and Associated Development | Field 275m South of Drummygar, Drummygar, Carmyllie. Located approximately 3km NW of Proposed Development.	Approved Subject to Conditions
15/00253/FULL	200kW Roof Mounted Solar PV Array to be site on the roofs of the Cuthlie Farm Cold Stores. Comprising 800x250W Solar Panels fixed on a Multi Rail System to the existing Roof Sheet | Cuthlie Farm, Cuthlie, Arbroath. Located approximately 2km E of Proposed Development.	Approved Subject to Conditions
14/00526/FULL	Proposed Ground Mounted Solar Energy Park with Sub-Station and Associated Works | Field 325m North of New Mains of Guynd Farm, Guynd, Arbroath. Located approximately 1.5km NW of Proposed Development.	Approved Subject to Conditions
13/00940/FULL	Ground and Roof Mounted Solar Photovoltaic PV Panels | East Hills Farm, East Hills, Carmyllie. Located approximately 4.5km NW of Proposed Development.	Approved Subject to Conditions

2.6 Site Selection

At an early stage, RES worked with a consultant that completed analysis in Scotland for opportunities on the local grid DNO network. RES identified capacity to connect at Arbroath substation, a 33/132kV substation. A meeting was later held with the Distribution Network Operator (DNO), which confirmed this available capacity. RES determined that a 49.9MW solar development connecting at the 33kV bay at Arbroath substation was viable with a maximum distance of approx. 5km from the substation.

Image 2.4 below shows the defined search area (yellow), with the other areas not searched due to the grid route having to navigate the heart of the town. Note that the north of Arbroath is a RM Condor training area. This parcel was not included in the search as the military base is still active. The land to the south of the A92 has been removed for landscape and ALC reasons.

Image 2.4: Bonnyknox Solar Farm Defined Search Area

In 2023. RES started extensive research of 250 acres of land within the yellow area. For this, approximately 30 landowners were contacted based on details in ScotLIS/LandApp. Following discussions with potential landowners, it was concluded that the landowner at the Application Site has one of the most suitable parcels for a 33kV direct connection to Arbroath substation. In the meantime, RES secured a viable grid connection with the DNO.

Following initial site visits, the land use for the Proposed Development was minimised in order to be suitable for a 49.9MW solar project whilst considering the best use of the topography and existing screening.

Consideration to other environmental constraints such as protected species and setback from the Guynd to the immediate north have resulted in further buffers to the Application Site to ensure the siting of the Proposed Development results in no significant environmental impacts. Details of this can be found in Section 4.1 below.

3. Environmental Considerations

3.1 Introduction

A number of environmental assessments have been undertaken for the Proposed Development. These assessments have been undertaken to identify the baseline conditions on site, which in turn have influenced the design process. This section of the DAS identifies environmental or technical considerations within and close to the Application Site, and how they relate to the design process.

3.2 Landscape & Visual

A Landscape and Visual Appraisal has been carried out and attached as part of the planning application submission.

The assessment found that following construction works, it is considered that the Proposed Development could be successfully integrated into its immediate landscape surroundings. At all times, the characteristics landform within the Application Site and surrounding area has been respected and preserved by the low-lying nature of the solar array.

3.2.1 Landscape Character

The landscape assessment contained within the Landscape and Visual Appraisal (LVA) considers the effect of the Proposed Development on the Landscape Character Types (LCTs) covering the Application Site and the surrounding area. The LVA is referred to and submitted alongside the planning application and contains the detail of which this is a summary.

According to NatureScot digital map-based national Landscape Character Assessment (LCA)[7], the application site is located in the Dipslope Farmland Landscape Character Type (LCT). Within a 5km radius, the application site is approximately 3.5km to the north of the Beachs, Dunes and Links – Tayside LCT

3.2.2 Landscape Designations

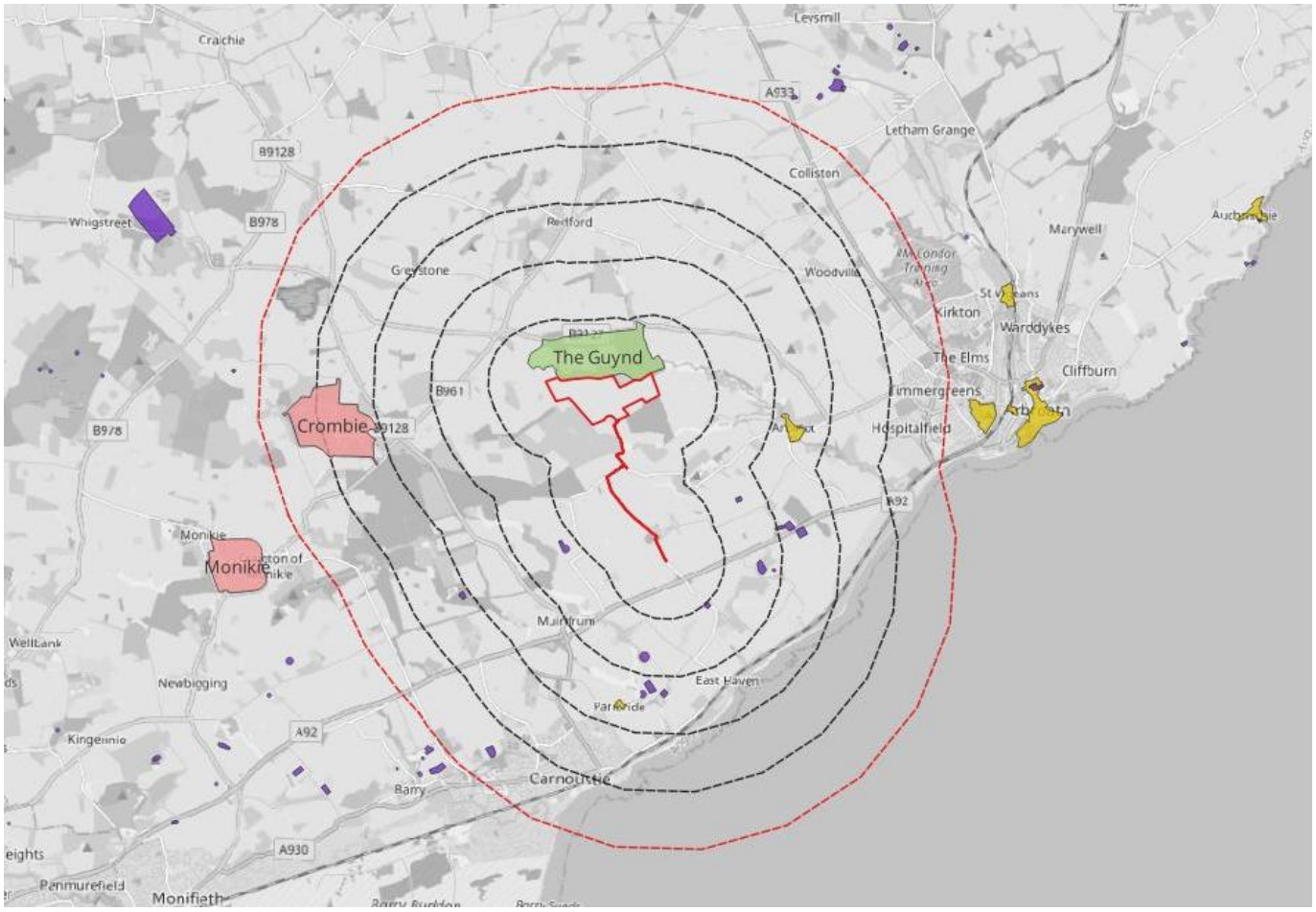
A landscape designation is an area of landscape identified as being of importance at international, national, or local level. Landscapes are designated in relation to their special qualities or features which warrant special consideration through the planning system.

[7] NatureScot: Scottish Landscape Character Types Map and Descriptions. Available online: Scottish Landscape Character Types Map and Descriptions | NatureScot

There are no statutory or non-statutory landscape-led planning designations covering the application site. However, the Guynd Garden and Designed Landscape sits adjacent to the Application Site to the north.

There are designated landscapes located near the application site, as shown on Image 3.1 below, with Country Parks in pink, Gardens and Designed Landscapes in Green and Conservation Areas in yellow. While not a landscape designation, Scheduled Monuments (dark purple) have been included on Image 3.1 due to the influence they can have on the overall character of the local area.

Image 3.1: Landscape Designations



3.3 Ecology

A Preliminary Ecological Appraisal has been undertaken for the Proposed Development. This has been submitted alongside the planning application. There are a limited number of statutory ecological designations located within 5km of the Application Site boundary, with the closest being Dilty Moss Site of Specific Scientific Interest (SSSI) located approximately 4km to the northwest. Given the large intervening distance between proposed works and any statutory designated sites alongside the lack of connectivity, the Proposed Development is considered unlikely to cause any adverse effects.

Evidence of a protected species was found on site therefore a further protected species survey was carried out. The survey found that the sett was located beyond the standard 30m disturbance buffer required by NatureScot

from the Application Site boundary. Therefore, it is considered unlikely that this sett will be impacted by the works.

The Elliot Water, close to the site, and its tributaries, provides suitable holt, resting and foraging habitat for otters and has connectivity to optimal terrestrial habitats. The proposed work has the potential to impact otter through disturbance during the construction phase.

Due to the evidence of recent activity at the site and suitability of the Elliot Water network, and wider habitats to support otter, a targeted otter survey was carried out. No otters were noted from this camera trap survey, and it can therefore be assumed that this is not a breeding otter holt and a 30m buffer is sufficient to be placed around the targeted area. This 30m buffer is also located beyond the Application Site boundary so would not be impacted by the Proposed Development.

3.4 Cultural Heritage & Archaeology

A Cultural Heritage Assessment (CHA) was undertaken to accompany the planning application. The assessment notes that, in addition to known archaeological remains, there is possibility that unknown and currently invisible remains could survive below the ground surface. However, taking into consideration the archaeological and historical evidence discussed in the CHA, overall, it is judged a Low potential for archaeological remains dating from the Roman, early medieval, medieval and modern periods to survive within the Application Site, though it is acknowledged that the limited evidence for the earlier periods may be due to the lack of past archaeological interventions within the area.

The Guynd Garden and Designed Landscape (GDL) is situated to the northern boundary of the Application Site. However, the tree belt that extends along the Southern edge of the GDL conceals a marked drop in the topography which means that the core of the GDL to the north lies at a lower level than the agricultural fields to the south where the solar arrays are proposed. This means that any visibility from the interior of the GDL is likely at worst to be limited to glimpses and the potential for impacts upon the setting and character of the GDL will be limited to the appearance of the solar array in front of the tree belt when viewed from the south. However, given the nature of the landscape to the south, this visibility will be most apparent when viewed from within the Application Site boundary from where the GDL appears as a linear plantation and cannot therefore be read as an enclosed landscape. This means that it is less sensitive to changes to the south than it would be to either internal changes or changes that would be clearly visible from within. For this reason, it is considered that the Magnitude of Impact of the Proposed Development upon the setting of the GDL is predicted to be Low.

No effects upon the settings of the other designated assets are predicted due to the intervening topography, vegetation and structures.

Given that no setting impacts above a Low adverse level have been predicted, no mitigation for setting is considered necessary.

It should be noted that an offset to the northern perimeter boundary of the Proposed Development from the southern boundary of the Guynd GDL by 10-15m has also been included within the design.

3.5 Flood Risk & Drainage

A Flood Risk Assessment & Drainage Strategy (FRA&DS) has been undertaken to accompany the planning application. As highlighted in the FRA&DS, the risk of flooding from all sources at the Application Site boundary have been assessed and it can be concluded that all sources have a negligible to low risk.

The solar panels will be mounted on raised frames and therefore raised above surrounding ground level allowing flood water to flow freely underneath. Therefore, there will be no loss of floodplain volume as a result of the Proposed Development. The Proposed Development is free draining through perimeter gaps around all panels, allowing for infiltration as existing within the grassland/vegetation surrounding and beneath the panels. There will be minimal increase in impermeable area meaning the proposals will not increase surface water flood risk elsewhere. Any surface water exceeding the infiltration capacity of the surrounding strata will naturally drain to the unnamed land drains in line with the existing scenario.

Furthermore, the heavily managed agricultural land will be replaced with grassland. This will help to reduce run off rates by increasing the roughness of the ground, help to increase infiltration by reducing compaction, and improve water quality by reducing erosion and mobilisation of pollutants. As a result, runoff rates may be reduced following development when compared to the existing greenfield scenario.

3.6 Noise

An Acoustic Impact Assessment (AIA) has been undertaken for the Proposed Development. The Proposed Development has the potential to generate noise throughout the construction phase from the construction of the solar array and associated infrastructure. However, this is for a short duration.

As concluded from the AIA, the impact resulting from the operation of the site is not considered to be significant and will not have a detrimental impact to the amenity of communities or individual dwellings.

The property with the highest predicted levels belongs to the landowner and was unoccupied at the time of the background sound survey. It should be noted that this property is completely shielded by a number of farm buildings which are located between the grid transformer and the property. Since the grid transformer is the most significant contributor to the predicted sound levels, it would be expected that in practice, these predicted levels would be significantly reduced as a result of the nearby buildings. The background levels at this location were the highest most likely attributable to the farming activities and equipment, including a grain drier, located nearby.

3.7 Glint and Glare

In accordance with industry guidance, road receptors at up to 1 km from solar panels may be considered in terms of potential for glare impact. The B9127 is located approximately 750m north of the Proposed Development. Given the PV arrays are to be orientated south, glare directed to the north is not geometrically possible. Therefore, it is reasonable to conclude that there will be no glare predicted towards road users along the B9127. As such, potential impacts on road infrastructure were not considered further.

A high-level receptor review does not indicate any aviation infrastructure within 10km of the Proposed Development. As such, aviation receptors were not included within the modelling assessment.

In addition to this, a high-level receptor review indicated no railway infrastructure within 100m of the Application Site as per industry guidance. Therefore, no rail receptors will be considered within the modelling assessment.

Technical glare modelling was undertaken for the potential impact of the Proposed Development on nearby sensitive residential receptors. The modelling predicts no glare towards three of the ten modelled residential receptors, while low impact glare was predicted at four. At three of the modelled residential receptors, the model predicted glare for less than 60 minutes daily but at an incidence of potentially greater than three months of the year. However, further review of mitigating factors such as additional screening/obstructions, the separation distance between reflecting solar arrays and the receptor locations and the extent to which cloud cover and glare impacts coincide indicated that the residual glare impact at these receptors is low. No further mitigation is recommended.

On this basis, no mitigation is recommended. As such, the Proposed Development does not conflict with the adopted national and local planning policy.

4. Design Evolution

4.1 Design Process and Changes

The design process for the Proposed Development has been an iterative one. As environmental constraints and sensitivities have been identified, the layout of the Proposed Development has undergone a series of modifications to avoid and/or reduce potential environmental effects through careful design.

Site surveys and the identification of various environmental considerations alongside consultation with the local community and stakeholders has allowed the design to be shaped accordingly to feedback received.

This process and how feedback received has shaped the design is summarised in the accompanying Pre-Application Consultation (PAC) Report submitted alongside the planning application.

There were numerous design changes that were made to the Proposed Development from the initial layout proposed at the Public Exhibitions following the feedback from the local community and also as a result of the technical and environmental assessments on site. These are as follows:

- Reduction in the overall size of the Proposed Development in terms of land area utilised by solar panels.
- The field adjacent to Kelly Moor has been excluded from the development. This alteration moves the development further away from this residential dwelling in order to reduce visual impact. As per the Illustrative Landscape Masterplan (ILMP), new hedgerow planting is proposed in this area, aligning with and therefore reinstating the historic field boundary.
- Landscape enhancements are detailed in the ILMP and include new hedgerow planting, infilling gaps in existing hedgerows and a 5m wide planting buffer to the western edge of Hunter's Path.
- New hedgerow planting along site boundaries that will grow up to 2.5m in height of approximately 673m and new hedgerow planting that will grow up to 3.5m in height of approximately 1325m.
- As per guidance found in the Angus Council Flood Risk and Surface Water Drainage Requirements Document[8], a 6m buffer has been implemented on each side of the 1m channel within the Application Site boundary.
- A 10-15m setback from the Guynd located to the north of the Application Site has been implemented in order to reduce impact on this Garden and Designed Landscape.
- Evidence of protected species was found on site in the initial ecological site walkover survey. A further protected species survey was carried out at the site. A standard 30m disturbance buffer required by NatureScot was implemented around the sett however the sett was located beyond the Application Site

[8] Angus Council: Technical Guidance for Developers and Regulators: Flood Risk and Surface Water Drainage Requirements (September 2023). Available online: Flood Risk and Surface Water Drainage Requirements

boundary from the Application Site boundary and therefore it is considered highly unlikely that this sett will be impacted by the works.

- Due to the evidence of recent activity at the site and suitability of the Elliot waters and wider habitats to support otter, a targeted otter survey was carried out. No otters were noted from this camera trap survey, and it can therefore be assumed that this is not a breeding otter holt and a 30m buffer is sufficient to be placed around the targeted area. This 30m buffer is also located beyond the Application Site boundary so would not be adversely impacted by the Proposed Development.
- During the second public consultation, the Applicant received feedback from the community about the proposed addition of battery energy storage to the Proposed Development. Following further review, including consideration of the benefits that battery energy storage would bring to the Proposed Development compared with the extra infrastructure needed to facilitate this along with feedback from the local community, the battery energy storage element has now been removed from the Proposed Development.
- The existing site track will be preserved for access to the Guynd, with inverters positioned away from the Guynd and the access track to protect its amenity.

Other factors that have informed the design and layout of the Proposed Development are considered in Section 5.0 below.

5. Design Solution

5.1 Design Policies

The Proposed Development needs to comply with the design policies in the Angus Local Development Plan. The relevant policy is as follows:

- Policy DS3: Design Quality and Placemaking.

5.1.1 Policy DS3: Design Quality and Placemaking

This policy seeks to ensure development proposals should create buildings and places where are:

- Distinct in Character and Identity
- Safe and Pleasant
- Well Connected
- Adaptable
- Resource Efficient

Section 5.1.1.1 – Section 5.1.1.5 addresses the above aspects.

5.1.1.1 Distinct in Character and Identity

The Proposed Development is appropriately screened by surrounding existing woodland and hedgerows alongside proposed hedgerow and tree planting in order to respect the character of the area and help ensure that it is an appropriate distance from potentially sensitive residential or environmental receptors.

Modern technology in solar PV panels would be adapted within this proposal to help ensure high quality and longevity.

5.1.1.2 Safe and Pleasant

The Proposed Development would be safe and well-managed to help ensure longevity of its use and contribution to net zero targets.

5.1.1.3 Well Connected

The Proposed Development will not be publicly accessible.

5.1.1.4 Adaptable

The Proposed Development would be operational for a period of up to 40-years following which the solar array and its associated infrastructure would be decommissioned and its components removed from the site. This would ensure that the site has built in flexibility to adapt to changes of potential land use in the future.

5.1.1.5 Resource Efficient

The Proposed Development is inherently sustainable and represents state of the art solar technology. It has been designed with sensitivity to natural and historical features and ensures that noise is minimal. The enhancement of biodiversity and habitats such as tree and hedgerow planting is detailed in the ILMP submitted alongside the planning application. Additionally, the Arboricultural Implications Assessment submitted with the planning application concludes that the Proposed Development will have no impact to trees from construction or shading.

The Proposed Development has been carefully sited and positioned for maximum solar gain in an area of open rough grassland free from shade and therefore would achieve high environmental performance and contributes to Angus Council's Sustainable Energy and Climate Action Plan (SECAP)[9].

5.2 CABE Guidance

The Commission for Architecture and the Built Environment have published guidance on the preparation of Design and Access Statements which is supported by most planning departments. CABE Guidance identifies the following criteria in relation to design:

- ***"Use**: What buildings and spaces will be used for.*
- ***Amount**: How much would be built on the site.*
- ***Layout**: How the buildings and public and private spaces will be arranged on the site, and the relationship between them and the buildings and spaces around the site.*
- ***Scale**: How big the buildings and spaces would be (their height, width and length).*
- ***Landscaping**: How open spaces will be treated to enhance and protect the character of a place.*
- ***Appearance**: What the building and spaces will look like, for example, building materials and architectural details."*

Although this Guidance mainly pertains to traditional building development, the same principles apply to the design of the Proposed Development. This Section of the DAS considers the Proposed Development in relation to these criteria where relevant.

5.3 Use

It is proposed that the use of the Application Site would be for the development of a ground-mounted solar array and the associated infrastructure. Planning permission is being sought for a temporary period of 40-years, following which the Proposed Development would be decommissioned and the land restored.

[9] Angus Sustainable Energy and Climate Action Plan (2021). Available online: Angus Sustainable Energy and Climate Action Plan (PDF) | Angus Council

The Proposed Development has been designed to provide a source of renewable electricity to support a transition to a low carbon economy. Throughout the operational phase, the land beneath and between the solar arrays would be used for agriculture e.g. sheep grazing.

The Proposed Development is easily reversible, with minimal disturbance during the construction phase. Therefore, the land would be capable of being restored as close to its original condition, or better, at the end of the operational period. At the end of the 40-year operational period, should the Applicant wish to continue to generate electricity onsite, this would be subject to a new planning application. The removal of all panels and associated infrastructure would be conditioned by an appropriately worded condition on any consent.

5.4 Amount and Layout

The Applicant has undertaken a rigorous technical and environmental site assessment process to iterate the design and identify the most appropriate scale and layout to ensure that the Proposed Development is set sensitively into the surrounding environment. This process has included feedback from the local community as well as the results of site surveys which identified the environmental constraints of the site and surroundings. These aspects have been considered alongside the need to maximise the energy generation potential of the Application Site.

The final layout of the Proposed Development is illustrated on Image 5.1 and 5.2 below.

Image 5.1: Layout Plan – Infrastructure

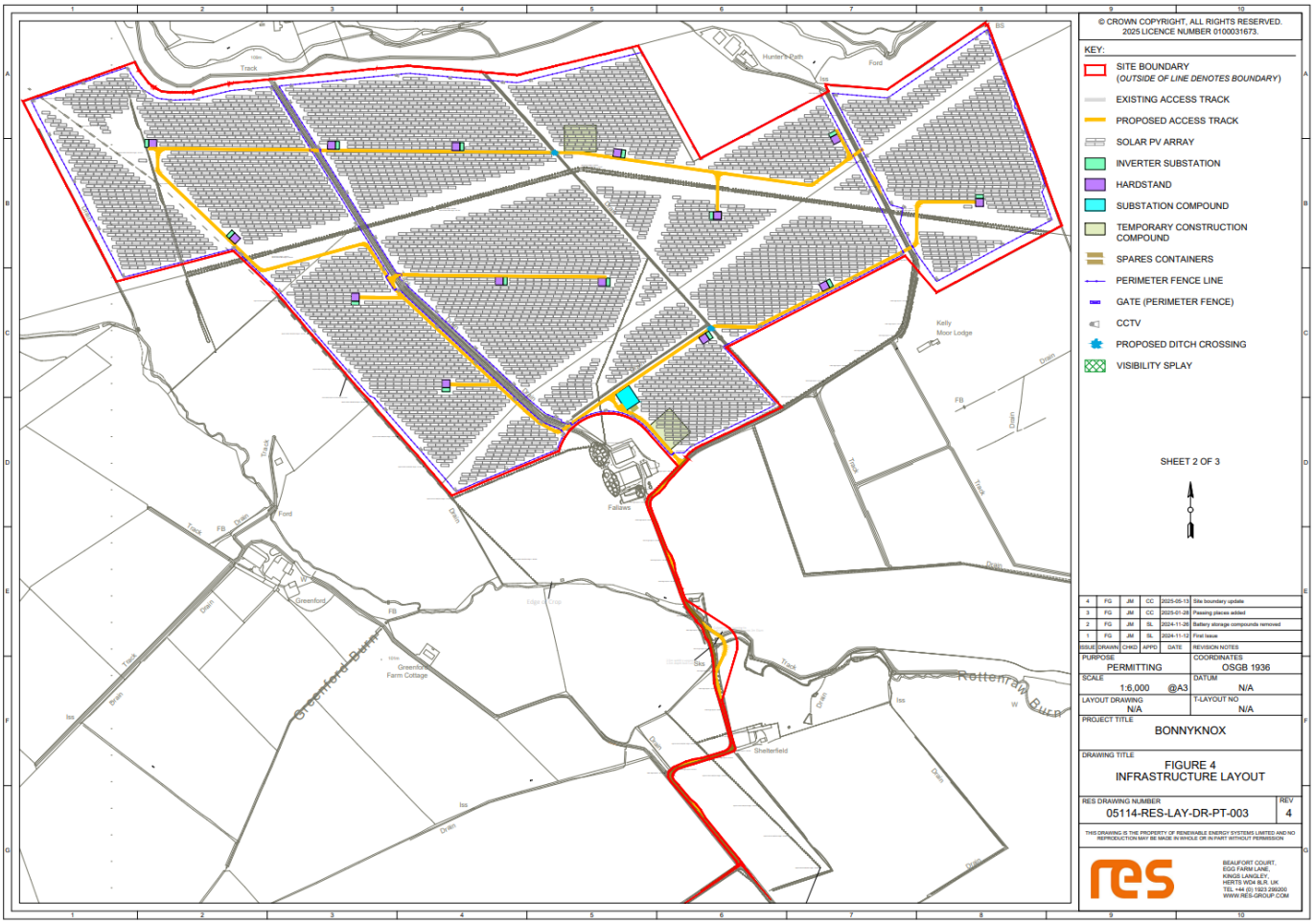
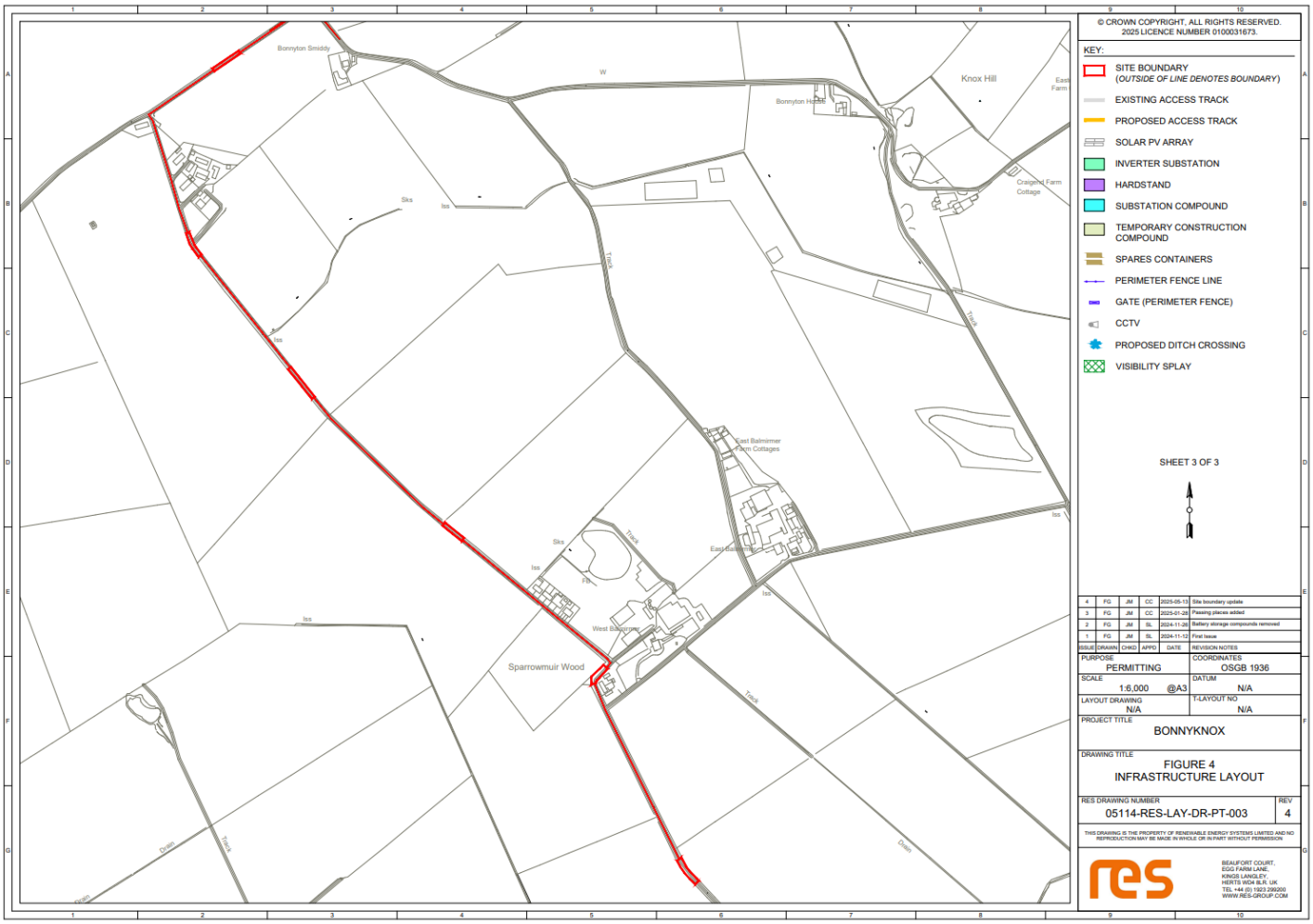


Image 5.2: Layout Plan – Access Route



As a result of these technical and environmental assessments, the key site considerations include the following:

- Vehicular access taken from the A92, Bonnyton Road and a short length of an Unclassified Road between the junction with Bonnyton Road;
- The field adjacent to Kelly Moor has been excluded from the development. This alteration moves the development further away from this residential dwelling in order to reduce visual impact. New hedgerow planting is proposed at the historic field boundary to further screen views at Kelly Moor.
- A 6m buffer has been implemented on each side of the 1m channel within the Application Site boundary.
- A 10-15m setback from the Guynd located to the north of the Application Site has been implemented in order to reduce impact on this Garden and Designed Landscape.
- Preserving existing hedgerows, trees and woodland; and
- Ecological enhancement and retention and enhancement of habitats on site as detailed in the ILMP.

5.4.1 Scale and Appearance

The Application Site covers an area of approximately 95.45 hectares of rough grassland. As detailed throughout this DAS, the scale of the Proposed Development has been determined through the technical assessment process undertaken by the Applicant, as well as the environmental considerations.

The dimensions of the built elements of the Proposed Development are discussed below.

5.4.1.1 Solar PV Modules

The solar PV modules would be supported on galvanized steel or aluminium support structure that is supported on embedded piles. The modules would be orientated to face the south at a range of panel tilts between 10° and 30°, subject to detailed design. The lowest point of the modules is approximately 0.8m above ground and is designed to allow sheep to graze underneath the arrays. The maximum total structure height will be approximately 3.5m. There will be a minimum clearance spacing between the rows of arrays of approximately 2m to avoid shading by adjacent arrays (please see Figure 8: Typical PV Module and Rack Detail (Drawing Number: 05114-RES-SOL-DR-PT-001)).

5.4.1.2 Inverter Units

There would be 14no inverter units located at the Application Site which would be sited at a height of approximately 3m, length of approximately 5m and a width of approximately 3m. Transformers would also be located adjacent to the inverter units on site, sited at a height of approximately 2.4m, length of approximately 4.1m and a width of approximately 3m (please see Figure 12: Typical Inverter Substation (Drawing Number: 05114-RES-SOL-DR-PT-002)).

5.4.1.3 DNO Substation

A DNO substation would be required for the solar farm. This substation would be scaled at a height of approximately 4.6m, length of approximately 37m and a width of approximately 30.1m (please see Figure 13: Client/DNO Substation Plan and Elevations (Drawing Number: 05114-RES-SUB-DR-PT-002)).

5.4.1.4 Fencing and CCTV

Deer fencing would be constructed around the Application Site for health and safety and security reasons at a height of approximately 2.4m. The fencing is anticipated to be high tensile steel wire with hinge joints (please see Figure 11: Typical Deer Fence (Drawing Number: 05114- RES-SEC-DR-PT-002)).

Security fencing would be constructed around the proposed Client/DNO Substation. This fencing is anticipated to be weld mesh and be sited at a height of approximately 2.4m (please see Figure 9: Typical Security Fence Detail (Drawing Number: 05114-RES-SEC-DR-PT-001)).

Inward facing CCTV security cameras at a maximum height of 3.5m constructed on concrete foundations are anticipated to be installed on the security and deer fencing. There will be no artificial lighting around the site as CCTV is inward facing infra-red. However, floodlights are to be used for infrequent maintenance and operational activities only. Lighting will be manually controlled rather than PIR, in order to prevent unnecessary activation (please see Figure 10: Typical Security CCTV Detail (Drawing Number: 05114-RES-SEC-DR-PT-003)).

5.4.1.5 Access Track

The access tracks leading into the site would be approximately 4m wide with 0.25m shoulders at either side (please see Figure 6: Typical Access Track Detail (Drawing Number: 05114-RES-ERW-DR-PT-001)).

5.4.1.6 Construction Compound

There would be 2no temporary construction compounds located at the Application Site boundary in order to facilitate the construction of the Proposed Development. The compound would allow for the laydown of materials and vehicle parking throughout the duration of the construction phase. The construction compounds would be sited at a maximum height of approximately 2.7m, length of approximately 60m and width of approximately 50m (please see Figure 7: Typical Temporary Construction Compound Layout (Drawing Number: 05114-RES-CTN-DR-PT-001)).

5.5 Landscaping

The Application Site would undergo a change in character with the introduction of the solar panels and associated infrastructure, increasing the manmade appearance of the site. Nonetheless, proposed native hedgerow and tree planting has been included in the Illustrative Landscape Masterplan submitted alongside the planning application in order to enhance the landscape character and provide natural screening to the Proposed Development from key viewpoints.

6. Access

6.1 Introduction

As outlined within Planning Circular 3/2022: Development Management Procedures, Design and Access Statements must *"explain how the applicant's policy/approach adopted in relation to access fits into the design process and how this has been informed by any development plan policies relating to access issues."*

6.2 Planning Policy

Compliance with national and local planning policy is set out in the Planning Statement. In respect of transport, the most relevant Local Development Plan Policy is Policy PV3: Access and Informal Recreation.

In the case of the Planning Statement, during the operational phase, the Proposed Development will be largely autonomous and does not require resident staff. There will be a small number of regular trips to the site, comprising of deliveries, regular maintenance visits and associated parts deliveries. There will be no on-site employment related to the panels except during construction.

For the construction phase, the important requirement is that the HGV delivery vehicles can access the site safely. This has been considered in the Framework Construction Traffic Management Plan included as a chapter to the Transport Statement.

6.3 Site Access & Route to Site

During the operational phase, the Proposed Development would be unmanned and monitored remotely. Therefore, access would only be necessary for maintenance and landscaping. The operational stage of the development would not give rise to a significant number of additional vehicle trips. As such, the impact on traffic levels on the road network surrounding the site would be negligible.

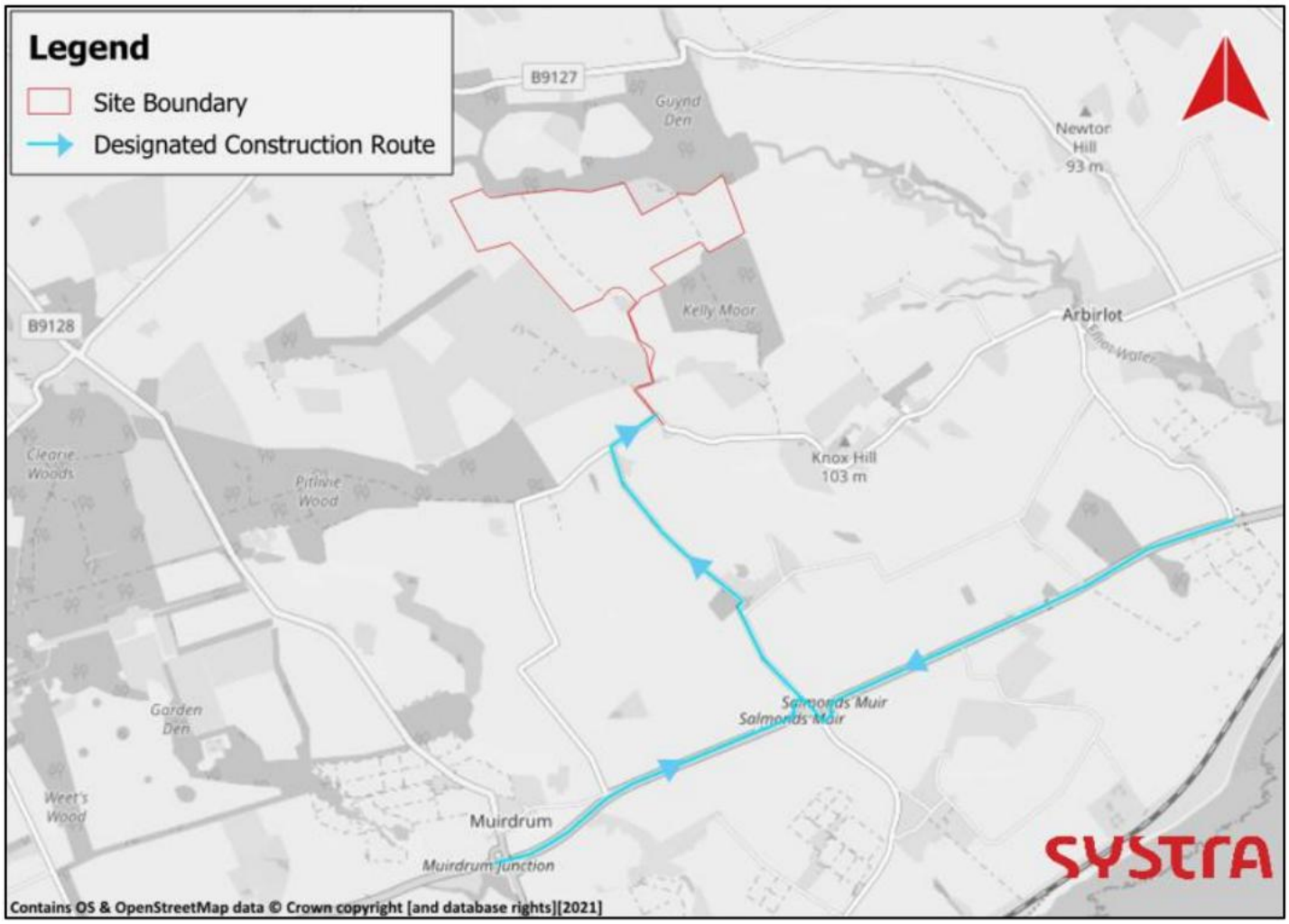
The Proposed Development is situated on land currently utilised for agricultural purposes. Bonnyton Road lies to the south of the Application Site, and it is noted that the red line boundary includes the road link between the Application Site and the A92 where passing place locations are proposed.

A designated construction route has been identified for this development in order to minimise construction traffic impacts, which is via the A92, Bonnyton Road and a short length of an Unclassified Road between the junction with Bonnyton Road and the site access point. It is proposed that the construction access road will be designated with use of other routes such as the unclassified road network to the southeast of the site prohibited in order to keep construction vehicles on appropriate routes. The Designated Route will be identified within the

CTMP that will support the construction stage and measures will be put in place to prevent traffic from using other routes which are prohibited.

The designated construction route is detailed in Image 6.1 below:

Image 6.1: Designated Construction Route



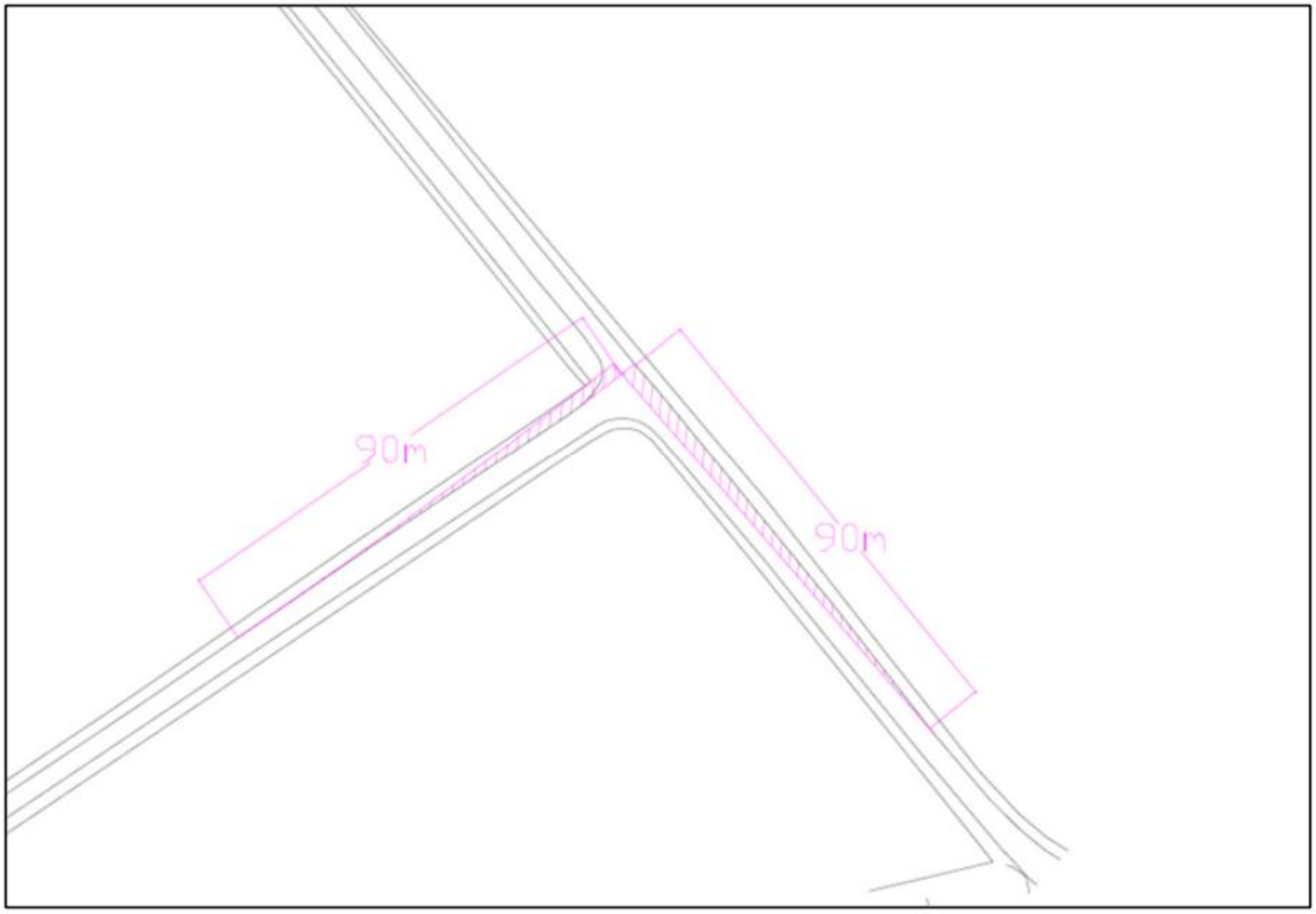
6.3.1 Site Access

The site access will take the form of a priority junction with Bonnyton Road. In order to assess the suitability of the existing access junction in relation to visibility splays, an ATC was commissioned adjacent to the Proposed Development in order to look at the speed of vehicles on the proposed site access road. The survey revealed the following statistics is relation to vehicle speeds and traffic flows:

- The average speed of eastbound traffic is 23.7mph
- The 85th percentile speed of eastbound traffic is 29.5mph
- The average speed of westbound traffic is 21.9mph
- The 85th percentile speed of westbound traffic is 27.5mph

Based on the measured design speed, there is a requirement for visibility splays to be provided at the junction that measure 2.4m by 90m. These visibility splays can be delivered and are illustrated in Image 6.2 below.

Image 6.2: Site Access Junction Visibility Splays



6.4 Public Access

In the interest of health and safety, and prior to construction commencing, the Application Site would be secured through the erection of security fencing to limit public access.

6.5 Core Paths

There are no Core Paths located within or adjacent to the Application Site.

6.6 Transport

A Transport Statement has been produced and is attached as part of the planning submission. Given the nature of the development, a high proportion of the construction stage trips are expected to be made by private vehicle. Once operational, the solar farm will generate a very small number of vehicle trips for servicing and maintenance.

6.6.1 Sustainable Modes of Transport

The proposed development is more than 5km west of the Arbroath Settlement which is the nearest residential centre from the proposed development. There is a likelihood that some of the construction workforce may be drawn from Arbroath but the distance to the site and the lack of any direct walking routes means that the proposed site is not really accessible by walking. The access route to the site will be via the A92 and then the Unclassified Road network heading north from the site which includes Bonnyton Road. There are no footways adjacent to the carriageway along the sections of the road that bound the site.

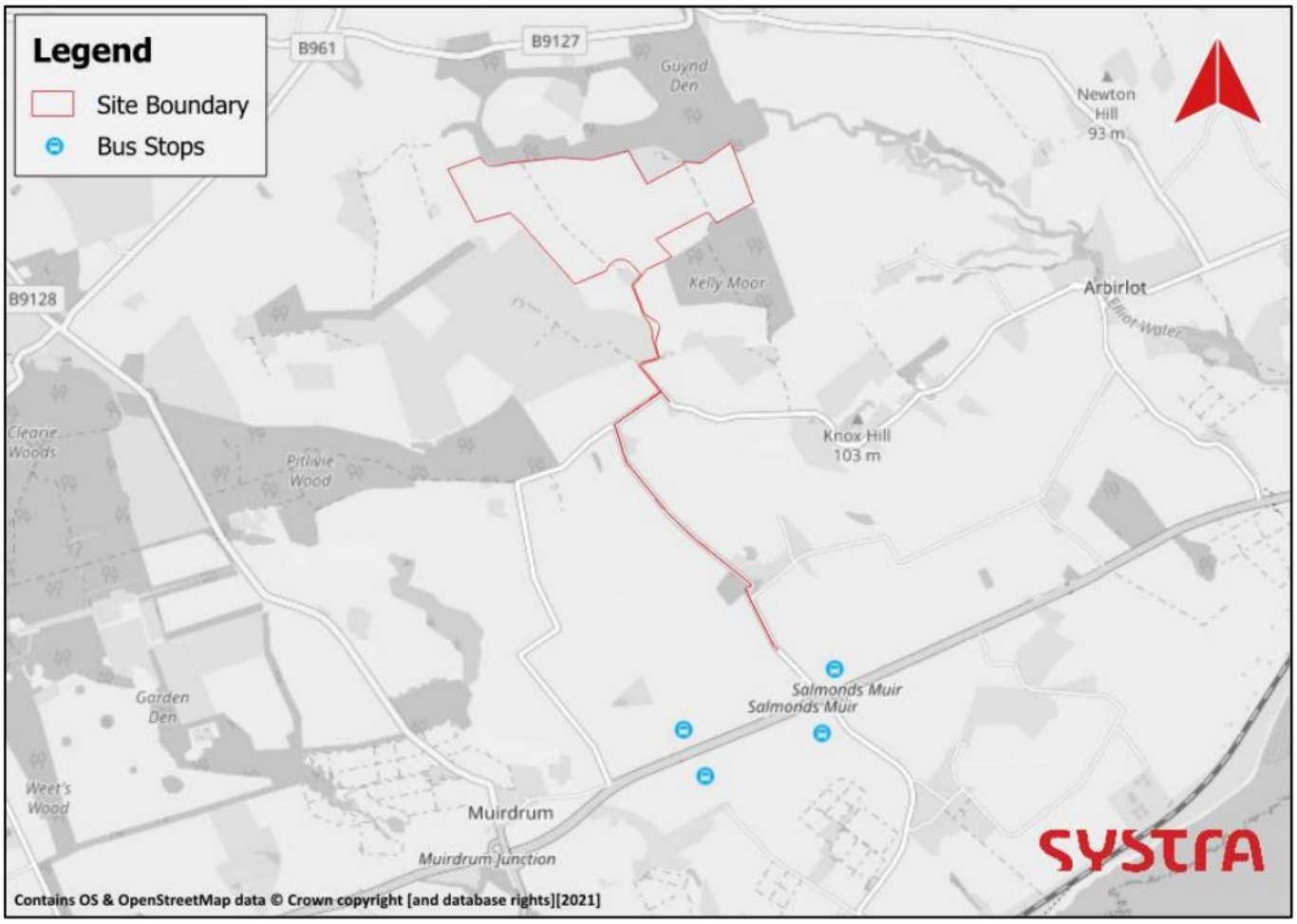
Regarding cycling, there is a dedicated cycle path that runs parallel with the A92, to the south of the site which can be reached via Bonnyton Road. The path sits to the south of the A92 carriageway to the south of the site and provides a link to Arbroath to the east and to Dundee to the southwest. The link between the A92 and the site is conducive to cycling so it can be considered that the site is accessible by cycle although very few cycle trips are expected.

The nearest bus stops to the site are located on the A92 to the south of the site and are some 3.5km from the site access which is well beyond what is considered to be an acceptable walking distance. Image 6.3 below indicates the location of the bus stops in relation to the Application Site.

There are 2 buses per hour serving the A92 bus stops linking to Dundee, Perth and Arbroath but the services are only likely to be used by construction workers associated with the proposed site if they are provided with a drop-off and pick-up facility from the site. This may be possible but would be on an ad-hoc basis.

Given the above, it can be concluded that the vast majority of trips to the site during the construction phase would be made by vehicle as a result of tools and equipment needing to be carried and due to the rural location of the development. This should not, however, be seen as a barrier to development at this location given that the proposed land use is commensurate with rural locations.

Image 6.3: Bus Stops in Vicinity of Site



6.6.2 Traffic Generation

The construction period of the Proposed Development is expected to start in 2027 and take place over a 12-month period. Temporary access tracks will be removed and the Application Site reinstated at the end of the construction period. During this time, there are expected to be approximately 2,900 vehicle trips associated with the construction phase, including deliveries, staff travel and visitors to the Application Site. It is anticipated that there will be approximately 825 one-way HGV trips over the 12-month construction period. Assuming an equal split of HGV journeys, it is anticipated that there will be 70 one-way HGV journeys a month. Assuming a 6-day working week and 4 and a half weeks in a month this equates to approximately 27 working days a month, 5 two-way HGV trips per day and 31 two-way HGV trips per week.

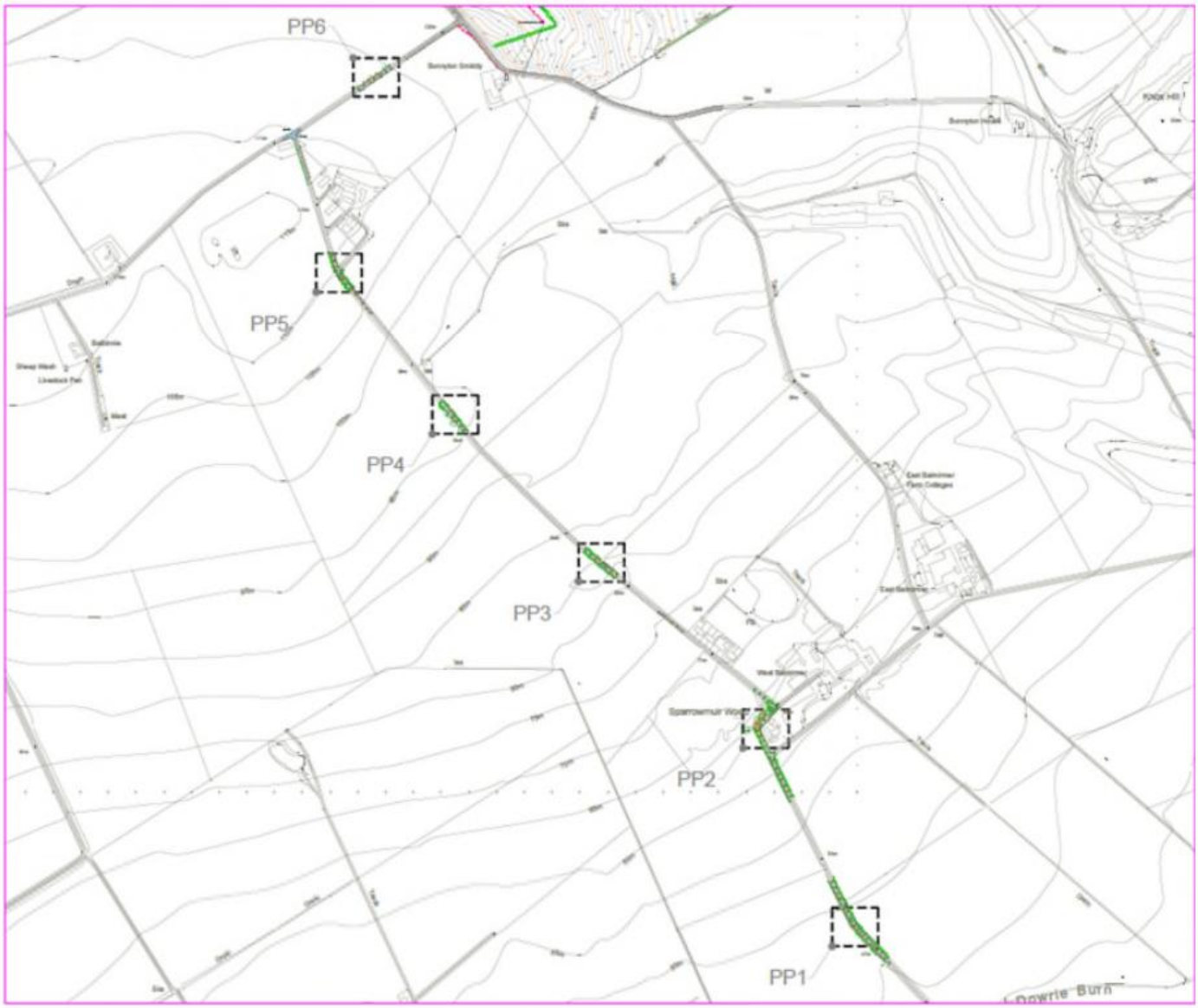
Staff will be expected to arrive on site by 7:00 and will typically depart between 15:00 and 18:00. The arrival and departure of workers is unlikely to coincide with 'traditional' network AM and PM peak periods. Given the expected level of traffic generation, it is not anticipated that the development will create additional congestion or delay on the strategic or local road network. With a suitable CTMP in place, it is considered that any potential impacts can be minimised and well controlled.

6.6.3 Mitigation Scheme for Access Route

The width of Bonnyton Road and the Unclassified Road that links Bonnyton Road to the site access point does not allow for two HGVs to pass each other. Notwithstanding that there are just 5 two-way HGV trips per day during the construction period, it is considered that mitigation is required to facilitate two-way working on the access route from the A92.

The proposal for mitigation takes the form of providing additional passing places along the route. An indicative scheme of passing places has been drawn up and forms part of the Proposed Development. In total, it is proposed to provide 6no passing places with 5no provided on Bonnyton Road and 1no on the Unclassified Road between Bonnyton Road and the site access point. The 5no passing places on Bonnyton Road would be constructed within the adopted road verge areas whilst the passing place on the Unclassified Road requires the addition of land to the north of the road which is under the Applicant's control. The location of the passing places is detailed in Image 6.4 below.

Image 6.4: Proposed Passing Place Scheme



Overall, it is considered that with the physical mitigation proposed implemented along with the support of the CTMP, it is considered that the impacts associated with the construction of the Proposed Development can be managed appropriately without significant impacts on local residents and other users of the road network.

7. Energy Statement

As discussed in the Net Zero Strategy[10] published in October 2021 and last updated in April 2022, the UK Government has made it clear that solar and wind will be the backbone to achieving a secure, affordable and low carbon energy supply. Analysis from the Climate Change Committee and other independent bodies shows that the UK will need to deploy at least 40GW of solar by 2030 if it is to achieve net zero by 2050. Solar Energy UK[11] estimates that residential and commercial development is expected to account for nearly 37% (15GW) of the total 2030 solar PV deployment with the remaining 63% (25GW) coming from large scale ground mounted solar farms.

The Climate Change (Scotland) Act 2009 initially established long term statutory targets for Scotland of reducing greenhouse gas emissions by at least 80% by 2050, with an interim target of reducing emissions by at least 42% by 2020.

Furthermore, the Scottish Government set out short, medium, and long-term goals and when they are to be achieved by in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. It sets targets for the reduction of Scotland's emission of all greenhouse gases to net-zero by 2045, in doing so amending the Climate Change (Scotland) Act 2009. The Climate Change Act reaffirms Scotland's commitment to remain at the forefront of global ambition, increasing its reduction in emissions targets to limit global temperature rises to 1.5 degrees Celsius above pre-industrial levels. Scotland as a nation propose to reduce emissions by 56% by 2020, 75% by 2030, and 90% by 2040.

In addition to this, the Scottish Government produced the Renewable Action Plan (RAP) in 2009 to drive development of renewable energy. The 2020 Routemap for Renewable Energy in Scotland (2011) is an update of the 2009 Action Plan, reflecting the Scottish Government's target of meeting an equivalent of 100% demand for electricity from renewable energy by 2020, as well as the target of 11% renewable heat. The executive summary for the Routemap states that:

"Across all scales of renewable generation, from householder to community to large-scale commercial schemes, the Scottish Government is working to make Scotland the renewables powerhouse of Europe. The benefits are not only in terms of energy generation and future security of supply but can underpin our economic recovery over the next decade and beyond. This Routemap for renewable Energy in Scotland sets out how we can meet our challenging targets in harmony with the local environment and make a wider contribution to emission reductions through the displacement of fossil fuel generation."

[10] HM Government: Net Zero Strategy: Build Back Greener (2021). Available online: net-zero-strategy-beis.pdf (publishing.service.gov.uk)
[11] Solar Energy UK: Lighting the Way: Making Net Zero a Reality with Solar Energy. Available online: Lighting the way: Making net zero a reality with solar energy • Solar Energy UK

Additionally, as detailed in the assessment within the Planning Statement submitted alongside the planning application, the Proposed Development aligns with the NPF4 by contributing to the decarbonisation of electricity generation and hence, sustainable development.

The Climate Change Committee advised the UK Government to set its Sixth Carbon Budget to require a reduction in emissions of 78% by 2035, relative to 1990 levels, a 63% reduction from 2019[12]. The accompanying document 'The Sixth Carbon Budget: Electricity Generation'[13] contains a summary of content for the electricity generation sector. The Report identifies the *"need to continue to reduce emissions from electricity generation, while meeting new demands from the electrification of heat and transport"*. In order to meet this need, the UK will require a portfolio of renewable energy generation technologies, including variable renewables, such as solar PV.

The Report states that *"variable renewables (i.e. wind and solar) have a key role to play in the decarbonisation of electricity generation, as they can provide zero-carbon electricity generation at low cost"*. The Report also highlights that the UK has the potential to deploy capacity to generate 145 – 615 GW of solar capacity.

Furthermore, The Powering Up Britain report [14] (April 2023) emphasises energy security as one of the Government's greatest priorities and sets out how the Government aim to enhance our country's energy security, seize the economic opportunities of this transition and deliver on the UK's net zero commitments. Regarding solar, the report states that:

"Solar has huge potential to help us decarbonise the power sector. We have ambitions for a fivefold increase in solar by 2035, up to 70GW, enough to power around 20 million homes. We need to maximise deployment of both ground and rooftop solar to achieve our overall target. Ground-mount solar is one of the cheapest forms of electricity generation and is readily deployable at scale. Government seeks large-scale solar deployment across the UK, looking for development mainly on brownfield, industrial and low/medium grade agricultural land."

The Proposed Development will have a maximum capacity of 49.9MW; a solar farm of this size will generate a significant amount of electricity from renewable sources, therefore offsetting the need for power generation from the combustion of fossil fuels including coal and oil. Consequently, during its operational lifespan (40-years),

[12] Climate Change Committee (2020) Sixth Carbon Budget. Available Online: Sixth Carbon Budget - Climate Change Committee (theccc.org.uk)
[13] Climate Change Committee (2020) The Sixth Carbon Budget: Electricity Generation. Available Online: Sector-summary-Electricity-generation.pdf (theccc.org.uk)
[14] HM Government: Powering Up Britain. Available online: Powering Up Britain - Joint Overview (publishing.service.gov.uk)

the Proposed Development has the potential to displace electricity generated from fossil fuels, representing carbon savings.

8. Conclusion

This DAS is an evidence-based submission prepared with reference to the Town and Country Planning (Development Management Procedure) (Scotland) Regulation 13. It includes a review of the current planning context surrounding the Application Site, existing site conditions, and the process carried out to design the Proposed Development.

This DAS contains high level details of the investigations and technical studies undertaken by the appointed consultant team, with the findings from the various appraisals contributing to design development. Further details can be found in the reports that are included in the planning application.

The conclusions of the reports demonstrate that the Proposed Development can be successfully delivered on the Application Site without leading to unacceptable levels of environmental effects. The resulting development proposals show how the Proposed Development can respond positively to the local landscape setting whilst additional mitigation measures have been incorporated to minimise any potentially adverse effects and thereby significantly enhancing the biodiversity value of the Application Site. The Applicant took on board feedback received from technical and environmental assessments alongside the community consultation events and the design of the layout was ultimately informed by this.

The Applicant has taken account of the feedback from the local community and the results of the technical and environmental surveys on site and have reflected these changes in the final layout of the site, ensuring that it sits sensitively in the local environment whilst maximising the generation of clean, low-cost electricity. The site is generally well screened, with additional planting proposed as part of the Proposed Development in order to greater maximise screening where required. Solar infrastructure from the fields to the south have been removed in order to reduce potential visibility and all hardstanding has been sited in order to reduce potential visibility.

Overall, the Proposed Development is appropriate in terms of design and access and the development clearly represents a necessary step towards meeting the UK's legally binding climate change and renewable energy obligations, following the declaration of a climate emergency in 2019 within the UK.

For these reasons, and because the Proposed Development is temporary and the Application Site can be restored to its pre-development state with limited intervention after its 40-year life period, it is respectfully requested that Angus Council grant Full Planning Permission for the Proposed Development.