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Chapter 5 – Landscape and Visual Impact Assessment (LVIA)

West Springfield Solar EIA Report

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Making Sustainability Happen

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Appendix 1 LVIA Methodology

Acronyms and Abbreviations

Acronym	Definition		
AOD	Above Ordinance Datum		
EIA	Environmental Impact Assessment		
ELC	European Landscape Convention		
GLVIA	Guidelines for Landscape and Visual Impact Assessment		
LCA	Landscape Character Assessment		
LCT	Landscape Character Type		
LVIA	Landscape and Visual Impact Assessment		
NPPF	National Planning Policy Framework		
OS	Ordnance Survey		
OHL	Overhead Line		
SLA	Special Landscape Areas		
SPG	Supplementary Planning Guidance		
VP	Viewpoint		
ZTV	Zone of Theoretical Visibility		

Glossary

Defined Term	Definition
Baseline	The status of the landscape and visual environment without the proposed development in place.
Core Paths	Core paths are designated route in Scotland, identified in a local authority's "Core Paths Plan", which provides the public with reasonable access to different areas of land, as outlined under the Land Reform (Scotland) Act 2003; essentially, it's a network of paths that allows people to walk, cycle, or access waterways across various terrains for recreational purposes, with no set physical standard for what a core path looks like, ranging from grassy tracks to paved walkways depending on the location.
Cumulative effects	The effects of the Proposed Development assessed together with effects from one or more different projects on the same receptor/resource.
Designated Landscape	Areas of landscape identified as being of importance at international, national or local levels, either defined by statue or identified in development plans or other documents.
Feature	Prominent elements in the landscape, such as tree clumps, church towers or wooded skylines.
Key characteristics	Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.

Defined Term	Definition			
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical processes.			
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.			
Landscape character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.			
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscape distinctive.			
Landscape Character Types (LCTs)	Distinct types of landscapes that are usually homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.			
Landscape effects	Effects on the landscape as a resource in its own right.			
Landscape quality (condition)	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.			
Landscape receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal.			
Landscape value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.			
Landscape and Visual Impact Assessment	A chapter within the EIA Report to systematically identify, predict, assess and report on the likely significant landscape and visual effects of a proposed project or development.			
Magnitude of change/ impact	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term, in duration.			
Mitigation	Term used to indicate avoidance, remediation or reduction of adverse impacts.			
Photomontage	A sequence of photographs taken from representative viewpoints which illustrate the location, size, degree of visibility or appearance of a development.			

Defined Term	Definition	
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.	
Susceptibility	The ability of a defined seascape, landscape or visual receptor to accommodate the specific offshore Project without undue negative consequences.	
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of people living, working, recreating, visiting or travelling through an area.	
Visual effect	Effects on specific views and on the general visual amenity experienced by people. (Landscape Institute and IEMA, 2013)	
Visual receptors	Individuals and/or defined groups of people who have the potential to be affected by a proposal.	
Visual sensitivity	The sensitivity of visual receptors such as residents, relative to their location and context/activity, to visual change proposed by development.	
Visualisation	Computer visualisation, photomontage, or other technique to illustrate the appearance of the development from a known location.	
Zone of Theoretical Visibility (ZTV)	A map, usually digitally produced, showing areas of land within which, a development is theoretical visible.	

5. Landscape and Visual Impact Assessment

5.1 Introduction

- 5.1.1 This chapter considers the Landscape and Visual Impact Assessment (LVIA) of the Proposed Development undertaken to support the planning application for the installation of a Solar Photovoltaic (PV) development, associated Battery Energy Storage System (BESS) and ancillary infrastructure including water tanks ('the Proposed Development') on land at Rankeilour Estate.
- 5.1.2 The 'red line boundary' of the Site is shown on **Figure 1.1** (**Chapter 1: Introduction**). The Site is located within the administrative area of Fife Council, immediately to the west of the settlement of Springfield.
- 5.1.3 The LVIA defines the existing landscape and visual baseline environments; assesses their sensitivity to change; describes the key landscape and visual related aspects of the Proposed Development; describes the nature of the anticipated change upon both the landscape and visual resource; and assesses the effects during construction, operation and decommissioning phases.
- 5.1.4 The assessment is supported by, and should be read in conjunction with, the following Figures:
 - Figure 5.1 Zone of Theoretical Visibility (ZTV);
 - Figure 5.2 Landscape Designations (including recreational routes); and
 - Figure 5.3 –. Landscape Character Assessment.
- 5.1.5 The LVIA has been informed by the following supporting appendices:
 - Appendix 1: LVIA Methodology;
 - Appendix 2: Figures;
 - Appendix 3: Visualisations and Photomontages.

5.2 The Proposed Development

5.2.1 The nature and properties of the Proposed Development result in a change to the landscape and visual environment. This section provides a description of the Proposed Development for the purpose of the assessment, identifying the main features, components of the proposal, its parameters or sizes of the elements,

and the characteristics of the development, which are the source of potential impacts.

- 5.2.2 The landscape and visual assessment is based on the design as shown in **Figure 2.1 Site Layout (Chapter 2: Site Description and Design Iterations)**, and as described in **Chapter 3: Proposed Development Description**.
- 5.2.3 The Proposed Development will consist of an array of solar photovoltaic modules orientated in a southerly direction, with an installed capacity of up to 49.9MW and a build out of 65MW. The modules will stand approximately 0.8 m Above Ground Level (AGL) at their minimum point and will be angled up to 20° to the horizontal and arranged in rows. Depending on the finalised angle of elevation, and the number of rows of modules stacked, the maximum height of the modules will be up to 2.67m AGL.
- 5.2.4 The total solar area comprises approximately 64 hectares (ha) of agricultural land, in both arable and pastoral cultivation.
- 5.2.5 The other primary components of the Proposed Development include:
 - BESS facility comprising approximately 24 No. storage units each measuring 8.3m (I) x 3.1m (w) x 2.6m (h); together with 6 No. associated PCS inverter units measuring 9.2m (I) x 5.4m (w) x 2.3m (h);
 - 1 No. Primary (DNO) substation measuring 8m (I) x 2.6m (w) x 2.7m (h);
 - 2 No. Customer (private) substations each measuring 8.1m (I) x 2.6m (w) x 2.7m (h).
 - string inverters associated with the solar panels, located at the rear of the mounting frames;
 - security palisade fencing (c.2.4m high) and double leaf access gate (c.5m wide);
 - a number of strategically located CCTV security cameras mounted on c.4.5m (height) poles;
- 5.2.6 Construction traffic will access and egress to the north of C13 Main Street. Operational access will be available from C13 Main Street at Springfield, and via the U105 near Ladybank (immediately south west of the Site). Associated internal

tracks (with a typical width of 4m) will transect the Site and provide service access to each Field.

- 5.2.7 The construction period of the Proposed Development will last approximately 9-12 months (anticipated to commence in early 2028).
- 5.2.8 In addition to the described parameters above, the potential of landscape and visual effects is determined by the siting and layout of these structures within the Site, which is part of the embedded mitigation as described in section 5.8.
- 5.2.9 The LVIA is based on the layout and other characteristics of the Proposed Development as it would appear within its surrounding landscape context.

5.3 Legislation, Policy & Guidance

- 5.3.1 The Planning Statement associated with this Section 36 application sets out the planning policy framework that is relevant to the EIA.
- 5.3.2 This section considers the following policies:
 - National Planning Framework 4 (NPF4),
 - Local Development Plan (FIFEplan)¹, and
 - Supplementary Planning Guidance associated with FIFEplan (Low Carbon Fife).
- 5.3.3 Where policies in NPF4 contradict those in FIFEplan and its associated Supplementary Guidance then NPF4, as the most recent plan, will take precedence.

Policies

5.3.4 Policies relevant to landscape character, visual amenity, and the Proposed Development are stated below.

NPF4 on Energy

Policy 11

5.3.5 Policy 11 supports renewable energy development:

e) In addition, project design and mitigation will demonstrate how the following impacts are addressed:

- i. impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;
- ii. significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised

¹ https://fife-consult.objective.co.uk/kse/event/30240/section/s1486571952464#s1486571952464

and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable;

FIFEplan

Policy 1 Development Principles

5.3.6 Policy 1 Part B indicates that development proposals must mitigate their development impact by complying with relevant criteria and policies. Part C of Policy 1 indicates that development proposals must be accompanied by information or assessments to demonstrate that they will comply with relevant criteria and supporting policies where relevant.

Policy 7 Development in the Countryside

5.3.7 Policy 7 advises that development proposals must be of a scale and nature that are compatible with surrounding uses; be well-located in respect of available infrastructure; and be located and designed to protect the overall landscape and environmental quality of the area.

Policy 10 Amenity

5.3.8 Policy 10 advises that the Proposed Development will only be supported if it does not have a significant detrimental impact with respect to visual amenity.

Policy 11 Low Carbon

- 5.3.9 Development of low carbon energy schemes such as wind turbines, district heating, solar arrays, or energy from waste will be supported provided the proposals do not result in unacceptable significant adverse effects or impacts which cannot be satisfactorily mitigated, giving due regard to relevant environmental, community and cumulative impact considerations.
- 5.3.10 Assessments will include the following considerations:
 - landscape and visual impacts, including landscape character;
 - all cumulative impacts, including cumulative landscape and visual impact, recognising that in some areas the cumulative impact of existing and consented development may limit the capacity for further development; and
 - impacts on communities and individual dwellings (including visual impact, residential amenity, noise and shadow flicker).
- 5.3.11 Solar arrays or solar farms Visual impact will be an important consideration in assessing these schemes. Rural brownfield land and land outwith green belts,

Local Landscape Areas and environmentally sensitive areas are more likely to be suitable locations for such schemes.

Policy 13 Natural Environment and Access

- 5.3.12 Policy 13 sets out that development proposals will only be supported where they protect or enhance natural heritage and access assets including: core paths, cycleways, bridleways, existing rights of way, established footpaths and access to water based recreation.
- 5.3.13 Where adverse impacts on existing assets are unavoidable, we will only support proposals where these impacts will be satisfactorily mitigated. The application of this policy will require to safeguard (keeps open and free from obstruction) core paths, existing rights of way, established footpaths, cycleways, bridleways and access to water-based recreation.

Policy 14 Built and Historic Environment

5.3.14 Policy 14 advises that development which protects or enhances buildings or other built heritage of special architectural or historic interest will be supported, whilst also setting out that developments are expected to achieve the six qualities of successful places; distinctive; welcoming; adaptable; resource efficient; safe and pleasant; and easy to move around and beyond.

Guidance

5.3.15 Cognisance has been taken of the following best practice guidelines/guidance etc:

Fife's Places Supplementary Planning Guidance (2018)

5.3.16 Fife's Places SPG (2018) sets out the expectation for developments with regard to design. This document encourages a design-led approach to development proposals through placing the focus on achieving high quality design.

Low Carbon Fife Supplementary Planning Guidance (January 2019)

- 5.3.17 This document sets out the specific information the Planning Authority would expect to be submitted for all, large scale, solar farm developments, namely:
 - Visualisations of the proposal within its context;
 - Assessment of the potential impact on Fife's natural heritage including landscape; and
 - Landscape and Visual Impact Assessment.

Assessing the impact on the Amenity of Neighbouring Properties

5.3.18 FIFEplan Policy 10 sets out the factors to be addressed when considering the impact of a proposal on amenity. The most relevant for low carbon energy proposals are, air quality; contamination; noise; odour; shadow flicker; traffic

movements; visual impact, impact on green infrastructure; glint and glare, ice throw and construction impacts.

5.3.19 The impact on amenity will be judged based upon the direct impacts on individual properties and settlements. There are no standardised setback distances that Fife Council can adopt for wind turbines or other low-carbon energy schemes, so proposals must be judged on a case-by-case basis.

Assessing the impact on Visitors and Tourism

- 5.3.20 Proposals should not result in an unacceptable impact on tourist attractions and important viewpoints and other sensitive receptors as established by Policy 11: Low Carbon Fife.
- 5.3.21 The likely impact on tourists, visitors to recreation and countryside access facilities, road and path users, and railway traffic needs to be considered prior to determining any applications.
- 5.3.22 Low carbon energy proposals must be designed to minimise impacts, both direct and indirect, on the historic environment, including the landscape setting of historic settlements; important public views of these settlements; prominent public views from these settlements to the surrounding countryside; and archaeological remains.

Trees and Development

- 5.3.23 This planning guideline is supplementary to the local plan natural heritage and environment policies of Fife local plans and supports the Council's aims of:
 - retaining trees of landscape, biodiversity or amenity significance;
 - encouraging new tree planting wherever appropriate within new development;
 - promoting a substantial renewal of Fife Council's woodland resource; and
 - effectively managing existing trees and woodland.

5.4 Consultation

- 5.4.1 Representative Viewpoints locations, which inform the necessary assessment, were agreed with Fife Council through email correspondence with Ewen Campbell, Urban Design Officer, 3 October 2022.
- 5.4.2 Fife Council provided their pre-application advice on 26 October 2022. This referred to FIFEplan Policies 1, 7, 10, 11, 13 and 14 (see section 5.3 above) and the Making Fife's Places Supplementary Guidance Document, which should be

applied with regard to the design and visual impact of the Proposed Development. Refer to Table 5-1.

Consultation Response	Applicant Action
The degree of visual change to the landscape and the public's general perception about how dominant solar farms would appear in the landscape are, however, valid considerations. Internal and external relationships between houses and new developments and the dominance that they may have upon the quality or enjoyment of life of the residents of these buildings, individually and in groups or settlements, should be fully assessed.	Potentially affected residents have been identified through the Baseline analysis (section 5.6) and are included in the assessment (section 5.9).
Consideration of the cumulative effect with the 'existing windfarm' is needed.	Fife Council online planning application database was reviewed to identify potential cumulative schemes within the study area (see Future Baseline in section 5.6).
Given its location, and existing natural screening, the application site is not highly visible from any nearby settlement, nor are prolonged views available from the road and rail network. It is anticipated, given the limited landscape value of the application site, providing appropriate screening can be provided, that the proposed solar farm development could be designed in such a way that would not have an adverse visual impact on the countryside setting. Furthermore, in this case there are a low number of third party residential properties within the vicinity of the site. These sporadic dwellinghouses are likely to have only limited ability to see the proposed development.	Potentially affected residents have been identified through the Baseline analysis (section 5.6) and are included in the assessment (section 5.9).
Hedgerows and natural heritage features - It is expected that the layout of the panel arrays will be designed in such a way as to minimise the visual impact through orientation and use of structure planting (whether that be retained existing features or new provision). The proposed layout should form an integrated network of native habitats, of sufficient width to form landscape features that help to break up the impact of the solar farm in the landscape. This will help to break up the development in views into the site, so that it is read as part of the wider landscape, in the way that fields containing polytunnels are associated with modern agriculture. The specifications of the landscape framework, including finalised boundary treatments, will be carefully considered as part of the detailed design. It is unlikely that Fife Council would welcome boundaries that are visually open - a hedgerow with hedgerow trees is likely to be the minimum accepted in terms of boundary treatments - this would still allow the solar panels to be seen but provide ecological corridors as well as some visual containment and enhancement.	Landscape Mitigation Plan (standalone EIA document) has been prepared and developed as an iterative design process, underpinning the design principles of the Proposed Development in section 5.8.
Set-backs - There should be set-backs from any existing buildings, either on the site itself or adjacent at the site edges, particularly where they are occupied as residences.	The closest residential property to the Proposed Development is at a distance of 6 m from the site and its security fence. The closest property to the proposed solar panels is Rose Cottage at a distance of 90 m, however there is

Table 5-1: Consultation Responses

Consultation Response	Applicant Action		
	no view of the solar panels from Rose Cottage as assessed in section 5.9.		
Grazing - It is generally the case with solar farms of this nature that the land beneath the panels will be grazed by sheep, which is considered an appropriate and compatible use.	The land beneath the panels will be grazed by sheep.		
Security infrastructure - One of the main concerns associated with solar arrays is the potential presence of security cameras within the fenced areas, which are not a characteristic feature of a rural landscape but appear to be a standard requirement for insurance purposes. Again, whilst there is no layout indicating how many CCTV poles are proposed, or what their locations are, a clear indication of security infrastructure should be given in any forthcoming planning application submission. The visual impact of security cameras can be reduced by hedgerow planting/ buffer strips and, if possible, by limiting cameras to changes of direction of the fence line, with cameras pointing in two directions on the same post. Increasing the distance between cameras, and using slimmer, galvanised metal posts with a light grey camera can render security cameras less visually prominent than they may otherwise be.	The advice provided by the Council has been incorporated into the embedded design proposal, as described in section 5.8.		
Substations - The location and colour of substations and the need to provide screen planting should be carefully considered to minimise their visual impact, particularly where they may be located beside a public route - i.e. core path or road.	As an embedded mitigation measure (section 5.8) the BESS, Water Tanks and PCS units will be located in a compound on the north eastern corner of Field No 8. This is a well contained location of views from the outside.		
Application submission requirements –	Visualisations and		
 Landscape and Visual Impact Assessment, 	photomontages are provided in		
 including photomontages, from agreed viewpoints, indicating fit of proposal within the landscape; Zone of Theoretical Visibility (ZTV) Assessment. 	Figure 5.1 presents the ZTV within 3 km Study area.		

5.5 Assessment Methods & Significance Criteria Study Area

- 5.5.1 The LVIA study area for the Proposed Development was set at a 3km radius from the planning application boundary, as shown in **Figure 5.1**.
- 5.5.2 It is a common LVIA practice that the extent of the study area for a development proposal is broadly defined by the visual envelope of the Site and the anticipated extent of visibility arising from the development itself, based on the Zone of Theoretical Visibility (ZTV) study and through field survey verifications of the ZTV, as the latter does not take account of the effects of distance.
- 5.5.3 The study area has not been agreed with the Fife Council and therefore a cautious approach has been taken a wider area has been proposed, greater than that within which likely significant effects are to be expected. Thereby, a 3km

wider area has been considered as appropriate to cover all potentially material landscape and visual impacts.

Desk Study

5.5.4 Information on LVIA within the LVIA study area was collected through a detailed desktop review of existing landscape studies and datasets which are summarised in **Table 5-2.**

Title	Source	Year	Author
Ordnance Survey (OS) 1:50,000 and 1:25,000 mapping	Emapsite: emapsite.com	2025	Ordnance Survey
OS Terrain 5 Digital Terrain Model (DTM)	Emapsite: emapsite.com	2025	Ordnance Survey
NatureScot Landscape Character Assessment	https://www.nature.scot	2019	NatureScot
NatureScot pre-application guidance for solar farms	https://www.nature.scot/doc/naturescot- pre-application-guidance-solar-farms	2025	NatureScot
Public Rights of Way Core Path Network in Fife	https://www.fife.gov.uk	2025	Fife Council
National Cycle Network routes in the East of Scotland	https://www.sustrans.org.	2025	sustrans
Gardens and Designed Landscapes	https://pastmap.org.uk/map	2025	HES
Local Landscape Areas - Fife	https://fifeonline- maps.maps.arcgis.com	2025	Fife Council
Fife's Green and Blue Network and Ecosystem Services Map	https://storymaps.arcgis.com/stories/	2023	Fife Council
Fife Council's online planning application databases	https://planning.fife.gov.uk	2025	Fife Council

Table 5-2: Summary of key data sources

Key Guidance Documents

5.5.5 The LVIA has been undertaken with specific reference to the relevant legislation and best practice guidance and draws on the established Guidelines for

Landscape and Visual Impact Assessment, Third Edition (further referred to as GLVIA3) (LI and IEMA, 2013).

- 5.5.6 The following guidance documents provide advice relevant to the landscape context of this LVIA:
 - NatureScot pre-application guidance for solar farms (NatureScot, February 2024);
 - Guidelines for Landscape Character Assessment (Countryside Agency and Scottish Natural Heritage, 2002);
 - Fife Local Landscape Designation Review, Final Main Report (LUC, March 2009);
 - Landscape Institute Technical Guidance Note 06/19 "Visual Representation of Development Proposals"²;
 - Landscape Institute Technical Guidance Note 02/21 "Assessing landscape value outside national designations³"; and
 - Landscape Sensitivity Assessment Guidance (NatureScot, April 2022).

Field Survey

- 5.5.7 The field survey was conducted on 27 October 2022. A follow-up field survey was undertaken on 27 February 2025 to verify baseline conditions and to retake some of the viewpoint photography.
- 5.5.8 The LVIA study area was extensively traversed during the field survey for a more detailed understanding of the actual visibility of the Proposed Development, and to verify the ZTV of the Proposed Development, as shown on Figure 5.1, Appendix 2.
- 5.5.9 The field survey allowed the assessors to judge the likely scale, distance, extent and prominence of the Proposed Development within its baseline context. The landscape of the study area was assessed for particular features which contribute to the landscape character within the site or are important to the wider landscape setting of the Proposed Development.

Assessment of Significance

5.5.10 *"Landscape and Visual Impact Assessment is a tool used to identify and assess the significance of and the effects of change resulting from development on both"*

² https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf

³³ https://www.landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/

the landscape as an environmental resource in its own right and people's views and visual amenity." (GLVIA 3, para. 1.1).

- 5.5.11 Landscape and visual assessments are "*related but very different considerations*" (GLVIA3 paras. 2.20-2.22), describing closely related but distinct sets of effects:
 - landscape character assessment focuses on the effects on the landscape fabric/ physical form and its elements such as the landform, land use or land cover which may give rise to changes in the landscape's distinctive characteristics and qualities and how these are experienced including consideration of aesthetic and perceptual aspects;
 - visual amenity assessment considers the response of the people who experience visual effects caused by changes that arise in the composition of available views as a result of the Proposed Development.
- 5.5.12 Essentially, the landscape and visual effects and whether these are significant, are assessed by considering the landscape or visual sensitivity to the Proposed Development, against the magnitude of change in order to identify a level of effect that would be brought about by the Proposed Development, were it to be implemented.
- 5.5.13 The assessment methodology has been derived from the Landscape Institute with the Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3). The methodology is presented in detail in Appendix 1.
- 5.5.14 The LVIA methodology also contains a certain discipline-specific terminology which the LVIA uses and is provided in the Glossary.

Residential Amenity

5.5.15 This LVIA does not include a separate residential amenity assessment. It is considered that the effects resulting from the Proposed Development would fall below the Residential Visual Amenity Threshold referred to in Landscape Institute Residential Visual Amenity Assessment (RVAA) Technical Guidance Note⁴ 02/2019 (Landscape Institute (2019b)) as visual effects "of such nature and / or magnitude that it potentially affects 'living conditions' or "Residential Amenity".

Limitations to Assessment

• The assessment of residential properties was carried out from the nearest public road or footpath with the aid of aerial photographs. The assessment

⁴ https://www.landscapeinstitute.org/technical-resource/rvaa/

should therefore be regarded as an informed estimate of the likely visual effects.

- Where distances are given in the assessment, these are approximate distances between the nearest part of the site and the nearest part of the receptor in question, unless explicitly stated otherwise.
- A ZTV study (see Figure 5.1) has been produced and used as a tool to inform the professional judgements made in this LVIA. The ZTV study has been modelled on the maximum development parameters available but does not take into account smaller scaler, local screening features such as hedgerows, individual trees or micro topography.

5.6 Baseline

- 5.6.1 This section sets out the current landscape and visual conditions within the LVIA study area. The baseline study assists in identifying the key landscape characteristics and identifies those visual receptors which merit detailed consideration in the assessment of effects and filters out those which have not been taken forward for further assessment as effects "*have been judged unlikely to occur or so insignificant that it is not essential to consider them further*" (GLVIA3, para. 3.19).
- 5.6.2 The baseline study establishes the scope of the assessment and the key landscape and visual receptors, which would be potentially affected by the Proposed Development. In order to be concise and proportionate, the LVIA focuses on the effects upon the most affected sensitive receptors.

The Site

- 5.6.3 The redline boundary in Figure 1.1 (**Chapter 1: Introduction**) indicates the extent of the Proposed Development, to the east of Springfield, approximately 400m west of the village. A detailed layout of the Proposed Development and related infrastructure is shown in Figure 2.1 (**Chapter 2: Site Description and Design Iterations**), and a detailed description is provided in **Chapter 3: Proposed Development Description**.
- 5.6.4 The Site is located within an agricultural landscape, comprising a mixture of grades 2 and 3.1 agricultural land of 12 fields / land parcels divided by woodland belts and hedgerows. The Site is surrounded and interspersed by tree belts and woodland blocks. Due to the existing vegetation, the Site has a well-contained nature.
- 5.6.5 The Site comprises, in total, an area of approximately 101.3ha, with its boundaries being generally well-vegetated by a combination of established hedgerows, hedgerow trees and woodland belts comprising a variety of native species.
- 5.6.6 The Rankeilour Burn flows through the Site in a north to south direction, flanked by dense vegetation. It is a tributary of the River Eden, which extends and meanders through the southern part of the study area. Fife's Green and Blue

Network and Ecosystem Services Map⁵ shows most of the woodland related to the Rankeilour Burn as being part of the green and blue infrastructure.⁶

- 5.6.7 Two access points to the Site are provided from Springfield's Main Street (one access is the main construction / operation access, another access is for emergency use only). A third access to the south west of the site (operational) will be provided from the U105 road approximately 80m to the north of the railway crossing. The new Site access tracks discretely follow the field boundaries, and the emergency track overlaps with the existing track to Rankeilour Mansion House.
- 5.6.8 The Site is relatively level at 40m above ordnance datum (AOD) with slight ascent to the north east towards the East Lodge, the northern edge of Springfield. This northeastern parcel Field No 11 of the Site occupies higher ground (40m to 47m AOD).
- 5.6.9 Although the Proposed Development would involve a minimal loss in vegetation, none of the trees within or adjacent to the Site are protected by a Tree Preservation Order or are located in a Conservation Area.
- 5.6.10 A wood pole overhead line (OHL) extends along the site's southern boundary.

Zone of Theoretical Visibility (ZTV) Study

5.6.11 A ZTV study (refer to **Figure 5.1**) has been produced and used as a tool to inform the professional judgements made in this LVIA. The ZTV study has been modelled on the maximum development parameters available; the proposed PV solar panels were modelled at 2.7m; 3m high water tanks, and 3.6m high BESS and transformer units. The analysis was carried out using a topographic model that includes existing, mapped vegetation up to 12m in height and buildings or structural features up to 6m in height, in order to provide a more realistic indication of the potential visibility, in comparison to a bare ground ZTV that would only take into account landform.

ZTV limitations

- 5.6.12 The ZTV exercise is only meaningful if taking into account the limitations of the ZTV production. It should be considered that the main factor to the magnitude of scale, is the effect of distance and the field of view occupied by the Proposed Development, this however cannot be modelled in the ZTV and as a result, the extent of actual visibility experienced on-the-ground would be considerably less than is suggested by the ZTV pattern.
- 5.6.13 While the ZTV provides some indication from where visibility of the Proposed Development might be experienced, it should be noted that just a fraction of the

⁵ Green and Blue Networks in Fife Audit (2023)

https://storymaps.arcgis.com/stories/d36c0d0277dc4956ae5c4ef6f4b8135a

⁶ Mid and West Fife are within the area covered the Central Scotland Green Network (CSGN) which is identified as a national development in NPF4.

modelled structure used in the ZTV generation may give rise to the wide burst of colour band indicating visibility. Therefore, the ZTV could at the same time indicate visibility of the whole development or only a fraction of it or ground data limitations (in this case the use of 50m DTM data).

5.6.14 It should be borne in mind that the ZTV represents a theoretical model of the potential visibility of the Proposed Development. In reality, landscape features such as individual trees, tree belts, hedgerows, embankments and topography are not accounted for within the surface mapping dataset, and are likely to combine to screen the Proposed Development to a greater degree, than that being presented by the ZTV. As a result, the extent of actual visibility experienced on the ground will be less than suggested by the ZTV study.

Fieldwork observations

5.6.15 Fieldwork observations (undertaken on 27 February 2025) confirmed that distance, in combination with unmapped and therefore unmodelled vegetation and localised undulations in the landform within the surrounding landscape, would further reduce the extent of visibility of the Proposed Development. The screening effect of this is not captured by the ZTV. The fieldwork verifications are described further in the Baseline in section 5.6 below.

Landscape Baseline

Designated Landscapes

5.6.16 A screening of landscape designations has been undertaken and identified the following local level designations within the LVIA study area (see **Figure 5.2**, Appendix 2).

Melville House Garden & Designed Landscape

5.6.17 Due to the rising grounds, sporadic ZTV pattern appears at a distance of 2 km to the north west of the site, indicating visibility within Melville House Garden & Designed Landscape (GDL). However, it was confirmed through the field survey that the intervening vegetation and woodland will screen any views from this designated area, which is therefore not considered further for this assessment.

Ceres and Tarvit Local Landscape Area

- 5.6.18 This is a large Special Landscape Area (SLA), which extends south from the A914 at Cupar to the B940 at Pitscottie in the west, to Falfield, New Gilston, and east to the A916. The hills form an extensive band located on the southern edge of the Howe of Fife where they form a distinctive steep-sided scarp rising from the gently undulating settled farmland around Cupar.
- 5.6.19 The northwest facing slope of Walton Hill falls within the ZTV at a distance of 2.4 km to the south east of the site.
- 5.6.20 The Walton Hill, alongside Tarvit Hill, defines the edge of lowland landscapes, such as the Lowland River Basins and the extent of views across the lowlands.

The hill's main quality is its visual association with the hills at Tarvit, looking in the opposite direction to the Proposed Development. Due to the distance, and there being no likely effects upon the identifying quality of the SLA, it is not assessed further.

5.6.21 Viewpoint 7 has been taken from Walton Hill, from the access track to the Scotstravit Tower, illustrating extremely limited visibility of the Proposed Development. Otherwise, the vegetation would restrict views towards the site.

Conclusions

5.6.22 Potential effects attributable to the Proposed Development upon Melville House GDL and Ceres and Tarvit SLA have not been assessed further.

Landscape character

5.6.23 The main source for the landscape character baseline to inform judgements within the LVIA Study area is a digital online map and national Landscape Character Assessment (NatureScot (2022b)), which shows and describes Landscape Character Types (LCTs) – i.e. areas of consistent and recognisable landscape character.

- 5.6.24 The LVIA study area comprises three LCTs as shown in **Figure 5.3**, **Appendix 2**:
 - Lowland River Basins;
 - Lowland Hills and Valleys; and
 - Pronounced Hills and Crags.

Lowland River Basins

- 5.6.25 The Site is located within the Lowland River Basins LCT, the key characteristics of which have relevance to the LVIA study area are identified below:
 - flat, relatively low-lying landform with straight or angular horizontal lines and geometric patterns.
 - wide valley/basin contained by distant Foothills.
 - open, medium to large scale, regular pattern of intensively cultivated arable fields with few animals.
 - in some parts extensive coniferous plantations on poorer soils, but elsewhere many mature, narrow, linear, straight, predominantly coniferous shelterbelts forming strong visual features and patterns.
 - a relatively modern, planned or well-organised landscape, with semi-natural vegetation confined to the banks of the rather inconspicuous, seemingly undersized rivers.
 - regular pattern of small settlements, groups of farm buildings and occasional single buildings in open countryside, with a mix of traditional and more modern architectural styles.
 - many post and wire fences, few hedges, few hedgerow trees, many ditches.
 - medium scale, diverse, confined, flat, active, planned, organised, tended and regular landscape.
 - Perception: The Lowland River Basins are relatively recent landscapes which generally lack the maturity and subtlety of other lowland landscapes with a longer settlement and land use history. Their more modern character is of a planned, or well organised, well-tended, intensively cultivated landscape with regular and

geometric patterns and straight, or angular, horizontal lines. It is a medium scale, diverse, flat, confined landscape with frequent movement and activity.

Lowland Hills and Valleys

- 5.6.26 The access tracks of the Proposed Development from the Main Street of Springfield, alongside the settlement, fall within this LCT.
- 5.6.27 The key characteristics of the Lowland Hills and Valleys LCT which have relevance to the LVIA study area are identified below:
 - variety and subtlety of landform.
 - generally dominated by open, regular farmland patterns of medium scale fields of arable and grasslands.
 - variable pattern of post and wire fences and mostly tall hedges with hedgerow trees.
 - extensive areas of forestry, shelter planting, roadside planting and policies linked to large estates.
 - regular, often linear, pattern of the distribution of steadings and larger settlements and towns, all of which are generally well related to the landscape.
 - network of roads often well related to landform.

Pronounced Hills and Crags

5.6.28 This LCT extends to the south of the A914, at a distance of 1.6km from the site. Due to the low-lying nature of the Proposed Development and intervening landscape of the Lowland River Basins, there are unlikely to be any direct effects on the Pronounced Hills and Crags LCT or any indirect perceptual effects. Therefore, the Pronounced Hills and Crags is not considered further for this assessment.

Conclusions

5.6.29 Landscape effects attributable to the Proposed Development upon the Lowland River Basins and Lowland Hills and Valleys LCTs are assessed further in section 5.8.

Visual receptors

5.6.30 Visual receptors are *'the different groups of people who may experience views of the development'* (GLVIA3, para 6.3). Whilst it is the people living, working, passing through or enjoying recreational activities in the area who actually see the view and enjoy the visual amenity, it is the places they may occupy that are mapped and described as the 'receptors' of the views. In order to identify those

receptors which may be significantly affected, ZTV studies, a baseline desk study, and field-based observations have been carried out.

- 5.6.31 The key visual receptors of the Proposed Development are assessed under the following categories:
 - Residential Receptors: residents within settlements and scattered individual properties;
 - Recreational Routes: people using the countryside for outdoor recreation; and
 - Road Users: people travelling through the area on major and minor roads.

Settlements and residential receptors

- 5.6.32 The Site lies approximately 300m to the west of the settlement of Springfield, and its access track abuts the northern edge of Springfield the Site is also1.2km to the north of the village of Pitlessie. There are several scattered farms/ residential properties around the area, which fall within the ZTV.
- 5.6.33 Based on the field survey verifications, it was concluded that the potential visibility of the Proposed Development would primarily be concentrated in the immediate vicinity of the Site, from the residential properties of Springfield. The closest property of Springfield is at a distance of 200m to the east of Field No.11 and 300 m to the east of Field No. 10.
- 5.6.34 Rose Cottage, which is located next to the local road immediately to the west of the site, would have visibility of Field No.2.
- 5.6.35 Fields Nos. 4, 5 and 6 on the southwestern part of the Site would be potentially visible from the closest property, Ballomill Farm (270 m to the south west of Field No. 6). It was verified during the field survey that the other closest properties, such as Sweetholm property (420 m to the south west of Field No. 4) and Lawfield Farm (610 m to the south of Field No. 4) would have no clear visibility of the Proposed Development due to the distance, its low-lying nature and the intervening vegetation. The possible level of visibility would not, therefore, justify any further consideration.
- 5.6.36 Further southwards, the topography of the meandering path of the River Eden and associated vegetation contains views from the settlement of Pitlessie, at a distance of 1.2 km from the Site.
- 5.6.37 Further on, the ZTV pattern extends on the A914 and across the north facing slopes of Cults Hill and Walton Hill. These slopes accommodate a few farmsteads/ residential properties, which benefit from elevated views across the River Eden floodplain. The Proposed Development would potentially be discernible in elevated views from Priestfield Farm and Burnturk Farm, within the wider landscape. However, as was noted above, it would be unlikely to generate any notable level of change due to the low-lying nature of the Proposed

Development, and distance of these receptors, in order for them to be considered further in the assessment.

5.6.38 Visibility of the Proposed Development would be limited at a distance beyond 0.5 km from the site. The effects beyond have been judged unlikely to generate a level of magnitude of change in order to consider them further in the assessment.

Recreational Routes

- 5.6.39 Recreational routes, including Core Path Network and Cycle Ways are shown in **Figure 5.2**.
- 5.6.40 'The Core Paths aim to satisfy the basic needs of local people and visitors for general access and recreation. They comprise a mixture of existing and some new paths. The Core Paths cater for all types of users walkers, cyclists, horse riders, people with disabilities, and are a key part of outdoor access provision'.⁷
- 5.6.41 The rural shared use path (Core Paths/ Cycle Way) which runs between Ladybank and Springfield settlements, passes the southern boundary of the Site (Fields 4, 5, 6, 9 and 11), and people using this path would gain views of the Proposed Development due to its proximity.
- 5.6.42 The Main Street of Springfield, which abuts the Site, is part of the Core Path network.
- 5.6.43 The other Core Paths, beyond this proximity, are not considered further for this assessment due to the limited potential of visibility of the proposed Development due to the intervening vegetation. Visibility would be oblique, distant and transient.
- 5.6.44 National Cycle Network Route 1, which connects North Queensferry to Dundee, falls within the ZTV on Cults Hill at a distance of 2.8 km at its closest. In addition, the route is flanked by vegetation, which provides screening, and therefore it is not considered further in this assessment.

Transport routes and local roads.

- 5.6.45 The main transport routes within the study area are the A91, at its closest 1.2km to the north of the Site, and A914, at its closest 1.4km to the south of the Site. Due to the distance and intervening vegetation, both routes are not considered further in this assessment.
- 5.6.46 The Cupar to Edinburgh Network Rail Scotland railway route abuts the southern boundary of Field No. 6 and passes the Fields 4 and 5 at its closest at a distance of 60 m. Field No. 11 is approximately 440m from the railway line. People travelling on this route may have partial views of sections of the Proposed Development, however, these would be over a short section of approximately 700

⁷ https://www.data.gov.uk/dataset/a49f2234-aef5-4cd0-81f0-7bffc261fa2d/core-path-network-fife

m. Overall, no significant effects on railway users are anticipated, and therefore, railway users are not considered further in this assessment.

5.6.47 Viewpoints 4 and 5 are taken from the local road to the west, south west of the Site. The route extends between the A91 to the north and A914 to the south (see **Figure 5.1**).

Conclusions

- 5.6.48 Based on the ZTV studies and field survey verifications, the effects attributable to the Proposed Development are further assessed upon the following visual receptors:
 - residential receptors of the settlement of Springfield, Rose Cottage and Ballomill Farm (see Figure 5.1);
 - recreational Routes, such as the rural shared use path to the south of the site, which incorporates Cycle Route and Core Path and the Main Street of Springfield (see Figure 5.2); and
 - transport routes and local roads, such as the local road to the west of the site.

Representative viewpoints

- 5.6.49 In line with LVIA guidance (GLVIA3), representative viewpoints have been identified in **Table 5-3** below, to inform the assessment. The representative viewpoints are used as illustrative 'samples' on which to base judgments of landscape and visual baseline conditions and the magnitude of change attributable to the Proposed Development.
- 5.6.50 Most of the viewpoints represent multiple receptors. It should be clarified that although the assessment of landscape and visual effects is supported by the representative viewpoints alongside the visualisations, the assessment conclusions are not based only on the viewpoints themselves.
- 5.6.51 **Table 5-3** provides the list of representative viewpoints and related receptors. These viewpoints have been agreed with Fife Council.
- 5.6.52 Viewpoints' locations are shown in **Figure 5.1** on the ZTV overlay within the study area.
- 5.6.53 For each viewpoint, the existing baseline context and the change introduced by the Proposed Development are illustrated by visualisations in **Appendix 3**: **Visualisations and Photomontages**.

VP No	Viewpoint Location	Distance/ Direction from solar panels	Reasoning for selection of Visual Receptors
1	Main Street, Springfield	220 m SW	residents of Springfield, Core Path, and local road users

Table 5-3: Representative Viewpoints

VP No	Viewpoint Location	Distance/ Direction from solar panels	Reasoning for selection of Visual Receptors
2	Moorfield Gardens, Springfield	220 m SW	residents of Springfield
3	Manse Road, Springfield	560 m NW	residents of Springfield, local road users
4	South of Railway line	150 m NE	rural shared use path (Core Paths, Cycle route)
5	Rose Cottage	90 m NE	residents of Rose Cottage, local road users
6	Hospital Mill	675 m NW	residents of Hospital Mill
7	Scotstavit Tower Road	3.1 km W	view from Ceres and Tarvit SLA

Future Baseline

- 5.6.54 Following a review of Fife Councils' online planning application databases⁸, the nearest planning application (ref. 24/02459/PAN⁹) for construction and operation of 29.9 MegaWatt (MW) solar array and associated infrastructure on agricultural land, within Over Rankeilour Farm, by Cupar, is yet to be decided. This development is approximately 2.8km to the north east of the Proposed Development, on the western edge of the town of Cupar.
- 5.6.55 The low-lying nature of both developments and the distance between them will not allow for the developments to be seen in combined visibility. Neither would there

 $^{^{8}\} https://planning.fife.gov.uk/online/spatialDisplay.do?action=display&searchType=Application$

⁹ https://planning.fife.gov.uk/online/applicationDetails.do?activeTab=documents&keyVal=SJZYXLHF0O100

be opportunity for a sequential perception of the developments from the A91 due to their separation within the low-lying and slightly rolling, well vegetated terrain.

5.6.56 It is therefore considered that a cumulative assessment is not required for this LVIA.

5.7 Scope of the Assessment

Receptors Requiring Assessment

5.7.1 The scope of the assessment has been defined through the baseline analysis, which included field surveys and the ZTV study. The LVIA receptors for the assessment are:

Landscape receptors

- Lowland River Basins, and
- Lowland Hills and Valleys.

Visual receptors

- Residential receptors: the settlement of Springfield and Rose Cottage, Ballomill Farm;
- Recreational Routes: rural shared use path between Ladybank and Springfield, and Main Street of Springfield.
- Transport routes and local roads: local road to the west of the Site.

5.8 Environmental Measures Embedded into the Development Proposals

5.8.1 Embedded mitigation proposals are those mitigation measures that are inherent to the Proposed Development. Embedded mitigation includes all mitigation usually assumed to be in place during construction, operation and decommissioning, and is generally regarded as industry standard or Best Practice. Construction and environmental management plans are introduced in **Chapter 3: Proposed**

Development Description with an outline CEMP provided in **Technical Appendix 3.1: Outline CEMP**.

Design approach in respect of landscape and visual matters

- 5.8.2 Consideration of potential long-term landscape character and visual effects has formed an integral role in the design of the Proposed Development.
- 5.8.3 While the Proposed Development will inevitably result in a change to the character of the site and its immediate surroundings, the design of the Proposed Development has been informed by its local landscape and visual context.
- 5.8.4 The Site design approach aimed to develop the layout with mitigation being built into the design itself, as set out in the main design principles as follows:
 - achieving an appropriate development footprint with maximum landscape buffers;
 - achieving appropriate offsets from residential properties to ensure that residential visual amenity is not impacted;
 - minimising the potential impact on landscape fabric by avoiding and buffering existing landscape features such as trees, hedgerows and woodland;
 - enhancing existing hedgerows, tree belts and woodland both within and around the periphery of the Site to aid screening, improve the landscape structure and enhance habitat connectivity;
 - maintaining recreational amenity of estate tracks, which are used by people for access through the site;
 - identifying additional landscape and habitat creation to strengthen visual screening, enhance landscape character and increase biodiversity/green infrastructure, including new hedgerows and linking of existing habitats within the site;
 - locating any required buildings or ancillary structures in order to minimise their landscape and visual impact;
 - utilising a sensitive colour palette for built structures (water tanks, BESS units) to aid assimilation into the landscape.
- 5.8.5 In landscape and visual terms, several inherent or industry practice measures reduce the effects attributable to the type of development proposed. The following measures are considered to minimise the landscape and visual impact of the Proposed Development.
 - Minimised ground excavation: The panels would be mounted upon a prefabricated alloy metal frame. The module frames will be anchored to the ground via steel piles, which will be driven approximately 1.5 m- 3 m below ground. The framed mounting system would be pile-driven. Therefore, no foundations would be required.
 - Temporary construction compound will be located near the Site entrance of the proposed BESS area, which is well contained from views from the outside. The

compound area will be reinstated and reseeded following the completion of construction works and the removal of all temporary structures.

- Areas of new hardstanding would be limited to the substation, communication building and inverter foundations.
- Existing structure vegetation, such as related to Rankeilour Burn, helps to screen and break up the proposed Development in views into and integrate the development into the surrounding landscape;
- Existing vegetation along the site's perimeters has been identified as being important landscape elements in the existing landscape character and will be retained and enhanced with new and appropriate planting where vegetation is presently sparse. This will avoid direct landscape effects and reduce visibility of the Proposed Development.
- Vegetation removal will be kept to a minimum as far as practicable.
- No PRoWs will be stopped up or diverted (temporarily or permanently). The Core Path/ Cycle Way, which binds the Site's southern perimeter, will remain open to public access throughout the construction, operational and decommissioning phases;
- The BESS, water tanks and PCS units will be located in a compound on the north eastern corner of Field No. 8. This is a well-contained location with views from the outside. The BESS units and water tanks will be a dark green muted colour; and
- CCTV facilities will be located carefully considered in order to minimise visual / landscape impact. Where possible, cameras pointing in two directions will be placed on the same post. Slim, galvanised metal posts will be utilised, and the colour of cameras will be light grey in order to reduce their visibility.
- 5.8.6 **The Landscape Mitigation Plan** (a standalone document supporting the EIA) has been prepared and developed as an iterative process, underpinning the design principles of the Proposed Development.
- 5.8.7 Existing field boundary vegetation would be augmented and strengthened and new planting would line the field boundaries in order to protect recreational amenity and enhance the biodiversity of the Site, connecting with other areas of existing and proposed planting which would surround the proposed solar farm development and contribute to the overall enhancement of visual containment around the site and improvement of biodiversity.

5.9 Assessment of Potential Effects

Introduction

- 5.9.1 This section sets out the effects that the Proposed Development would have on both landscape and visual receptors. The principal landscape and visual effects would occur during the operational lifetime of the Proposed Development, which would be for 40 years. At the end of its lifespan, the solar farm can be decommissioned, and the site restored to its existing condition (with proposed planting retained).
- 5.9.2 The only receptor likely to experience construction and decommissioning effects that are markedly different to the operational effects is the site itself, which would temporarily (in the short term) take on the character of a construction site. These effects would be very different in nature to those experienced once the Proposed Development is complete, but similar in terms of their magnitude and significance. Typical temporary activities would include the movement of vehicles, heavy plant and materials within the Site.
- 5.9.3 The construction and eventual decommissioning of the Proposed Development would be short-term, involving the movement of vehicles, localised excavations and the installation of the panels using small-scale construction machinery. Neither construction nor decommissioning activities would give rise to notable landscape character or visual effects over and above those of the operational Site.
- 5.9.4 Trees and hedges should be protected during construction. The impact of the Proposed Development on established trees and hedges should be informed by a tree survey (to BS 5837) and/or a hedge assessment as appropriate.
- 5.9.5 The primary effects arising would be from the Proposed Development, and the assessment therefore only focuses on the operational effects.
- 5.9.6 Effects are assessed during the period following completion, when construction is complete but before mitigation planting is fully established. During this period, the effects will gradually reduce as planting along site boundaries and within the development matures. During the early part of this period, effects are likely to be at their greatest.
- 5.9.7 As additional planting is proposed as part of the Proposed Development, effects are also assessed once the vegetation has matured and established. Up to this

point, effects are described as medium-term; thereafter, they are considered to be Long-term / Permanent.

Effects on Landscape Character

The Site Fabric

- 5.9.8 The boundaries of the Site are generally well-vegetated, comprising a variety of native species. The perimeters of the Site are delineated by a combination of established hedgerows and woodland vegetation.
- 5.9.9 The presence of intensively managed agricultural fields makes the landscape less susceptible to the type of development proposed. The panels can be removed entirely at the end of their productive life, and the land can be returned to agricultural use, should this be considered appropriate at that time.
- 5.9.10 The surrounding wooded environment and the Site's perimeter vegetation indicate inherent scope in the landscape to mitigate the type of development proposed, therefore reducing its susceptibility to change.
- 5.9.11 The Proposed Development would retain the majority of existing tree and hedgerow field boundaries within and around the Site, with the solar farm development confined to individual field parcels to ensure its integration into the landscape and to provide screening.

Landscape Character Types

- 5.9.12 The LCTs are shown in **Figure 5.3**. Based on the Baseline analysis, the following LCTs are assessed in this section.
 - Lowland River Basins; and
 - Lowland Hills and Valleys.
- 5.9.13 The LCTs extend beyond the LVIA study area, an area for which baseline conditions have not formed part of the field survey. Therefore, the assessment of landscape effects attributable to the Proposed Development in relation to the specific LCT does not comprise those areas, which are outside of the LVIA Study area.

Lowland River Basins

- 5.9.14 The Site lies entirely within the Lowland River Basins LCT.
- 5.9.15 The LCT is not subject to any landscape designations within the LVIA study area, apart from Melville House GDL. This is a landscape that is actively used, where arable cultivation is prevalent. The landscape is valued for its woods and shelter belts, which enclose fields, extensive views of the hills forming the backdrop to views across the basins. It is not a landscape that can be considered particularly susceptible to the type of development proposed. Due to the scope for mitigation inherent in this landscape, with a gently undulating topography and enclosure

provided by both high hedgerows, and the pattern of intermittent large to mediumscale woodlands associated with the farmland, the landscape is considered to have Medium-low susceptibility to accommodate the type of development proposed. The Lowland River Basins LCT is valued at a local level as an agricultural landscape with the incorporated amenity value of the PRoWs.

- 5.9.16 Lowland River Basins LCT is evaluated as having a **Medium sensitivity** to the type of development proposed.
- 5.9.17 High magnitude of change would occur within the extent of the Site, given that there would be a fundamental change to the existing landscape character from an agricultural landscape to a solar farm development. High magnitude effects of the Proposed Development on landscape character, where the land use would be notable different from the current agricultural uses, would be contained to within the Site and its immediate proximity, occurring only in a localised extent of the Lowland River Basins LCT in the Medium-term, until such time as the proposed mitigation planting develops and matures.
- 5.9.18 The landscape of the Lowland River Basins would retain its wooded nature. Direct perceivable effects on the landscape character would be predominantly contained within the site and its local context up to approximately 0.5 km. Beyond this distance, effects on landscape character would rapidly decrease to a Negligible scale. It is judged that the intrinsic and prevailing characteristics of the Lowland River Basins LCT would not be discernibly affected through the introduction of the Proposed Development.
- 5.9.19 The effects upon completion would be of a **Low** magnitude, resulting in **Minor** and not significant effects. It is judged that the effects would be adverse due to the noticeable change from an agricultural landscape to a solar farm development, where visibility would be available.
- 5.9.20 **Long-term effects**, as proposed mitigation planting matures, further enhancing the existing landscape structure, would reduce to a Low-negligible magnitude, resulting in **Minor/negligible** and not significant and neutral effects, with effects reducing in accordance with distance from the site's boundaries, as the proposed planting establishes and filters/screens the Proposed Development to a greater degree.
- 5.9.21 It is considered that the Proposed Development would not affect how the landscape character of the Lowland River Basins as a whole would be perceived within the study area. The visible portions of the Proposed Development appear as small, unobtrusive elements within the wide landscape context.

Lowland Hills and Valleys

5.9.22 Within the study area, the Lowland Hills and Valleys LCT accommodates the settlement of Springfield, Stratheden hospital complex, and the Pepsico Quaker Oats plant, alongside the main transport corridors of the A91 and A914 and the railway line within this area, indicating lower susceptibility to the type of

development proposed. The landscape has local value and its overall sensitivity to the type of development proposed is considered **Low** within the study area.

- 5.9.23 The new access tracks of the Proposed Development would directly affect the Lowland Hills and Valleys LCT in the immediate vicinity of the settlement of Springfield. This is a transitional edge where the Lowland Hills and Valleys LCT changes to Lowland River Basins LCT to the west.
- 5.9.24 The magnitude of change to the landscape character is considered **Low**, due to the screening and backdrop provided by the existing hedgerows and woodland, which are immediately adjacent to the planned access tracks.
- 5.9.25 During the short-term construction phase, the movement of machinery would be most visible in relation to activity on the access tracks. On completion, the hard-surfaced access tracks would be attributable to a Low magnitude of change, resulting in **Minor/negligible** and **not significant** localised adverse landscape effects.
- 5.9.26 The perceivable portions of the Proposed Development appear as minimal and unobtrusive within the wide landscape context of the Lowland Hills and Valleys, and therefore considered as **Negligible** and neutral effect.

Visual Effects

5.9.27 This assessment focuses on effects on groups of visual receptors, incorporating effects on views from public spaces and streets within settlements (or around the houses in areas with isolated dwellings), and the routes and accessible landscape in the surrounding countryside. The sensitivity of visual receptors (people) from/on settlements and recreational routes has been considered as **High** and **Medium** for road users.

Residential receptors

Western edge of Springfield village

- 5.9.28 The western edge of the north western wing of the settlement faces towards the Proposed Development in its immediate proximity; the north eastern boundary of the Site abuts with Main Street of Springfield on the northern edge of the village. Access to the Site is provided from Main Street. The access tracks are lined along the field boundaries, which provide screening and a backdrop in views from the village. The eastern boundary of the Site abuts properties on Makgill Row and Muir Road, otherwise extending approximately 140m east of the village. The proposed PV solar panel areas (Field Nos. 10 and 11) are set back further from the Site's eastern boundary by approximately 180 m, adding to the separation from the properties of Springfield.
- 5.9.29 **Viewpoint 1 (Appendix 3)** represents the view from Main Street at the northern end of Springfield, next to the Site's boundary. The access track along the existing hedgerow would be discernible when vehicles are in operation. The proposed solar panels on Field No. 10 would be perceivable above the hedgerow at a

distance of 220 m on the backdrop of the terrain and woodland. The magnitude of change upon this VP is considered Low.

- 5.9.30 Viewpoint 2 (Appendix 3) represents the view from Moorfields Gardens, the properties on the western edge of Springfield, which have direct views towards the Site, Field Nos. 10 and 11. The upper parts of the proposed solar panels would be discernible above the intervening hedgerow at a distance of 220m. The development would be more visible from the first-floor windows, which face towards the Site. The magnitude of change upon this VP is considered Medium-Low.
- 5.9.31 **Viewpoint 3 (Appendix 3)** is taken from Manse Road, in front of the new houses in Springfield, at a distance of 380 m to the south east of the Site. The proposed solar panels are located at a distance of 560 m, where the panels appear on the backdrop of existing woodland. Due to the rising grounds and the orientation of the solar panels, the development on Field No. 10 would appear more exposed than the solar panels on the lower ground on Field No. 11. However, views from this edge of the village are not orientated towards the Proposed Development to the north west but instead are towards the south west, where the peak of East Lomond, and other hills appear above the woodland as focal features. The magnitude of change upon this VP is considered Low.
- 5.9.32 Viewpoint 6 (Appendix 3) represents the view from the Hospital Mill property, which is located 675m to the south east of the Site. This slightly elevated location, and view across large fields, actually illustrate the set back of the proposed solar panels from the western edge of the village of Springfield. It also illustrates that intervening agricultural fields are covered by light colour plastic, which at this distance is similar to the appearance of the solar panels. The magnitude of change upon this VP is considered Low-negligible.
- 5.9.33 It has been verified by fieldwork that there would be no visibility of the Proposed Development within the village.
- 5.9.34 It is acknowledged that as part of the construction phase of the Proposed Development, a small number of local residents would experience an increase in traffic movement due to the proposed access track from Main Street. Otherwise, the works area is set back from the Site boundary and would be seen at a distance of 200m, at its closest, from the properties of Springfield.
- 5.9.35 Whilst this would constitute a change from the existing baseline, it is judged that effects during construction would be short-term and temporary. Once constructed, maintenance vehicles would visit the Site once per month, and there would be no

discernible difference between what is experienced presently and the postconstruction access route.

- 5.9.36 The proposed solar panels on Fields No. 10 and No. 11 would be seen above the intervening hedgerows, with the southern boundary of Field No. 10 being more exposed in views from Manse Road, albeit at a longer distance.
- 5.9.37 On completion, the magnitude of change upon the closest properties at a distance of 180 m, along the western edge of the village of Springfield, is considered Medium-low, resulting in **Moderate**, significant and adverse effects in the medium term.
- 5.9.38 It is expected that the magnitude of change/ impact would reduce over time as the proposed mitigation planting (native woodland and scrub planting) matures, resulting in **Negligible** and not significant effects at Year 15.

Rose Cottage

- 5.9.39 Rose Cottage is located next to the local road, which lines the western boundary of the Site. This is also the location where a gap appears in the tree belt lining the road.
- 5.9.40 **Viewpoint 5 (Appendix 3)** illustrates the view from the local road next to Rose Cottage towards the Field No. 2, to the north east. Due to the set back from the Site boundary, the solar panels would be seen through the intervening security fence at a distance of 90 m on the backdrop of existing woodland. The landform rises towards Rankeilour Mains to the north east. The solar panels would therefore become clearly visible due to their elevated location.
- 5.9.41 As the main aspect of the property (Rose Cottage) is orientated to the south, towards its amenity area, the Proposed Development would be seen only when accessing/ exiting the property.
- 5.9.42 The Proposed Development would not appear in main views from the property, and the magnitude of change upon the Rose Cottage is considered Low, resulting in **Moderate/minor**, not significant, adverse effects in the medium term.
- 5.9.43 It is expected that the magnitude of change/ impact would reduce over time as the hedgerow alongside the road matures, resulting in Minor and not significant, neutral effects.

Ballomill Farm

5.9.44 **Viewpoint 4 (Appendix 3)** is taken from the local road, to the south of the railway line. It illustrates the view of the site's south western boundary, which is formed by Fields 4, 5 and 6, close to the railway line. Fields 4 and 5, at a distance of 150 m from each other at their closest, are exposed, with no existing boundary vegetation. The Field 6 boundary, at a distance of 570 m, is marked by trees;

however, the field is still distinguishable due to its higher ground level and seasonal conditions when trees do not have leaves.

- 5.9.45 The photomontage illustrates visibility of the proposed solar panels, and therefore it was considered necessary to investigate potential effects on the closest property of Ballomill Farm, which is located 270 m to the south west of Field No. 6 and 340 m from Field No.5 of the site's south western boundary.
- 5.9.46 The Ballomill house is located to the south of the large farm building, which restricts views towards the Site. The Proposed Development (Fields 4 and 5) would be more likely to be visible from the access track to the property. Field No.
 6 would be screened by intervening vegetation or would only be discernible in intermittent views. This is due to the existing retained vegetation, which lines Field No. 6.
- 5.9.47 Due to visibility being limited to the access track, the magnitude of change is considered Low, resulting in **Moderate/minor**, not significant, adverse effects in the medium term.
- 5.9.48 Over time, as the proposed hedgerow planting reaches maturity, maintained to a minimum height of 3 m, with the existing field boundary vegetation being augmented, this would provide increased screening of the Proposed Development. Given the proposed enhancements, the magnitude of change would reduce in the Long term to Low-negligible, resulting in Minor, not significant, neutral effects.

Recreational Routes

Section of the rural shared use path in between Ladybank and Springfield, along the site's southern boundary

- **5.9.49** This visual receptor group includes both local residents and users of the Core Path/ Cycle Way in the immediate vicinity of the southern boundary of the Site.
- 5.9.50 The major change caused by the Proposed Development would be the loss of the existing open aspect view of agricultural fields. However, the existing surrounding vegetation would be retained, with several sections of the route extending along and through the existing vegetation. The main effects would occur within approximately 320 m and 250 m long sections of the route, where it would pass the fenced-up boundaries of Field No. 9 and Field No. 11, respectively.
- 5.9.51 The scale of change attributable to the Proposed Development is considered to be High magnitude on completion, as the experience of users of the route would be substantially changed. However, the high magnitude of change experience would not be prevalent along the route, but would be mainly related to these two specific sections. The rest of the route extends along the railway line and through the woodland, and when the route passes Field 11, the open aspect across the fields to the south would be retained. Therefore, these effects are of a local scale and

the magnitude of change is considered Medium-low, resulting in Moderate and localised significant effects in the medium term.

5.9.52 Over time, as the proposed vegetation (hedgerows and hedgerow trees) reach maturity, they would provide increased screening and mitigate the visual effects to some extent. Although the proposed vegetation would not compensate for the loss of the open aspect, it is considered that the Long-term effects would reduce to Low-negligible magnitude, resulting in **Minor/negligible**, not significant, neutral effects given the enhancements proposed given the enhancements proposed. The overall effects upon the 5 km long route would be negligible.

Main Street of Springfield

- 5.9.53 The Main Street of Springfield is part of the Core Path network, and the site's north eastern boundary abuts the street within a 160m section. The site's two access tracks (one operational, one emergency only) connect with Main Street. The solar panels on Field No. 10 would be set back from the site boundary and would be seen at a distance of 200m, at their closest, from the road (see Viewpoint 1).
- 5.9.54 It is acknowledged that as part of the construction phase of the Proposed Development, the users of the path would experience an increase in traffic movement due to the proposed access tracks from Main Street. Whilst this would constitute a change from the existing baseline, it is judged that effects during construction would be short-term and temporary. Once constructed, maintenance vehicles would visit the site once per month and there would be no discernible difference between what is experienced presently.
- 5.9.55 The magnitude of change to the Core Path is considered Low-negligible, due to the nature of views, being oblique, transient and limited to a short section of the route, therefore resulting in **Minor/negligible** and not significant effects.
- 5.9.56 The magnitude of change would reduce in the Long term to Negligible, resulting in **Negligible**, not significant, neutral effects.

Transport routes

Local road to the west of the site

- 5.9.57 The route extends between the A91 to the north and A914 to the south, to the west of the Site, where it abuts Fields 1, 2 and 4. The route falls within the ZTV to the south of Rose Cottage, as the section to the north of Rose Cottage extends next to the existing woodland. Also, the section to the south of the cottage up to the A914 has both hedgerows and trees lining the road.
- 5.9.58 Views from the route are represented by Viewpoints 4 and 5.
- 5.9.59 **Viewpoint 4 (Appendix 3)** is taken from the road to the south of the railway line. It illustrates the view of the Site's south western boundary, which is formed by Fields 4, 5 and 6, close to the railway line. Fields 4 and 5, at a distance of 150 m from

each other at their closest, are exposed, with no existing boundary vegetation. The Field 6 boundary is marked by trees at a distance of 570 m; however, the field is still distinguishable due to its slightly higher ground level and seasonal conditions when trees do not have leaves. However, this is observed from a static viewpoint. When travelling towards the Site, the solar panels are expected to be visible at a distance of approximately 420 m, where the orientation of the road turns towards the Site and the closest fields, No. 4 and 5, appear in the view.

- 5.9.60 **Viewpoint 5 (Appendix 3)** illustrates the view from the road next to Rose Cottage towards Field 2, to the north east. Due to the setback from the Site boundary, the solar panels would be difficult to distinguish in a glimpse view through the intervening security fence, above the existing hedgerow at a distance of 90 m on the backdrop of existing woodland. The security fence would be seen as a new discordant element above the existing dyke/ stone wall.
- 5.9.61 Overall, the magnitude of change to the local road is considered Low-negligible, due to the nature of views, being oblique and transient and limited to a short section of the overall length of the route, therefore resulting in Negligible, neutral and not Significant effects.

Potential Night-time Effects

- 5.9.62 The Site is located west of Springfield, which would constitute the main source of ambient illumination within the surrounding landscape, with limited lighting present in the vicinity of the Site.
- 5.9.63 It is anticipated that the Proposed Development would produce little to no additional ambient illumination at night as a result of its construction, with only motion sensor security lighting implemented as part of the substation compound. Lighting will be in accordance with ICE guidance to minimise light intrusion.
- 5.9.64 It is assessed that night-time effects would therefore be no greater than those effects experienced by visual receptors (as set out above) during the daytime.

5.10 Assessment of Residual Effects

5.10.1 The mitigation measures required to reduce the effect of the Proposed Development on landscape character and views have been incorporated into the design of the project, and the assessment of effects assumes that this mitigation forms part of the Proposed Development.

5.10.2 No further mitigation measures are proposed, and as such, the residual effects will be the same as those described for Long-term / Permanent effects of the Proposed Development.

5.11 Summary

- 5.11.1 The LVIA describes the existing landscape and visual resource, considers their sensitivity to change, and identifies the changes likely to arise from the Proposed Development, providing judgements of the importance of effects arising.
- 5.11.2 The Proposed Development comprises the construction, operation, management and decommissioning of a grid-connected solar farm with associated infrastructure, including landscape and biodiversity enhancements designed to integrate the development into its landscape context.
- 5.11.3 The Proposed Development has been designed to sensitively locate the solar panels and their associated infrastructure within the existing fields' structure and away from the existing hedgerows and trees, as well as maintain buffers to allow vegetation to establish and mature. This has also involved the set back of PV panels from the Site boundaries, alongside the placement of the transformer stations, substations, BESS facility and water tanks within a location that minimises their visibility from the landscape beyond the Site.
- 5.11.4 New planting of hedgerows, specimen trees, woodland, scrub planting, species rich grassland suitable for grazing and species rich meadow is proposed across the site, in conjunction with the careful management of the existing vegetation onsite as part of the comprehensive landscape strategy, details of which are shown on the **Landscape Mitigation Plan** (standalone EIA document). The objective of this landscape strategy is to help integrate the Proposed Development into its surrounding landscape, minimise potential adverse landscape and visual effects and enhance the existing landscape structure, amenity value and biodiversity.
- 5.11.5 It is concluded that in landscape and visual terms, the Proposed Development is in line with FIFEplan Policies 1, 7, 10, 11, 13 and 14 and the principles of the Making Fife's Places Supplementary Guidance Document.
- 5.11.6 Effects on the receptors assessed above are summarised in **Table 5-4** below. Effects apply during operation, before the mitigation planting has matured and once the mitigation planting has matured, unless specifically stated otherwise.

Table 5-4: Summary Table							
Description of Effect	Significance of Effect at Year 1		Mitigation	Significance at Year 15			
	Significance	Nature of effects	Measures	Significance	Nature of effects		
During Operation							
Landscape Effects							
Lowland River Basins	Minor	Adverse	Mitigation planting	Minor/negligible	Neutral		
Lowland Hills and Valleys	Minor/negligible	Adverse	Mitigation planting	Negligible	Neutral		
Visual Effects		·		·			
Residential: Western edge of Springfield settlement	Moderate (significant)	Adverse	Mitigation planting	Negligible	Neutral		
Residential: Rose Cottage	Moderate/minor	Adverse	Mitigation planting	Minor	Neutral		
Residential: Ballomill Farm	Minor/negligible	Adverse	Mitigation planting	Negligible	Neutral		
Recreational Routes: a section of the rural shared use path in between Ladybank and Springfield, along the site's southern boundary	<i>Moderate (significant)</i>	Adverse	Mitigation planting	Minor/negligible	Neutral		
Recreational Routes: Main Street of Springfield	Minor/negligible	Adverse	Mitigation planting	Negligible	Neutral		
Transport routes/ local roads: local road to the west of the site	Minor/negligible	Adverse	Mitigation planting	Negligible	Neutral		

Table 5-4: Summary Table

5.12 References

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