11 LANDSCAPE AND VISUAL IMPACT

11.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential landscape and visual effects of the Proposed Project including the Solar Farm and Substation & Grid Connection works at Timahoe North, Co. Kildare. The emphasis in this chapter is on the likely significant effects of the proposal. It outlines the methodology for the assessment, a description of the Proposed Project, the existing landscape as well as landscape policy and relevant guidance.

The assessment is based on desk study of the study area, field surveys of the site and surrounds and the use of photographs and photomontages from representative viewpoints of the site. The landscape of the area is described in terms of its existing character, which includes a description of the physical and visual character, landscape values and the landscape's sensitivity to change. The potential impacts in both landscape and visual terms are then assessed, including cumulative impact.

11.2 Statement of Authority

MKO has developed extensive expertise and experience over the last 15 years in the Landscape and Visual Impact Assessment of a range of projects, including quarries, road schemes, wind and solar energy developments and a range of other projects. This landscape and visual impact assessment was carried out by a Chartered Landscape Architect, Ms Joanna Mole, BSc, PGDipLA, MSc, CMLI with assistance from qualified Landscape Architect, Ms Kathryn Blade, BSc (Hons).

Joanna Mole is a Chartered Landscape Architect with over 20 years of experience in both private practice and local authorities. Joanna graduated from Sheffield University with a degree in BSc (Hons) in Landscape Design & Plant Science (2006) and also holds a Postgraduate Diploma in Landscape Architecture from Leeds Beckett University and a MSc in Renewable Energy Systems Technology from Loughborough University. Joanna has been involved in projects such as energy infrastructure, extraction industry and residential projects.

Kathryn Blade is a Landscape Architect with McCarthy Keville O'Sullivan and holds a BSc (Hons) in Landscape Architecture from University College Dublin. Kathryn has worked primarily in private practice and has experience in the areas of public realm design, commercial, leisure and residential development in Ireland, the UK and the Middle East. Since joining MKO Kathryn has been involved in projects such as energy infrastructure, extraction industry and residential projects.

11.3 Proposed Project Description

The Proposed Project site is located in northwest County Kildare, approximately 6.5km (kilometres) north of the village of Allenwood, 6km east of Carbury and 3km south of Johnstownbridge. The site is accessed from the south via the Derrymahon-Drehid local road L1019, which adjoins the R402 Regional Road to the west of the site.

The Proposed Project was previously used as a commercial peatland and forms part of the Bord na Móna Allen Group. The land use surrounding the site is predominantly peat or agricultural farmland. The majority of the residential properties within the study area are located along a local road to the east of the site, accessed by mainly single

carriage side roads running off two local roads. The site itself is extremely flat with a height variation of 7m across the whole site. The site is also extremely well screened by large coniferous forests planted in cutaway bogs with natural revegetation occurring in set-aside cutaway areas, there are also well-established hedgerows within the periphery of the Project Boundary.

The Proposed Project comprises an application for planning permission for the development of a largescale solar PV farm with an export capacity of approximately 70 Megawatts (MW). It will consist of a solar photovoltaic array and associated infrastructure, inverters, access roads and parking, a battery storage facility, site compounds and security fencing, amenity trails and landscaping, peat and spoil storage areas, site drainage and all associated works. The Proposed Project will also include the construction of a 110 kV substation within the site. It is then envisaged to connect from this substation to the Derryiron-Maynooth 110 kV overhead line that traverses the southern section of the Timahoe North site.

This chapter will assess the landscape and visual impact of the Solar Farm and Substation and Grid Connection.

11.4 Assessment Methodology and Significant Criteria

This section broadly outlines the methodology used to undertake the landscape and visual assessment of the proposed development, and the guidance used in the preparation of each section. There are four main sections to the assessment:

- Outline of guidance followed
- Baseline landscape and visual assessment
- Nature and visibility of the proposed development
- Assessment of potential impacts including mitigation and residual impacts.

11.4.1 Assessment Procedures

In 2000, the Department of the Environment and Local Government (DoEHLG) published *'Landscape and Landscape Assessment: Consultation Draft of Guidelines for Planning Authorities'*, which recommended that all local authorities adopt a standardised approach to landscape assessment for incorporation into development plans and consideration as part of the planning process. This document remains in Draft form.

In 2002, Ireland signed and ratified the European Landscape Convention (ELC). This introduced a pan-European concept that centres on the quality of landscape protection, management and planning. The Department of Arts, Heritage and the Gaeltacht published a National Landscape Strategy for Ireland in 2015. The strategy aims to ensure compliance with the ELC and contains six main objectives, including undertaking a National Landscape Character Assessment and developing landscape policies.

Although the DoEHLG 2000 guidelines remains in draft form, this section of the LVIA has been informed by the landscape assessment guidelines presented in the DoEHLG document as well as a range of other guidelines, which include:

- *Guidelines for Landscape and Visual Impact Assessment* (The Landscape Institute/Institute of Environmental Management and Assessment, UK, 2013).
- *'Photography and Photomontage in Landscape and Visual Assessment'; Landscape Institute Advice Note 01/2011* (2011);

The Study area and wider area are described in general terms of Landscape Character Areas and types as identified in the DoEHLG 2000 guidelines. In addition, the Landscape Character Assessment carried out as part of the Kildare County Council County development plan was examined and a field visit was undertaken in March 2018 to assess the visibility, landscape character and elements both in the site and in the wider landscape.

11.4.2 Significance Criteria

11.4.2.1 Assessing Visual Effects

Viewpoint Selection

A step by step process was followed in selecting appropriate photomontage locations. The first step was to select several representative locations following a detailed desk top study of mapping. These locations were based on the following criteria:

1. Potential visibility of the development site
2. Critical landscape designations e.g. scenic routes, areas classed as sensitive or vulnerable
3. Close to settlements or groups of residential dwellings
4. Within public areas or on public roads, particularly more trafficked routes
5. Views that cover a wide area in terms of geographical location, elevation and varying distance from site.

The next phase was to present proposed locations to the planning authority as part of a pre-planning meeting. Finally, following a site visit to assess visibility on the ground, a total of 9 no. photomontage locations were agreed upon. The locations provide a representative range of local views. The Photomontage Booklet can be viewed in Volume 2 of this EIAR.

Various other photographs from other public locations in the vicinity of the site were also taken and are included in the chapter. Due to the flat topography of the site and the extensive screening surrounding the site (which will be retained) actual publicly available views into the site are limited.

Photomontage Production

Photomontages are visualisations that superimpose an image of a proposed development upon a photograph or series of photographs. They are intended as graphical representations of how a proposed development will appear in the existing landscape. All photomontages are verifiable and have been produced in full accordance with the Landscape Institute (UK) Advice note 01/11 'Photography and Photomontage in the Landscape'.

11.4.2.2 Assessing Landscape Effects

Landscape Effects

This can be described as changes which affect the landscape as a resource. This includes how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects and its landscape character. Landscape effects also relate to changes in the structure of the landscape. Under the GLVIA (2013), the assessment of likely significant effects on landscape receptors includes a judgement on both the sensitivity of the receptor as well as the magnitude of change.

Landscape Sensitivity

Landscape sensitivity, which is described in the GLVIA (2013) as a combination of the landscape's susceptibility to change as well as the value attached to the landscape, as shown in Table 11.1 below. Susceptibility to change can be described as the ability of the landscape receptor (either the overall character or quality of the landscape, or a particular landscape feature), to accommodate the proposed development without undue consequences for the maintenance of the baseline (existing) landscape situation, and/or the achievements of landscape planning policies and strategies. Landscape value is a combination of the values listed in Table 11.1 below as well as any other characteristics which indicate landscape value and summarised in Section 11.6.

Magnitude of the change

The magnitude of change within a landscape, as outlined in Table 11.2 below, is a combination of the size and scale of the change, the extent of the area affected (e.g. how much of a feature is lost or the extent of the feature to be added) and the degree to which aesthetic or perceptual aspects are altered. The duration and reversibility of the effect. Significance is then arrived at by combining the magnitude and sensitivity judgements.

Table 11.1 Assessing Landscape Sensitivity

Susceptibility of landscape to change	Description and example criteria
High	Landscapes where the overall landscape character or condition is highly susceptible to change and where the landscape receptor has a low ability to accommodate the proposed development without undue consequences for the maintenance of the landscape character and in compliance with planning policies/strategies.
Medium	Landscapes where the overall landscape character has a moderate ability to accommodate the proposed development without undue consequences for the maintenance of the landscape character and in compliance with planning policies/strategies.
Low	Landscapes where the overall landscape character has a strong ability to accommodate the proposed development without undue consequences to the maintenance of the landscape character and in compliance with planning policies/strategies.
Value attached to landscape elements	**Description and example criteria**
High	Landscapes which are deemed as high value or are designated (e.g. areas of amenity, scenic routes/views) in the County Development Plan, at a national or international level.
Medium	Landscapes where value is not formally designated but are of value as good examples of high quality, intact landscapes and are areas deemed to be of relatively high scenic quality. Landscapes that contain some rare elements, include areas which are wild or have a sense of naturalness, strong cultural associations or which have recreational value.
Low	Landscapes that are not formally designated and considered as modified. Areas which do not have particularly scenic qualities, do not include rare elements or landscape features and do not have strongly evident cultural or heritage associations.

Table 11.2 Assessing Magnitude of Landscape Effects

Magnitude of change	Description
High	Major loss or alteration of key landscape elements with an effect on the overall landscape character, resulting in a high degree of change to the aesthetics of the landscape. Changes will be evident over a wide geographical area.
Medium	Some loss or alteration of landscape elements resulting in some change to landscape character and aesthetics. This includes landscapes where there is a moderate effect on the overall landscape character but does not affect key characteristics.
Low	Minor loss of or change to landscape elements. These changes do not affect the overall landscape character or key elements. Changes to the overall aesthetics of the landscapes are low and limited in their geographical extent.

Visual Receptors - Assessing Magnitude and Sensitivity

Visual Receptor Sensitivity depends on the occupation or activity of the people, as well the extent to which the attention is focused on views and visual amenity, according to the GLVIA Guidelines (2013). Value of the visual receptor is a combination of values assessed in the landscape baseline, combining any formal landscape designations with the criteria such as those included in Table 11.3. This is then combined with the Magnitude of the effect, which is a combination of size and scale of the change, the extent of the area to be affected and the duration and reversibility of the effect, as identified in Table 11.4.

Table 11.3 Assessing Visual Receptor Sensitivity

Susceptibility of visual receptor	Description and example criteria
High	These include viewers at designated views or landscapes; viewers such as residents which are focussed to a large extent on the development due to location in close proximity; viewers at well-known heritage or popular tourist or recreational areas, viewers along scenic or tourist routes
Medium	Visual receptors who may have some susceptibility to a change in view, such as those from views which are not designated but may have local recreational uses or those travelling along routes or at views which are considered moderately scenic.
Low	Viewers engaged in activities where the focus is not on the landscape or view, such as those travelling along busy routes, viewers at work or engaged in sport not related to views or experience of the landscape.
Value attached to the view	**Description and example criteria**
High	These include protected views or views from designated landscapes of national or international importance, views indicated on tourist/cultural publications or views considered of high scenic quality, naturalness, tranquillity or have rare elements in the view.
Medium	Non-designated views, but including panoramic views or views judged to be of some scenic quality, demonstrating some sense of naturalness, tranquillity or have some rare element in the view.
Low	Views which are not designated and are not judged to be panoramic views or of particular scenic quality as described above. These are views which have no distinctive features.

Table 11.4 Assessing Magnitude of Visual Effects

Magnitude of change	Description
High	Viewpoints where the proposed development results in a significant change of the view and its composition and creates a high degree of contrast. This includes viewpoints where the proposed development is fully or almost fully visible over a wide area at close proximity to the viewer. The effects are long term or permanent and have a low level of reversibility.
Medium	Viewpoints where the proposed development results in moderate change of the view and a moderate degree of contrast with the existing view. This includes viewpoints where the development is visible over a significant proportion of the view and viewpoints, which are not in close proximity to the development.
Low	Viewpoints where the proposed development results in a low level of change in the view and its composition and a low degree of contrast. This includes viewpoints where the development is partially or barely visible in a small proportion of the view and includes viewpoints at a distance from the proposed development.

11.5 Legislation and Policy Context

One of the first stages of carrying out a Landscape and Visual Impact Assessment is to establish the baseline landscape and visual conditions. In order to carry out this assessment, an initial desk study was undertaken which identified relevant policies and guidelines, both at national and local level. This includes any relevant Kildare County Council policies on landscape which are described in detail in Section 2.2.5.2 and reiterated here where relevant.

11.5.1 Kildare County Development Plan 2017-2023

The Kildare County Development Plan 2017-2023 contains policies and objectives relating to recreation and amenity, which include policies relating to landscape character, sensitivity, designated views and scenic routes. The county development plan (CDP) also contains designations named Areas of High Amenity, which are areas of outstanding natural beauty and/or unique interest. The CPD also includes a Landscape Character Assessment.

11.5.1.1 General Landscape Policies and Objectives

Section 14.8.1 of the CPD covers general landscape policies as set out below:

"It is the policy of the Council to:

> *LA 1: Ensure that consideration of landscape sensitivity is an important factor in determining development uses. In areas of high landscape sensitivity, the design, type and the choice of location of proposed development in the landscape will also be critical considerations.*
>
> *LA 2: Protect and enhance the county's landscape, by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the existing local landscape.*
>
> *LA 3: To require a Landscape/Visual Impact Assessment to accompany significant proposals, that are likely to significantly affect:*
>
> *-Landscape Sensitivity Factors*

-A Class 4 or 5 Sensitivity Landscape (i.e. within 500m of the boundary)

-A route or view identified in maps 14.2 and 14.3 (i.e. within 500m of the boundary)

LA 4: Seek to ensure that local landscape features, including historic features and buildings, hedgerows, shelter belts and stone walls are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of an area, whilst providing for future development."

LA 7: Be informed by consideration of the County Landscape Character Appraisal.

Objectives for landscape which are relevant are as follows:

It is an objective of the Council to:

LO 1 Have regard to the Landscape Sensitivity Factors in the vicinity of sites in the consideration of any significant development proposals.

LO 2 Ensure landscape assessment will be an important factor in all land-use proposals.

LO 3 Investigate the feasibility of preparing a Landscape Conservation Area Assessment within the county to identify any area(s) or place(s) within the county as a Landscape Conservation Area, in accordance with the Planning and Development Act 2000 (as amended).

LO 4 Protect the visual and scenic amenities of County Kildare's built and natural environment.

LO 5 Preserve the character of all important views and prospects, particularly upland, river, canal views, views across the Curragh, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty.

LO 6: Preserve and protect the character of those views and prospects obtainable from scenic routes identified in this Plan, listed in Table 14.5 and identified on Map 14.3.

LO 8 Prepare further detailed guidance in relation to views and prospects available along scenic routes occurring within the boundaries of Local Area Plans.

LO 10 Review and update the County Landscape Character Assessment in accordance with all relevant legislation and guidance documents and to ensure consistency with the forthcoming National Landscape Character Assessment.

LO 11Prepare a Historic Landscape Characterisation of the county.

11.5.1.2 Landscape Character Assessment

A Landscape Character Assessment was carried out for County Kildare in 2004. This Assessment identifies some 14 Landscape Character Areas (LCAs) and also

categorises these into four types of landscape, based on similarities within these areas. The Proposed Project site is located within LCA 9 Western Boglands, seen in Figure 11.1. The site is also located close to LCA 7 North-Western Lowlands. Both LCA are described below.

LCA 9 Western Boglands

This LCA is described in the assessment as a lowland landscape character unit, located to the western central part of the county, characterised by flat topography and smooth terrain. The terrain has a high-water table and it is badly drained, providing generally unstable and unproductive land. This area of the county is highly distinctive due to the existing large areas of bogland vegetation. The commonly large sized open lands are often bordered by unmaintained hedgerows, which contain scattered trees, and have the potential to partially screen adjacent lands. Nevertheless, the generally low vegetation and the even ground provide extensive long-distance visibility. Consequently, development can have a disproportionate visual impact in such terrain, due to an inherent inability to be visually absorbed by the planar terrain.

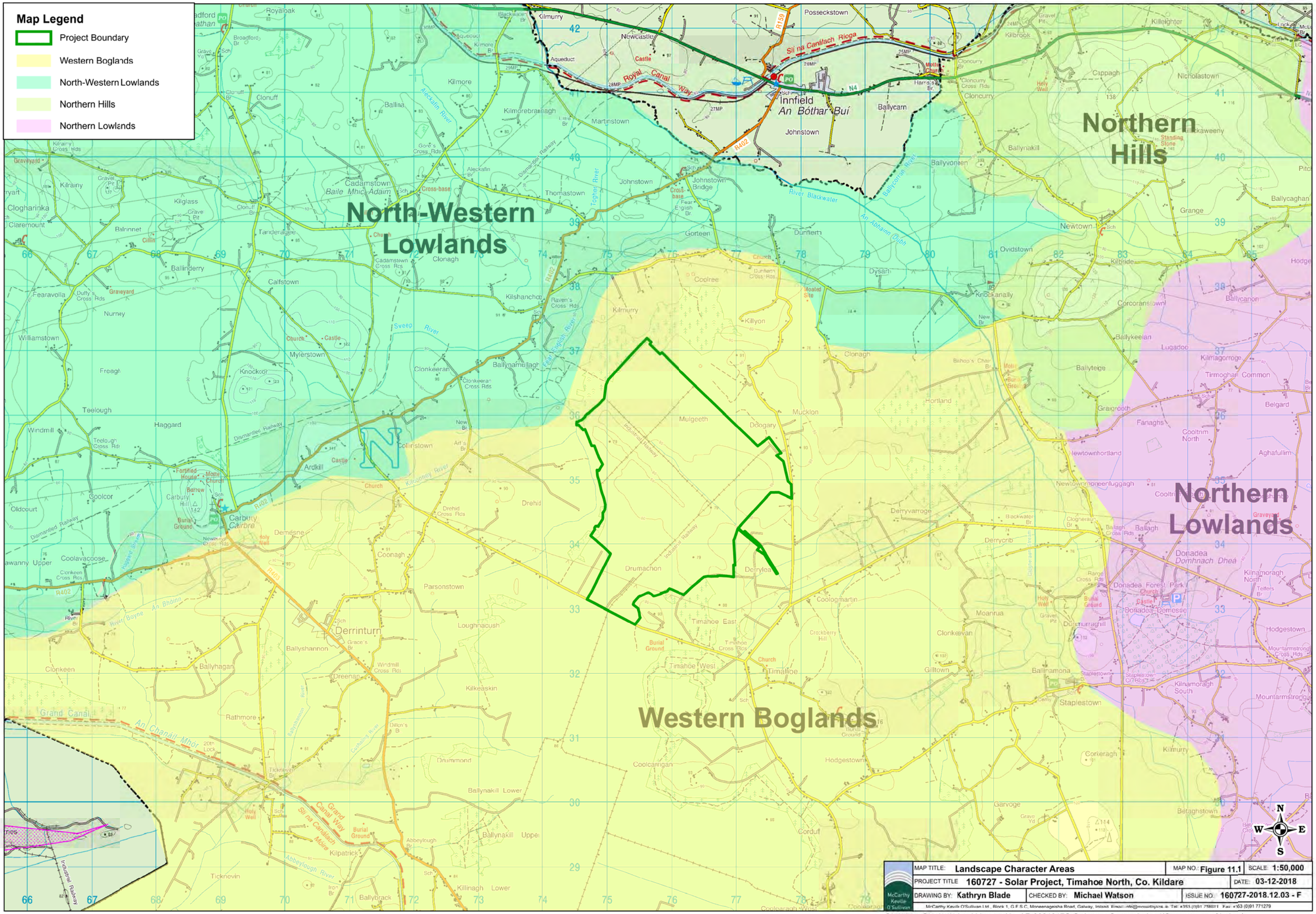
The major landuse in the area is peat extraction due to the largely occurring natural resource in the area (i.e. mantled peatbogs). Although boglands dominate the landscape of this character unit, significant areas of pastureland can also be found, together with patches of tillage and non-irrigated arable lands. A complementary significant landuse in the area is represented by the large coniferous forests planted in cutaway bogs and the natural revegetation occurring in set-aside cutaway areas. Badly drained bogs and alluvial lands characterise the unit, which has remained unattractive to agricultural settlement. As a result, the area is thinly populated. However, small settlements such as Allenwood or Robertstown, combined with existing clusters of scattered rural houses (e.g. Lullymore, Blackwood) can be found. Although there is a low population density, the recreation and tourism potential of the area is recognised.

Low Vegetation

The grassland, moorland and bog type grasses that are commonly found in this unit, provide similar characteristics to smooth terrain in landscape terms. Bogland type vegetation and grassland are usually uniform in appearance, failing to break up vistas, and allowing long distance visibility. Existing low hedgerows around field boundaries partially screen the adjacent low-lying land parcels. Nevertheless, the commonly peat bog vegetation proves unable to visually absorb new development.

Shelter Vegetation

Shelter vegetation is represented at some stretches of this unit by the presence of large coniferous plantations and scattered trees that grow on field hedgerows. Shelter absorbing quality in landscape terms; it can provide a natural visual barrier and add to the complexity of a vista, breaking it up to provide scale and containment for built forms.



MAP TITLE: Landscape Character Areas		MAP NO.: Figure 11.1	SCALE: 1:50,000
PROJECT TITLE 160727 - Solar Project, Timahoe North, Co. Kildare			DATE: 03-12-2018
DRAWING BY: Kathryn Blade	CHECKED BY: Michael Watson		ISSUE NO. 160727-2018.12.03 - F

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Two of the Grand Canal feeders can be found in this character unit with local roads running parallel to the water corridor and being easily accessible. As a result, many views of the canal are available from the local roads and from viewing points located along the corridor. Water corridors are generally visually enclosed areas of very distinctive character with a high degree of visual consistency. This LCA is considered to be High Sensitivity, as it has *"reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors."*

The CDP describes the "Western Boglands" as an area with "*reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors*."

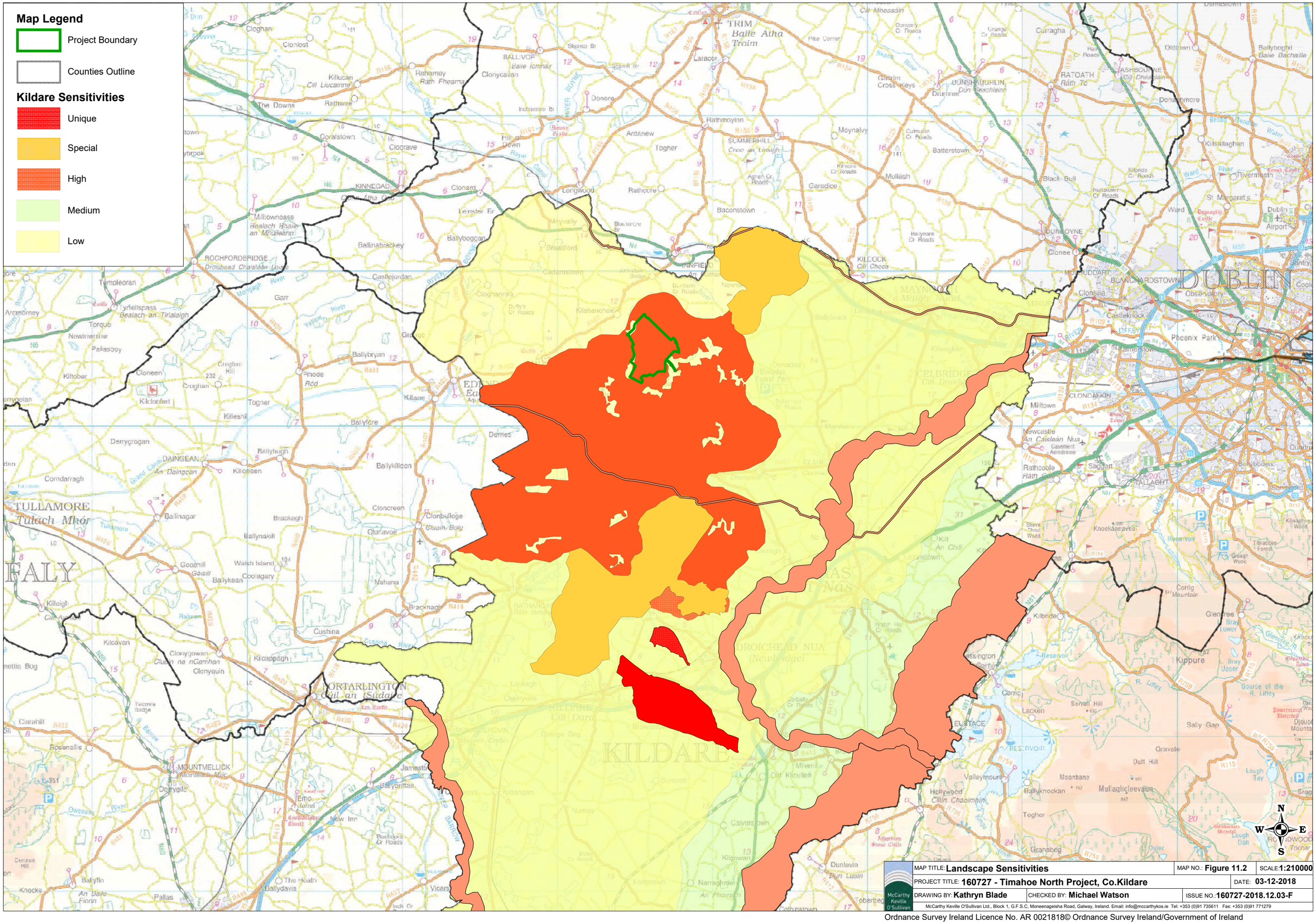
Compatibility Solar: **Medium**

Peat bogs compatibility to solar energy developments is discussed in the CPD, it states that solar energy is compatible with peat bogs *'only in exceptional circumstances'.*

LCA 7 North-Western Lowlands
Adamstown & Environs

The Landscape Character Assessment also includes an assessment of sensitivity for each LCA, which is assessed as either Low, Medium or High, Special or Unique, rated 1-5 in numerical terms. The sensitivity of the various Landscape Character Areas is illustrated on Figures 11.2 and discussed further below in Section 11.6.

In order to determine the likely perceived impact of a particular development on the landscape Kildare County Council have included Table 14.3 in the CDP in which the potential impact of a range of listed developments is viewed in light of the relevant LCA's. Table 14.3 of the CDP is reproduced below as Table 11.5. As can be seen this table details the likely compatibility between a range of land-uses and the principle LCA's. As can be seen from the table below there is a five-point range on the compatibility key from least compatible (purple), through low, medium and high, until it reaches "most compatible". The only use that is classified as "most compatible" in the Western Boglands is agriculture. Rural housing and urban expansion have been classified as low compatibility, while all other uses (including solar energy) have "medium compatibility".



McCarthy Keville O'Sullivan	MAP TITLE: **Landscape Sensitivities**	MAP NO.: **Figure 11.2**	SCALE: **1:210000**
	PROJECT TITLE: **160727 - Timahoe North Project, Co.Kildare**	DATE: **03-12-2018**	
	DRAWING BY: **Kathryn Blade**	CHECKED BY: **Michael Watson**	ISSUE NO.: **160727-2018.12.03-F**
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Table 11.5: Likely compatibility between a range of land-uses and Principle LCAs.

Compatibility Key												
Most												
High												
Medium												
Low												
Least												
		AGRICULTURE AND FORESTRY		HOUSING	URBANISATION			INFRASTRUCTURE	EXTRACTION		ENERGY	
Principal Landscape Character Areas	**Sensitivity Class**	**Agriculture**	**Forestry**	**Rural Housing**	**Urban Expansion**	**Industrial Projects**	**Tourism Projects**	**Major Powerlines**	**Sand & Gravel**	**Rock**	**Windfarm**	**Solar**
North Western Lowlands	1											
Northern Lowlands	1											
Western Boglands	3											
Eastern Transition	2											
Eastern Uplands	3											
South-Eastern Uplands	2											
Sub-ordinate Landscape Areas												
Northern Hills	4											
Chair of Kildare	4											
The Curragh	5											
Pollardstown Fen	5											
Allen Bog	4											
River Liffey	4											
River Barrow	4											

The CDP also includes Table 14.4 (reproduced below as Table 11.6) which identifies the likely compatibility between a range of land-uses and proximity of less than 300m to the principal landscape sensitivity factors. It must be noted that this table is not based on the LCA's but relates to the primary visual landscape factors such as forestry, moors and heathlands, peat bogs, ridgelines, green urban areas etc. The table uses five categories from "*0 – very unlikely to be compatible*", through 2, 3, and 4, up to *"5-likely to be compatible in most circumstances"*.

Only agriculture, forestry and tourism land uses have merited a compatibility rating of "5" across any of the principal landscape sensitivity factors. Solar development has a compatibility in the range of 0 to 2 across all the various landscape sensitivity factors and in the case of "Peat bogs" has been given a compatibility rating of 1 *"compatible only in exceptional circumstances"*, in this table. Solar panels are "very unlikely to be compatible – 0" along ridgelines and rivers and waterbodies, while they are "compatible only in certain circumstances – 2" in forestry, grasslands, green urban areas, grasslands and scenic routes/views.

Table 11.6 - Likely compatibility between a range of land-uses and proximity to Principal Landscape Sensitivity Factors.

5 - Likely to be very compatible in most circumstances. **4** - Likely to be compatible with reasonable care. **3** - Likely to be compatible with great care. **2** - Compatible only in certain circumstances. **1** - Compatible only in exceptional circumstances. **0** - Very unlikely to be compatible.	**Agriculture and Forestry**		**Housing**	**Urbanisation**			**infrastructure**	**Extraction**		**Energy**	
Proximity within 300m of Principal Landscape Sensitivity Factors.	Agriculture	Forestry	Rural Housing	Urban Expansion	Industrial Projects	Tourism Projects	Major Powerlines	Sand and Gravel	Rock	Windfarm	Solar
Major Rivers and Water bodies	5	5	2	2	2	3	2	1	0	1	0
Canals	5	5	2	2	2	3	2	1	0	1	1
Ridgelines	5	5	1	1	1	1	1	0	0	2	0
Green Urban Areas	4	5	2	0	0	4	3	3	3	2	2
Broad Leaved Forestry	3	5	2	2	2	4	3	2	3	1	2
Mixed Forestry	3	5	2	2	2	4	3	2	3	1	2
Natural Grasslands	5	2	2	1	1	4	2	1	1	2	2
Moors and Heathlands	2	2	1	0	0	1	2	1	0	2	1
Agricultural Land with Natural Vegetation	5	5	2	2	2	3	3	3	3	4	2
Peat Bogs	0	0	0	0	0	0	2	0	0	3	1
Scenic View	5	5	2	1	1	5	1	3	0	0	2
Scenic Route	5	5	2	1	1	5	1	3	0	0	2

The site of the Proposed Project is not an intact typical peat bog, nor is it a greenfield site. The site of the Proposed Project has been subject to intensive and large-scale commercial peat production including the provision of an extensive drainage system. Operations ceased over 20 years ago and the site has since been allowed to re-vegetate with the net result being that areas of it have become overgrown with woodland and scrub. The site and its environs therefore do not share the same visual characteristics as an intact peat bog but rather reads as a woodland.

The previous commercial peat extraction and the subsequent revegetation of the subject lands has resulted in the site being initially extensively drained and lowered within the local topography and subsequently (through the revegetation) completely screened from any external or longer distance views. This has resulted in the site not sharing any of the common visual characteristics of a peat bog. The site does, however, share the visual characteristics of a woodland. The compatibility table from the CDP notes that solar energy development has a compatibility rating of "2" in relation to forestry/woodlands.

11.5.1.3 Scenic Routes

Kildare County Development Plan 2017-2023 identifies Scenic Routes and Protected Views. Scenic Routes are described in the CDP as follows:

> *Scenic routes and protected views consist of important and valued views and prospects within the county. In addition to scenic routes there are a number of protected views throughout the county. These are located particularly along water corridors and to and from the hills in the countryside.*
>
> *The Council recognises the need to protect the character of the county by protecting views and scenic routes. However, it is acknowledged that in certain circumstances, some development may be necessary. In this regard, appropriate location, siting and design criteria should strictly apply. All proposals will be assessed taking into account the overall character of the scenic route and the character of the landscapes through which the route passes, in accordance with the criteria outlined in section 14.4.2.*

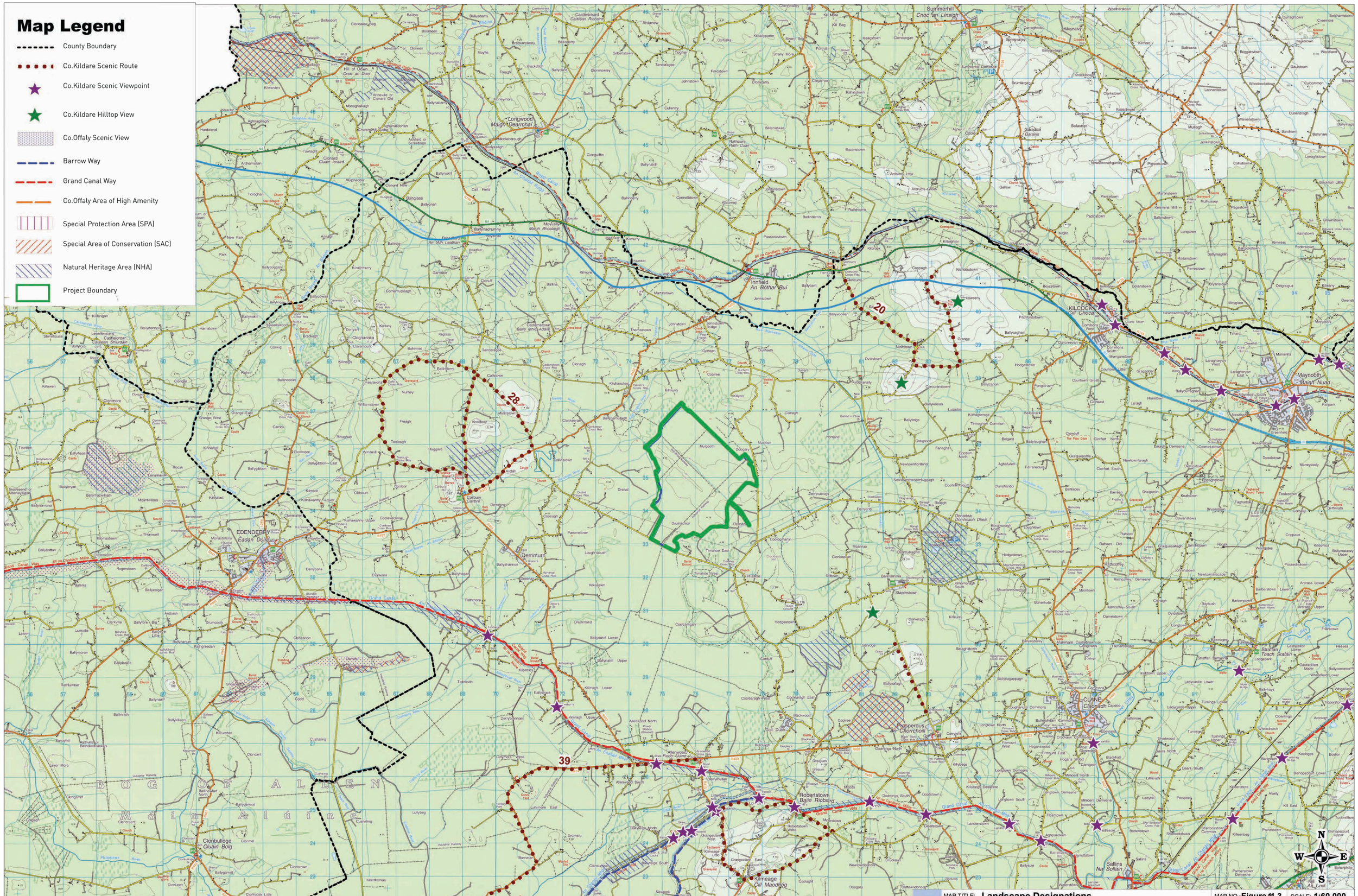
Scenic routes in the vicinity of the proposed development site are shown in Figure 11.3 and listed below in Table 11.7. Scenic Route 28 is the closest scenic route to the site, 3.5 kilometres west of the Project Boundary.

Table 11.7 Scenic Views – Distance and Location

Scenic View.	Distance	Status	Comment
28	3.5km	Views from county roads (L5017 & L26) of Carbury Castle and Hill: Teelough road junction with the R402 and upland area at Mylerstown.	See Viewpoint 1, 2 & 3 for visual assessment and Route Screening.
20	5.9km	Views of Plains of Kildare and West Central Boglands. Views to and from Newtown Hills (including county roads 5027, 1007)	No views available
6	7.8km	Views of Robertstown Countryside and Views across the Canal.	No views available
27	9.7km	Views to the south of open countryside; from L138 Kilmeague cross roads to Coolaght.	No views available
38	6.4km	Views of Allenwood to Lullymore Local Road.	No views available
40	6.2km	Views of Ballynafagh Lake.	No views available

The following policies apply to Scenic Routes. It is the policy of the Council to:

> *SR 1: Protect views from designated scenic routes by avoiding any development that could disrupt the vistas or disproportionately impact on the landscape character of the area, thereby affecting the scenic and amenity value of the views.*



MAP TITLE: **Landscape Designations**		MAP NO.: **Figure 11.3**	SCALE: **1:60,000**
PROJECT TITLE: **160727 - Timahoe North Project, Co. Kildare**			DATE: **03-12-2018**
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SR 2: Review and update all Scenic Routes and Views in the county during the lifetime of the Plan (Tables 14.5 – 14.10 refer).

None of the scenic routes identified will be visually impacted by the proposed development.

11.5.1.4 Walking Routes, Cycleways and Tourism trails

There are four recreational walking routes in the vicinity of the Proposed Project which are listed below. The Kildare CDP has set out the following policies relative to rights of way:

RW 2: Seek to ensure that new development will not have a negative impact on established walking routes/public rights of way, in particular in areas of high amenity and along the inland waterways of the county.

RW 3 Identify existing rights of way and walking routes prior to any new planting, new infrastructural development and any new energy / telecommunications or golf course developments.

None of the walks or trails identified below will be visually impacted by the Proposed Project.

Grand Canal Way

This 117-kilometre national waymarked trail follows the Grand Canal starting at Lucan Road Bridge and finishing at Shannon Harbour. It is approximately 5 kilometres at its nearest point to the Proposed Project site and there is no visibility of the Solar Farm anticipated from any part of this trail.

Royal Canal Way

This national waymarked trail is 144 kilometres in length. It follows the Royal Canal starting at North Strand Rd in Dublin and finishes in Cloondara. It is approximately 3.8 kilometres at its nearest point to the Proposed Project site and there is no visibility of the Solar Farm anticipated from any part of this trail.

Barrow Way

The Barrow Way is a 120-kilometre national waymarked trail along the River Barrow starting at Robertstown and finishes at St. Mullins. It is approximately 7.7 kilometres at its nearest point to the Proposed Project site and there is no visibility of the Solar Farm anticipated from any part of this trail.

Donadea Forest Walk

Donadea Forest Park is almost 250 hectares in size and has a number of circular walks. These include the Alymer Walk (5.7km), nature walks (1.6km) and a lake walk (0.8km). The Forest Park is approximately 5.3 kilometres at its nearest point to the Project Boundary and there is no visibility of the Solar Farm anticipated from any part of this trail.

11.6 Baseline Conditions

11.6.1 Site Description and Context

The Proposed Project is located in northwest Co. Kildare, approximately 6.5km (kilometres) north of the village of Allenwood, 6km east of Carbury and 3km south of Johnstownbridge. The Grid Reference coordinates for the centre of the site are E 275,810 N 235,200. The Timahoe North site comprises the northern half of the Bord na Móna Timahoe bog unit, which forms part of the Allen group. The site is accessed from

the south via the Derrymahon-Drehid local road L1019, which adjoins the R402 Regional Road to the west of the site.

The Proposed Project comprises an application for planning permission for the development of a large scale solar PV farm with an export capacity of approximately 70 Megawatts (MW). It will consist of a solar photovoltaic array and associated infrastructure, battery storage compound, inverters, access roads and parking, site compounds and security fencing, amenity trails and landscaping, peat and spoil storage areas, site drainage and all associated works. The proposed development will also include the construction of a 110kV substation. It is then envisaged to connect from this substation to the Derryiron-Maynooth 110 kV overhead line that traverses the southern section of the Timahoe North site.

11.6.2 Physical Landscape Unit

The physical make-up of the site is a significant part of this assessment, due to its setting in the surrounding landscape, the land-use history of the site and the topography of the site itself. These aspects are discussed below in greater detail.

11.6.2.1 Topography

The site is extremely flat with elevations ranging from 77.9m to 86m across the whole site.

11.6.2.2 Land Cover

The site is dominated by large coniferous forests which border the site. Apart from the coniferous forests on the site's periphery, mature hedgerows, naturally regenerating woodlands, bog habitats and tree lines form field boundaries beyond the Project Boundary. Examples of the natural revegitation found on the Project Boundary can be seen in Plate 11.1 Within the site sits broad vegetation formations of shrubland and dry Birch woodland in patches across the site. A more detailed view of the groundcover on site is evident in the views from site, shown below in Section 11.7.

The wider area generally comprises improved or semi-improved agricultural land, bordered by drainage ditches, mature hedgerows and tree lines similar to that recorded on site. There are no site buildings or other man-made structures on the site, however there are scattered farm buildings and residential properties in the wider landscape screened again by the large coniferous forests and mature hedgerows.

Plate 11.1: Photo taken from site showing the heavy vegetated border. The Project Boundary vegetation mainly consists of a mature tree line with coniferous forestry sitting behind.

11.6.2.3 Land-use and drainage

The site was previously used as a commercial scale peatland and forms part of the Bord na Móna Allen Group. It is now predominately a brownfield site and peat extraction has since ceased aside from some localised third-party turf production. The land use surrounding the site is predominantly bog or agricultural farmland.

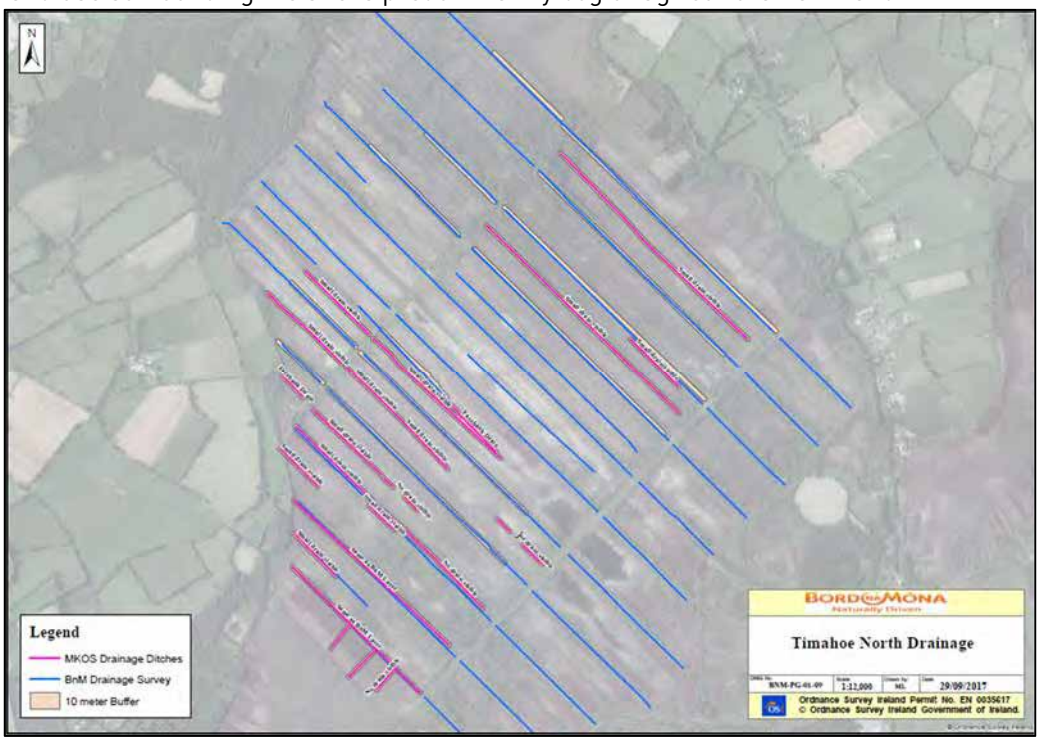


Plate 11.2: Drainage ditches on site pre-existing from commercial bog.

11.7 Landscape Value

To determine the landscape sensitivity, and ultimately the likely significance of the effects, assessments of landscape value for the proposed development site and wider (LVIA) study area were assessed (Table 11.8). Landscape value includes designations such as scenic views and sensitivity designations found in development plans, as well as values which are attached to undesignated landscapes. A number of criteria were developed to assess the landscape values of the study area. These, combined with susceptibility, contribute to the assessment of landscape sensitivity.

Table 11.8 Features of Landscape Value

Feature	Description
Landscape Designations	The landscape designation for the site is listed as Peat Bogland in an area of *Special Sensitivity* as identified in the *Landscape, Recreation & Amenity* of the CDP. There is one scenic route and two scenic viewpoints within 3 km as identified in the *Landscape, Recreation & Amenity* of the CDP.
Landscape Elements Quality/Condition	This refers to the physical state of the landscape and the condition of individual elements. The landscape is regarded as modified by man in terms of former peat harvesting, with trees and hedgerows in good condition.
Aesthetic Qualities	All views are generally short, due to the mature vegetation both on site and on the periphery of the site border. In general, the site and surrounds are characterised by the woodlands and agricultural land which surrounds the site.
Wildness/naturalness	Peat extraction has not been carried out by Bord Na Mona at the site for over 20 years. The site has naturally regenerated with various types of habitat ranging from sphagnum rich areas to woodland. Further details are included in Chapter 6 Biodiversity.
Rarity/Conservation Interests	Details on the sensitivity, rarity and conservation status are described in Chapter 6 Biodiversity.
Cultural Meaning/Associations	Chapter 12 includes descriptions of the Cultural Heritage of the site and surrounds.
Recreation Value	The site is used informally for walks and those interested in viewing nature. The closest formal amenity facilities are walking trails along the Royal Canal Way. It is approximately 3.8 kilometres at its nearest point to the Proposed Project site.

The dominant landscape characteristics of this area and indeed the site are the woodland and hedgerows when viewing the site from external locations and field patterns locally. These field patterns, woodlands and hedgerows are not considered unique from a landscape perspective and have been produced by manmade interventions in the landscape therefore, the susceptibility of the landscape in the wider area to change is deemed **Low** to **Medium**.

The CDP describes the "Western Boglands" as an area with "*reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors*" and states that peat bogs are compatible with solar developments "*only in exceptional circumstances*".

The Proposed Project site and the proposed development footprint is located on a brownfield former peat harvesting site rather than an intact peat bog. The site has been modified over many years with its levels significantly reduced and a man-made drainage pattern introduced. Irrespective of this, the Landscape Value of the Proposed Project site is considered **Low** as it is generally not visible from any public or local viewpoints nor any landscape or visual designated areas.

The site is flat and is located within a wider landscape context that comprises mainly low lying and flat topography. On sites such as this, the effects of natural screening such as woodlands, hedgerows etc. has a significant bearing the potential for either landscape or visual effects. The Proposed Project includes for the retention of woodland screening surrounding the Proposed Project development area which effectively eliminates the potential for significant negative effects from a landscape perspective and means that the Landscape Value of the Proposed Project site is **Low.**

11.8 Assessment of Visual Effects

11.8.1 Views from the Site

A number of views from site are shown below, it is clear that there is limited visibility off or on to site due to the dense screening from the mature trees that border the site.

Plate 11.3: View taken from the North West corner of the site looking South East. This view shows the dense border of mature vegetation along with vegetation on site.

Plate 11.4: View taken along the southern entrance of the site looking south towards the R403. This view shows the dense vegetation towards the southern border of the site and the short to medium range views across the site.

Plate 11.5: View taken from the North Eastern corner of the site looking South Easterly towards the R403. This view shows the rows of vegetation on the Eastern boundary of the site along with the established vegetation on the site itself.

Plate 11.6 View taken at the same location as Plate 11.5 only looking towards the northern boundary of the site. This view shows the mature vegetation towards the southern border of the site and the short to medium range views across the site.

Plate 11.7 View taken South Western side of the site looking North. This view shows the mature vegetation on the site.

11.8.2 Views towards the Site

The visibility from the viewpoints is discussed in Section 11.8.2 below in more detail. Beyond viewpoint selection, visibility from the local road network was also appraised during the site visit. All the local roads in the immediate vicinity of the site were assessed as well as the regional roads R402 and R403. The scenic route to the south of the site was also assessed to determine actual visibility from all potential visibility locations along the route.

Visibility was found to be extremely limited due to the presence of hedgerows and tree lines, both immediately adjacent to roads and in the intervening landscape, but also due to the vegetation surrounding the site coupled with the flat topography of the site itself. Visibility was only evident in very few locations beyond the viewpoints listed in Table 11.9 below and these photomontages are considered representative of potential visibility.

There is no open visibility from the scenic route which was assessed on the ground in March 2018.

11.8.2.1 Route Screening Methodology – Roads

In order to comprehensively demonstrate the varying characteristics of the roads and to record the actual visibility in comparison to the theoretical visibility, a methodology was developed. This is termed Route Screening Analysis and it was undertaken from all roads within a 3-kilometer radius of the proposed development.

Route Screening Analysis as its name suggests considers the actual visibility of the proposed development from surrounding roads. Within 3km of the Proposed Project, the area incorporates a network of forested areas, agricultural land, trees and hedgerows, and settlements in order to get a clearer understanding of visibility, screening the actual nature of visibility in the study area Route Screening Analysis was undertaken.

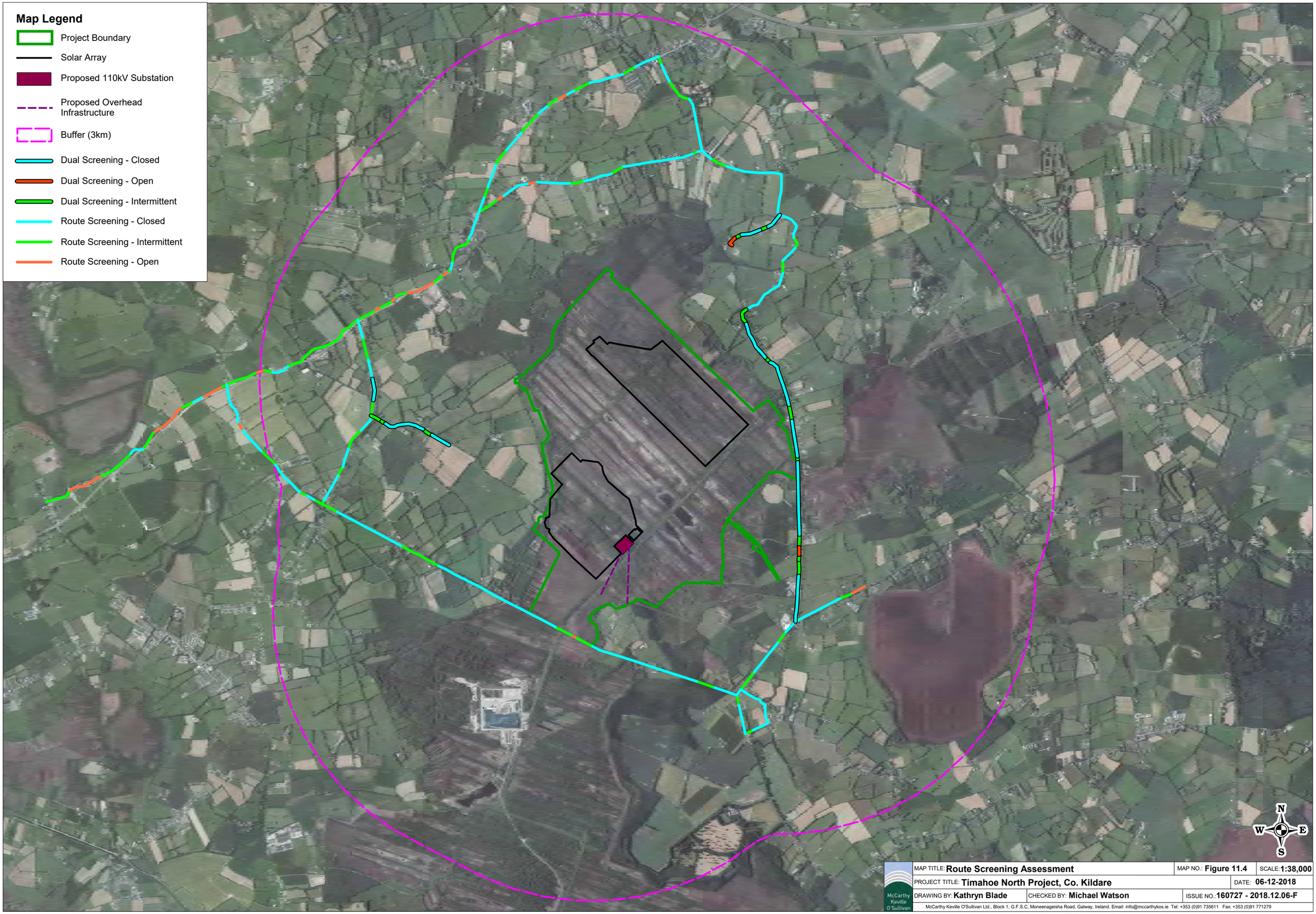
Each route as indicated on Figure 11.4, with theoretical visibility was driven in each direction, with notes taken on screening, views, and the direction of the views to the Proposed Project. The Route Screening Analysis was undertaken in July 2018 at a time when most vegetation was in full foliage.

Each route was driven once in each direction as a minimum. The route was driven along slowly with mapping updates made and notes taken for each section of roadway on a high-resolution aerial image. Screening between the development and the relevant side of the road was marked. In cases where the road travels directly in the direction of the proposed development, screening on both sides of the road was included and the most representative of the two roadsides were mapped.

In addition, geo-referenced photographs were taken at regular intervals of approximately 500 meters along the routes to allow later confirmation of mapping, and to methodically record the views along the route. A hand-held GPS was used to confirm the location of each image. A photograph of the view along the road was taken in each direction, as well as the view to either side of the road. Following the site visit, a map was created of each route. The screening along the route was mapped as one of three categories.

The categories were as follows:

- Little/no screening – mainly open and with some very light vegetation



McCarthy Keville O'Sullivan	MAP TITLE: **Route Screening Assessment**	MAP NO.: **Figure 11.4**	SCALE: **1:38,000**
	PROJECT TITLE: **Timahoe North Project, Co. Kildare**		DATE: **06-12-2018**
	DRAWING BY: **Kathryn Blade**	CHECKED BY: **Michael Watson**	ISSUE NO.: **160727 - 2018.12.06-F**

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- Partial Screening – light deciduous roadside vegetation and vegetation with short gaps which would allow intermittent or partial views
- Dense Screening – vegetation which is dense enough to block views (e.g. coniferous forestry)

Plates 11.8 to 11.10 show the typical screening within the surrounding landscape that represents the above categories respectively.

Plate 11.8: Example of Route Screening category - Little/No Screening

Plate 11.9: Example of Route Screening category - Intermittent Screening

Plate 11.10: Example of Route Screening category - Dense Screening

11.8.2.2 Route Screening Analysis Results – Roads

Figure 11.4 outlines the Route Screening within and extending beyond a 3-kilometre radius of the proposed development site. This map indicates that many of the roads within 2 kilometres of the site are densely screened. By comparison, relatively few areas have stretches of partial or intermittent screening, and the areas with no screening are also limited.

The presence of roadside screening is particularly important in contexts such as the proposed development site, where the site is sitting relatively flat within the surrounding landscape. Screening plays a huge role on this site, as it completely reduces the visual effects of the development as the Solar Farm is completely screened, or partly screened. Not only is there abundant screening on the roadside, the vegetation within the site itself and in the surrounding landscape provides a further level of dense screening.

Four local roads border the site and are all within 3 kilometres of the proposed development, with both 'intermittent screening' and 'open' categories occurring within 1 kilometre of the proposed development. The area of open screening is located along a small local road along the south western site boundary, glimpses of the substation and pylons are evident from this road, Photomontage 9 shows this view and is described in greater detail in Section 11.9.3.2

Within 1-3 kilometres of the site, dense screening remains the dominant category, interspersed with a few small pockets of intermittent/partial screening. It is worth noting that the R402 running northeast to southwest from Johnstown Bridge to Carbury, located approximately 2km from the site boundary, has been almost all categorised as dense screening, with only the southern section of the road showing open categories, this is due to breaks in vegetation around a quarry development.

Photomontage 2 shows a view from higher ground, the solar array is completely screened by vegetation, and all but three lightning masts that can be seen in the far distance.

11.9 Likely and Significant Effects

11.9.1 Do-Nothing' Scenario

If the Proposed Project was not developed, the site will continue to function as it does at present, with no changes made to the current land-use which includes continued development of scrub and woodland areas within the site and turf cutting on the spread. The site is also used as an informal site for members of the public for walking.

11.9.2 Construction Phase Effects

11.9.2.1 Visual Effects

During the construction period there will be a significant level of natural woodland within the site removed and it is predicted that this process will have a slight visual effect. The construction phase will also include a period of wiring and testing of the solar panels when they are in place. Potential construction phase effects are assessed in the context of the Solar Farms and the Proposed Project in general.

It is estimated that the construction phase of the proposed development will last approximately 25 months. Prior to the construction and operation of the Proposed Project, the existing turf cutting will cease. It is considered that there is a Temporary, to Short-term Slight Negative effect in terms of visual effects during the construction phase.

11.9.2.1.1 Solar Farm

Solar Array

The visual effects of the solar array will be evident during the operational phase with only a slight impact during construction phase due to a testing period that is carried out on the solar array these are described fully in Section 11.9.3. The proposed solar array is situated partially within an area of woodland that will be felled during construction. This has the potential to have a visual impact during construction however the area to be felled is located within a central area of the site and will be screened by vegetation and nearby forestry and therefore there is no visual impact on any visual receptors.

Temporary Construction Compound & Peat & Subsoil Repositories

Construction compounds and low lying peat & subsoil storage areas will be provided and used during the construction phase. A gravel surfaced contractor's compound will be provided for offices, equipment storage and construction staff welfare facilities for the duration of the site works. Depending on the number of separate contractors involved, more than one compound may be provided. A number of peat & subsoil storage areas will also be provided at a height of not more the 1m. The location of the proposed construction compounds and repositories is shown on the site layout drawing in Figure 4.1 in Chapter 4 of this EIAR.

The compound and repositories will be screened by vegetation and nearby forestry and therefore there is no visual impact on any visual receptors.

Associated Development and Infrastructure

The construction of the access track network required throughout the site to facilitate the operation of the Solar Farm will extend to approximately 3.5km of main access tracks and approximately 12 km of spur tracks. Additionally, there will be construction of an approximately 2km amenity trail.

As the site is low lying and bordered by forestry; the visual impact is predicted to be Temporary to Short-term imperceptible negative visual impact.

11.9.2.1.2 Electricity Substation and Grid Connection

One electricity substation is proposed within the proposed site area, as shown in Figure 4.1 in Chapter 4. The layout of the proposed substation is shown in Figure 4.2 in Chapter 4. Further details regarding the connection between the site substation and the electricity grid are provided in Section 4.4.3 of Chapter 4.

The proposed electricity substation IPP building measures approximately 24 metres in length by 10 metres in width. It will be a one-story building to a ridge level of 7.1 meters. The proposed electricity substation ESBN building measures approximately 25 metres in length by 15 metres in width. It will be a one-story building to a ridge level of 9 meters. The substation compound will be surrounded by a 2.6 metre high steel palisade fence or similar (as required by ESB Networks).

The new substation building will be very effectively screened by the retention of existing trees and hedgerows and also the proposed planting along a section of the site access roadway adjacent the substation. Although there was no visibility of the substation in the chosen viewpoints, due to dense vegetation and landform, it is possible that glimpses of the substation will be seen along the southern and eastern local roads. These have been observed during the route screening process and can be seen in Figure 11.4

The proposed internal network route will comprise of a short section of overhead line from the proposed electricity substation and connect to the Derryiron-Maynooth 110 kV overhead line that traverses the southern section of the Timahoe North site. It is envisaged that the proposed connection will require the construction of 4 No. angle masts at approximately 20-metre height (2 No. masts at the substation and 2 No. masts at the 110 kV line), which will be connected by two overhead lines supported by standard wooden pole sets. The poles will measure approximately 18m in height and be spaced approximately every 200 metres.

Description of the potential grid connection route is presented in Chapter 4 along with a detailed description of the grid connection works to be undertaken.

During the construction phase, building of the substation and anchoring of the masts will give rise to Temporary to Short-term Slight negative visual effect.

11.9.2.1.3 Mitigation

Additional planting between the substation and the access roadway as well as the retention of extensive screening around the site being will mitigate any potential effects.

11.9.2.2 Landscape Effects

Due to the limited visual effects during the construction phase there will be limited landscape effects associated with this element of the Proposed Project.

11.9.2.2.1 Solar Farm

The landscape effects of the Solar Farm will be evident during the operational phase with a slight impact during the construction phase due to testing of the solar panels. These impacts will be slight. This is described fully in Section 11.9.3.

11.9.2.2.2 Electricity Substation and Grid Connection

During the construction phase, the substation construction will give rise to temporary to short-term imperceptible to slight negative landscape effects. Installation of the overhead line from the substation to the Derryiron-Maynooth 110 kV overhead line, will result in Temporary to Short term, Imperceptible Negative landscape effects.

11.9.2.3 Cumulative Visual Effects

Projects with the potential for cumulative effects are listed in Chapter 2 and have been assessed with the Proposed Project. The most relevant of these are:

- Turf cutting within the site
- Drehid Waste Management Facility
- Other solar developments within 5km of the site

Due to the localised nature of the proposed construction works which will be kept within the Project Boundary, there is no potential for significant cumulative visual effects in-combination other local developments. The construction of the Solar Farm and the Substation & Grid Connection and all associated site infrastructure will only require relatively localised works which as described above will have no significant visual effects.

11.9.3 Operational Phase Effects

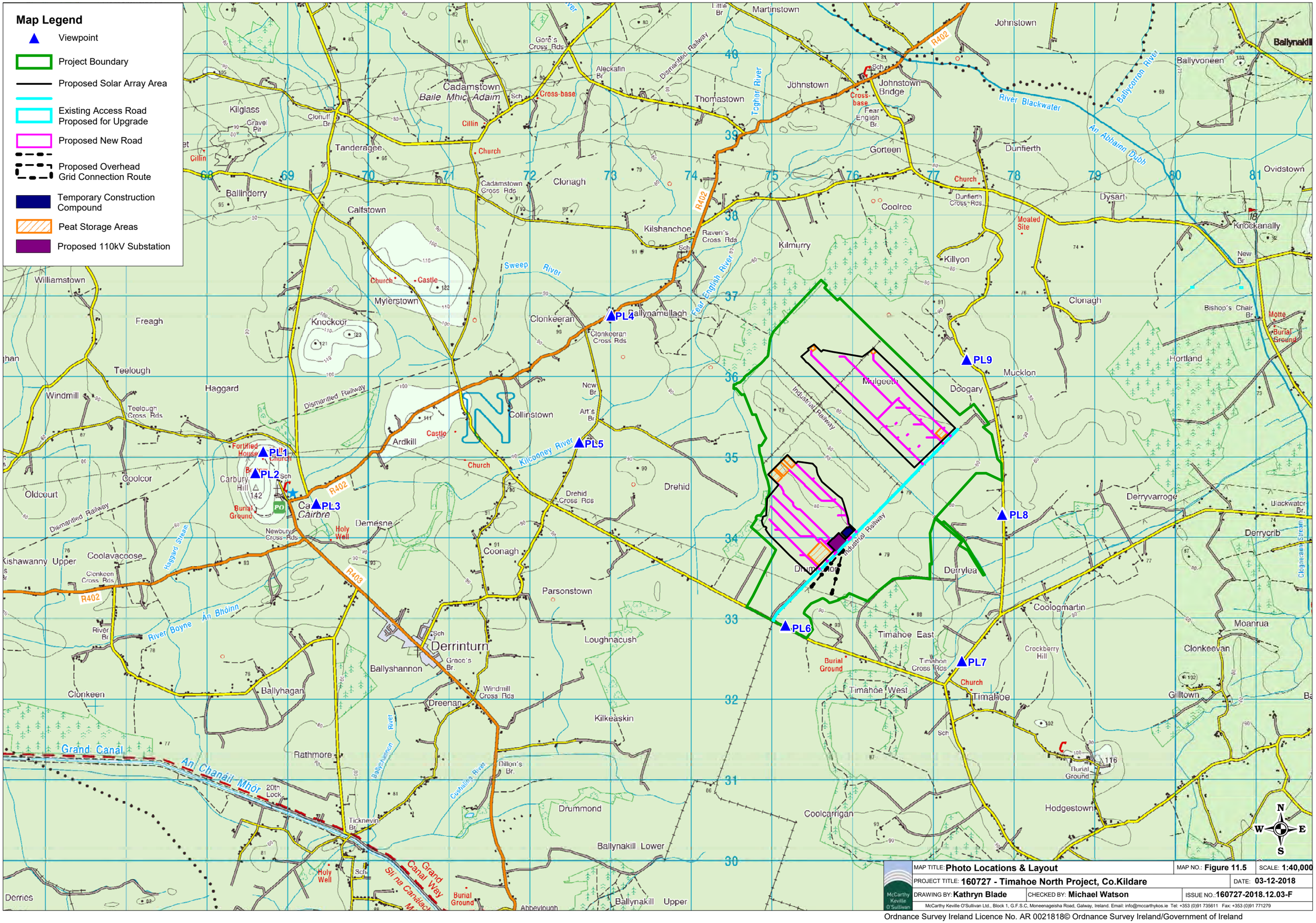
11.9.3.1 Visual Effects

11.9.3.2 Viewpoint Locations and Descriptions

In this section smaller existing and proposed viewpoints are shown and described. A total of 9 no. photomontage locations were selected. An index map showing the locations of the photomontages can be seen in Figure 11.5. The viewpoints were taken at a height of 1.55 m.

Table 11.9 Viewpoints

Viewpoint	Description	
1	View taken from Carbury Castle and Motte adjacent to a scenic route looking eastwards towards the development site. This view is taken approximately 0.70km North West of the R402 and approximately 6.1km west of the Project Boundary	E668,632 N735,091
2	View taken from Carbury Hill adjacent to a scenic route looking eastwards towards the development site. This view is taken approximately 0.5km North West of the R402 and approximately 6.3km west of the Project Boundary.	E668,535 N734,826
3	View taken 300m from the R402 and R403 junction, approximately 5.6 km west of the Project Boundary.	E669,289 N734,446
4	View is taken south eastwards across R402 regional road towards the site. Approximately 1.8 km West of the Northern corner of the Project Boundary.	E672,948 N736,778



MAP TITLE: **Photo Locations & Layout**		MAP NO.: **Figure 11.5**	SCALE: **1:40,000**
PROJECT TITLE: **160727 - Timahoe North Project, Co.Kildare**			DATE: **03-12-2018**
DRAWING BY: **Kathryn Blade**	CHECKED BY: **Michael Watson**		ISSUE NO.: **160727-2018.12.03-F**

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Viewpoint	Description	
5	View from the western road nearest the site approximately 2.2 km west of the Project Boundary.	E672,549 N735,206
6	View from the southern boundary on a local road on the boundary line.	E675,103 N732,236
7	View from local road approximately 1.2 km south east of the Project Boundary.	E677,290 N732,495
8	View from the nearest eastern local road approximately 0.7 km east of the Project Boundary.	E677,789 N734,309
9	View from local road approximately 0.6 km north east of the Project Boundary.	E677,350 N736,230

11.9.3.2.1 Viewpoint 1

Plate 11.11: Viewpoint 1 – Site Extents

Plate 11.12: Viewpoint 1 - Visibility

Viewpoint 1 – Site Extents

Viewpoint 1 was taken from Carbury Castle and Motte adjacent to a scenic route looking eastwards towards the development site. A pastoral field slopes down to lines of trees, beyond which Carbury bog can be seen. Carbury bog is surrounded by a band of broadleaf trees which can be seen in the distance from this viewpoint.

The wider landscape is made up of pasture and arable fields separated by hedgerows and tree lines with houses and farm buildings dotted around. A row of pylons can be seen in the foreground and stretches off into the distance.

Viewpoint 1 – Visibility

Solar Farm

This photomontage shows the visibility of the Proposed Project. It is clear there is no visibility of the proposed solar arrays from this viewpoint due to the dense vegetative screening near to this viewpoint and near the periphery of the Project Boundary. There will be no change to the view due, as the Solar Farm will not be visible.

Substation and Grid Connection

The Substation and Grid Connection will also not be perceptible from this location.

Therefore, there will be no change in the view and the Proposed Project will have **no visual effect**.

11.9.3.2.2 Viewpoint 2

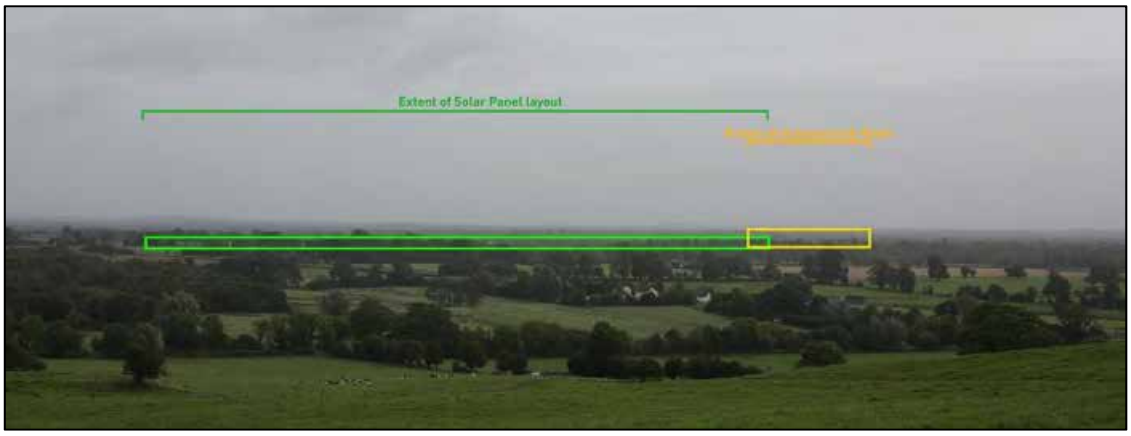

Plate 11.13: Viewpoint 2 - Site Extents

Plate 11.14: Viewpoint 2 - Visibility

Viewpoint 2 - Existing View
Viewpoint 2 was also taken from Carbury Hill adjacent to Carbury Castle and Motte. This viewpoint is taken at the peak of the hill (110m high). The wider landscape is made up of pasture and arable fields separated by hedgerows and tree lines with houses and farm buildings dotted around.

The site extent is shown here to indicate the sitting of the Proposed Project in relation to this viewpoint.

Viewpoint 2 – Visibility
Solar Farm
The proposed view shows the potential visibility of the proposed Solar Farm development. Due to the dense vegetation, distance and landform, the solar array cannot be viewed from this point.

Substation and Grid Connection
The substation cannot be seen from this location. There will be an imperceptible change to the view due to the proposed angle mast pylons being seen in the far distance from this viewpoint.

The magnitude of change is considered Low and the visual effect is Low.

The Proposed Project will have an **imperceptible** visual effect from this location.

11.9.3.2.3 Viewpoint 3

Plate 11.15: Viewpoint 3 - Site Extents

Plate 11.16: Viewpoint 3 - Visibility

Viewpoint 3 – Site Extents
Viewpoint 3 is taken at the junction of the R402 and R403 looking east north east towards the Proposed Project. This view is 5.5km west of the Project Boundary.

The view is looking across the R402. The views are short to medium in distance due to the mature tree line within the near distant fields. There is a network of electricity poles that can be seen running adjacent to the tree line to the left of the image.
The site extent is shown here to indicate the sitting of the Proposed Project in relation to this viewpoint.

Viewpoint 3- Visibility
Solar Farm
This view shows that there will be no change to the view due to the screening of mature vegetation clearly seen at this viewpoint.

Substation and Grid Connection
The Substation and Grid Connection will also not be visible from this location.

Therefore, there will be no change in the view and the Proposed Project will have **no visual effect**.

11.9.3.2.4 Viewpoint 4

Plate 11.17: Viewpoint 4 - Site Extents

Plate 11.18: Viewpoint 4 – Visibility

Viewpoint 4 - Site Extents

Viewpoint 4 is looking south eastwards towards the northern boundary. The site is approximately 2.6km away from the nearest point of the Project Boundary. The view is looking across the R402 onto a pastoral field. There is a strong line of mature broadleaf trees bordering the northern and western side of the field boundary. A single wooden electricity pylon sits within the field.

The site extent is shown here to indicate the sitting of the Proposed Project in relation to this viewpoint.

Viewpoint 4 – Visibility

Solar Farm

This view shows that there will be no change to the view due the screening of mature vegetation clearly seen at this viewpoint.

Substation and Grid Connection

The Substation and Grid Connection will also not be visible from this location.

Therefore, there will be no change in the view and the Proposed Project will have **no visual effect**.

11.9.3.2.5 Viewpoint 5

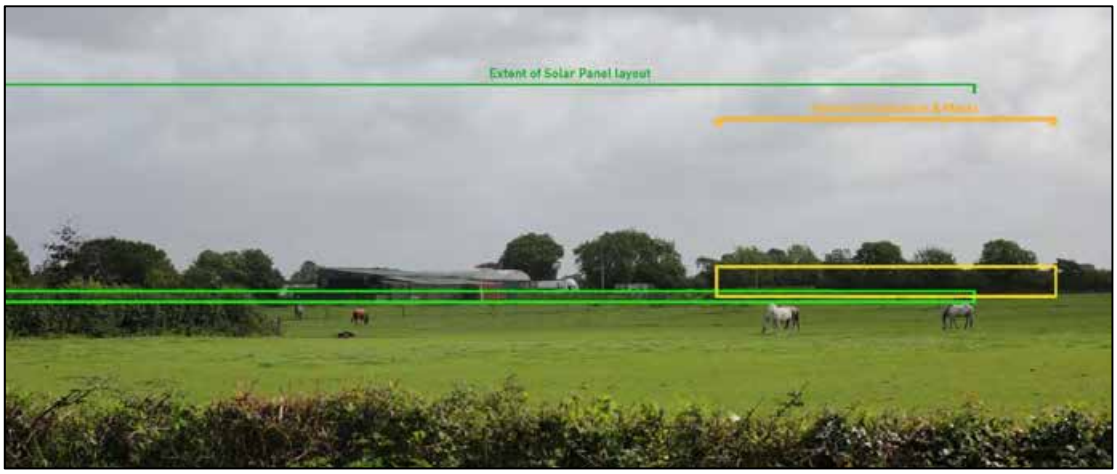

Plate 11.19: Viewpoint 5 –Site Extents

Plate 11.20: Viewpoint 5 - Visibility

Viewpoint 5 – Site Extents
Viewpoint 5 from a local road approximately 2.2km west of the Project Boundary. The view shows a view across a pastoral field. The field is bordered by a mature hedgerow on the road boundary. The left of the image shows a continuation of this mature hedgerow into the field. In the middle distance sits farm buildings. The views across the field are short to medium in length due to a mature broadleaf tree line that runs across this viewpoint.

The site extent is shown here to indicate the sitting of the Proposed Project in relation to this viewpoint.

Viewpoint 5 – Visibility
Solar Farm
The solar array is not visible from this viewpoint due to the mature vegetation present in the surrounding landscape and due to the relatively flat topography within the study area of the site.

Substation and Grid Connection
The Substation and Grid Connection will also not be visible from this location.

Therefore, there will be no change in the view and the Proposed Project will have **no visual effect**.

11.9.3.2.6 Viewpoint 6

Plate 11.21: Viewpoint 6- Site Extents

Plate 11.22: Viewpoint 6 - Visibility

Viewpoint 6 – Site Extents

Viewpoint 6 is taken from the southern road which runs along the Project Boundary. This viewpoint is approximately 1km south of the proposed solar array. The views are short to medium in distance due to the dense mature vegetation running across this viewpoint in the middle distance. The topography is relatively flat with an even view across to the adjacent vegetation. The existing 110 kV line and mast is visible in the centre left of the image.

The site extent is shown here to indicate the sitting of the Proposed Project in relation to this viewpoint.

Viewpoint 6 – Visibility

Solar Farm

The solar array is completely screened from this viewpoint due to screening provided by vegetation on site.

Substation and Grid Connection

The substation will not be visible from this point, however two of the associated angle masts and the lightning towers will be seen from this view. The magnitude of change is considered low as the visible element of the grid connection works are at the same distance as the existing design from the local road and there are existing 110 kV pylons in the view. The landscape comprises flat open peatland and tall mature tree lines and has the capacity to absorb the works without significantly affecting its sensibilities. The visual receptors at this location are users of the local road and so their sensitivity is considered Low. It is considered that the grid connection infrastructure will have a **slight** visual effect at and in the vicinity of this location.

11.9.3.2.7 Viewpoint 7

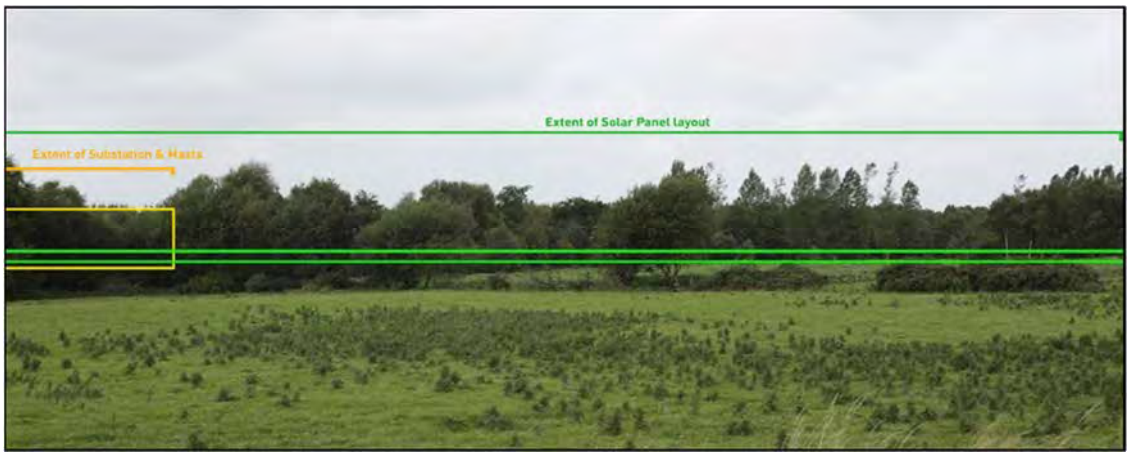

Plate 11.23: Viewpoint 7- Site Extents

Plate 11.24: Viewpoint 7 - Visibility

Viewpoint 7 – Site Extents
Viewpoint 7 is taken from a local road approximately 1.2km south east of the Project Boundary. The view is looking over a pastoral field which falls away from the road. There are many tree lines present in this view. The first is cutting through the field and comprises of mature hedgerows and two large broadleaf trees. In the near distance lies a line of dense mature broadleaf trees. The views are short to medium in distance due to this level of vegetation present.

The site extent is shown here to show the sitting of the Proposed Project in relation to this viewpoint.

Viewpoint 7 – Visibility
Solar Farm
The solar array is not visible from this viewpoint due to the mature vegetation present within this viewpoint.

Substation and Grid Connection
The Substation and Grid Connection will also not be visible from this location.

Therefore, there will be no change in the view and the Proposed Project will have **no visual effect**.

11.9.3.2.8 Viewpoint 8

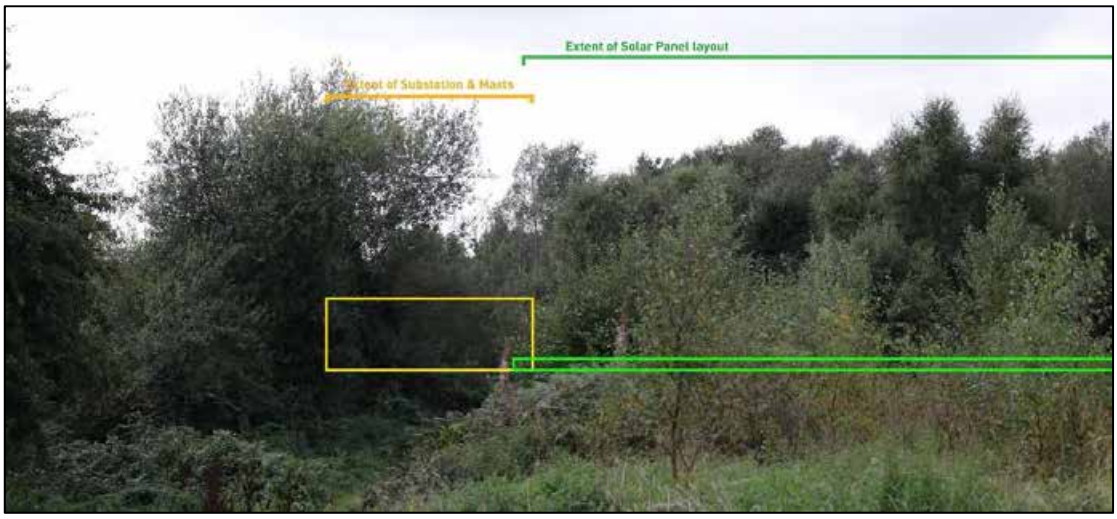

Plate 11.25: Viewpoint 8 - Site Extents

Plate 11.26: Viewpoint 8 - Visibility

Viewpoint 8 - Site Extents
Viewpoint 8 is taken from a local road approximately 0.70 km east of the Project Boundary. This view is heavily vegetated as many of the local roads that surround the site area. The vegetation is a mix of shrubbery and semi-mature trees.

The site extent is shown here to show the sitting of the proposed development in relation to this viewpoint

Viewpoint 8 – Visibility
Solar Farm
The solar array is not visible from this viewpoint due to the density of mature vegetation present within this viewpoint.

Substation and Grid Connection
The Substation and Grid Connection will also not be visible from this location.

Therefore, there will be no change in the view and the Proposed Project will have **no visual effect**.

11.9.3.2.9 Viewpoint 9

Plate 11.27: Viewpoint 9 - Site Extents

Plate 11.28: Viewpoint 9- Visibility

Viewpoint 9 - Site Extents

Viewpoint 9 is taken from a local road, located approximately 0.6km north east of the Project Boundary. The view is taken at the entrance gate of an agricultural field. The gate is to be the only opening in the mature hedgerow that borders either side of the opening. The views across the field are short to medium as there is a large broadleaf tree line sitting on what is presumed as the field boundary.

The site extent is shown here to show the sitting of the Proposed Project in relation to this viewpoint

Viewpoint 9 – Visibility

Solar Farm

The proposed view shows the visibility of the proposed Solar Farm development for this viewpoint. The development, in its entirety is not visible from this viewpoint due to the density of mature vegetation present within this viewpoint along with the nature of the landform within the study area. There will be no change to the view due to the Proposed Project, as the Solar Farm will not be visible.

Substation and Grid Connection

The Substation and Grid Connection will also not be visible from this location.

Therefore, there will be no change in the view and the Proposed Project will have **no visual effect**.

Table 11.10 – Significance of Effects (Visual)

Viewpoint No.	Solar Array	Substation & Grid Connection	Project
1	**No Visual Effect**	**No Visual Effect**	**No Visual Effect**
2	**No Visual Effect**	**Imperceptible**	**Imperceptible**
3	**No Visual Effect**	**No Visual Effect**	**No Visual Effect**
4	**No Visual Effect**	**No Visual Effect**	**No Visual Effect**
5	**No Visual Effect**	**Slight**	**Slight**
6	**No Visual Effect**	**No Visual Effect**	**No Visual Effect**
7	**No Visual Effect**	**No Visual Effect**	**No Visual Effect**
8	**No Visual Effect**	**No Visual Effect**	**No Visual Effect**
9	**No Visual Effect**	**No Visual Effect**	**No Visual Effect**

11.9.3.2.10 Solar Farm Visual Effects - Summary

Solar Array

The 9 No photomontages in the photomontage booklet (Volume 2) along with the route screening analysis and the baseline information all contribute to the assessment of the visual effects of the proposed Solar Farm during the operational phase.

Potential visual effects shown in the photomontages show that the solar array will not be visible from a wide range of potential visual receptors. The photomontages encompass views from a wide variety of locations however due to the heavily screened nature of the site situated in a low-lying topography actual visibility is extremely limited. In general, the solar array is not visible from sensitive visual receptors including public roadways and residential properties and so the potential visual effects are considered imperceptible.

The Proposed Project includes for the development of an amenity trackway close to but buffered by vegetative screening from the solar array. There may be some glimpses of the solar array for those using the trackway prior to moving away from the solar array as they continue their loop walk. The potential effects on these visual receptors is considered to be imperceptible. Based on the finalised substation there will be some localised landscaping and planting along the southern boundary of the substation which will mitigate any potential visual effects.

Temporary Construction Compound

The Construction Compound effects are assessed during the construction phase, as it will not be in place during the operational phase. Therefore, the potential visual impact is considered as Short Term, Imperceptible.

Associated Development and Infrastructure

It has been assessed during the desktop study and route screening analysis that there will be no view of the amenity trail, site roads, repositories and all associated development from the roads in close proximity to the site.

Proposed Mitigation Measures

None

Residual Impact

None

Significance of Effects
Imperceptible

11.9.3.2.11 Substation and Grid Connection

During the operational phase, the substation building will be effectively screened by vegetation and existing adjacent coniferous forest in the surrounding area. There may be visibility from more distant elevated areas of the angle masts associated with the grid connection however these are mitigated by distance and the limited scale of the infrastructure in the context of the surrounding landscape. The predicted impact is therefore Long Term, Imperceptible negative visual effect.

The grid connection entails the installation of overhead lines,4 angle masts and double polesets from the existing 110 kV line running through the site to the new substation. The visual effect for this element is therefore predicted to be long term, with Imperceptible to Slight negative landscape effect due to existing powerlines and electrical network already present in the surrounding landscape.

Proposed Mitigation Measures
None due to the extensive screening both on site and in the surrounding area.

Residual Impact
None

Significance of Effects
Imperceptible

11.9.3.3 Cumulative Visual Effects

Projects with the potential for cumulative effects are listed in Chapter 2 and have been assessed with the Proposed Project. The most relevant of these are:

- Turf cutting within the site
- Drehid Waste Management Facility
- Other solar developments within 5km of the site

Due to the limited visibility of the Solar Farm and the substation & grid connection, there is no potential for significant cumulative visual effects in-combination with other local developments. Although the existing turf cutting will cease, the potential for positive visual effects associated with this is limited as it is a very low-level activity with only localized views into the works area.

11.9.3.4 Landscape Effects – Operational Phase

The landscape effects of the proposed development are described in relation to both effects on the wider landscape character, and effects on the landscape fabric and components of the site. The main landscape fabric can be described as a mixture of woodland, commercial forestry and cut-over bog.

11.9.3.4.1 Solar Farm

The landscape effects of the Solar Farm are minimal, with the effects being mainly visual. The permanent footprint of the proposed Solar Farm is limited in the context of the wider landscape which is open and expansive and takes up approximately 238.3 hectares of the site area in total. As mentioned previously the site is surrounded by mature vegetation along with coniferous forestry, the site itself would be defined as a

brownfield site, with activity significantly reduced on the previously commercial bog. The wider land use will not be changed by the Proposed Project.

On a wider scale, the landscape character of the site and the LCAs within which it lies, Western Boglands will not change as a result of the proposed solar array. The characteristics of the LCA are described as having lowland landscape character unit, located to the western central part of the county, characterised by flat topography and smooth terrain.

There will be no visual effects associated with the proposed Solar Farm and therefore the landscape character of sensitive areas such as surrounding scenic routes or areas of High Landscape Sensitivities in County Kildare will not undergo a change in character as a result of the proposed Solar Farm. The overall effect of the Solar Farm on the landscape character of the wider areas is likely to be Long Term, **Imperceptible effect.**

The access track network required throughout the site to facilitate construction of the Solar Farm and substation will extend to approximately 3.5 km of main access tracks, approximately 12 km of spur tracks and an amenity trackway of approximately 2.0 km in length.
The predicted landscape effect is a Long Term, Imperceptible negative landscape effect.

Proposed Mitigation Measures
None. There will be no visual effects associated with the proposed Solar Farm

Residual Impact
None

Significance of Effects
Imperceptible

11.9.3.4.2 Substation and Grid Connection and Cabling

The substation building will be effectively screened intermittently by the vegetation on the site, the adjacent coniferous plantation and mature hedgerows. There may be visibility from more distant elevated areas however these are mitigated by distance and the limited scale of the infrastructure in the context of the surrounding landscape. The predicated landscape effect is Long Term, Imperceptible Negative visual effect.

The grid connection consists of 4 No. angle masts at approximately 20-metre height (2 No. masts at the substation and 2 No. masts at the 110-kV line), which will be connected by two overhead lines supported by standard wooden pole sets. The poles will measure approximately 18m in height and be spaced approximately every 200 metres. The predicated effect is Long Term, Imperceptible Negative visual effect.

Proposed Mitigation Measures
Distance and the limited scale of the infrastructure in the context of the surrounding landscape will mitigate the impact. Based on the final substation footprint, some localised landscaping will be required along the southern boundary. Additional planting around the substation will also reduce the visibility of the substation.

Residual Impact
None

Significance of Effects
Imperceptible

11.9.3.5 Cumulative Landscape Effects

Due to the limited visibility of the Solar Farm and the Substation & Grid Connection, there is no potential for significant cumulative landscape effects in-combination other local developments.

11.10 Proposed Project - Conclusion

11.10.1 Predicted Visual Effects

The desktop study, site visit, Proposed Project layout and photomontages all inform the assessment of visual effects. Assessment of the road network around the site as well as other amenity routes during the site visits established that the actual visibility of the Proposed Project site is extremely limited and localised.

As discussed above, the Proposed Project can only be seen from a very limited area outside the site as illustrated in Viewpoint 2, a view taken from a high point south west of the Project Boundary. Viewpoint 6 is taken on the southern Project Boundary, showing the character of the vegetation on site, resulting in no visibility of the Solar Farm development from this location. Viewpoints from the West, North and East of the site also resulted in zero visibility.

Therefore, the potential for any visual impact of the site is extremely localised, as changes will only be visible between intermitting vegetation or within the site.

During the site visit, visibility from the local road network was also mapped, with an emphasis on residential dwellings. A screening process was undertaken which identified dense screening with extremely limited visibility, and only small glimpses of the site visible through intermittent gaps in vegetation.

Overall, the potential visual impact is considered as Imperceptible

11.10.2 Predicted Landscape Effects

There are no rare landscape features or cultural or heritage associations on site with the potential for visual effects. The site is considered modified due to its historical peat extraction uses and subsequent revegetation and therefore does not have the characteristics of a peat bog but more a woodland area.

The proposed Solar Farm is in an area classed in the Kildare CDP as *Western Boglands.* Western Boglands are characterised by their flat topography and smooth terrain. They are described as generally unproductive due to the high-water table and poor drainage present on many of these sites.

This LCA states the following in terms of visual impact of potential development:

The generally low vegetation and the even ground provide extensive long-distance visibility. Consequently, development can have a disproportionate visual impact in such terrain, due to an inherent inability to be visually absorbed by the planar terrain.

The CDP then proceeds to state that Peat bogs within this LCA are compatible with solar developments only in *'exceptional circumstances'.*

The site is not an intact peat bog and is not perceived as such when viewed from viewpoints surrounding the site. From a landscape and visual perspective it reads as a low lying, flat woodland area site and does not share any of the common visual characteristics of a peat bog. The careful sitting of the Proposed Project, centrally within the site in combination with the proposed retention of the established vegetation on site and the utilisation of the existing vegetation within the surrounding area it is considered that the susceptibility of the landscape to the proposed type of change is deemed **Low.**

The landscape assessment provides a detailed review of the character and potential impact of the Proposed Project and clarifies that the proposed solar array will not be visible from locations external to the site due to the presence of heavy screening provided by on site vegetation which is (and will remain) under the control of Bord na Móna. The proposed Substation and Grid Connection works will only be partially visible from close to the site and the effects will be generally imperceptible. The designations set out above relate to the potential visual compatibility of the land uses with the relevant LCA's and landscape factors. The site of the current proposal is distinctive in that it can accommodate the Proposed Project without impacting on any views to or from the site.

In conclusion, the predicted landscape and visual impacts are considered low and the overall landscape character of the area will not be affected.