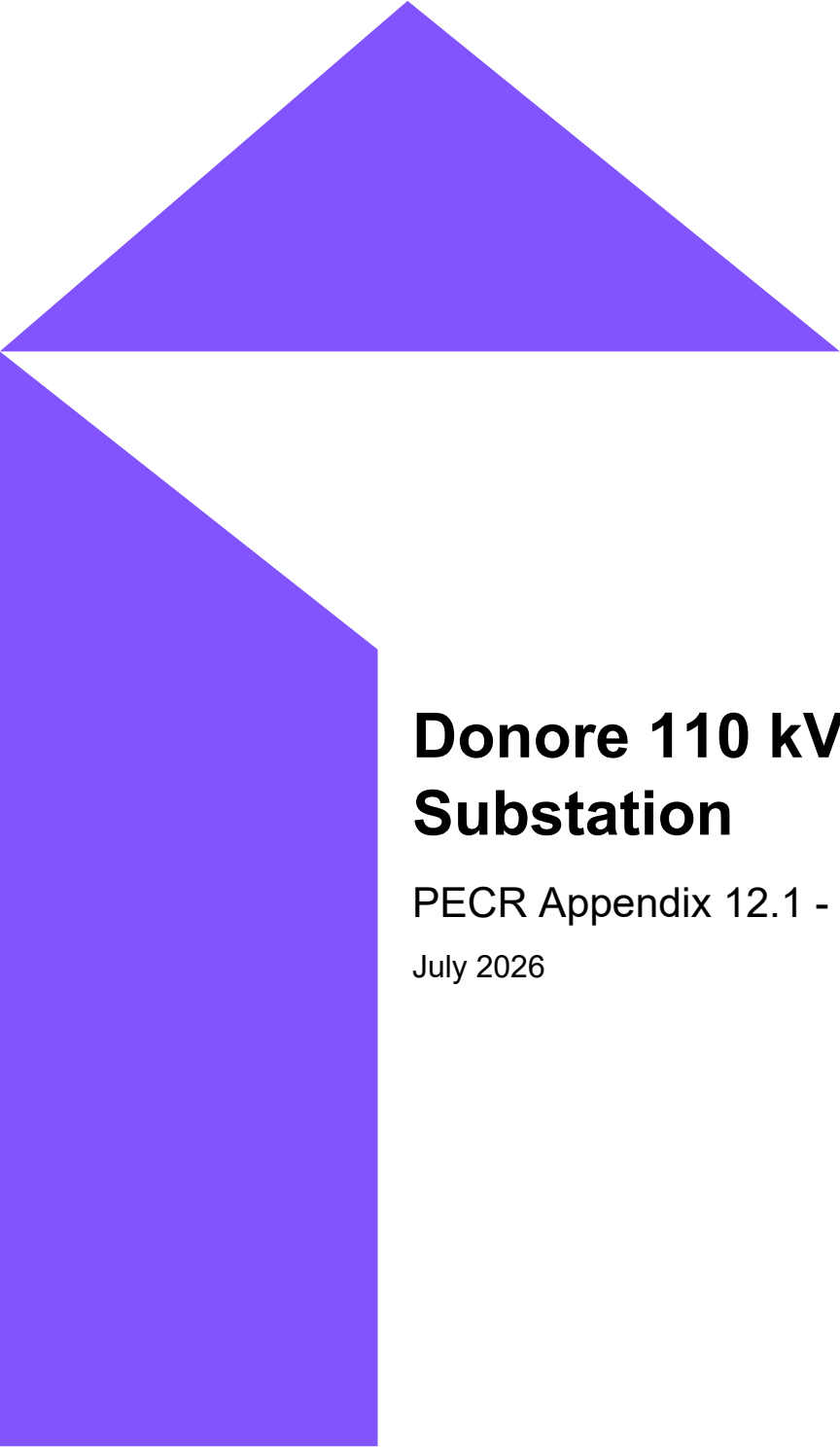




Donore 110 kV Substation

PECR Appendix 12.1 - Photomontages

July 2026



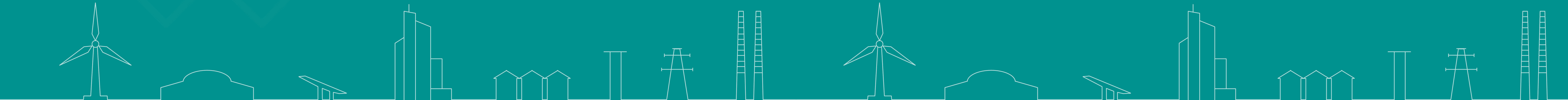
macroworks

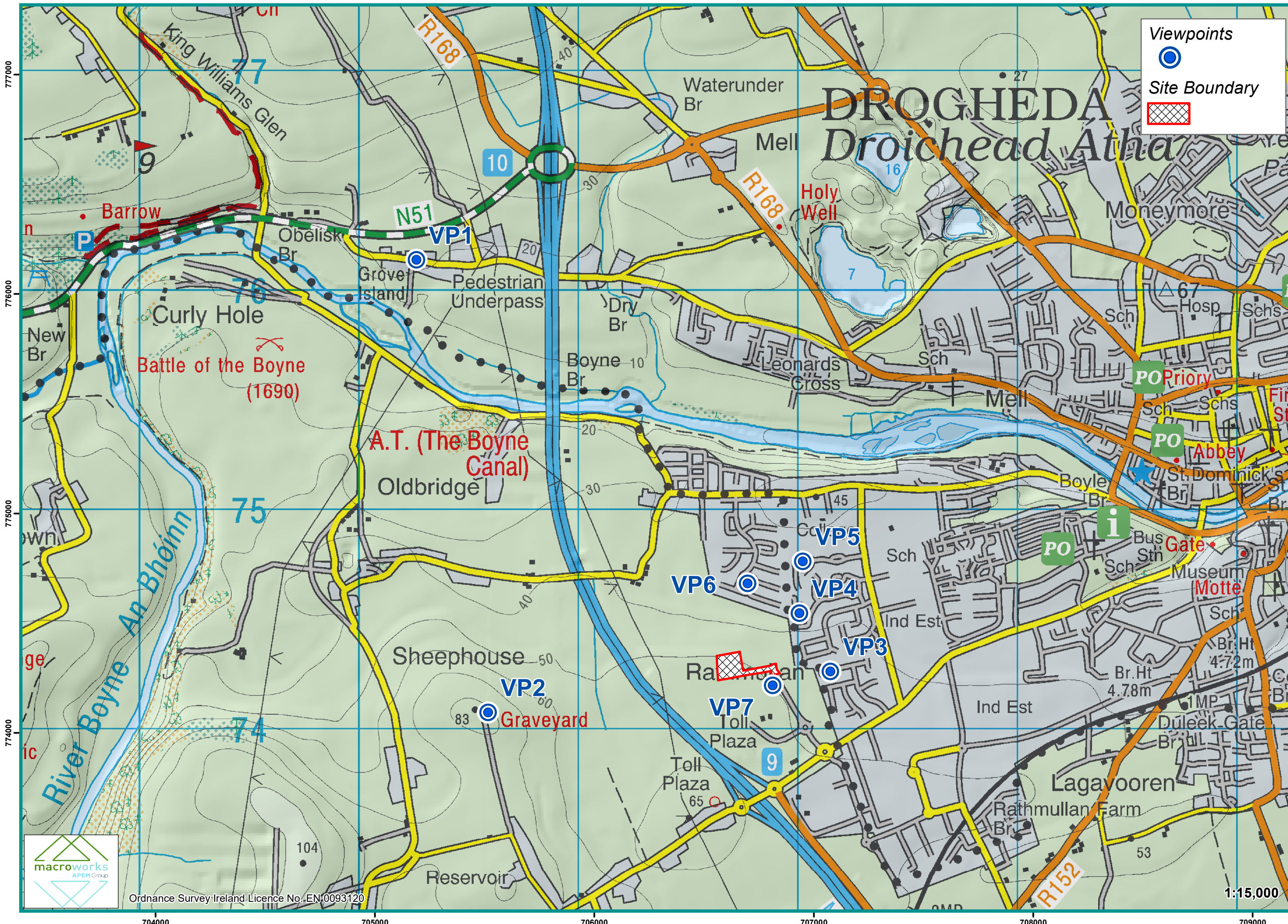
LVIA PHOTOMONTAGES

Donore 110kV Substation

This book contains imagery for the viewpoints chosen for the LVIA study

November 2025





VIEWPOINT INDEX

VP1: L20000 at Drybridge*

90° Baseline Photography
90° Outline View

VP2: Donore Graveyard

90° Baseline Photography
90° Outline View
90° Photomontage

VP3: L77016 at Cedarfield*

90° Baseline Photography
90° Outline View

VP4: L70010 at Tredagh View

90° Baseline Photography
90° Outline View
90° Photomontage
90° Photomontage with Mitigation Established

VP5: L70011 at Rowan Heights*

90° Baseline Photography
90° Outline View

VP6: L16011 at The Downs

90° Baseline Photography
90° Outline View
90° Photomontage
90° Photomontage with Mitigation Established

VP7: Drogheda College

90° Baseline Photography
90° Outline View
90° Photomontage
90° Photomontage with Mitigation Established

***Please Note:** There is no Photomontage or Mitigated Photomontage from this viewpoint as the proposed development is completely screened by existing vegetation and/or terrain

****Please Note:** The proposed development is not visible from this viewpoint as it is completely screened by terrain



Introduction

There is no industry-standard definition of what constitutes a ‘verified photomontage’, and it has been applied in two different ways, namely in terms of image size/scaling, and the accuracy of the camera location. Both are essentially concerned with the ability to audit the accuracy of the visual material.

The Landscape Institute Technical Guidance Note 06/19 – Visual representation of development proposals (TGN 06/19) states that:

“Visualisations should provide the viewer with a fair representation of what would be likely to be seen if the proposed development is implemented and should portray the proposal in scale with its surroundings. In the context of landscape/townscape and visual impact assessment, it is crucial that visualisations are objective and sufficiently accurate for the task in hand. In short, visualisation should be fit for purpose.”

Macro Works has produced the Verified View Montages (VVM) included in this document in accordance with TGN 06/19, guidance which is broadly consistent with Scottish Natural Heritage (now NatureScot) ‘Visual Representation of Wind Farms’ 2017. This guidance advocates a proportionate approach and appropriate levels of accuracy to the production of visual material.

In the context that the visual material is to accompany a planning application, Macro Works has followed a highly accurate and verifiable process to accurately communicate the scale, appearance, context, form, and extent of development, and ensure that the visual material is accurate, objective, and unbiased. The VVM are considered consistent with Type 4 in the guidance.

The photography was captured during good weather conditions with high levels of visibility. Photography has been taken to a very high standard in accordance with the guidance, and locational information is captured with a high degree of accuracy with regard to location and elevation.

The locations of the visualisations have been identified through the Landscape/Townscape and Visual Impact Assessment (LVIA or TVIA) process, and produced from 3D model information received from project architects/engineers.

This methodology has been prepared by Macro Works to explain the production of the VVM, ensuring the process is transparent and auditable.

Photography and GPS/GNSS Data

At the agreed locations, high-quality photography is captured in RAW format using either a Canon 5D Mark II or Canon 6D Mark II Full Frame Sensor camera. A Manfrotto tripod and panoramic head and leveller are used to ensure the photography is taken level and at consistent angles to ensure consistent overlapping.

Viewpoint locations are captured by inhouse trained personnel using a survey-grade GNSS unit and made compatible with the GIS referenced drawings of the proposed development. Where deemed necessary, the camera location is paint-marked and photographed and subsequently surveyed by a qualified topographical surveyor. In these circumstances, surveyors are given the photograph locations, together with marked-up photography that shows elements in the view (parapet heights, kerbing, lamp posts, etc.) that are to be surveyed as control points for model alignment within the panorama.

TGN 06/19 advocates the use of a 50mm prime lens as the industry standard, and this is the default approach adopted. In urban contexts, where a 50mm lens cannot fully capture the proposed development, the guidance accepts the use of alternative fixed-length prime lenses (Appendix 11, P.28). This approach is adopted dependent on the proximity of the development.

Following the site visit, RAW images are processed via Adobe Lightroom and panoramas are stitched and generated using the recommended industry standard software, PTGui Pro.

Post Production and Formatting

Post-production, the rendered image is taken into Adobe Photoshop where it is ‘masked’ into the existing captured panorama. This essentially involves ensuring that anything in the foreground of the proposals is brought in front of the rendered image.

Adjustments are made as required to ensure that the lighting, reflections, and material characteristics of each render are accurate to the time and date of the photography and that the images meet GDPR standards (via blurring faces and car registrations, etc.).

Proposed mitigation is added where indicated via a Landscape Mitigation Plan.

Each VVM is subject to a thorough review and approval process which includes discussions with project engineers and architects to ensure it accurately reflects the architectural proposals.

3D Modelling and VVM Creation

The proposed development is accurately modelled into a 3D environment in GIS mapping software and 3DS Max 2023 using a combination of data sources (REVIT files, AutoCAD drawings, DTM/DSM data etc.) received from the project architects and engineers.

Virtual 3D cameras are positioned according to the survey coordinates, and the focal length is set to match the captured photography.

For rural projects, the visualisation preparation methodology recommended in the Scottish Natural Heritage 2017 ‘Visual Representation of Wind Farms’ is strictly followed. This involves the creation of 360° wirelines using GIS software, which perfectly match the generated panoramas and 3DS Max renders for each viewpoint. This allows for the development to be accurately placed within the captured photography.

For urban projects, camera matching or photographic alignment is a method by which a combination of data is used to produce an accurate camera match for each view. Virtual 3D cameras are positioned and the captured photography is then placed into the background of the 3DS Max Viewpoint. The surveyed information is then matched to the existing buildings in the photography.

Where appropriate, colour palettes and material references provided by the wider design team are applied to the model to provide a real-world representation. To ensure a high degree of accuracy, renders of the development are generated from 3DS Max 2023 with identical image characteristics to that of the baseline photography, including reference to the date and time of capture.

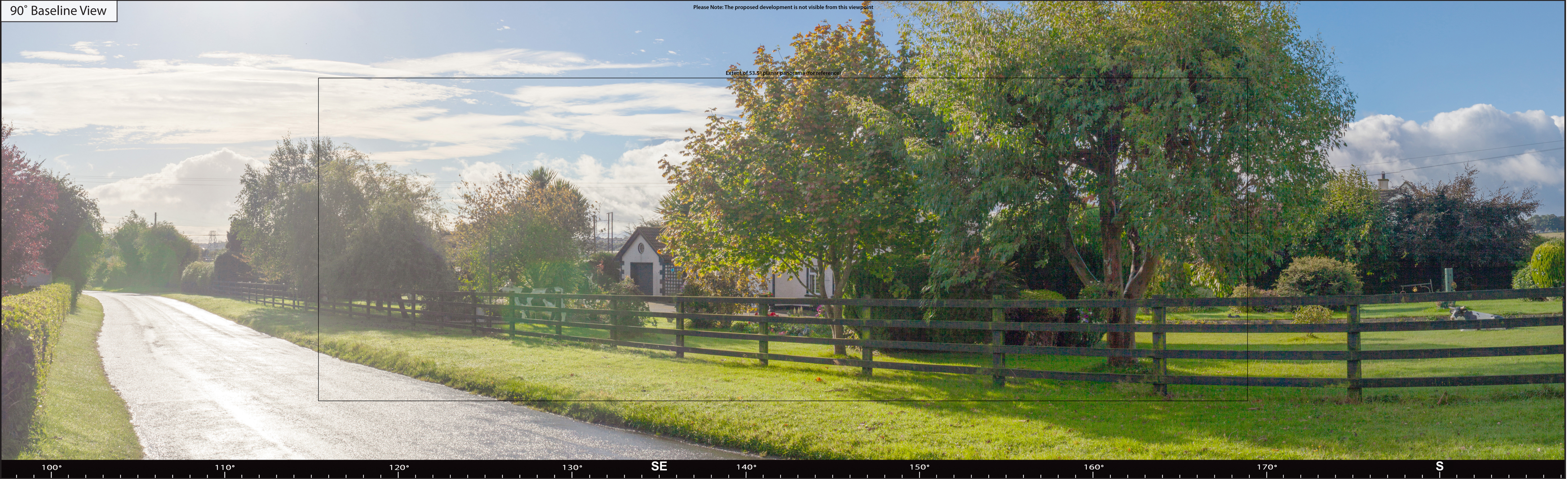
Image Presentation

The objective of Type 4 visualisation is to present a printed image which gives a realistic impression of scale and detail.

VVMs are presented in accordance with the TGN 06/19 guidance, and final views are formatted into a booklet using Adobe InDesign, with all accompanying information relating to the photography, modelling, topography, post-production and viewpoints included.

For each viewpoint location, a 90° Horizontal Field of View (HFoV) cylindrical baseline photograph is provided to allow a 96% enlargement contextual reference. Image enlargement of 150% is recommended in the guidance (where feasible) to allow for binocular image scaling when printed, which results in an image with a 53.5° HFoV. Where this is not feasible because of proximity, or infrastructure occupying a wide field of view well beyond 53.5° that would necessitate splitting the view across multiple images, 90° HFoV cylindrical images are presented to avoid confusion for the viewer. A bounding box illustrates the extent of a 53.5° image where this is the case.

This document contains a site location map with VVM locations plotted, and all reference information, including photography, modelling, topographic, post-production, formatting, viewpoint and viewing instructions.



Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP1 L20000 at Drybridge

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	705188	Horizontal Field of View:	90° (cylindrical projection)	Date and Time:	2025/09/17 08:14	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	776155	Principal Distance:	522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	144 °	Paper size:	841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	2.03 km	Correct printed image size:	820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	23.2 m	Enlargement Factor:	96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP1 L20000 at Drybridge

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	705188	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 08:14	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	776155	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	144 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	2.03 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	23.2 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP2 Donore Graveyard

Visualisation Type 4 - This 90° cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	705515	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 08:38	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774093	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	78 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	1.06 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	81.1 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP2 Donore Graveyard

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM): Northing (ITM): Direction of View: Distance to Site: Elevation:	705515 774093 78 ° 1.06 km 81.1 m	Horizontal Field of View: 90° (cylindrical projection) Principal Distance: Paper size: Correct printed image size: Enlargement Factor:	522 mm 841 x 297 mm 820 x 251 mm 96%	Date and Time: Camera: Lens: Panoramic Head: Camera Height:	2025/09/17 08:38 Canon 5D Mark II Digital SLR Canon Fixed 50mm Full Frame Sensor Manfrotto Pano Head/Leveller 1.7m (AGL)	Photography Software: Panorama Stitching Software: Post-Production Software: Formatting Software:	Adobe Lightroom PTGui Pro Adobe Photoshop Adobe Illustrator/InDesign	Modelling Software: Rendering Software: GNSS Unit: Topographical Data: GPS Ref:	3DS Max 2023 Mental Ray/Corona Trimble Catalyst (GNSS) LiDAR/OSI Terrain Data Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP2 Donore Graveyard

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM): Northing (ITM): Direction of View: Distance to Site: Elevation:	705515 774093 78 ° 1.06 km 81.1 m	Horizontal Field of View: 90° (cylindrical projection) Principal Distance: Paper size: Correct printed image size: Enlargement Factor:	522 mm 841 x 297 mm 820 x 251 mm 96%	Date and Time: Camera: Lens: Panoramic Head: Camera Height:	2025/09/17 08:38 Canon 5D Mark II Digital SLR Canon Fixed 50mm Full Frame Sensor Manfrotto Pano Head/Leveller 1.7m (AGL)	Photography Software: Panorama Stitching Software: Post-Production Software: Formatting Software:	Adobe Lightroom PTGui Pro Adobe Photoshop Adobe Illustrator/InDesign	Modelling Software: Rendering Software: GNSS Unit: Topographical Data: GPS Ref:	3DS Max 2023 Mental Ray/Corona Trimble Catalyst (GNSS) LiDAR/OSI Terrain Data Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP3 L77016 at Cedarfield

Visualisation Type 4 - This 90° cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	707075	Horizontal Field of View:	90° (cylindrical projection)	Date and Time:	2025/09/17 09:03	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774280	Principal Distance:	522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	272 °	Paper size:	841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.15 km	Correct printed image size:	820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	44.6 m	Enlargement Factor:	96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP3 L77016 at Cedarfield

Visualisation Type 4 - This 90° cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	707075	Horizontal Field of View:	90° (cylindrical projection)	Date and Time:	2025/09/17 09:03	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774280	Principal Distance:	522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	272 °	Paper size:	841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.15 km	Correct printed image size:	820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	44.6 m	Enlargement Factor:	96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP4 L70010 at Tredagh View

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706935	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:12	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774545	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	232 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.03 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	38.8 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP4 L70010 at Tredagh View

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706935	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:12	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774545	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	232 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.03 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	38.8 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP4 L70010 at Tredagh View

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706935	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:12	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774545	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	232 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.03 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	38.8 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP4 L70010 at Tredagh View

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706935	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:12	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774545	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	232 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.03 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	38.8 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP5 L70011 at Rowan Heights

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706949	Horizontal Field of View:	90° (cylindrical projection)	Date and Time:	2025/09/17 09:19	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774781	Principal Distance:	522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	214 °	Paper size:	841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.26 km	Correct printed image size:	820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	38.1 m	Enlargement Factor:	96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS







Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP6 L16011 at The Downs

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706697	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:29	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774680	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	193 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.09 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	36.8 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP6 L16011 at The Downs

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706697	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:29	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774680	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	193 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.09 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	36.8 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP6 L16011 at The Downs

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706697	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:29	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774680	Principal Distance:	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	193 °	Paper size:	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.09 km	Correct printed image size:	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	36.8 m	Enlargement Factor:	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP6 L16011 at The Downs

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706697	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:29	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774680	Principal Distance:	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	193 °	Paper size:	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.09 km	Correct printed image size:	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	36.8 m	Enlargement Factor:	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP7 Drogheda College

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706812	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:37	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774215	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	295 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.07 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	50.4 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP7 Drogheda College

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706812	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:37	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774215	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	295 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.07 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	50.4 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP7 Drogheda College

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706812	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:37	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774215	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	295 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.07 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	50.4 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





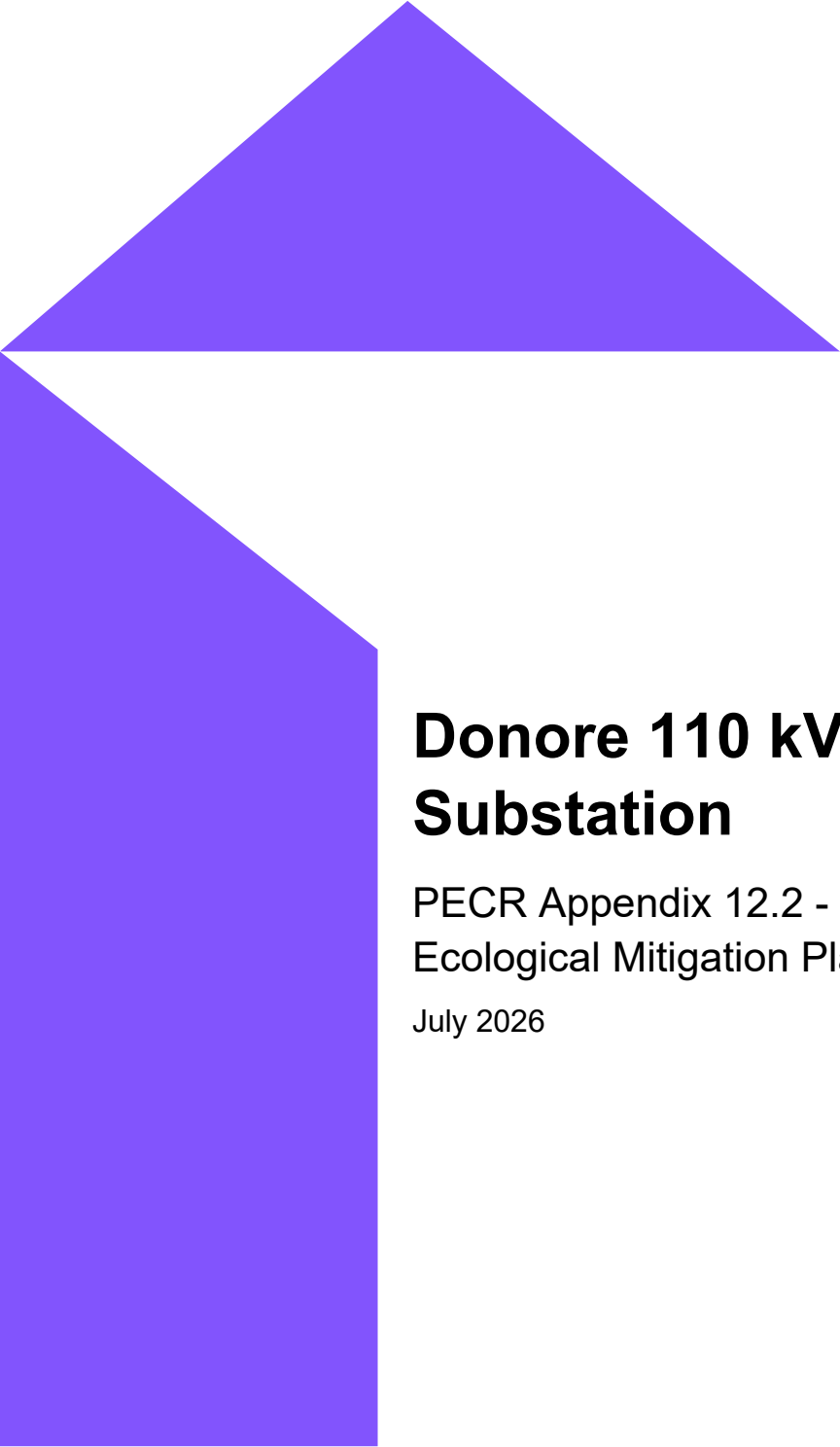
Donore 110kV Substation - Landscape and Visual Impact Assessment

Viewpoint Ref: VP7 Drogheda College

Visualisation Type 4 - This 90°cylindrical projection panorama has been captured, prepared and presented in accordance with the guidance set out in the Landscape Institute Technical Guidance Note 06/19 for Type 4 Visualisations and the Scottish Natural Heritage 2017 guidance 'Visual Representation of Wind Farms'. This image has been presented in a 90° cylindrical format to aid visual comprehension of linear infrastructure occupying a wide FoV, which avoids splitting the view across numerous multiple images.

Easting (ITM):	706812	Horizontal Field of View: 90° (cylindrical projection)	Date and Time:	2025/09/17 09:37	Photography Software:	Adobe Lightroom	Modelling Software:	3DS Max 2023
Northing (ITM):	774215	Principal Distance: 522 mm	Camera:	Canon 5D Mark II Digital SLR	Panorama Stitching Software:	PTGui Pro	Rendering Software:	Mental Ray/Corona
Direction of View:	295 °	Paper size: 841 x 297 mm	Lens:	Canon Fixed 50mm Full Frame Sensor	Post-Production Software:	Adobe Photoshop	GNSS Unit:	Trimble Catalyst (GNSS)
Distance to Site:	0.07 km	Correct printed image size: 820 x 251 mm	Panoramic Head:	Manfrotto Pano Head/Leveller	Formatting Software:	Adobe Illustrator/InDesign	Topographical Data:	LiDAR/OSI Terrain Data
Elevation:	50.4 m	Enlargement Factor: 96%	Camera Height:	1.7m (AGL)			GPS Ref:	Georeferenced/Surveyed DWGS





Donore 110 kV Substation

PECR Appendix 12.2 - Landscape and
Ecological Mitigation Plan

July 2026

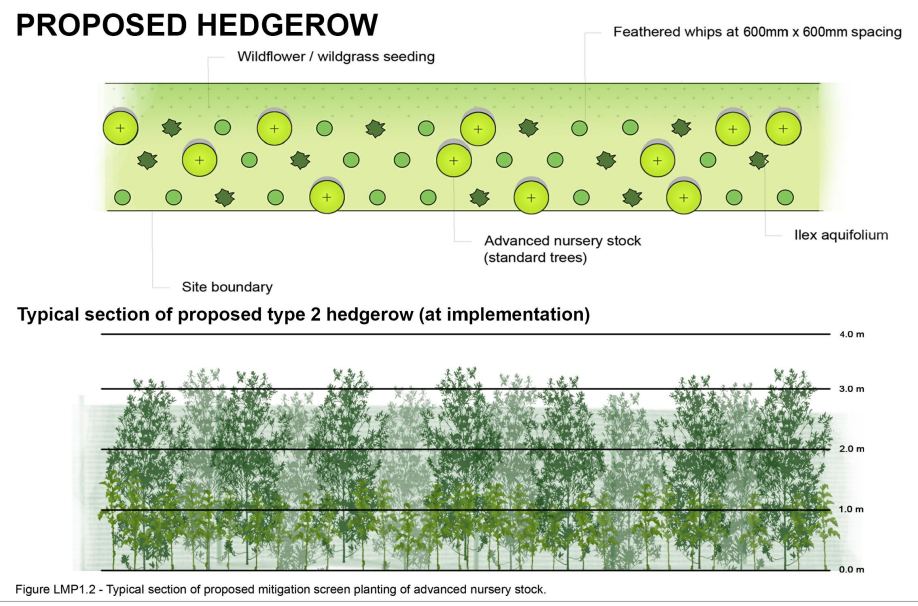


NATIVE HEDGEROW MIX: 753.7m

Botanical name	Common name	Size	%
Primary structure:			
Crataegus monogyna	Hawthorn	90-120cm / 8-10cm girth 3m br standard trees	60%
Secondary structure:			
Prunus spinosa	Blackthorn	90-120cm	15%
Ilex aquifolium	Holly	90-120cm	15%
Shrub species structure:			
Viburnum opulus	Gueider Rose	60-90cm	2.5%
Corylus avellana	Hazel	60-90cm	2.5%
Rosa canina	Dog-rose	60-90cm	2.5%
Euonymus europaeus	Spindle	60-90cm	2.5%

PROPOSED NATIVE TREES:no.9

Botanical name	Common name	Size
Betula pendula	Birch	Various sizes ranging from light standards to
Sorbus acuparia	Hawthorn	heavy standards to provide structural diversity.



ATTENUATION BASIN

PROPOSED NATIVE HEDGEROW
New section of native hedgerow planted as triple staggered row comprising a mix of native whips and advanced nursery stock. Hedgerow managed at a height of c.3-4m.

PROPOSED NATIVE TREES
Various sizes ranging from light standards to heavy standards to provide structural diversity.

PALISADE FENCE



Registered
Landscape
Architect
2024-25

Legend:

-  SPECIES RICH GRASS SEEDING
-  PROPOSED NATIVE TREES
-  EXISTING VEGETATION
-  PROPOSED NATIVE HEDGEROW
-  SITE BOUNDARY

Notes

It is imperative to use native Irish species in so far as possible as they are adapted to Irish conditions and therefore more likely to thrive compared to imported stock. Selected species should also represent woodland and hedgerow in the surrounding environs although non-native species are not to be used, unless otherwise agreed with the Planning Authority.

All plants supplied shall be exactly true to name as shown in the plant schedules. Varieties with variegated and/or coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the contractor. Bundles of plants shall be marked in conformity with BS3036: Part 1: 1995 and BS3036: part 4: 1996. The nursery supplier shall replace any plants which, on leafing out, are found not to conform to the labels.

Proposed Landscape Figures:
753.7 metres of proposed hedgerow
No. 9 Proposed native trees

Prepared by:
MACRO WORKS,

HEBRIA HOUSE
CHERRYWOOD BUSINESS PARK,
DOLSKUNSTOWN, DUBLIN 18
0853 911 235395
info@macroworks.ie

Prepared for:
ESB
27 Fitzwilliam Street
Lower, Dublin, D02 K792

Site location:

COUNTY MEATH

Drawing Title:
LANDSCAPE PLAN

Project:
DONORE 110KV SUBSTATION

Drawn by:
LW/CX

Checked by:
CO

Drawing Ref:
LD.DNR.110KV.SUB 1.0

Scale:
1:500@ A1

Date:
OCTOBER 2025

PLANNING