

# **moray offshore renewables ltd**

Developing Wind Energy In The Outer Moray Firth

## **Environmental Statement**

Modified Transmission Infrastructure for  
Telford, Stevenson and MacColl Wind Farms

## **Design and Access Statement**



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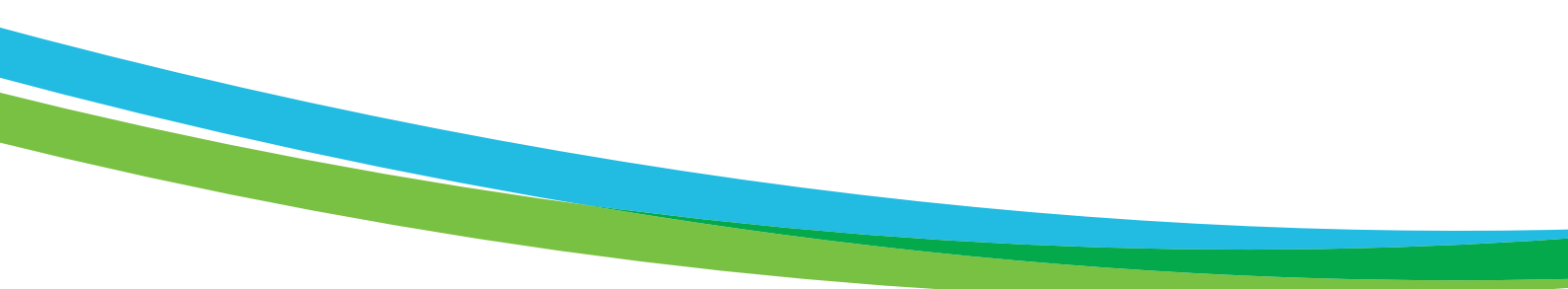
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# 1 Introduction

## 1.1 Purpose of Design and Access Statement

1.1.1 Jones Lang LaSalle (JLL) has been commissioned by Moray Offshore Renewables Ltd (MORL) to prepare this Design and Access Statement (DAS) in support of the application for Planning Permission in Principle (PPP) submitted under the terms of the Town and Country Planning (Scotland) Act 1997 (as amended) for the Onshore Transmission Infrastructure (OnTI) associated with the consented offshore MORL wind farms.

1.1.2 There is a statutory requirement under Regulation 13 of the Town and Country Planning (Development Management Procedure) Regulations 2013 for either a DAS or a Design Statement to accompany a planning application in certain circumstances. DAS's are required to accompany applications for planning permission for 'National' and 'Major' developments; however, the requirement does not apply to applications for PPP, therefore, this DAS has been submitted on a voluntary basis.

1.1.3 The purpose of this document is to describe the design principles relating to the proposed development to ensure that the design rationale can be understood when the application is assessed.

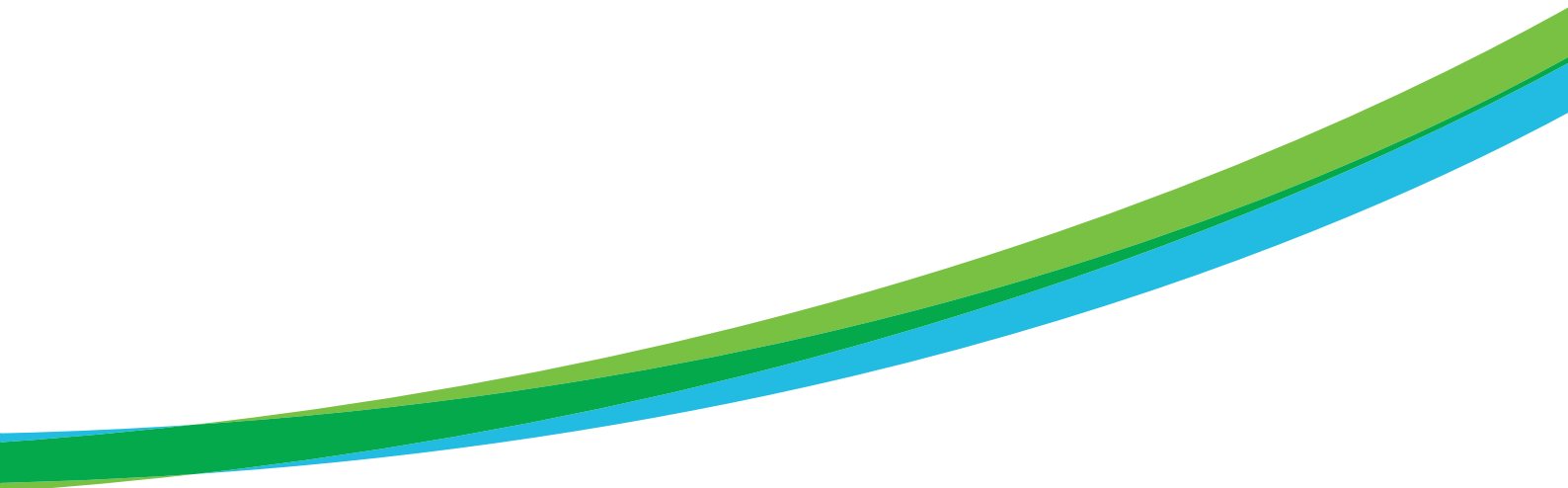
1.1.4 A full description of the proposed development is outlined within Chapter 2 of the Environmental Statement (ES) for the modified Transmission Infrastructure (TI), however, in summary the proposed development relates to the onshore elements of TI associated with the three offshore wind farms (Telford, Stevenson and MacColl) as consented on 19 March 2014 by the Scottish Ministers under Section 36 of the Electricity Act 1989.

## 1.2 Background

1.2.1 The ES and Updated Planning Statement (UPS) have been submitted in support of the proposed development. These documents provide a detailed description of the proposed development, an assessment of the likely significant effects of the proposed development as well as outlining the relevant planning and energy policy framework.

1.2.2 As stated above, this DAS is prepared on behalf of MORL. MORL holds a Zone Development Agreement with The Crown Estate for Zone 1 of Round 3, in the Moray Firth, hereafter referred to as the 'MORL Zone'. MORL has set up Special Purpose Vehicles (SPVs) to consent, construct and operate the wind farms and these SPVs hold Agreements for Lease with the Crown Estate for three separate sites within the MORL Zone: these are Telford, Stevenson and MacColl.

1.2.3 In August 2012, MORL submitted three Section 36 Applications for consent for the above Telford, Stevenson and MacColl offshore wind farm sites. Section 36 consents were awarded on 19 March 2014 for the construction and operation of the three wind farm sites, up to a maximum capacity of 1,116 MW combined. Accompanying the applications for the Section 36 consents were associated applications for marine licences for the wind farm sites and the offshore transmission infrastructure (OFTI) to a land fall at Fraserburgh. This was due to MORL's grid connection agreements at the time being adjacent to Peterhead Power Station. Since the submission of the applications for Section 36 Consents and marine licences, the grid connection points has changed from the location adjacent to Peterhead Power Station to the location south west of New Deer which is currently subject to a connection agreement between MORL and National Grid south-west of New Deer, Aberdeenshire.



1.2.4 The previous applications for consent and for marine licence did not include applications for consent for the OnTI. As the grid connection point has changed from that set out within the original applications for consent, the proposed development reflects the transmission network connection points as featured in the current grid connection agreement with National Grid.

### 1.3 Access Information

1.3.1 In drafting this DAS regard has been given to the content of Planning Circular 3 / 2013 'Development Management Procedures'. This guidance advises that statements should allow the applicant to explain and justify their development proposals with regard to the design process whilst also addressing how the needs of people with impaired mobility in terms of access to the development will be catered for. In this regard, it should be noted that the proposed development relates to TI which does not have an operational component user. The purpose and characteristics of the development are such that onsite access for those not associated with the development is not a key feature of the design process. On this basis 'access' considerations have been scoped out of the DAS.

1.3.2 The proposed vehicular access arrangements are outlined within Chapter 5.6 of the ES.

### 1.4 Policy Context

1.4.1 The planning policy framework that is relevant to the proposed development is outlined within Chapter 1 of the ES. The policies set out include those contained within the Aberdeenshire Local Development Plan (LDP), Scottish Planning Policy (SPP), Planning Advice Notes (PAN) and other relevant guidance. Moreover, the UPS contains a full assessment of the proposed development against the relevant policy framework, including an assessment of the proposed development against the design policies contained within the Aberdeenshire LDP.

1.4.2 The Aberdeenshire Development Plan comprises the following:

- The Aberdeenshire and City Strategic Development Plan (approved 2014); and
- The Aberdeenshire Local Development Plan (adopted 2012).

1.4.3 For the purposes of this DAS, the relevant policies contained within the LDP and the accompanying Supplementary Guidance (SG) in relation to design are set out in Table 1.1 below. It should be noted that there is limited design information that accompanies the proposed development. This is part due to the nature of PPP applications and also due to all design matters being reserved for Approval of Matters Specified in Conditions with the exception of the dimensions for some development components set out below. Therefore limited assessment on design in terms of aesthetics and finishes can be undertaken at this time.

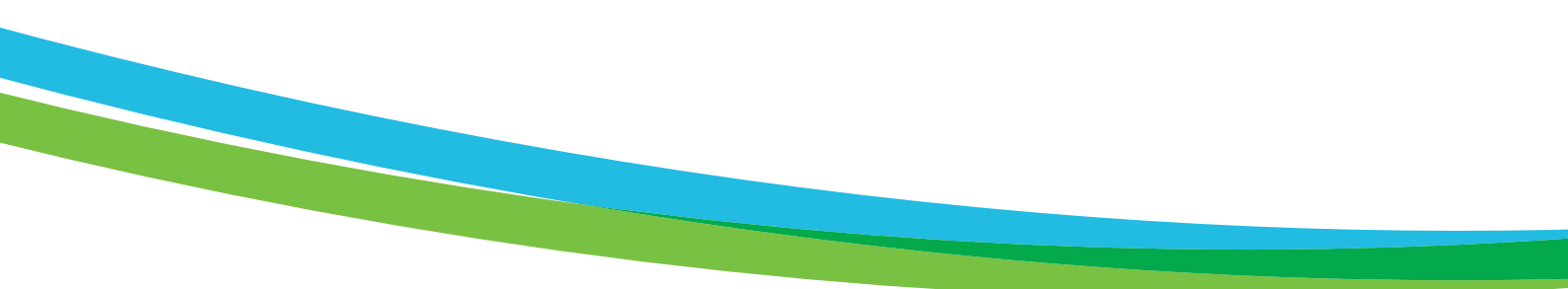


Table 1.1: Relevant Policies of the LDP and related Supplementary Guidance

Topic	Aberdeenshire LDP 2012	Aberdeenshire LDP Supplementary Guidance 2012
Siting, Design and Access	Policy 8 Layout, Siting and Design of New Development	LSD 2: Layout, Siting and Design of New Development
Landscape and Visual	Policy 12 Landscape Conservation	Landscape 1: Landscape Character Landscape 2: Valued Views

## 1.5 Pre-Application Consultation

1.5.1 Pre-Application Consultation (PAC) provides an opportunity to inform the design principles and access arrangements as a result of consultation in the community.

1.5.2 It is considered useful to provide a description of the key issues arising following the formal pre-application consultation and wider engagement process undertaken by MORL. The PAC included three 8-hour public exhibitions, a two-week advertising campaign in four local publications, and the notification of nine Community Councils. Although the events attracted 135 attendees, the written feedback submitted by the public was limited. The full details of the process and the formal responses are set out in the 'Pre-Application Consultation Report' which accompanies the PPP application.

1.5.3 Only one feedback response was made by a member of the public. This reply acknowledged the requirement for the infrastructure and drew attention to the need for sensitivity in siting and consideration of screening.

1.5.4 Following discussion with a large number of residents and land-owners within the substation search area and beyond, MORL refined the substation site with a view to reducing impact on amenity. In order to further address concerns regarding amenity, MORL has developed proposals for landscaping and screening. These proposals are outlined within Chapter 2 of this document.

## 1.6 Project Description

1.6.1 A full project description is contained within Chapter 2 of the ES. This relates to both the onshore and offshore TI. This DAS considers the proposed OnTI. The proposed OnTI comprises:

- Onshore transition jointing pit: the interface between the offshore and onshore cables systems;
- Underground cables (up to 12 in up to four trenches in a bundled trefoil arrangement, comprising a working corridor up to 60 m wide) from landfall point to grid connection point;
- Onshore cabling specification: AC, voltage levels 220kV;
- Grid transformers;
- HVAC switchgear;
- Reactive compensation;
- Auxiliary transformers;
- Control and instrumentation equipment;

- Telecoms equipment;
- Control buildings;
- Fenced compounds;
- Associated civil ground works;
- Access roads; and
- Temporary construction compounds, storage facilities, laydown areas and access tracks during the construction period.

1.6.2 This DAS focuses on the above ground built development component of the proposed development. In terms of above ground built development, MORL will require one AC substation, covering an area of up to approximately 270 x 135 m. In addition, in order to allow the connection of MORL to the national grid, the transmission owner (TO) will require an additional substation which will feed into the existing 275 kV overhead line. This substation will be up to 270 x 170 m. Each substation will be a maximum of 13 m in height.

## 1.7 Site & Context

1.7.1 The offshore export cable route is approximately 33 km in length from the landfall point at Inverboyndie to the substations location to the south west of New Deer. Specifically, the onshore substations site is located south of Mary Hill Crossroads, east of the Burn of Asleid, west of the B-road which connects Mary Hill to Gight and north of the B-road which leads to North Millbren.

1.7.2 The onshore substation site allows for the co-location of the MORL substation and the additional substation which together will occupy an area no more than 10 hectares in size.

## 1.8 Structure of Design and Access Statement

1.8.1 This DAS has been structured as follows:

- Chapter 2 provides a description of the design approach and sets out the process that has led to the final design;
- Chapter 3 provides overall conclusions.

## 2 Design Approach

### 2.1 Introduction

2.1.1 A DAS enables an applicant for planning permission to explain why the selected design solution is the most suitable in the specific circumstances.

2.1.2 The proposed development relates to the onshore elements of the TI, however, this DAS specifically sets out the design principles and concepts in relation to the built structures associated with the proposed development. The proposed substations will be the main consideration of this statement given the underground nature of the cables.

2.1.3 The aim of this Chapter is to provide information on the proposed development in terms of its siting, layout and design. As stated above, the main design considerations associated with the proposed development relate to the above ground structures.

2.1.4 First, the background context to the site selection is summarised with particular regard to the landscape character surrounding the sites. Second, having regard to the site context, the landscape character considerations are set out. Finally, the proposed landscape mitigation proposals are outlined.

#### Site selection

2.1.5 In February 2014 Optimised Environments Limited (OPEN) was commissioned by MORL to undertake a landscape and visual review of three potential sites for substations near New Deer in Aberdeenshire.

The three potential substation sites were identified and an evaluation of the potential sites informed the final site selection. A summary of each potential site is noted below:

- Site 1 - North of North Millbex; the surrounding landscape is shaped into a gentle valley around the 'Little Water' river with higher areas lying to the east and west of the site. There are numerous other field drains and watercourses in the local area which create a gentle undulating landscape. Key characteristics of the local landscape include detached houses, farmsteads with large storage

sheds, numerous single turbines, small scale coniferous and mixed woodland, pylons, numerous watercourses and field drains.

- Site 2 – South of Maryhill crossroads; The surrounding landscape is characterised by gently undulating topography and key characteristics of the local landscape include detached houses, farmsteads with large steadings, gently rolling hills, single turbines within the landscape, pylon lines, numerous watercourses and field drains.
- Site 3 – South east of New Deer, adjacent to A948. The surrounding landscape is generally undulating, apart from to the west and south west of the site, where there is an area of higher ground and key characteristics of the local landscape include detached houses, farmsteads with large steadings, mature and coniferous woodland, pylons, a single turbine, single carriageway primary roads (A948, A981) as well as B-roads, single track minor roads and numerous field drains.

2.1.6 The proposed site (Site 2 - South of Maryhill crossroads) was selected for the following reasons:

- Distance from residential properties;
- Proximity to existing overhead 275 kV line;
- Existing screening;
- Space for additional screening works;
- Ground, slope and gradient conditions;
- Accessibility;
- Technical principles associated with the Holford Rules for Substation Locations; and
- Landowner discussions.

## 2.2 Site and Context Appraisal

2.2.1 The primary function of the proposed substations is to accommodate the TI required to allow the power generated by the three offshore wind farms to be fed into the national grid.

### Use of Space / Layout of Substation

2.2.2 The onshore site identified by MORL allows for the co-location of the MORL substation and the additional TO substation. Both substations will be located within a single substation compound, located indicatively within a wider 'substations area' that includes landscape and screening proposals.

2.2.3 The MORL substation development includes but is not limited to the components outlined below. In addition, the proposed height of these components has been noted in brackets:

- 2 x GIS Switchgear Buildings (11.5 m);
- 2 x Reactor Units (9 m);
- 4 x Auto Transformers (11.28 m);
- Pylons (7 m & 12.5 m); and
- Various Electrical Equipment (7 – 8 m).

2.2.4 The TO substation development includes but is not limited to the components which are outlined below. In addition, the proposed height of these components has been noted in brackets:

- GIS Switchgear Building (12.65 m);
- Other Building (4.7 m);
- Fenced Enclosure containing Electrical Equipment (4 m); and
- Various Electrical Equipment (7 – 12.5 m).

### Landscape Context

2.2.5 The site lies within the Agricultural Heartland Landscape Character Area (LCA) as identified in Aberdeenshire Council's Supplementary Guidance SG Landscape 1: Landscape Character and described in the Landscape Character Assessment of Banff and Buchan, Cobham Resource Consultants 1997, SNH Review No 37 (Figure B). Within Aberdeenshire the Agricultural Heartland landscape is extensive and covers several different geographical areas. Agricultural plains are the prominent characteristic and they tend to be influenced by the interior landscapes rather than the coast. Some diversity is created by elevation, landform and the incidence of wooded estates.

2.2.6 Scattered churches and community buildings provide features and gathering points within the landscape. These, as well as the larger settlements and the large numbers of farms and dwellings are connected by an extensive network of minor roads. Along with the geometrically laid out fields and angular plantings, these create a strong patchwork type pattern across the rolling landscape, which is emphasised by the variety of arable crops.

2.2.7 The settled landscape is crisscrossed by pole mounted transmission lines and the pylon mounted transmission line is a prominent feature in some locations. Views within the Agricultural Heartland landscape are confined in places to local areas with the rolling landform providing containment as well as vantage points where more distant views become available.

2.2.8 Although the land use surrounding the site is predominantly agricultural, there is a pattern of scattered woodland shelterbelts, larger woodland blocks / plantations and semi-natural woodlands, particularly along the Deveron Valley to the west and the Braes of Gight to the south of the study area. There is a frequent scattering of broad-leaved trees in shelterbelts along hill-ridges, around farms, and in small coniferous blocks, which combine to diversify the agricultural plain. There are few areas of extensive woodland in the area, with the most



substantial being plantation woodlands, such as around the Howe of Teuchar and semi-natural woodlands within the Deveron Valley, such as the ancient woodlands of Gight, which represent some of the least disturbed native woodland in the Grampian lowlands. Comparatively more recent plantings are often associated with the estates, and include avenues, policies and shelterbelts. The existing woodland pattern evident in the landscape has informed the landscape mitigation proposals for the indicative onshore substation, described later in this Chapter.

Key characteristics of the local landscape around the substations area are described as follows:

- Land use primarily arable farmland, interspersed with strong field boundaries of either coniferous planting, traditional drystone walls or post and wire fencing;
  - Large scale electrical pylons and overhead lines traverse the substation area between Mains of Asleid and East Swanford;
  - Field boundaries generally determined by hedgerows and post and wire fences with some drystone walls (consumption dykes) in varying conditions;
  - Range of vegetation, including woodland shelterbelts and blocks of coniferous woodland, particularly along the Burn of Alseid and adjacent to minor road on the eastern boundary;
  - Post and wire fences and drystone walls (consumption dykes) define fields within the site;
  - Gently rolling landform of subtle undulations, occasionally dropping more notably into burns;
  - The substation area is characterised by gently undulating landforms;
  - To the south and west the land gently slopes away more steeply towards the Burn of Asleid, with the steepest incline to the south;
  - Areas of higher ground in the wider landscape can be found to the east, north east, west and north west of the site, on either side of the 'Little Water' river;
  - Scattered detached houses and farmsteads with large steadings, with a cluster of dwellings around the Maryhill Crossroads;
  - North Millbren Church present on distant skyline;
  - Network of numerous watercourses and field drains, which drain the agricultural fields;
  - Localised mosses and occasional surface water in areas of wetter, low-lying ground to the west/north-west e.g. Moss of Swanford;
  - Numerous single turbines within the landscape. Three turbine wind farm on the Hill of Balquhindachy is most prominent in views from the site; and
  - Network of B-roads and single track farm access lanes.
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## 2.3 Design Principles and the Development of the Design Concept

2.3.1 The design principles have been managed to refine the proposed development without compromising the final required design outcomes. It should also be noted at this stage that given the nature of the application for PPP the final design of the proposed built structures will be subject to subsequent approvals.

2.3.2 In order to ensure that the rural nature of the site is respected, it has been sought, where possible, to mitigate the impact of the built structures through landscaping.

## 2.4 The Design Solution

### Layout

2.4.1 Both substations will be co-located. The proposed dimensions are noted below:

- Substation 1: 270 x 135 m;
- Substation 2: 270 x 170 m; and
- Both substations will be a maximum of 13m in height.

### Landscaping

2.4.2 A site analysis of the substations area and surrounding local landscape has been undertaken and is illustrated in Figure 5.3.16 of the ES. The site analysis identified several key characteristics of the local landscape around the substations area that are likely to reduce the effect of the onshore substations. The agricultural landscape is interspersed with several woodland shelterbelts and blocks of coniferous woodland, particularly along the Burn of Alseid and adjacent to minor road on the eastern boundary of the substations area, which will help to screen and contain views of the onshore substations. The rolling landform rises slightly to the east / north east of the substations area, up to the 110m contour, which help to contain views

from the north and east. The substations location is sited next to large scale electrical pylons and overhead lines, which influence the local landscape character of the substation area particularly between Mains of Asleid and East Swanford.

2.4.3 Native woodland planting is proposed within the substations area to help integrate the onshore substations within the agricultural landscape. The baseline woodland context was reviewed, which identified the existing pattern of woodland within the surrounding landscape, which includes shelterbelts, woodland blocks / plantations and riparian woodlands along rivers and burns. Several woodland design concepts were considered for the site based on these characteristic woodlands, including shelterbelt woodlands, riparian woodland, woodland blocks and a full woodland envelope.

2.4.4 The final indicative landscape proposal (Figure 5.3.29 of the ES) draws on elements of these concepts and proposes native tree planting to enhance and connect areas of shelterbelt woodland to the west along the Burn of Asleid and connect small stands of existing shelterbelts on field boundaries at the eastern edge of the substations area. Several main areas of native woodland are proposed as follows:

- Northern side of overhead electrical line on slopes of Burn of Asleid to enhance areas of existing shelterbelt woodland along the Burn and provide screening in views from the north;
- Western side of the onshore substations along the Burn of Asleid to connect and enhance areas of existing shelterbelt woodland along the Burn and provide screening in views from the west;
- Southern and eastern sides of the onshore substations to form new characteristic shelterbelt woodlands around onshore substations and screen views from the south and east.

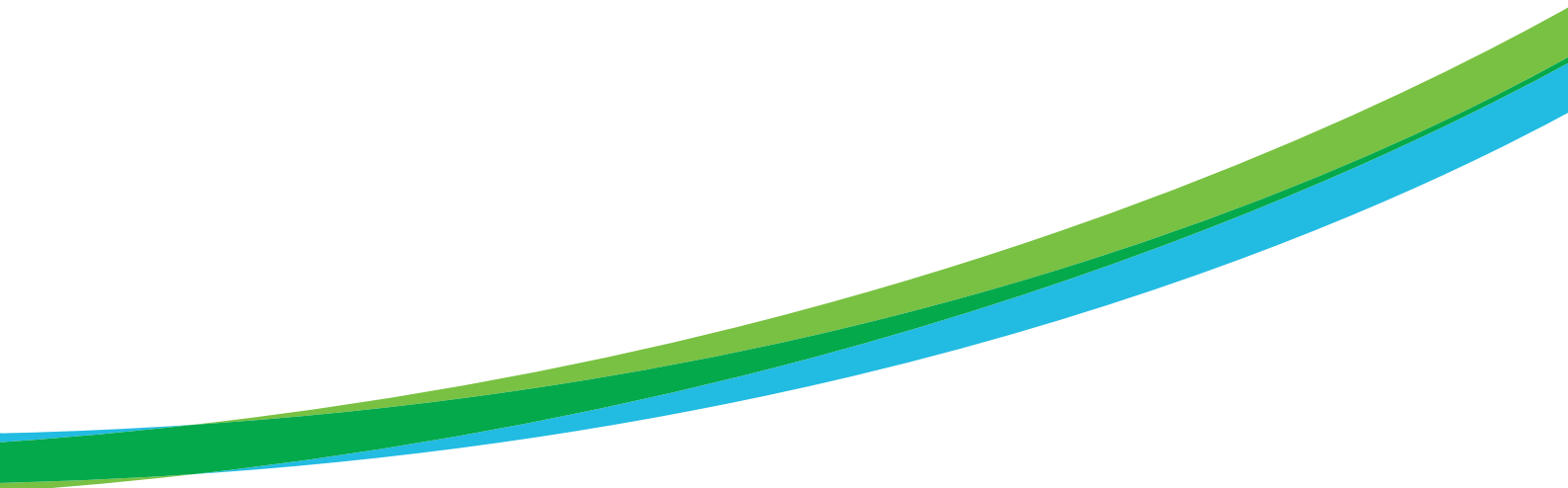
2.4.5 Woodland planting proposals will enhance the characteristic native woodland evident in the Agricultural Heartlands LCA and assist with improving the integration of the substation compound within a natural envelope. Planting is proposed at high density, with both hardy native pioneer species, including Alder, Ash, Birch, Hazel and Poplar, together with slower growing species such as Oak and Beech and occasional Scots Pine, to provide some year-round screening and to replicate and expand woodland shelterbelts in the existing environment. Indicative visual representations of the woodland proposals at 15 years post construction, with an average tree height of 6 – 10m, are illustrated in the viewpoint figures (Figures 5.3.30 – 5.3.37 of the ES) and these are used to inform the assessment of residual effects at 15 years post construction.

2.4.6 Fields to the east and south of the substations area will be retained for agricultural use.

2.4.7 Areas of marshy grassland / moss are proposed to the west of the substations area at lower elevations along the Burn of Asleid, where the wetter ground conditions and appropriate land management may encourage wetter grassland habitats. Areas of moss and marshy grassland are present nearby at Moss of Swanford to the west along the Burn of Swanford / Burn of Asleid. Scattered riparian tree planting is proposed within these areas along the Burn of Asleid to enhance scattered existing riparian trees along the burn. A sustainable drainage system (SuDS) will be utilised at the site, with suitable methods to be subject to detailed design, but likely to include a retention system by providing storage within a SuDs pond / retention basin adjacent to the Burn of Asleid.

## Appearance

2.4.8 It is proposed that the external building landscaping and screening design and materials will be finalised post PPP being granted. It is envisaged that detailed design matters will be secured by an appropriately worded planning condition and further details will be provided by the applicant through the Approval of Matters Specified in Conditions processes.



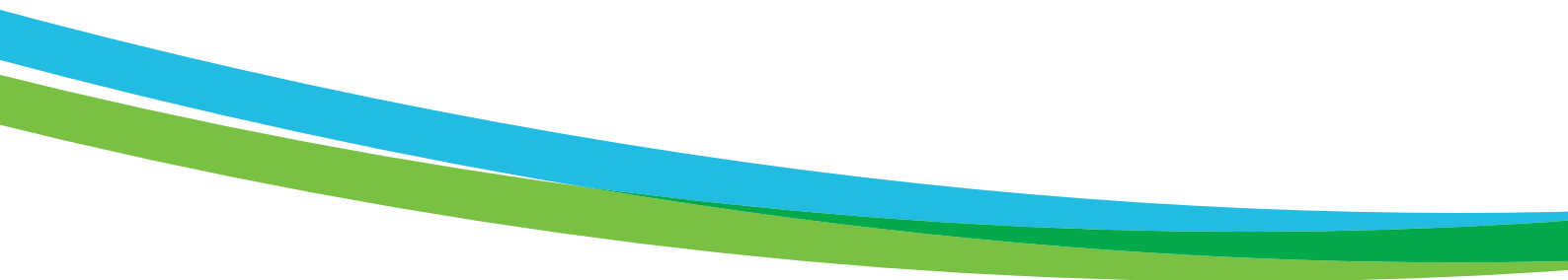
## 3 Conclusion

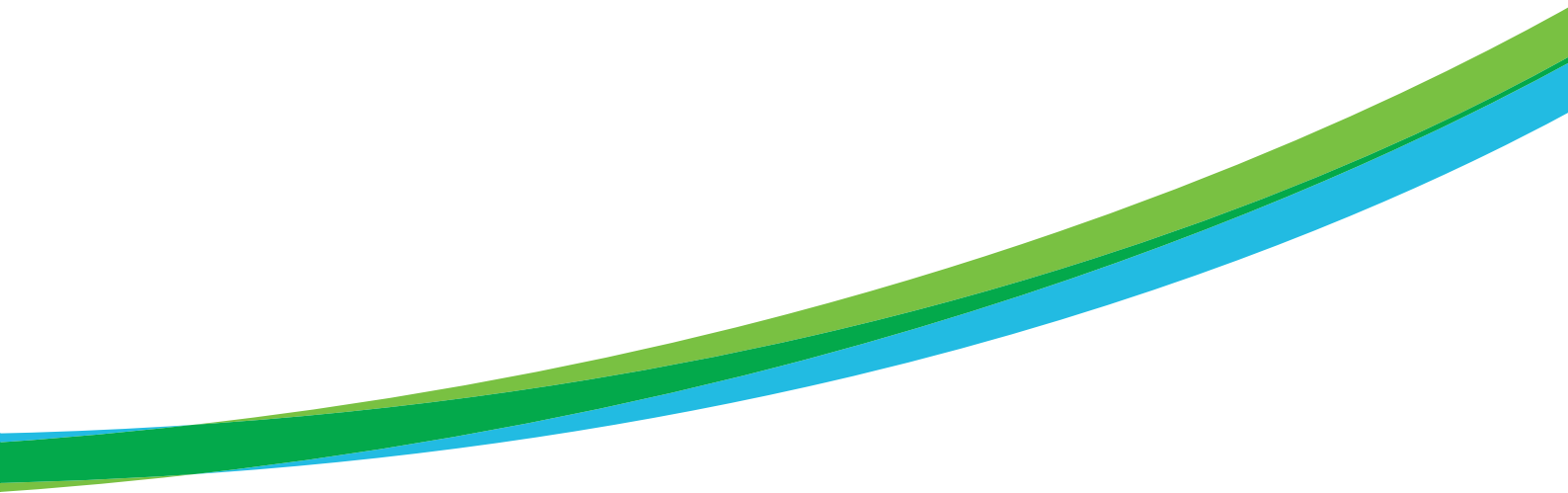
3.1.1 This DAS has summarised the key design approach considered as part of the OnTI design process. This statement provided details of the main elements of the onshore infrastructure built development in relation to the following:

- Site Selection;
- Layout;
- Design; and
- Landscaping.

3.1.2 The location requirements relating to the proposed development have influenced the siting, design and landscaping of the above ground buildings and structures located south west of New Deer associated with the onshore elements of the TI.

3.1.3 The setting of the built development of the onshore elements of TI reflects the function of the structures that comprise the onshore substations. The proposed development is being progressed south west of New Deer as a result of a variety of factors which have been outlined within this DAS. The design principle has sought where possible to reduce the visual effects associated with the proposed development.





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