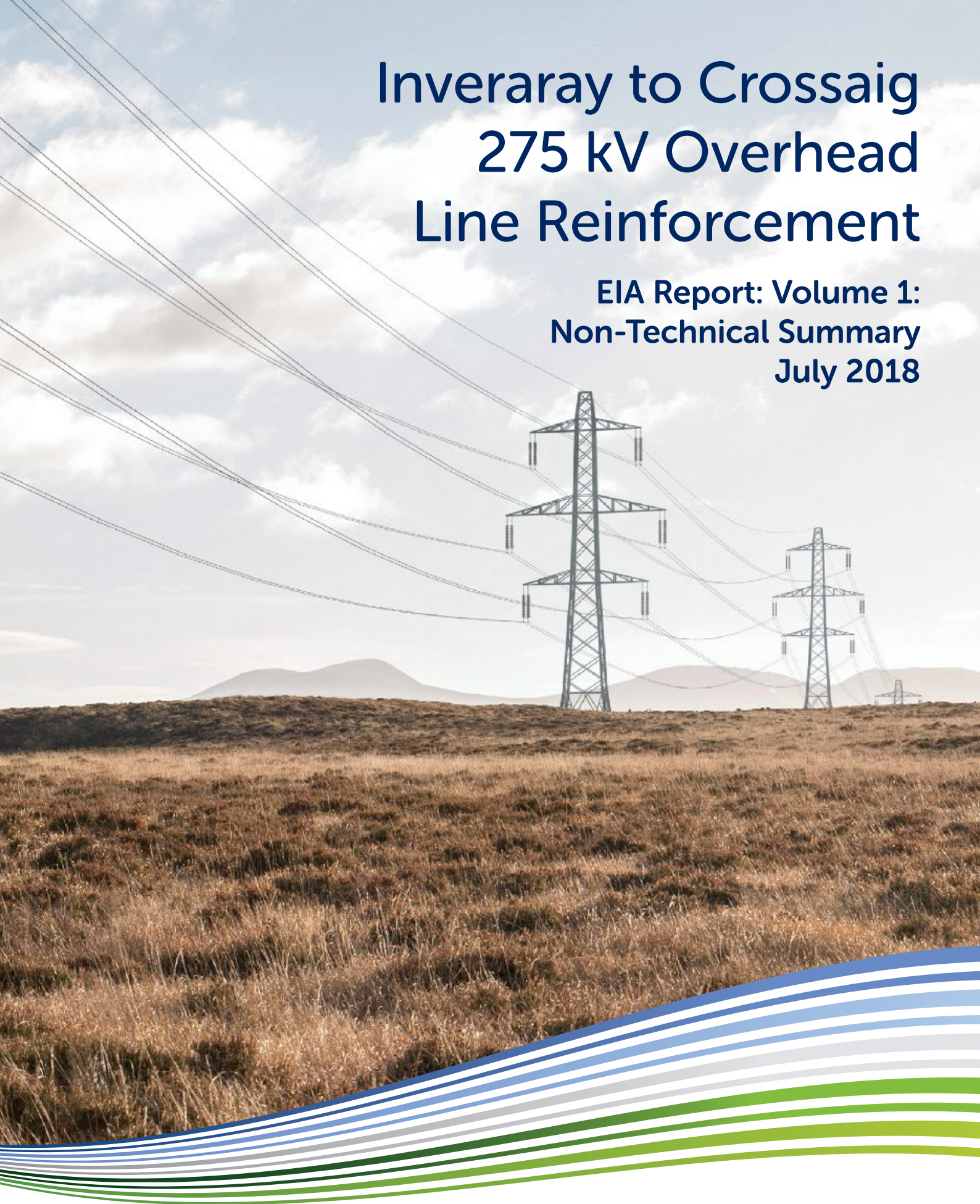


Inveraray to Crossaig 275 kV Overhead Line Reinforcement

EIA Report: Volume 1:
Non-Technical Summary
July 2018



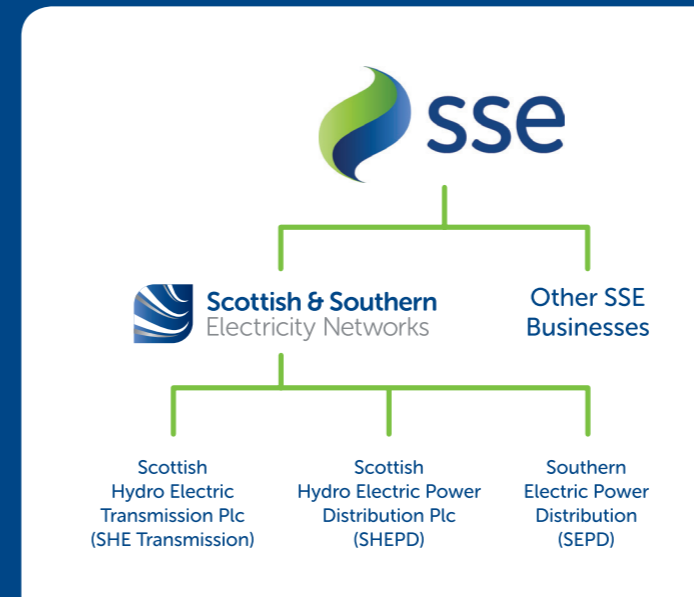
RAMBOLL



Scottish & Southern
Electricity Networks

Who we are

We are Scottish and Southern Electricity Networks, operating under licence as Scottish Hydro Electric Transmission Plc for the transmission of electricity in the north of Scotland.



What is the difference between Transmission and Distribution?

Electricity Transmission is the transportation of electricity from generating plants to where it is required at centres of demand.

The Electricity Transmission network, or grid, transports electricity at very high voltages through overhead wires, underground cables and subsea cables. The transmission network connects large scale generation, primarily renewables, to central and southern Scotland and the rest of Great Britain. It also helps secure supply by providing reliable connection to the wider network of generation plans.

The Electricity Distribution network is connected into the Transmission network but the voltage is lowered by transformers at electricity substations, and the power is then distributed to homes and businesses through overhead lines or underground cables.

Overview of Transmission projects



In total we maintain about 5,000km of overhead lines and underground cables – easily enough to stretch across the Atlantic from John O’Groats all the way to Boston in the USA.

Our network crosses some of the UK’s most challenging terrain – including circuits that are buried under the seabed, are located over 750m above sea level and up to 250km long.

The landscape and environment that contribute to the challenges we face also give the area a rich resource for renewable energy generation. There is a high demand to connect from new wind, hydro and marine generators which rely on Scottish and Southern Electricity Networks to provide a physical link between the new sources of power and electricity users. Scottish and Southern Electricity Networks is delivering a major programme of investment to ensure that the network is ready to meet the needs of our customers in the future.

Our responsibilities

We have a licence for the transmission of electricity in the north of Scotland and we are closely regulated by the energy regulator Ofgem.

Our licence stipulates that we must develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

Project overview

The aim of the project is to reinforce the existing transmission network in the region to enable renewable energy projects to connect to the network and to ensure security of supply.

Introduction

Scottish Hydro Electric Transmission plc (SHE Transmission) has applied for planning permission to construct and operate a new proposed 275 kilovolt (kV) overhead line (OHL) of 81 km total length supported by lattice steel towers, between Inveraray and Crossaig in Argyll, Scotland. This project is referred to as the Inveraray to Crossaig 275 kV OHL Reinforcement (hereafter known as the "proposed development") and would replace the existing 132 kV OHL between Inveraray and Crossaig.

Further Information

The application documents, including this EIA Report are available to download through the Scottish Government energy consents portal: <https://www.energyconsents.scot/>. The EIA Report is available in other formats if required. For details, including costs, contact Paul McQuillan at SHE Transmission, Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ.

The section 37 application, including this EIA Report and associated documents, will be available for viewing at the following public locations:

Argyll and Bute Council, Monday to Friday: 09.00 - 12.30,
Lochgilphead Service Point, 13.30 - 16.00;
1A Manse Brae, Saturday: Closed;
Lochgilphead, Sunday: Closed.
PA31 8RD

Tarbert Library, Tuesday: 14:00 - 17:30, 18:00 - 20:00;
Harbour Street, Wednesday: Closed;
Tarbert, Thursday: 10:00 - 12:00, 12:30 - 17:00;
PA29 6UA, Friday to Monday: Closed.

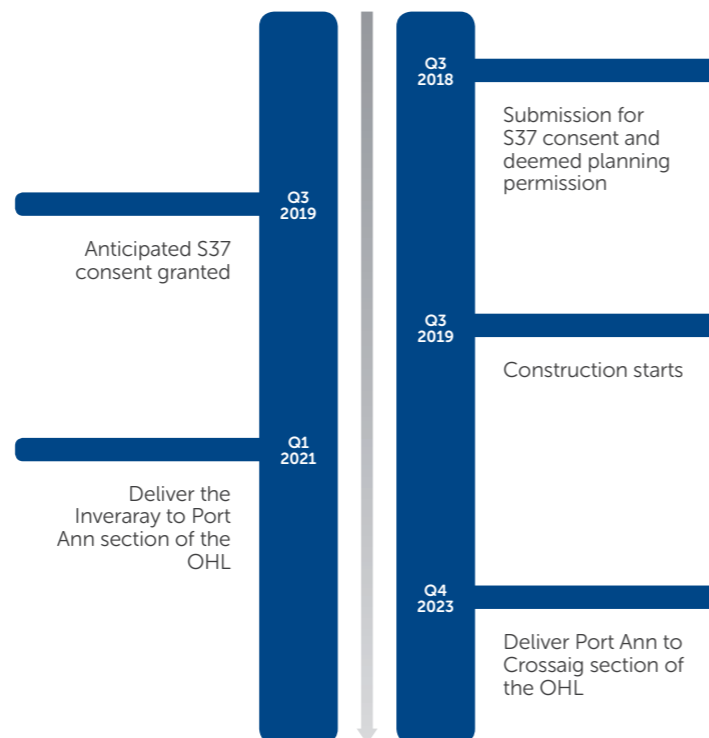
Campbeltown, Monday to Friday: 09.00 - 12.30,
Customer Service Point, 13.30 - 16.00;
Burnett Building, Saturday: Closed;
St John Street, Sunday: Closed.
Campbeltown, PA28 6BJ

Environmental Impact Assessment

An Environmental Impact Assessment (EIA) Report has been prepared to support the application for planning permission. The purpose of the EIA Report is to document the potential for significant environmental effects as a result of the proposed development, and to specify mitigation to avoid or reduce significant environmental effects. This document provides a Non-Technical Summary (NTS) of the EIA Report.

The aim of the NTS is to summarise the content and main findings of the EIA Report to assist the public in understanding the likely environmental effects associated with the proposed development. The full EIA Report provides a more detailed description of the proposed development and the findings throughout the EIA process.

Project Timeline

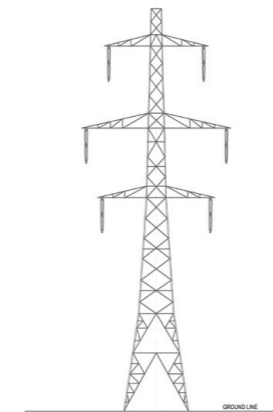


Project Description

The proposed development starts at the existing Inveraray Switching Station, approximately 3.8 km north east of Inveraray, Argyll and runs towards the south for 81 km to the existing Crossaig Substation in Kintyre, around 18.5 km south west of Tarbert. The location of the proposed development is illustrated in page 6.

The need for the proposed development arises from the requirement to upgrade the existing transmission network servicing eastern Argyll and the Kintyre Peninsula. The existing network was originally designed to serve a rural area with low demand for electricity. The increase in requests for wind farm developments in the area to be connected to the electricity transmission network means that the capacity of the existing transmission network will be exceeded. As a result, a new 275 kV OHL is required between Inveraray Switching Station and Crossaig Substation to replace the existing 132 kV OHL.

As the transmission license in the north of Scotland, we have a legal duty to provide connections for new electricity generators wishing to connect to the electricity transmission network in the Argyll and Kintyre peninsula area. The proposed development would facilitate the increase in renewable generation and ensure security of electricity supply to the region.



Example of Proposed L8 Towers

Description of Development

The proposed development would be constructed using self-supporting 'L8c' steel lattice towers. The typical distance between towers would be approximately 300 m to 350 m. The maximum height of the proposed towers is 61.83 m above ground level however, the average tower height is 50.76 m above ground level. The OHL would also include eight smaller 'L4m' towers (maximum height 28.85 m) to tie into the existing OHL and substation at Port Ann, near Lochgilphead.

It is anticipated that construction would commence in the third quarter of 2019. The construction programme is planned to be delivered in two stages: first the Inveraray to Port Ann section by 2021, and the Port Ann to Crossaig section by 2023. The proposed development is designed to be operational for at least 50 years.

Limits of Deviation

The Limits of Deviation (LOD) is an area which defines the limits within the OHL infrastructure can be constructed. The purpose of Limits of Deviation is to allow flexibility in the consent for the final individual towers to respond to localised ground conditions, topography, engineering and environmental constraints. The horizontal LOD parameter established for this development, allows towers to be relocated up to 100 m either side of the proposed alignment and 50 m of the access tracks. A vertical LOD parameter is set to allow an increase of up to 20% of the tower height specified in Technical Appendix 2.1 in Volume 4 of the EIA Report.

The EIA Report provides an assessment of the likely significant environmental effects based on the proposed tower schedule. The application of the LOD would be limited to the variation of tower and access track positions (including height for towers) that do not result in adverse change to the level of significance of effects on the environment as detailed in the EIA Report. Any utilisation of the LOD would be evaluated against the level of significance of effects reported in the EIA Report. Should the evaluation identify an adverse change to the level of significance identified in the EIA Report, consultation would be carried out with Argyll and Bute Council (and any relevant statutory consultees) for approval of the proposed change.

Ancillary Works

The ancillary works¹ are additional activities and construction associated with the proposed development and include the following:

- the formation of bellmouths at public road access points;
- vegetation management;
- temporary and permanent construction access tracks; and
- tower working areas.

Associated Works

The existing 132 kV OHL from Inveraray to Crossaig would be dismantled and removed following the commissioning of the proposed development. The dismantling works will be required as a consequence of the construction of the proposed development, but do not form part of the application for consent under section 37 of the Electricity Act 1989 and therefore are included here as 'associated works' for the purposes of the EIA.

This EIA Report will be used to develop and implement an appropriate Environmental Management Plan for these works to ensure good practice and compliance with all relevant environmental and nature conservation legislation.

¹ Whilst the section 37 consent is concerned only with the installation of OHL, the applicant seeks deemed consent for such ancillary works under section 57(2) of the Town and Country Planning (Scotland) Act 1997 as amended.

Site Location



Key
— Proposed Alignment

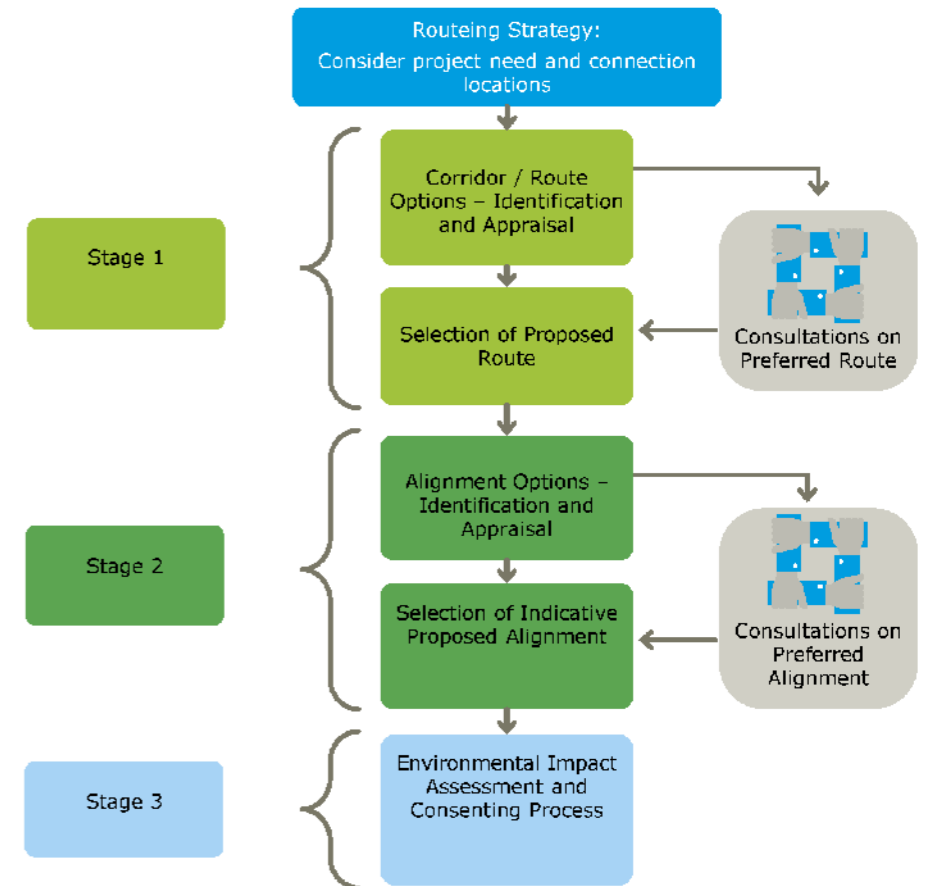
Site Selection, Design Evolution and Alternatives

The EIA Report provides details on the reasonable alternatives studied, and the reasons for the selection of the final option.

We followed a staged process, firstly considering alternative options for providing a transmission connection reinforcement as part of a Strategic Connection Options Appraisal (SCOA). The SCOA concluded that a 275 kV capable OHL was the optimal solution taking into account economics, security of supply, efficiency and environmental factors. Following on from the SCOA, we studied the reasonable alternatives with respect to the proposed route and alignment of the OHL. The objective of the routing process was, in accordance with our statutory obligations, to identify a proposed alignment, which is efficient, coordinated (i.e. technically feasible) and economically viable, having regard to the potential for environmental effects and the reasonable mitigation for any such effects.

- The routing process followed a three-stage approach, as follows:
- Stage 1: Corridor/ Route Selection;
 - Stage 2: Alignment Selection; and
 - Stage 3: Consenting Process.

Each stage in the routing process has brought cost, technical and environmental considerations together with feedback from public and stakeholder consultation seeking the best balance at each stage. The following flowchart represents/ explains the process followed in the alignment selection.



Routing Process Overview Flowchart

Likely Significant Effects

The EIA process is designed to identify significant environmental effects resulting from the proposed development. Significant effects associated with the construction, operation and decommissioning of the proposed development are limited to potential effects on the following topics:

- Seascape/Landscape and Visual Amenity;
- Ecology and Nature Conservation;
- Cultural Heritage; and
- Amenity and Health: Residential Visual Amenity

Seascape/Landscape and Visual Amenity

The landscape in which the development is proposed is typified by a large-scale moorland with extensive forest cover, and which is divided by a series of linear sea lochs. The key landscape and visual receptors, include a number of incised, strongly linear and coastal edge landscapes, as well as exposed steeply graded scarp slopes that form prominent skylines.

Potential Receptors

Sensitive receptors identified include visual receptors such as residents of settlements and individual properties, tourists, walkers and cyclists. The principal concentrations of settlement and communication networks are around lochs and along coastal edges where the landform is more appropriate for such land uses and which benefits from the amenity that is associated with seascapes and coastal views.

There are potential sources of landscape and visual effects during the construction, operational and decommissioning phases of the proposed development concluding that the principal impact generators would occur during the operational of the proposed development as a result of the retention of felled areas and proposed towers.

Potential Effects

The main source of impact would be from the proposed towers and long-term felled areas of forestry during the operation of the proposed development.

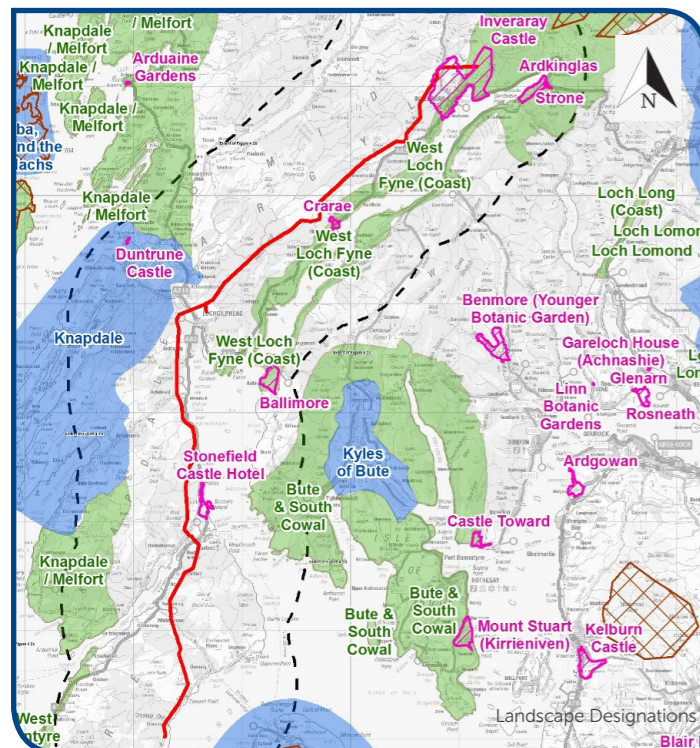
Careful routeing of the proposed development during the design stage mitigated these effects by endeavouring to avoid the most sensitive landscape and visual receptors and minimising potential significant landscape and visual effects. Taking into account all identified mitigation measures, no significant effects on landscape fabric or landscape designations and classifications are predicted. Significant effects are predicted for the following landscape/seascape character types (LCT):

- Glen Shira unit of Hidden Mountain Glens (LCT 3 & 4);
- Upland Forest Moor Mosaic (LCT 6);
- Loch Fyne Upland Forest Moor Mosaic (LCT 6a);
- Rocky Mosaic (LCT 20);
- West Kintyre/South East Jura and South-East Islay seascape character unit; and
- Loch Fyne/Kilbrannan Sound seascape character unit.

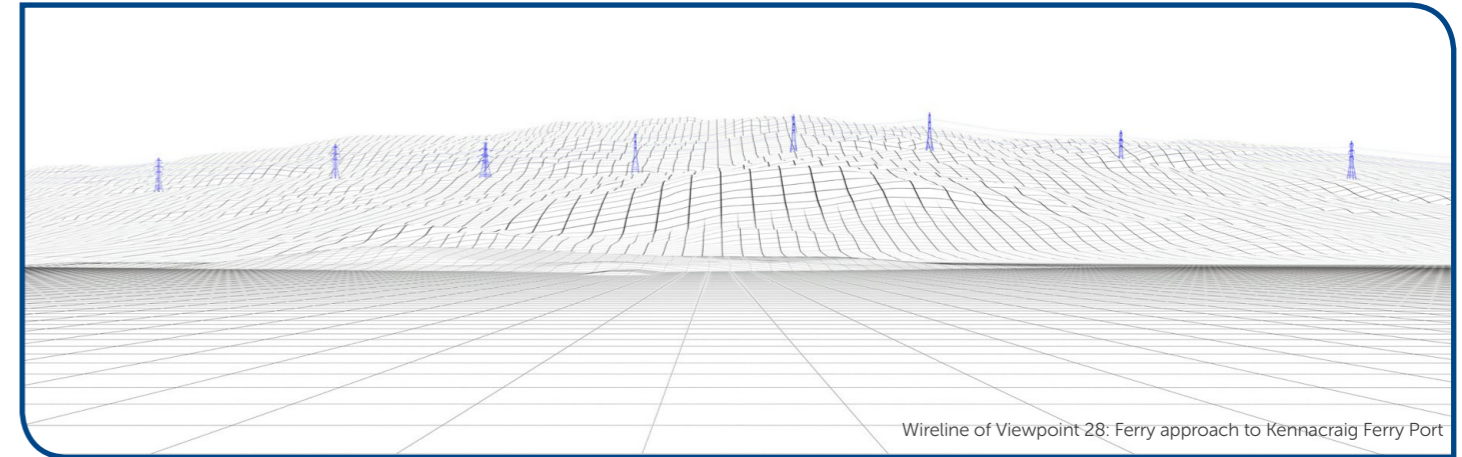
However, these effects would be localised and do not represent an overall significant effect in the respective landscapes/seascapes.

Significant effects on visual amenity were predicted at:

- Settlements: Lochgilphead, Ardshiraig and Tarbert;
- Roads: A83, A816, A842 and B8001;
- Ferries: Kennacraig to Islay Ferry and the Lochranza (Arran) to Claonaig Ferry; and
- Recreational Routes: NCR78 and at Kintyre Way.



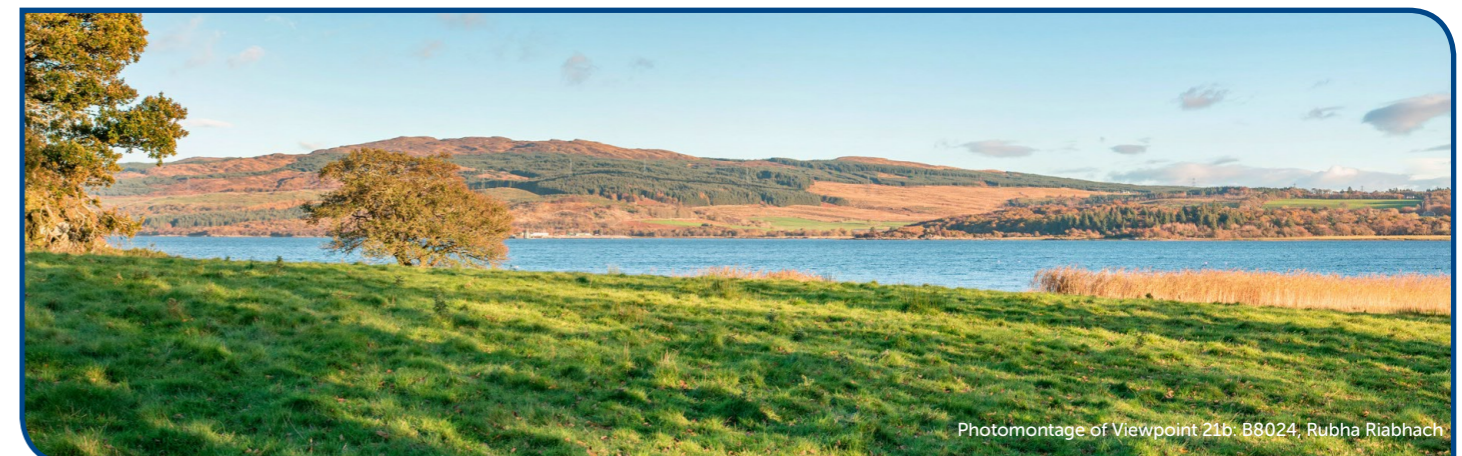
Figures below are examples of visualisations provided to support the assessment of Landscape and Visual effects. Visualisations from 30 viewpoints can be found in the EIA Report Volume 3b.



Wireline of Viewpoint 28: Ferry approach to Kennacraig Ferry Port



Photomontage of Viewpoint 28: Ferry approach to Kennacraig Ferry Port



Photomontage of Viewpoint 21b: B8024, Rubha Riabhach

Ecology and Nature Conservation

Ecological field surveys were completed between 2015 and 2018 to identify sensitive ecological habitats and to confirm the presence or absence of protected ecological species.



Designated Sites

There are five sites with an ecological statutory designation within 1 km of the proposed development:

- Inverneil Burn Site of Special Scientific Interest (SSSI);
- Artilligan and Abhainn Srathain Burns SSSI;
- Tarbert Woods Special Area of Conservation (SAC);
- Glen Ralloch to Baravalla Woods SSSI; and
- Claonaig Wood SSSI.

There are several areas of woodland identified as ancient woodland or included on the semi-natural woodland inventory (non-statutory designations).

Semi-natural Woodland

Potential Significant Effects

Without application of mitigation, significant effects are predicted on Tarbert Woods SAC (including Artilligan and Abhainn Srathain Burns SSSI) and Glen Ralloch to Baravalla Woods SSSI, bats and invasive non-native species. Following the application of mitigation, no residual effects are predicted on designated sites, protected species and non-invasive species.

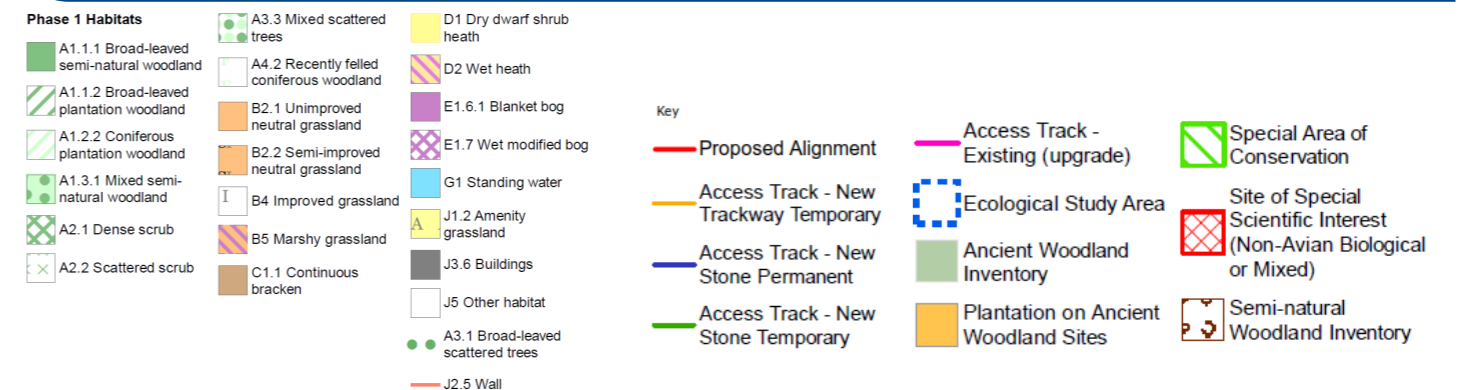
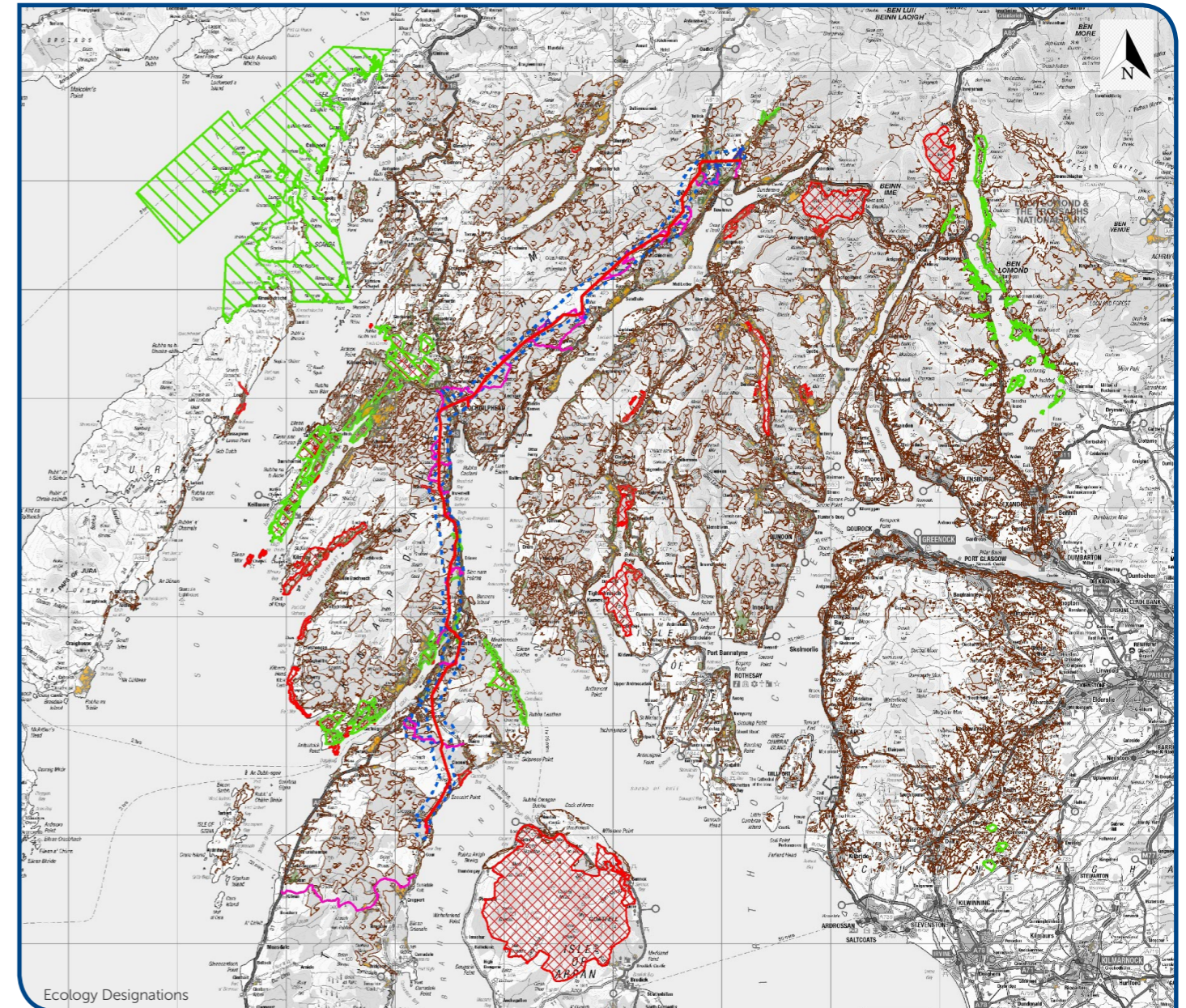
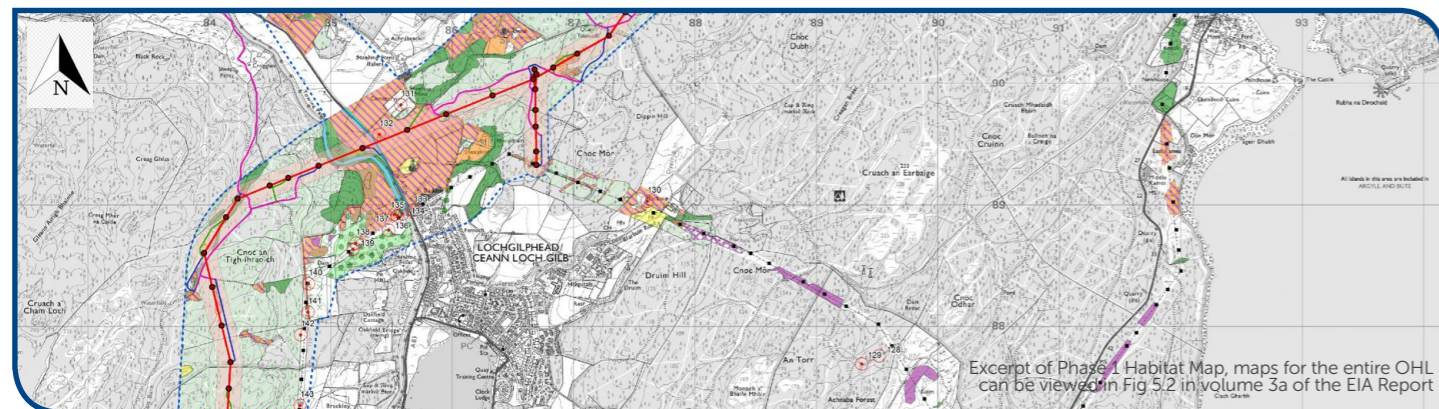
A long term adverse residual effect from the loss of ancient woodland would remain until such time as replacement woodland planting has established sufficiently (likely to be at least 50 years). However, this effect is not considered not to be significant in EIA terms.



Baseline Habitat

The dominant habitats within the proposed development are coniferous woodland plantation, marshy grassland and broad-leaved semi-natural woodland. Potential Ground Water Dependand Terrestrial Ecosystems (GWDTE) were recorded throughout the survey area. Protected species surveys identified a potential otter couch and the presence of pine marten, badger and red squirrel.

Coniferous Woodland Plantation



Cultural Heritage

Cultural Heritage Assets

A total of 192 heritage assets have been identified within the cultural heritage study area and 85 heritage assets have been identified within 100 m of the existing 132 kV OHL (which will be dismantled after the new OHL has been installed). These assets range in date from the prehistoric period to the post-medieval period, and consist principally of former medieval or later settlement remains and agricultural features.

The evaluation of the baseline data included the potential effects of the proposed development on Scheduled Monuments and other archaeological features, Listed Buildings and other buildings of historic or architectural importance, Gardens, Designed Landscapes and Conservation Areas. It was concluded that no World Heritage Sites or Inventory Status Historic Battlefields would be affected by the proposed development.



Inveraray Castle

Mitigation

The proposed development has been designed so as to reduce potential construction and operational effects on Inveraray Castle Garden and Designed landscape (GDL223); the proposed development alignment has been routed so as to avoid the majority of the heritage woodland within Inveraray Castle GDL and to minimise woodland felling required along the route of the proposed development where it crosses the GDL. The proposed development has also been designed so as to reduce the operational effects on Auchoish Cairn (SM173). In addition, the location of the proposed development where it crosses Crinan Canal (SM6501/CA461) was designed so as to provide the shortest and most direct route across the canal, while aiming to increase the distance between the proposed development and Lochgilphead town.

The type of impacts on heritage assets fall into two main categories:

- Direct, where there may be a physical effect on a heritage asset caused by the construction of the proposed development.
- Indirect, where elements of the proposed development would affect the setting of heritage assets present in the vicinity.

In the absence of mitigation, there is potential for construction works for the proposed development to result in direct effects on 85 heritage assets, of which four are assessed as potential major adverse effects (classified as significant in EIA terms) and 20 are potential moderate adverse effects (classified as significant in EIA terms). Work to decommission the existing 132 kV OHL has the potential to directly impact 44 heritage assets located within 100 m of the existing OHL. The majority of which are of low heritage importance and sensitivity and most can be avoided during decommissioning works. Mitigation measures are proposed to offset the loss of the archaeological resource that

could occur as a result of the construction of the 275 kV OHL and decommissioning of the 132 kV OHL.

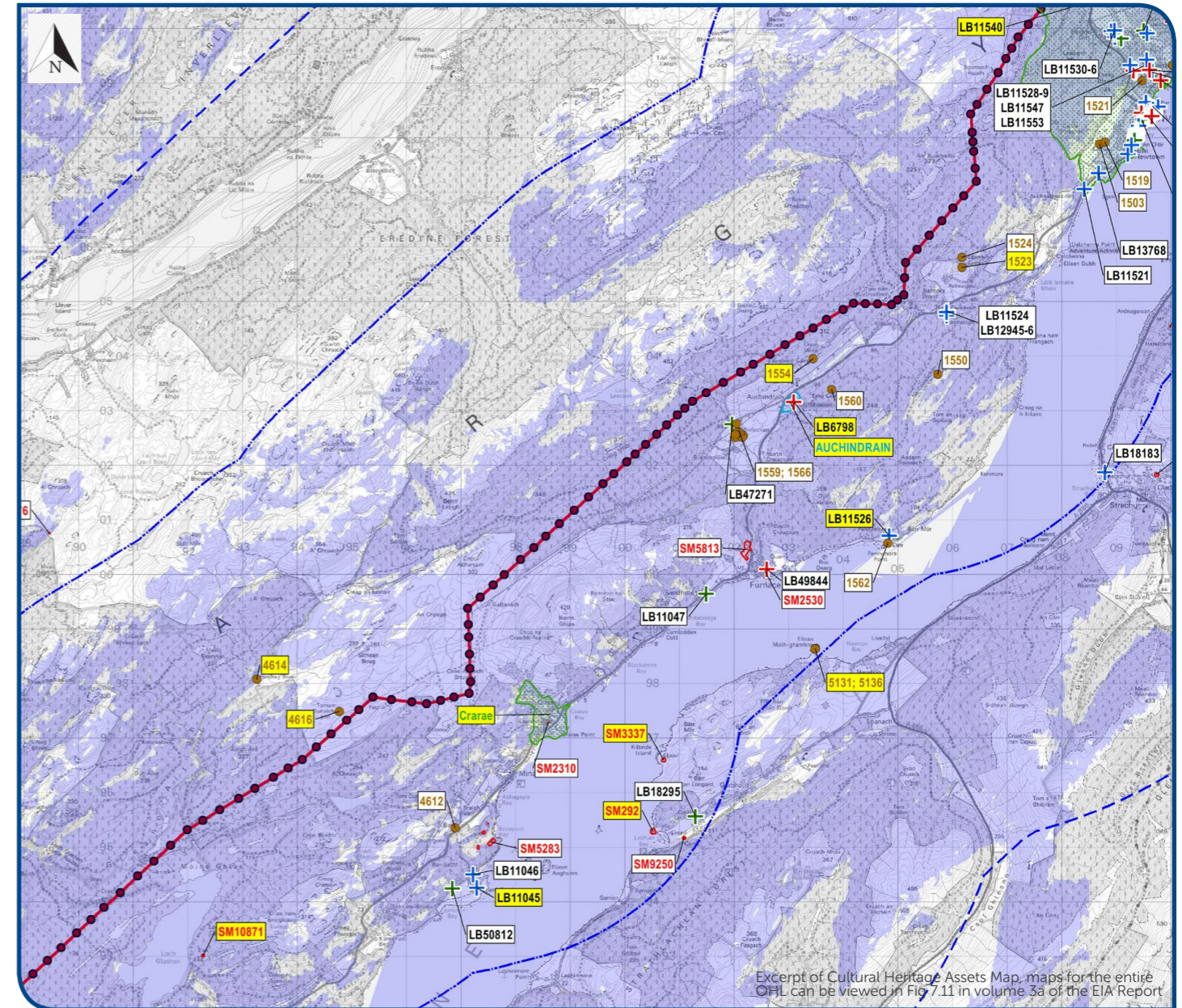
During the operational phase indirect significant effects are predicted on the setting of Tarbert Castle which is a Scheduled Monument and also on Allt an Dubhair, a fort which is a Non-Statutory Register Site. All other indirect impacts from the operation of the proposed development are considered to be not significant.

Field surveys comprising site walkovers, indicated that extensive upstanding archaeological remains survive within open moorland and rough pasture areas and it is considered that there is a moderate/high potential for further buried archaeology to survive in these areas. However, given the limited land-take required by the proposed development the probability of undiscovered sites of archaeological importance during the construction work was assessed as unlikely.

Where the proposed development crosses areas of commercial forestry, much of the cultural heritage within these areas has likely been removed or disturbed previously, therefore it was considered that there is a low potential for buried remains in these areas.



Viewpoint CH14: Tarbert Castle (view from south-west of the Inner Bailey)



Key

Proposed Alignment	Category A Listed Building	Inventory Garden and Designed Landscape	Heritage Assets predicted to have visibility of proposed larger tower heights only (+20% vertical LOD)
Proposed Tower Location	Category B Listed Building	NSR Site	
10km Buffer	Category C Listed Building	Visible Tower 'Standard Tower Height' ZTV	Heritage Assets assessed in detail - See Tech App 7.9
5km Buffer	Conservation Area		
Scheduled Monument			

Amenity and Health: Residential Visual Amenity

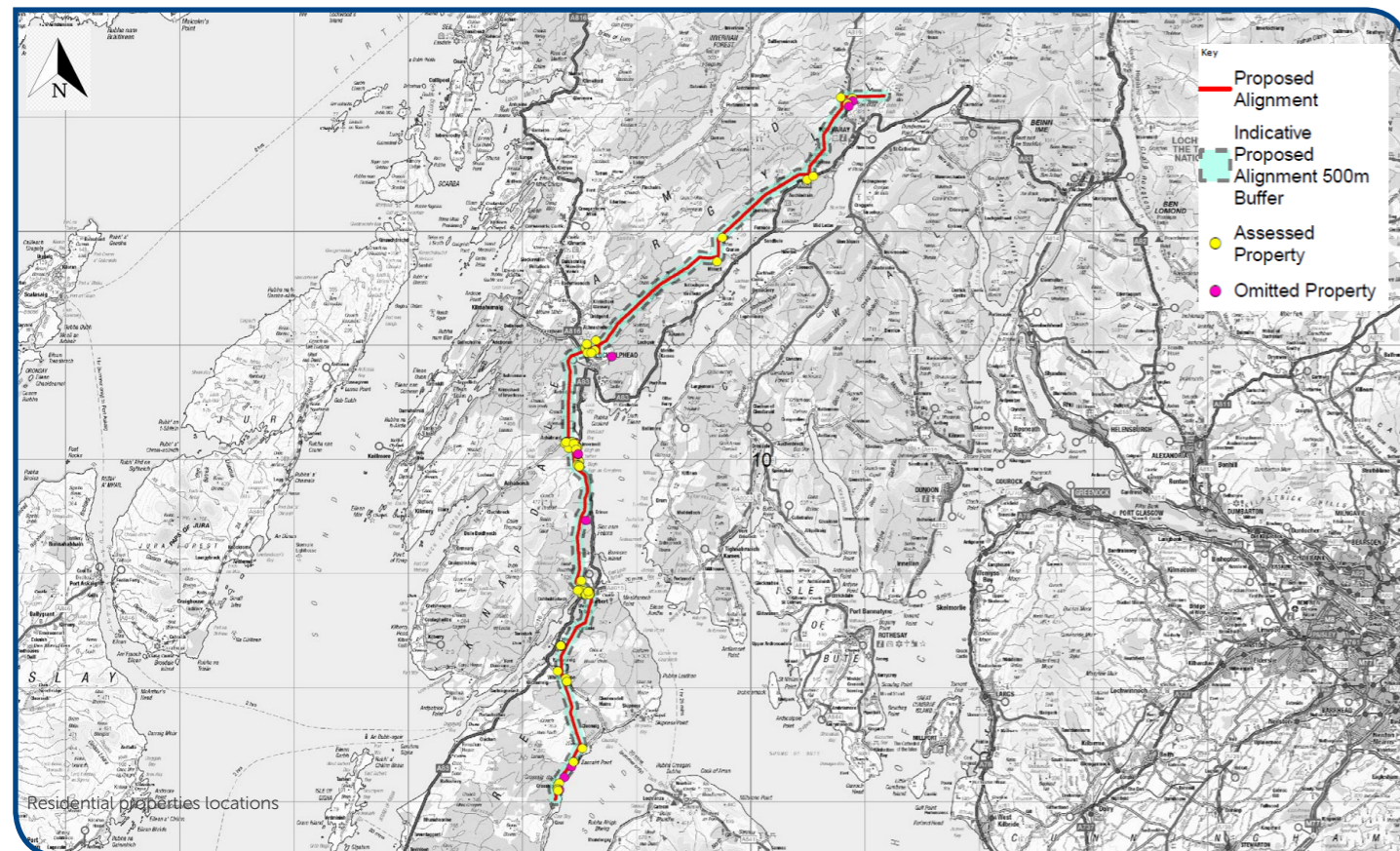
The residential visual amenity assessment considered the effects the construction and operation of the proposed development would have on the visual amenity of individual properties in the vicinity of the proposed development.

Potential Constructional Effects

During construction, three properties are predicted to be subject to significant effects. It should be noted that these effects will be temporary and will only last for the construction period and part of the mitigation measures would include adequate management controls to avoid unacceptable nuisance during construction. Community liaison teams would engage residents of these three properties and provide further information on how work would be managed and restricted to protect residential amenity, as far as reasonably practicable.

Potential Operational Effects

Following removal of the 132 kV OHL and during the operational phase, two properties are predicted to be subject to significant impacts. Whilst these effects are considered to be significant, it should be noted, however, that such effects are not considered unpleasantly overwhelming and the proposed development would not be an unavoidable presence in main views from a house or garden, and would not result in properties being regarded as unattractive and thus unsatisfactory (but not necessarily uninhabitable) places in which to live.



Summary of Other Environmental Effects

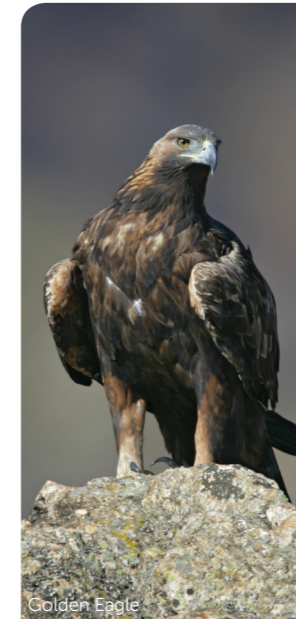
Through the EIA process, other relevant environmental disciplines were assessed and concluded there were no potential for significant effects as a result of the proposed development. These are summarised below for the following topics:

- Ornithology;
- Traffic and Transport;
- Amenity and Health: Noise; and
- Forestry



Example of Proposed L4 Towers

Ornithology



Golden Eagle

Ornithological field surveys were carried out between 2015 and 2018 to collect information on bird flight activity in key locations where flight activity was predicted to coincide with the proposed development.

There are 12 sites with a statutory designation for ornithological interest with potential connectivity to the proposed development. Bird species present include: black grouse, red-throated diver, black-throated diver, osprey, golden eagle, hen harrier, golden plover, white-tailed eagle, short-eared owl and merlin.

No significant adverse effects are predicted during the construction phase through habitat removal or nest destruction. Disturbance effects associated with construction activities are predicted during the construction phase on the Crossaig golden eagle territory, prior to the implementation of mitigation. However, once the proposed mitigation has been undertaken, no significant residual construction effects are predicted.

During operation, a risk of golden eagles, white-tailed eagles, and gulls/seabirds colliding with the OHL is predicted to be significant in the absence of mitigation. Line marking is proposed at six sections of the OHL to divert these species and to mitigate effects. The marking would involve placing attachments (known as bird diverters) on the thinner, less visible, earth wire of the proposed development making lines more obvious to birds. The use of line marking on targeted areas of the proposed development means no significant operational effects are predicted.

There are no significant effects predicted during the decommissioning phase once mitigation has been undertaken.

Traffic and Transport

During construction and in the absence of mitigation, significant effects could arise for users of the B8001 road in relation to pedestrian delay. Significant effects could also arise for users of the B842 road in relation to severance, pedestrian delay, pedestrian amenity and fear and intimidation.

To mitigate for these effects, heavy good vehicle (HGV) traffic would not be permitted to use the B8001 or B842 to access the sections of alignment between Kennacraig and Crossaig, instead it would use the Freasdail wind farm access track which joins the A83 south west of Kennacraig or the forestry haul road from south of Tayinloan on the A83 to north of Grogport on the B842. Additionally, a Traffic Management Plan (TMP) would be produced which would include traffic management measures to avoid conflicts with general traffic, pedestrians using the Core Path network and cyclists using the NCN78.

Following the implementation of the proposed package of mitigation measures, the assessment of residual effects indicated that there would be no significant adverse effects associated with the construction of the proposed development.



Construction Vehicles

Summary of Other Environmental Effects

Amenity and Health: Noise



Tower Construction

Construction works have the greatest potential to generate noise. Noise sensitive receptors (NSRs) are classed as residential properties. The possibility of NSRs experiencing an effect due to noise was identified for those NSRs located within 300 m of the OHL. A total of 100 NSRs are located within this search radius.

The noise assessment concluded that, with appropriate mitigation in place during construction and decommissioning, there would be no significant effects on NSRs. Noise level changes associated with construction traffic would not be significant. During operation of the proposed development, the noise level change is considered too small a change to be perceptible and therefore would not result in significant effects.

Forestry

The forestry assessment considered the potential for significant effects on the forest resource, forest management and access during construction and operation. The proposed development would pass through 56.6 km of woodland, and potentially impact on up to 459.08 ha of woodland.

The loss of predominately low sensitivity coniferous woodland (412.06 ha) equates to approximately 0.21% of the regional resource (Argyll & Bute area). The proposed development would result in an impact on up to 50.21 ha of more sensitive Ancient Woodland, of which 19.69 ha is categorised as semi-natural woodland or scrub. In the context of the regional resource, 50.21 ha would equate 0.14% loss. Overall, the effects of woodland removal, in forestry terms, and on forest access were not considered significant.

In the absence of mitigation, significant effects on forest management were identified due to the requirement for forest managers to amend current objectives, plans and techniques for their forest. In particular, forest managers would have to incorporate the felling requirements for the operational corridor into their long-term felling and landscape design plans. The applicant has proposed mitigation in the form of a commitment to develop 'OHL Woodland Reports' for each land ownership. This mitigation is deemed sufficient to reduce the residual effect to not significant.






Timber stacks

What happens now and how do I have my say?

An application for consent under s37 of the Electricity Act 1989 has been submitted to the Scottish Ministers to install and keep installed the OHL. In addition, we have applied for deemed planning permission under the Town and Country Planning (Scotland) Act 1997 as amended for construction and operation of the OHL, and carrying out of ancillary works.

Feedback

All representations to the application may be submitted via

-  the Energy Consents Unit website at www.energyconsents.scot/Register.aspx
-  by email to The Scottish Government, Energy Consents Unit mailbox at representations@gov.scot or
-  by post, to The Scottish Government, Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the proposal and specifying the grounds for representation.

Written or emailed representations should be dated, clearly stating the name (in block capitals), full return email and postal address of those making representations. Only representations sent by email to representations@gov.scot will receive acknowledgement.

All comments should be received not later than the date falling 30 days from the date of the last print publication notice, although Ministers may consider representations received after this date. Any additional information which we submit will be subject to further public notice, and further comments will be accepted.

Information

Information will also be made available via the project webpage and social media channels:

Project Website:
<https://www.ssen-transmission.co.uk/projects/inveraray-crossaig/>

Find us on Facebook:
SSEN Community

Follow us on Twitter:
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