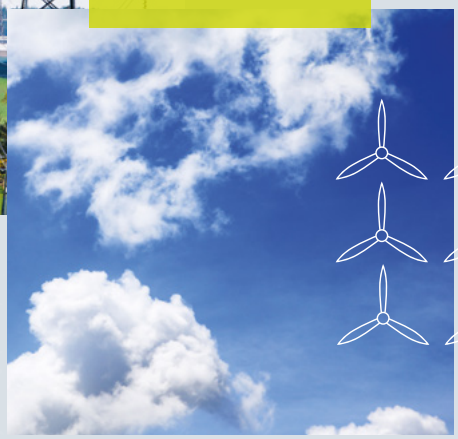
Scottish & Southern Electricity Networks

TRANSMISSION

Hurlie (previously Fiddes) 400kV Substation

Pre-Application Consultation

March 2024



Contents

The consultation events will be taking place on:

19 March 2024 - Drumlithie, Drumlithie Village Hall - 2-7pm

11 June 2024 - Drumlithie, Drumlithie Village Hall - 2-7pm

Powering change together

The time has come to further enhance Scotland's energy infrastructure, providing power for future generations as we move towards net zero.

The shift to a cleaner, more sustainable future is about more than climate change. It's about ensuring future generations have the same opportunities to thrive as we have all had.

Countries around the world are investing in their energy infrastructure to support the demands of modern economies and meet net zero targets. The UK is leading the way in building a modern, sustainable energy system for the future.

We all have a part to play

When it comes to net zero, we have to be in it together. The UK and Scottish Governments have ambitious net zero targets, and we're playing our part in meeting them.

We work closely with National Grid Electricity System Operator to connect vast renewable energy resources - harnessed by solar, wind, hydro and marine generation - to areas of demand across the country. Scotland is playing a big role in meeting this demand, exporting two thirds of power generated in our network.

But there's more to be done. By 2050, the north of Scotland is predicted to contribute over 50GW of low carbon energy to help deliver net zero. Today, our region has around 9GW of renewable generation connected to the network.

At SSEN Transmission, it is our role to build the energy system of the future.

We're investing £20 billion into our region's energy infrastructure this decade, powering more than ten million UK homes and 20,000 jobs, 9,000 of which will be here in Scotland.

Find out more

Scan the QR code with your smartphone to find out more about how these policies have been assessed and determined.

Who we are

We're responsible for maintaining and investing in the electricity transmission network in the north of Scotland. We're part of SSE plc, one of the world's leading energy companies with a rich heritage in Scotland that dates back more than 80 years. We are also closely regulated by the GB energy regulator Ofgem, who determines how much revenue we are allowed to earn for constructing, maintaining and renovating our transmission network.

What we do

We manage the electricity transmission network across our region which covers a quarter of the UK's land mass, crossing some of the country's most challenging terrain. We connect renewable energy sources to our network in the north of Scotland and then transport it to where it needs to be. From underground subsea cables and overhead lines (OHL) to electricity substations, our network keeps your lights on all year round.

Working with you

We understand that the work we do can have an impact on our host communities. So we're committed to minimising our impacts and maximising all the benefits that our local developments can bring to your area.

We're regularly assessed by global sustainability consultancy AccountAbility for how we engage with communities. That means we provide all the information you need to know about our plans and how they will impact communities like yours. We want to hear people's views, concerns, or ideas and harness local knowledge so that our work benefits their communities: today and long into the future. You can share your views with us at: ssen-transmission.co.uk/talk-to-us/contact-us

The Pathway to 2030

Building the energy system of the future will require a delivery of significant infrastructure over the next few years. In partnership with the UK and Scottish Governments, we're committed to meeting our obligation of connecting new, renewable energy to where it's needed by 2030.

Achieving net zero

By 2030, both the UK and Scottish governments are targeting a big expansion in offshore wind generation of 50GW and 11GW respectively. The Scottish Government has also set ambitious targets for an additional 12GW of onshore wind by 2030.

Across Great Britain, including the north of Scotland, there needs to be a significant increase in the capacity of the onshore electricity transmission infrastructure to deliver these 2030 targets and a pathway to net zero.

Securing our energy future

And it's not just about net zero. It's also about building a homegrown energy system, so that geopolitical turmoil around the world doesn't severely impact the UK and push up energy prices. The UK Government's British Energy Security Strategy further underlines the need for this infrastructure, setting out plans to accelerate homegrown power for greater energy independence.

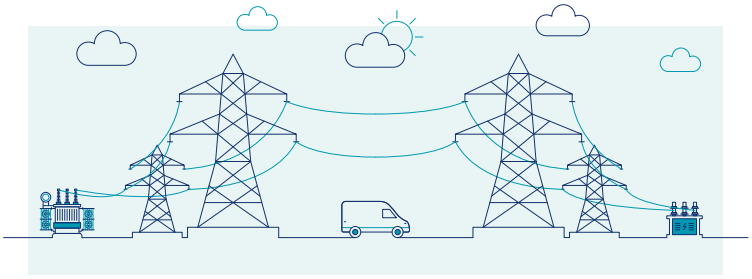
The strategy aims to reduce the UK's dependence on and price exposure to global gas wholesale markets through the deployment of homegrown low carbon electricity generation supported by robust electricity network infrastructure.

Meeting our 2030 targets

In July 2022, National Grid, the Electricity System Operator (ESO), published the Pathway to 2030 Holistic Network Design (HND).

This set out the blueprint for the onshore and offshore transmission infrastructure that's required to support the forecasted growth in the UK's renewable electricity.

It's an ambitious plan that will help the UK achieve net zero.



What does this mean for you?

The East of Scotland will play a key role in meeting these goals. The extensive studies that informed the ESO's Pathway to 2030 HND confirmed the requirement to increase the power transfer capacity of the onshore corridor from Kintore to Tealing.

This requires a 400kV connection between these sites to enable the significant capability needed to take power from onshore and large scale offshore renewable generation, connecting on the East Coast of Scotland before transporting power to areas of demand.

As part of these plans, we're proposing to build a new 400kV OHL between Kintore and Tealing. This also requires two new 400kV substations to be constructed in Fetteresso Forest and at Tealing to enable future connections and export routes to areas of demand.

In addition, two of the existing 275kV OHLs out of the existing Tealing substation to Alyth and Westfield require upgrades to 400kV operation and to be connected to the proposed new Tealing 400kV site.

These five projects, collectively called Kintore to Tealing 400kV projects, are seen as critical to enable the delivery of the UK and Scottish Government's targets.

These five projects are:

- Kintore - Tealing 400kV OHL
- Hurlie 400kV substation
- Emmock 400kV substation
- Alyth - Tealing 400kV upgrade
- Tealing - Westfield 400kV upgrade


New infrastructure
Upgrade/replacement of existing infrastructure
Existing network
Orkney
Dounreay
Spittal
Western Isles
Loch Buidhe
Skye
Blackhillock
New Deer
Beauly
Peterhead
Fasnakyle
Kintore
Fiddes
Fort Augustus
Alyth
Glenlochy
Tealing
Creag Dhubh
Braco West
Inveraray
Denny
Westfield
Crossaig

Project overview

We're leading some exciting projects to power change in the UK and Scotland. To support the delivery of 2030 offshore wind targets set by the UK and Scottish Governments, and to power local communities, we need to upgrade our existing network. In some key areas, we need to develop entirely new infrastructure, and quickly.

The new 400kV OHL between Kintore and Tealing

Based on the requirements outlined in National Grid ESO's Pathway to 2030 Holistic Network Design we have developed proposals to reinforce the transmission system. As part of this we are proposing to establish a new 400kV OHL between Kintore and Tealing.

This requires two new 400kV substations to be constructed to connect to this new OHL, one at Fetteresso Forest in Aberdeenshire and one near the village of Tealing in Angus to enable required future connections and export routes to areas of demand.

In addition, two existing OHLs out of Tealing substation to Alyth and Westfield in Fife will be upgraded to operate at 400kV and connected into the new Emmock 400kV substation.

While they have been presented in combined consultation events in May last year, they are separate projects and will be progressed through separate consenting processes.

Hurlie 400kV substation (previously Fiddes)

This consultation is focused on the new 400kV substation which will be known as Hurlie, as part of the Kintore to Tealing 400kV projects.

Feedback to our previous consultation, which was held in May 2023, resulted in a review of our original proposed site at Fiddes. Following detailed assessment of environmental, technical and engineering/cost factors, a new location in Fetteresso Forest has been selected as the proposed site option to be taken forward into the design and consenting process.

The new proposed substation will be an outdoor, Air Insulated Switchgear (AIS), 400kV substation with approximate dimensions of 760m x 300m with height up to 14.3m, not including the groundworks required to create a level platform.

The design covers a range of considerations, including:

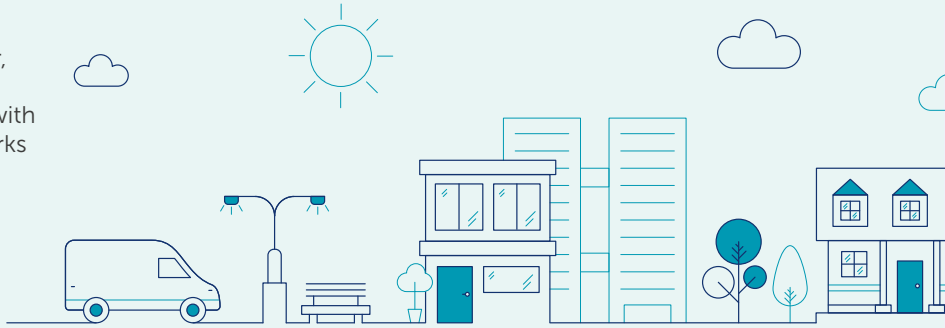
- Plant and equipment required for current network plans
- Space provision to allow for connection of future renewable energy generation projects
- Areas for drainage, landscaping/screening and habitat enhancement
- Permanent and temporary access roads
- Temporary areas required during construction for laydown and welfare.

Planned connections to Hurlie

The following proposed new transmission infrastructure will require a connection to the new substation:

- The proposed Kintore to Tealing 400kV OHL connection. This will comprise an OHL from the south, from Tealing and an OHL from the north, from Kintore.
- A connection by a Scotwind Offshore Wind Developer. The developer would provide an underground cable, from offshore, to its own substation which is likely to be located within the vicinity of Hurlie. It would then provide a further connection to the new Hurlie substation from its own substation.
- A connection to the Offshore Grids Projects. This is being developed by SSEN Tranmission's offshore team. This would require an underground cable, from offshore, to an HVDC converter station likely within the vicinity of Hurlie, and a connection between the converter station and Hurlie substation.
- A potential future connection to the existing Fiddes substation.

All of the above connections are subject to separate consultation and consenting processes.



Help shape our plans

The work we have planned is significant and has the potential to deliver massive benefits in your community, Scotland, and beyond. Yet we know that achieving our goals will require a lot of work that will impact your lives. That's why we want to work with you every step of the way throughout the planning and delivery stages of these essential and ambitious works.

We're committed to delivering a meaningful consultation process that actively seeks the views of everyone affected by our plans. That means making our plans clear and easily accessible, so that you can give us input throughout each stage of the development process.

Throughout the consultation, we'll present our approach to developing the project, including changes made since we last consulted with you. We will also provide some visualisations and maps to show you where everything will be located.

We want you to share your thoughts and opinions on our plans, where you think we can make improvements, concerns about the impact of our work and what you think of any changes and refinements we've made.

By telling us what you think, you will help shape our proposals. We want to harness your local knowledge so that we spot any unforeseen challenges early and maximise the potential benefits and opportunities for your communities.

Because, ultimately, we want you to work with us to ensure that the energy infrastructure we build will be best it can possibly be.

Who we are consulting with

As well as communities, we are keen to hear feedback from a broad range of other stakeholders including but not limited to landowners, businesses, non-statutory consultees and statutory consultees such as local authorities, NatureScot, Scottish Environment Protection Agency (SEPA), Historic Environment Scotland (HES) and Forestry and Land Scotland (FLS).

How we've selected the substation site

Our site selection process makes sure that the design, consenting, construction and operation of our projects are undertaken in a manner, which on balance, causes the least disturbance to the environment and the local community, while ensuring the solution taken forward is economically and technically practical.

To do this we follow an internal process supported by third party environmental and technical experts. This has many key stages, each increasing in detail and definition and bringing technical, environmental, people, and cost considerations together to find a balanced outcome.

Our proposed site: Hurlie 400kV substation

Following our last consultation on the proposed Fiddes substation in May 2023, where we asked for your views regarding several sites, in December 2023 we confirmed that the site we were proposing to progress with was a new site in Fetteresso Forest.

What has changed since we last consulted?

During the previous consultation we presented a larger substation footprint of 700m x 700m to accommodate a new offshore cable connection, referred to at the time as the Offshore Integrated Network. This is now referred to as Offshore Grids. The technology choice and proposed locations of the Offshore Integrated Network is currently under review. As a result, the Offshore Grids projects is to follow a separate consenting and consultation timeline.

The requirements, in terms of footprint and technology solely associated with the offshore grids connection is not covered under the 400kV AC project. This has enabled a reduction in substation footprint from the previous consultation.

As a result of this, the decision was taken to revisit and extend the site selection exercise, widening the area of search with a view to seeking alternative site options to those presented in the Consultation Document published in May 2023. New candidate sites were identified and appraised, based on land area available and ownership, topography, gradient, proximity to properties, visibility, cultural heritage, ecology, flood risk and drainage, and access.

From this process, two further site options were identified, at Banff Hill, 4km north west of Inverbervie and an area of land east of the existing Fetterresso substation.

In terms of cultural heritage, Banff Hill is distant from the monument Hillhead Long Cairn to the north and avoids impacting properties and land having an association with Lewis Grassic Gibbon, although it lies close to Arbuthnott Garden and Designed Landscape, and to the A listed Alladyce Tower and Benholm Castle and Tower. Land Fetteresso is not constrained in cultural heritage terms.

The landscape character surrounding Banff Hill is modified by existing infrastructure. The landscape is smaller in scale and more enclosed compared to the other site options. The rolling topography and its relationship to the skyline provide visual interest, although there are no notable focal points.

The site at Banff Hill would be visible from properties to the north west and north east, south, and south west.

At Fetterresso, the landscape character is already modified by plantation. The importance of the Highland Fault as a landscape feature reduces towards Stonehaven. While development may be visible, there are no focal points or features which represent notable visual amenity. No properties are considered likely to lose visual amenity.

The Burn of Day runs west to east across the Fetteresso land in a heavily vegetated narrow channel; direct impacts on the burn can be largely avoided, although drainage would need to drain to the burn via a sustainable drainage system. Peat probing has confirmed that, with the exception of a small pocket which can be avoided, there is nothing that would be classed as peat.

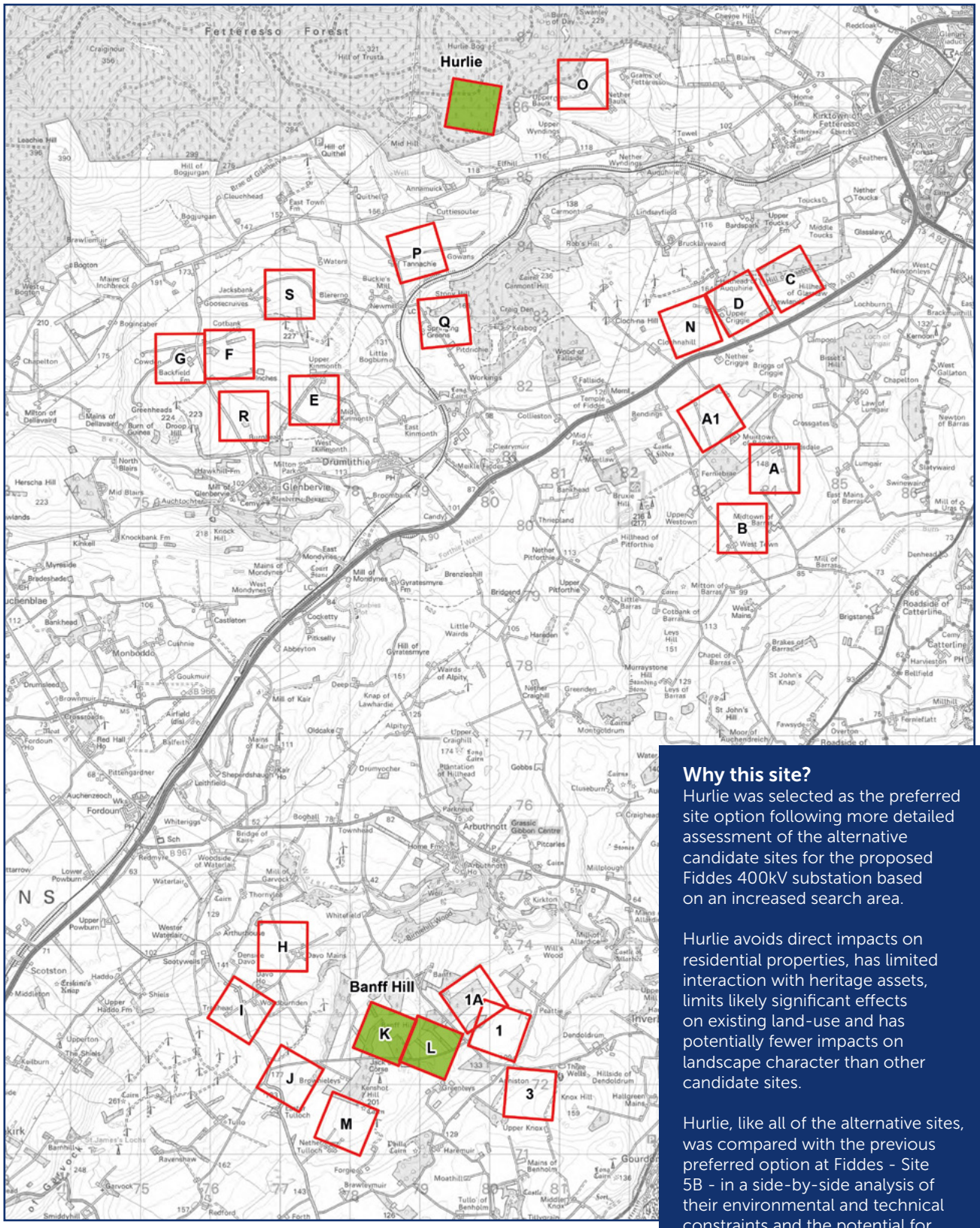
At Banff Hill, the Banff Burn drains the upper reaches of the hill, flowing west to east in a heavily vegetated channel before becoming more natural at the bottom of the hill. The Burn would likely require diversion in order to accommodate development however.

Balancing all of the factors, the site at Fetteresso (referred to as the "Hurlie" Site) has been identified as the proposed site option to be taken forward into the design and consenting process. It avoids direct impacts on residential properties, has limited interaction with heritage assets, limits likely significant effects on existing land-use and has potentially fewer impacts on landscape character than other candidate sites.

Further environmental analysis will be undertaken as the development design progresses, to embed measures that avoid or reduce environmental impacts. Additional mitigation measures and controls will be developed as part of the Environmental Impact Assessment process and will be incorporated into the project as agreements and conditions which will form part of the subsequent consenting process.

The new location of Hurlie has therefore changed the proposed routeing of the Kintore to Tealing 400kV OHL to allow the OHL to connect with Hurlie 400kV substation.

The proposed Kintore to Tealing 400kV OHL report on Consultation provides more information on the new OHL routes which are under consideration to take account of this change.



Why this site?

Hurlie was selected as the preferred site option following more detailed assessment of the alternative candidate sites for the proposed Fiddes 400kV substation based on an increased search area.

Hurlie avoids direct impacts on residential properties, has limited interaction with heritage assets, limits likely significant effects on existing land-use and has potentially fewer impacts on landscape character than other candidate sites.

Hurlie, like all of the alternative sites, was compared with the previous preferred option at Fiddes - Site 5B - in a side-by-side analysis of their environmental and technical constraints and the potential for adverse interactions with receptors and is considered to be the least environmentally constrained site of the shortlisted alternative candidate sites.

What next?

We are now at the formal 'pre-application stage of our site selection process and following this consultation, we will engage again in June, to share feedback from this consultation and any subsequent changes to design prior to submitting a planning application to Aberdeenshire Council.

The Town and Country Planning process

There are two important laws that enable the planning of projects like Hurlie 400kV substation, these are the Electricity Act 1989 and the Town and Country Planning (Scotland) Act 1997.

Engaging the right people

Local Planning Authorities determine the outcome of any applications made under the Town and Country Planning Act and establish the planning pathway our substation projects must take, including which consents are required.

The Hurlie 400kV substation project is classed as "National Development" under the Town and County Planning process; therefore, pre-application consultation is required with the public and interested parties.

The Pre-Application Consultation process

A Proposal of Application Notice (PAN) was submitted to Aberdeenshire Council on 31 January 2024. This is the first stage in the planning application process, and the beginning of a consultation period that must allow for at least 12 weeks between the start of the pre-application consultation and feedback, and submission of a planning application.

The plans we are consulting on at this event might change between now and the submission of a planning application. The red line boundary that has been submitted with the PAN represents the maximum extent of the land potentially included in the application site, but this area may be reduced or rationalised as the development proposal becomes finalised.

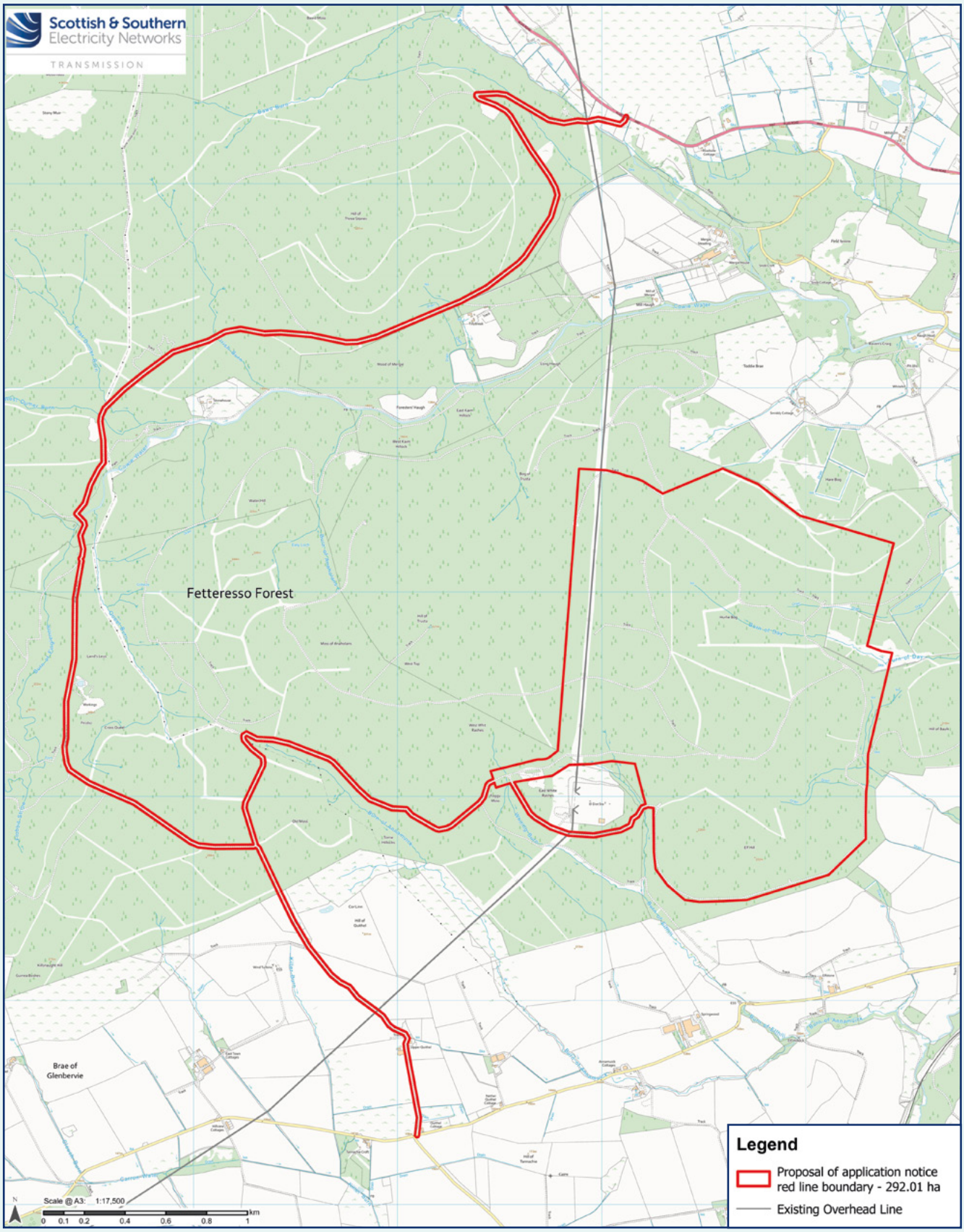
There is a requirement to hold at least two events to provide the opportunity for members of the public to comment on the proposals. This public event is the first event. A second event will be held on 11 June 2024, in Drumlithie Village Hall at which feedback will be given on the views obtained at the first event. There will also be a short opportunity for comment after this second event and comments will be included in a Pre-application Consultation (PAC) Report.

Submitting a planning application

The planning application is due to be submitted to Aberdeenshire Council in late summer 2024.

A Pre-application Consultation Report will accompany the planning application providing details of the consultation undertaken and communicating how the consultation process has influenced the proposed development. Where comments are received that cannot be addressed in the final proposal, an explanation will also be given why this is the case.

Comments made through the pre-application consultation process are not formal representations to Aberdeenshire Council. When the planning application is submitted there will be an opportunity to make formal representations to Aberdeenshire Council.


Scottish & Southern Electricity Networks
TRANSMISSION
Fetteresso Forest
Brae of Glenbervie
Legend
Proposal of application notice red line boundary - 292.01 ha
Existing Overhead Line
Scale @ A3: 1:17,500
0 0.1 0.2 0.4 0.6 0.8 1 km

Environmental considerations

The potential environmental impacts discussed below will be assessed as part of the Environmental Impact Assessment (EIA), which will be submitted in support of the planning application to Aberdeenshire Council in late Autumn 2024. The EIA Report will be available for members of the public to view and comment on as part of the planning application supporting information, following submission of the application.

Terrestrial ecology and ornithology

An initial walk over survey has been undertaken to identify habitats, protected species and birds. Further breeding birds and protected species surveys will be undertaken in the Spring. A Biodiversity Net Gain condition assessment will also be undertaken to inform the strategy for achieving a 10% net gain in biodiversity as part of the development project.

The site does not lie within any sites designated for nature conservation. There are four statutory designated sites of international importance, and three statutory designated sites of national importance within 10km of the Site; the River Dee Special Area of Conservation (SAC)/SSSI approximately 5.4km northwest; Garron Point SAC/SSSI some 6km east, Fowlsheugh Special Protection Area (SPA) and SSSI some 7km east and Red Moss of Netherly SAC/SSSI almost 8km north east.

There are no statutory designated sites of local importance. None has any direct connection to the Site. There are three non-statutory designated sites of local importance identified up to 5km from the Proposed Development; Mergie Local Nature Conservation Site (LNCS) 6km north, Elfhill LCNS immediate south (and within the Proposal of Application Notice boundary) and Fetteresso LNCS 3.4km SE. Fowlsheugh is also a RSPB Nature Reserve and incorporates the inland portion of the Fowlsheugh SPA.

The Site is dominated by commercial forestry, comprised of coniferous species at various stages of maturity and rotation. Non-native Sitka spruce is the predominant species, although more limited stands of Scots pine, hybrid larch, Japanese larch and lodgepole pine are present. Some stands have been thinned and have an increased diversity of heathy ground flora, while others exhibit extensive windthrow and comprise fallen trees with extensive gorse and bramble scrub.

In areas of open ground, among young trees and in rides are areas of both dry and wet heath habitats, as well as damp acidic habitats. Within commercial forestry, small areas of dry heath, acid grassland and bracken occur.

Wet heath habitats are present in rides and unforested areas, with rush pasture habitats in wetter areas, such as along the Burn of Day. Some of these riparian habitats have been planted with native broadleaved trees. Further examples of rush pasture are presnet in the north of the Site associated with the upper tributaries of the Cowie Water.

There is evidence suggesting the presence of Groundwater Dependent Terrestrial Ecosystems (GWDTEs), which will be confirmed through further survey. Habitats presented are capable of supporting otter, bats, red squirrel, pine marten, water vole, badger, amphibians, reptiles and fish.

There are no records of Schedule 1 bird species or breeding waders within the RSPB desk record data set. Raptor Study Group and Forestry Land Scotland data are yet to be received. There are records of goshawk flight activity within 5km of the Site. A total of up to 8 nesting attempts were recorded during recent survey work for a proposed wind farm extension, suggesting that the area provided a number of suitable trees (age, spacing, height) and forestry blocks in the plantations at the time of survey. Other records indicate the presence of goshawk in the locale and the possibility of nesting to the south-east of the Site. The Natural Heritage Zone (NHZ) breeding population of goshawk is c. 25 breeding pairs (NHZ 12 North East glens 10) with the Fetteresso Forest area being an important habitat for nesting of this Schedule 1 species.

The EIA process will include detailed assessments of the potential for and significance of ecological and ornithological impacts, both from the proposed substation and in combination with OHL. In turn, these assessments will inform the requirement for impact mitigation.

As described on page 20, SSEN Transmission is committed to creating greater biodiversity than provided by the current Site. This will include new habitat creation and species rich planting proposals though the landscape and drainage design. Other mitigation measures may also be necessary, such as avoiding certain construction activities at sensitive periods. Habitat and Species Management Plans will be implemented during construction and operations.

Woodland and forestry

The Site is located in one of three major plantation areas, Fetteresso Forest, which lies within an extensive area of commercial forestry, known as the Mearns Forest.

The land is part of Scotland's National Forest Estate, owned by Scottish Ministers on behalf of the nation, and managed by Forestry and Land Scotland (FLS). It is a predominately upland area with poorer soils which have been planted with commercial conifers in the past. The woodlands are composed primarily of commercial conifers, principally Sitka spruce, with areas of diverse conifers and small areas of mixed broadleaf woodland. The Forest Development Plan (FDP), implemented by FLS, indicates the retention of the woodlands as commercial forest. The woodlands within the Site boundary have a diverse age class due to the ongoing felling and replanting programmes over many years.

None of the woodlands is recorded in the Ancient Woodland Inventory (AWI) Scotland. Small areas are recorded as native woodland in the Native Woodland Survey of Scotland. However, the Mearns FDP and the National Forest Estate – Sub-compartments identifies that the areas classed as native woodland are in fact commercial conifers or open ground.

SSEN Transmission will compensate for any loss of woodland, including commercial forestry, and will engage with FLS and other landowners to identify land suitable for forestry and improvement. Compensation is not limited to replacing like for like, and opportunities for mixed broadleaf planting would be sought, in consultation with FLS and other stakeholders where appropriate.

Land use and recreation

As described, the forest is managed as commercial forest, and as such proposals to develop within the Forest will respect the need to ensure commercial forestry can continue.

This means for example facilitating the harvesting of any commercial timber prior to site development and the maintenance or reinstatement/replacement of access tracks necessary to forest operations.

The wider Forest estate provides a range of recreational facilities, notably walking and cycling trails and hides and interpretation facilities for bird/wildlife watching although there are none within the proposed Site area or likely to be directly impacted by the intended development.

Environmental considerations

Cultural heritage

There is one scheduled monument that lies partly within the area anticipated for Proposed Development: Clochanshiels Cairns, House and Field System which comprises the remains of a prehistoric settlement located in an area of rough pasture on a north facing slope, overlooking the Cowie Water, and surrounded by commercial forestry plantation. It has a localised setting within a river valley that is currently dominated by commercial forestry.

There are a further 15 scheduled monuments within 5km of the Site. These include prehistoric settlement and funerary monuments, a Roman Temporary Camp, ecclesiastical monuments, and remnants of WW2 defences. The majority are located to the northeast of the Proposed Development Site and none are likely to be visible from the substation site.

There are some 30 Listed Buildings within 5km; the closest Category A Listed Buildings, Fetteresso Castle Dovecot being some 4.1km and the Castle of Fiddes 5km respectively to the southeast. The majority of the Listed Buildings are either small residential properties (i.e. farmhouses, cottages, etc), bridges, or agricultural features (i.e. dovecots), all of which have generally localised settings, where long distance views, or prominent visibility, are not important aspects of their settings.

There is one Conservation Area within 5km of the Proposed Development: Kirkton of Fetteresso.

The setting of the Conservation Area is largely constrained to, and defined by its association with the Carron Water valley at its confluence with the Cheyne Burn.

There are no World Heritage Sites, Inventory Gardens and Designed landscapes or Inventory Battlefields within 5km of the Proposed Development.

There are four undesignated heritage assets within, or partly within, the Site. Of these, two are identified by the Historic Environmental Records (HER) as being prehistoric settlement sites comprised of hut platforms, hut circles and clearance cairns of regional significance:. Both are located in the commercial forestry plantation. The others are a possible standing stone) and a farmstead again located in the commercial plantation.

Consultation will be carried out with Aberdeenshire Council as part of the planning application process to identify any on-site archaeological investigation that would be required before construction works commence. If required a Written Scheme of Investigation would be prepared which would set out a strategy for archaeological mitigation in advance of the construction works.

A full assessment of the potential impact on cultural heritage assets will be undertaken as part of the subsequent Environmental Impact Assessment (EIA) process, which will consider both impacts associated with the substation and in combination with the new overhead transmission line and propose measures to avoid or reduce cultural heritage impacts If necessary.

Water environment and soils

The Site lies within the catchment of two larger watercourses: the Cowie Water to the north and the Carron Water to the south, and the sub-catchments of a number of tributaries, notably, the Burn of Day, which flows easterly through the centre of the Site area before turning north to flow into the Cowie Water.

There are several small unnamed watercourses within the northern part of the Site that flow into the Cowie Water. The southern part of the Site sits within the Clerkenwell Burn and Burn of Baulks catchments, both flowing into the Carron Water.

Water quality is generally good. While the Burn of Day is too small to be formally classified, SEPA classifies water quality in the Cowie Water and Carron Water as High and Moderate respectively. Surface water flooding is a possibility within parts of the Site concentrated around the smaller watercourses within the site.

The Site is underlain by a low productivity aquifer. There are no records of wells or groundwater springs. There is one Private Water Supply source within the Site area and another to the south of the Site, which supplies the existing Fetteresso substation and four other properties. The Site is not within a Groundwater or Surface Water Drinking Water Protected Area.

A hydrological assessment has been undertaken to determine the parameters of the drainage requirements shown on page 18.

Runoff from the developed platform (including the construction compound) will be managed through surface water drainage on the platform conveyed to a detention basin that will be located downslope of the platform. The detention basin will drain to the Burn of Day via an outfall pipe at a location to be determined in consultation with Aberdeenshire Council and SEPA.

The drainage design will be refined as the platform and wider site design evolves. This will be informed too by a more detailed Flood Risk Assessment and hydrology assessment which will form part of the EIA.

A Site Water Management Plan will be developed to manage potential risks to the water environment during construction.

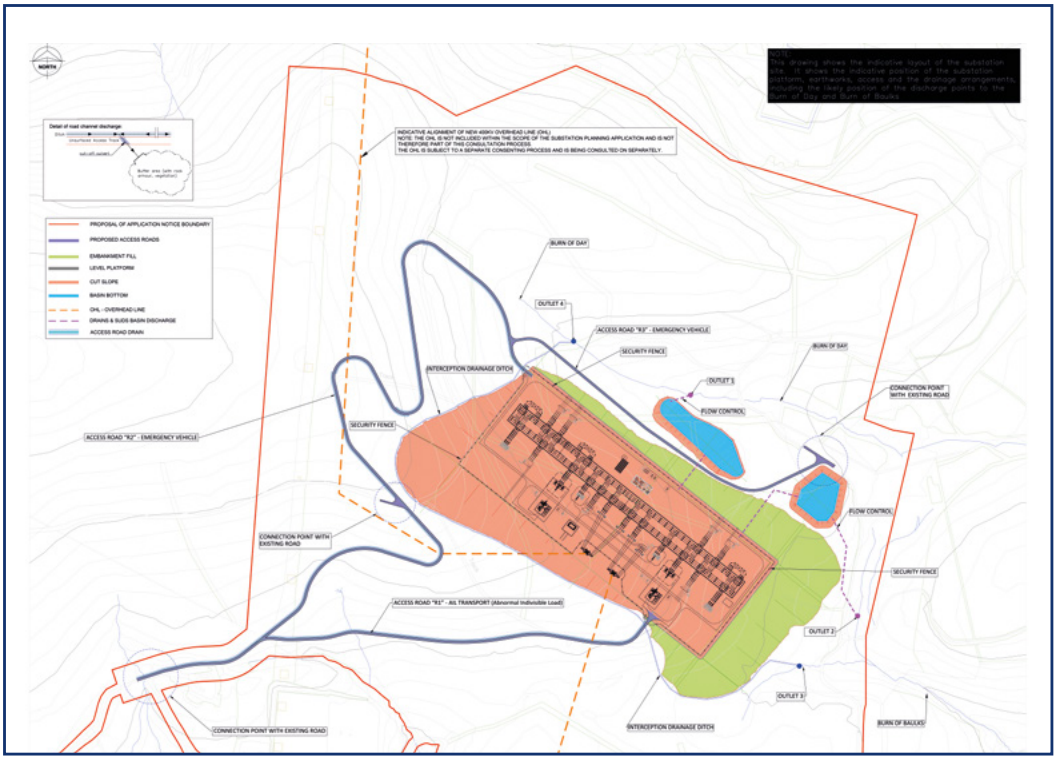
Traffic

As shown on page 19, primary access to the Site is anticipated via the A957 Slug Road to the north of the Site; with secondary access from the minor unclassified road to the south, running east west through Elfhill.

A detailed haul route assessment will be undertaken, as part of the EIA, to define route options with least impact, and will include determining how the amenity of properties close to the roads can be protected and what road improvements or modifications would be required.

A detailed Transport Impact Assessment, which will also include consideration of road safety, impacts to other road users and community impacts will be submitted as part of the planning application and a Construction Traffic Management Plan will be developed describing how abnormal loads and vehicle movements will be managed to ensure road safety for all other road users during construction works.

Proposed substation layout



The substation footprint has been positioned in a north west-south east orientation locating the site on north side of a shallow valley drained by the west-east flowing Burn of Day, taking advantage of the screening provided by the landform to the south and north and avoiding the higher ground to the north.

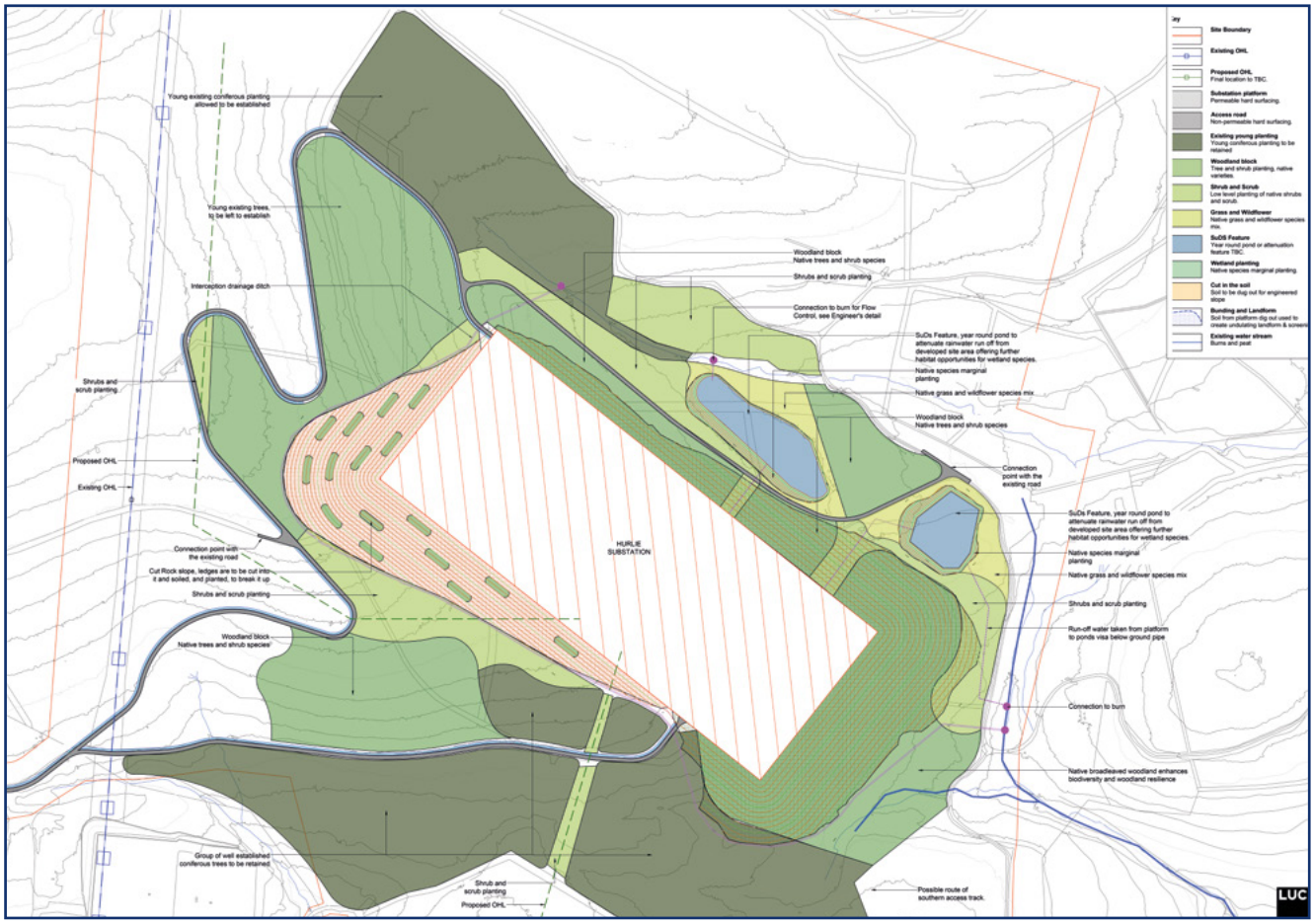
The location optimises the amount of cut and fill needed to create a level development platform and resolves the challenges of accessing the substation site. The depth of cut affords screening from the south of the western half of the substation platform. Additional screening from the south is achieved by current immature plantation which will develop into a more substantial screen.

The toe of the platform, created by the fill, will be softened and the platform screened by new woodland block planting. Access will be from the existing forestry track to the south west of the substation which currently provides access to the plantation across the substation site and to the north. This access will be split, and two new permanent access routes created, one following rising land to access the platform in the NW corner; the other following the gradient east and entering the platform mid way along the southern perimeter.

Surface drainage will be conveyed to two retention/ detention ponds to the north of the platform one draining to the Burn of Day, the other to the Burn of Baulk. The new 400kV OHL will enter and leave the substation from the south, with two terminal towers located above the southern cut face.

A security fence will be erected around the perimeter of the substation platform. While the lighting strategy has not yet been defined, it will adopt the following broad principles recognising the absence of artificial light in the Forest: lighting will be kept to the minimum to ensure safe operations and security; individual light clusters will be low level, narrow beam, and directed downwards to minimize glare and light spill; different lighting configurations and designs will be adopted for different parts of the site and will be appropriate to use; landscape bund design and positioning will support the reduction of glare and light spill.

Proposed designs - landscape design



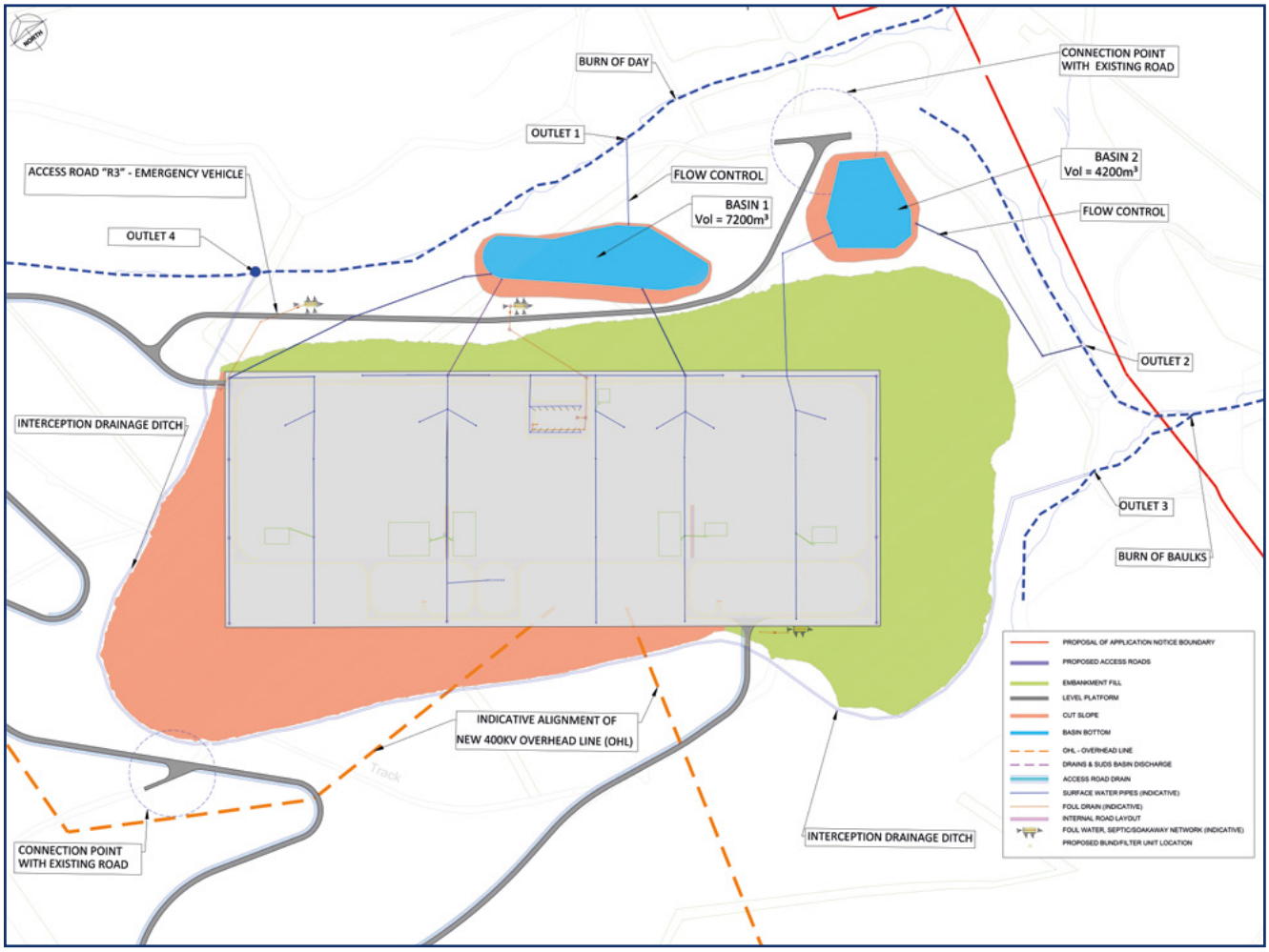
The indicative Landscape Zonal Plan illustrates the principal components of the landscape design.

The site benefits in being principally planation forest, with limited views of the site from surrounding areas, a small number of properties close to the site, and screening provided by mature and maturing plantation on all sides of the site. The cut screens the western half of the platform.

The eastern portion will be screened by woodland block planting around the eastern toe of the platform.

Along the northern boundary, the slopes of the fill will be planted as woodland block, transitioning to a mosaic of shrub and scrub and grass/wildflower habitat as the gradient flattens. The SUDS ponds to the north of the platform will be strengthened with wetland planting, adding further biodiversity.

Proposed designs - drainage design



Following the principles of sustainable urban drainage, the drainage network will comprise a network of grass lined swales (channels) which will collect drainage from the substation platform.

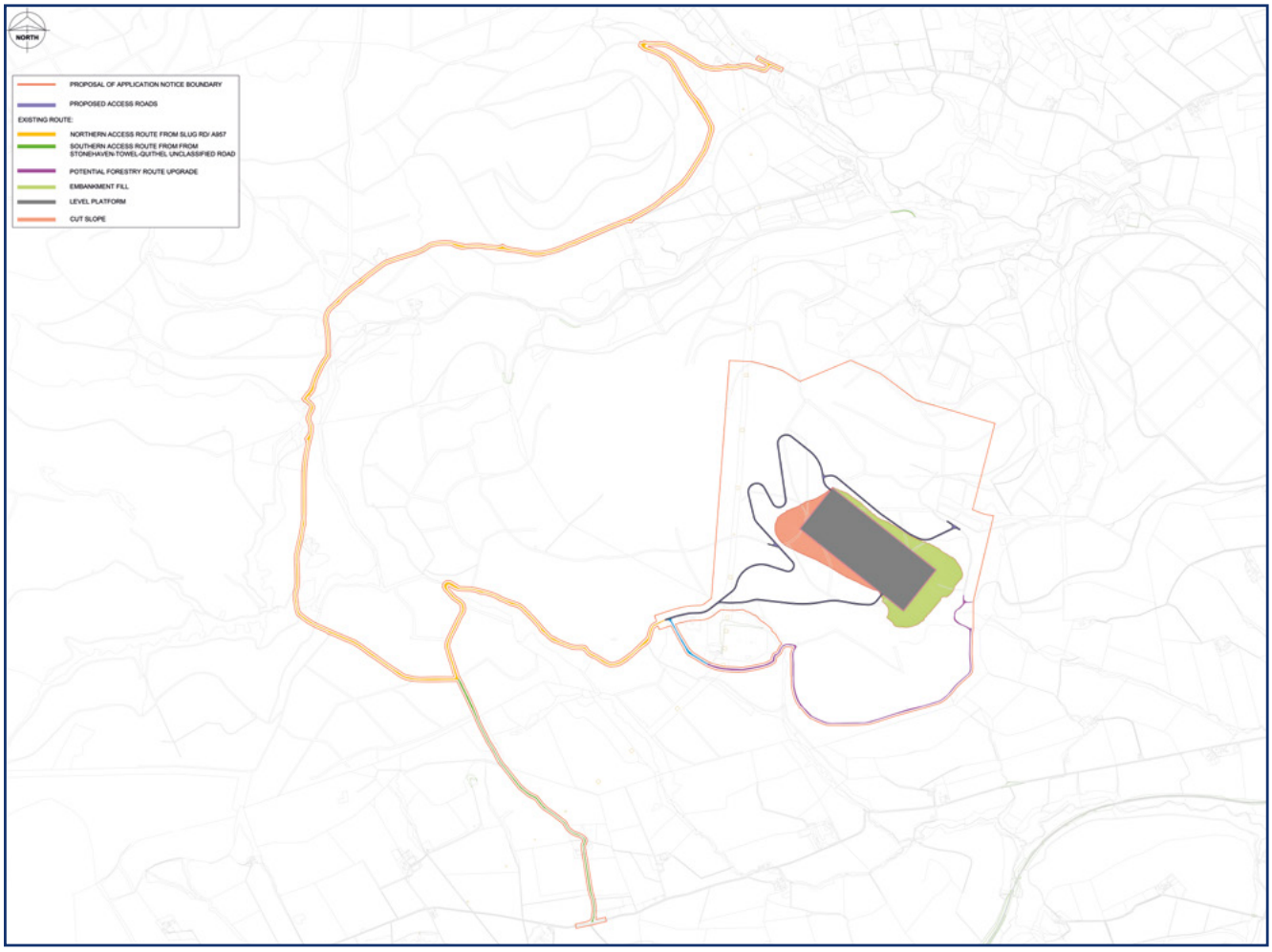
A cut off swale will intercept field run off from the higher parts of the site to the north of the platform.

The existing field drainage network will be reinstated following the earthworks and convey drainage to the cut off drain.

Run off will drain to a network of ponds to slow, hold and treat (by settlement) drainage water before being released to the Fithie Burn ensuring that the volume, rate and quality of surface water discharge will be no greater than the level of run off currently.

A network of interceptors will capture grit and contaminants from internal roadways and hardstanding.

Proposed designs - access design



The main access to the substation site is likely to be from the north, off the A957 Slug Road ; with secondary access from the minor unclassified road to the south, running east west through Elfhill.

While these accesses are primary forestry tracks and serve existing forest activities, some upgrading may be required, particularly for major construction equipment.

New construction and permanent access will be established, off existing tracks, to serve the substation.

While not part of the substation, an existing forestry track running along the southern edge of Elfhill will also be upgraded and extended to allow forestry access to the north of the substation location.

Development considerations

During our last consultation, we outlined many of the engineering, environmental and social considerations we take account of when establishing a practical site for substation developments. Having identified a proposed site, we are able to share further details regarding many of our development considerations.

Summary of engineering considerations

The fundamental engineering considerations when selecting a preferred site location for a new 400kV substation include access, connectivity, footprint requirements, ground and environmental conditions and avoiding hazards.

Site selection criteria for Hurlie

- OHL access and connectivity
- Proximity to the existing Fetteresso substation
- Substation footprint requirements
- Ground and enviromental conditions
- Logistical access for equipment delivery
- Hazards.

Site assessment

The site offers good OHL connectivity and flexibility with connecting to new and existing assets on the transmission network including future external developer connections. There is good existing access to the site off the A90, which will facilitate the delivery of large substation equipment and provide ease of access for future operational needs.

The main access to site is proposed to be from the A90 and A957 (Slug road) via an existing slip road with Survey and design works on going to determine any improvements required to facilitate this access.

There will also be the requirement to establish a new bell mouth and new access tracks for the new substation site to allow for delivery and vehicle access during and post construction. Extensive ground and site investigation works are to take place on the preferred site which will be used to inform the civil design.

The platform level is designed to optimise the overall cut fill balance of the site to minimise the amount of material import required.

Site layout

The layout of the substation has been developed as an Air Insulated Substation (AIS) after an optioneering exercise was carried out to determine the most suitable design for the preferred site. The AIS equipment will be outdoors and consists of busbars and switchgear which is used to marshal and control the electricity supply.

The substation size has been developed based on the number of bays to facilitate the initial connections at the site and allowance made for future connections and is 761m x 300m and the tallest point of the site will be up to 14.3m in height.

Building size

A control building will be required on site which contains ancillary equipment required to operate the substation including control panels and low voltage AC and DC systems.

The size of this building is determined by the number of ancillary system equipment required which is determined by the number of bays within the substation. There are 21 bays at Hurlie. The building will be single story with an approximate overall height of 7m.

As well as the control building, Hurlie substation will also have two Synchronous Compensators which are required to manage power quality or power factor of the substation and network. Each Synchronous Compensator will be located inside a building with an approximate height of 14.5m.

3D visualisations

We understand that local stakeholders need to be able to visualise what the development may look like in their local area.

We've commissioned 3D visualisations which model the substation into the local landscape to help understanding of the proposals in terms of the visual impact, distance and height.

The following are some images taken from the 3D model created for the Hurlie 400kV substation.

Photomontages

Photomontage visualisations will also be produced as part of the Environmental Impact Assessment (EIA).

Once the EIA is completed, we'll ensure these photomontages are easily available to view.

Drone Shot

Slug Road A957 near Millsburn

Minor road west of Kirktown of Fetteresso

Other projects in the local area

As the transmission operator in the north of Scotland, we need to maintain and invest in the high voltage electricity transmission network in our area to provide a safe and reliable electricity supply to our communities.

We also need to offer terms for connections to the transmission network for new generation such as wind farms and pumped storage schemes and for new sources of electricity demand.

Therefore, as well as the Hurlie 400kV substation project, we have a number of other projects within the local area we are currently developing, described below.

Local renewable developments

We know that local stakeholders are keen to understand the full extent of renewable developments being proposed in their local area.

Applications from the likes of wind farms to connect to the transmission network are made to National Grid ESO and undergo a lengthy process before we begin to develop a network connection for developments applying in our license area.

We aim to be transparent about the renewable developments looking to connect to our network but are not permitted to disclose any details of these developments until they are in the public domain.

A list of projects that hold contracts for Transmission Entry Capacity (TEC) with National Grid, the Electricity System Owner is available from their website: nationalgrideso.com/data-portal/transmission-entry-capacity-tec-register

Offshore Grids Project

The Offshore Grid Projects will connect clean energy generation from the North Sea to the UK mainland. We expect the Offshore Grid Projects to consist of:

- Onshore HVDC converter station, which will connect to the AC Hurlie substation via underground cable
- Underground cables onshore and subsea cables
- An offshore platform hub to provide a grid connection for two Offshore Windfarms, this shall negate the need for these windfarms to connect to the onshore Grid network on an individual basis, thus reducing onshore infrastructure
- Subsea cable from the offshore hub to England.

The Offshore Grids Projects is at an early stage of development and we expect to consult communities throughout 2024 on our proposals. The consenting off all associated infrastructure will be under separate processes and applications to the Hurlie 400kV site.

Find out more

Scan the QR code with your smartphone to find out more about our other projects.

Finding common ground with landowners

We recognise that landowners and occupiers are key stakeholders in the development of our projects. At all levels, we will be transparent about our proposals and keep the conversation open and constructive when it comes to those affected and reaching effective compromise.

From the outset of the project, our land team have been identifying and contacting landowners and occupiers who may be affected by our proposals.

If you are a landowner who is affected by the proposals and have not yet had contact from us, please get in touch via the contact details for the dedicated project land managers found on the relevant webpages: ssen-transmission.co.uk/projects/project-map/hurlie-400kv-substation/

We work with landowners and occupiers to mitigate the effects of our infrastructure on their properties and our team of Land Managers will be on hand to answer queries and address concerns throughout this process.

As part of this, we need to carry out various engineering and environmental surveys to inform what we design and how we build it. We will always seek consent from affected landowners and occupiers in advance for these surveys.

Once we have finalised the design, we will be required to secure the appropriate land rights from landowners and occupiers in order to secure planning consent.

Our land managers will endeavour to reach a voluntary agreement with landowners and occupiers, however, as a statutory undertaker, we might need to underpin voluntary discussions with an application to Scottish Ministers for a Necessary Wayleave or Compulsory Purchase Order.

Ultimately this is to ensure nationally significant infrastructure projects are delivered on time and in line with our licence obligations. We also have a duty to protect the interests of the UK bill payer.

Statutory powers are not used lightly as we aim to work with landowners and occupiers to secure the necessary land rights voluntarily.

All potentially affected landowners and occupiers have the opportunity to provide feedback at our in-person consultation events and by submitting a feedback form. We would encourage all those with an interest to submit their views through this consultation.

Delivering a positive environmental legacy

On every project we deliver, we always need to consider how we impact the environment in that area. As we enhance the transmission network in the north of Scotland, we have a responsibility to design and build our projects to protect and enhance the environment.

We will always look to minimise the potential impacts from our activities and achieve Biodiversity Net Gain (BNG). As the first developer to consult upon and implement an award-winning approach to deliver Biodiversity Net Gain (BNG) on all new sites, we're committed to delivering a "greener grid", focusing on habitat restoration and creating biodiversity growth as we invest in our network.

We are committed to delivering 10% Biodiversity Net Gain on all sites gaining consent going forward. This ensures that we don't just restore our natural habitats but actively improve them for the benefit of local communities, wildlife, flora and fauna. During the development, construction and operation of our projects, we will leave the environment in a measurably better state than before development started, ensuring a positive environmental legacy at all our sites.

As this project progresses through the development process, we will actively seek ways to avoid and minimise impacts on biodiversity, through careful routeing and site design to avoid impacting areas of highest biodiversity value. Where avoidance is not possible, we will offset this by introducing new habitats along with restoration efforts. These can be achieved within the boundary of the development site, or by providing support to local groups involved with habitat restoration or creation projects, within the locale of the development site.

If there are biodiversity improvement projects in your local area that we could get involved with, please contact the Community Liaison Manager.

Example projects

Argyll Coast and Countryside Trust (ACT)

Argyll's rainforest is a unique and rare habitat of ancient and native woodland. This collaboration with ACT will help deliver SSEN Transmission's compensatory tree planting and BNG commitments in Argyll. It also aligns with ACT's woodland planting ambitions, supporting its charitable objectives including biodiversity gain, health and wellbeing, improvement for local people, outdoor learning opportunities and climate change workshops.

Argyll Coast and Countryside Trust (ACT)

Thurso South substation and The Bumblebee Conservation Trust

SSEN created approximately 10 hectares of bee-friendly habitat to support the pollination of the rare endemic great yellow bumblebee.

This contributed to wider conservation efforts for this bee species. A collaboration with The Bumblebee Conservation Trust facilitated research on food availability for bumblebees, identifying the need for a diverse seed mix containing key flowering species to enhance early, main and late food supply to support the full lifecycle of bumblebees.

Thurso South substation and The Bumblebee Conservation Trust

Project timeline

2022
- Project need and scope confirmed
- Site selection for substation started

2023
- Consultation 1 – substation site selection – May 2023
- Environmental and engineering surveys
- Report on Consultation – November 2023
- Substation detailed design commences – July 2023

2024
- Pre-Application Consultation – first consultation – March 2024
- Environmental impact assessment scoping – March 2024
- Environmental and engineering assessment continues
- Pre-Application Consultation – second consultation – June 2024
- Environmental Impact Assessment – April- July 2024
- Planning application submitted – late Autumn 2024

2025
- Receive consents decisions
- Agree discharge of conditions if successful planning received

2026
- Proposed construction start – 400kv substation
- Proposed construction start – Kintore to Tealing 400kv OHL

2027
- Construction works ongoing

2028
- Construction works ongoing

2029
- Energisation – Tealing 400kv substation

Have your say

We value community and stakeholder feedback. Without this, we would be unable to progress projects and reach a balanced proposal.

The feedback period

Previous consultation highlighted the need for an extended feedback period. In response to this, we will extend our usual 28 days feedback period.

We will accept feedback from now until 30 April 2024.

How to provide feedback

Submit your feedback online by scanning the QR code on this page or via the form on our project webpage at: ssen-transmission.co.uk/projects/project-map/hurlie-400kv-substation/

Email the feedback form to the Community Liaison Manager. Or write to us enclosing the feedback form at the back of this booklet.

What we're seeking views on

During our last public consultation event in May 2023, we wanted to know your thoughts on the substation sites under consideration and if you agreed with the one we'd identified as best.

Now that we have taken forward a proposed site, we want you to share your thoughts and opinions on our plans, where you think we can make improvements, concerns about the impact of our work and what you think of any changes and refinements we've made.

We'll be actively looking to mitigate the impacts of the site as much as possible over the coming months, but it would be helpful to understand what you believe we should be doing to help minimise these impacts and if there are any opportunities to deliver a local community benefit you would like us to consider.

We encourage all interested community members to fill in a feedback form when submitting feedback, however if you prefer, you can email us to provide your feedback or ask any questions.

Our Community Liaison Team

Each project has a dedicated Community Liaison Manager who works closely with community members to make sure they are well informed of our proposals and that their views, concerns, questions or suggestions are put to our project teams.

Throughout the life of our projects, you will hear from us regularly. We aim to establish strong working relationships by being accessible to key local stakeholders such as community councils, residents' associations and development trusts, and regularly engage with interested individuals.

Community Liaison Manager

Rhiannon Merritt
Community Liaison Manager

SSEN Transmission,
10 Henderson Road,
Inverness, IV1 1SN

E: TKUP@sse.com

Additional information

The best way to keep up to date is to sign up to project updates via the project webpage: ssen-transmission.co.uk/projects/project-map/hurlie-400kv-substation/

You can also follow us on social media

SSEN-Transmission

SSETransmission

Recite me

To support everyone online, we provide accessibility and language options on our website through 'Recite Me'. The accessibility and language support options provided by 'Recite Me' include text-to-speech functionality, fully customisable styling features, reading aids, and a translation tool with over 100 languages, including 35 text-to-speech.

Please select "Accessibility" on our website to try out our inclusive toolbar.

Your feedback

Thank you for taking the time to read this consultation booklet. In order to record your views and improve the effectiveness of our consultation, please complete this short feedback form.

Please complete in BLOCK CAPITALS.

Q1. **Now that we have shared updated design plans for this site, is there anything you'd like to bring to our attention that you believe we may not have already considered during project development?**

Comments:

Q2. **Are there any environmental features, that you consider important and should be brought to the attention of the project team?**

Comments:

Q3. **What suggestions for social or environmental community benefit opportunities do you have that you would like us to consider or are there any local initiatives you would like us to support?**

Comments:

Q4. **Is there anything regarding the Hurlie 400kV substation proposal that you feel you require more information about? If so, please detail below.**

Comments:

Q5. **Do you have any other comments?**

Comments:

Full name

Address

Telephone

Email

If you would like your comments to remain anonymous please tick this box. ☐

We would like to send you relevant communications via email such as invitations to stakeholder events, surveys, updates on projects, services and future developments from the Scottish and Southern Electricity Networks group listed below. If you are happy to receive email updates please opt in by ticking the box below. You can unsubscribe at any time by contacting us at **unsubscribe@ssen.co.uk** or by clicking on the unsubscribe link that will be at the end of each of our emails.

For information on how we collect and process your data please see our privacy notice available at today's event. This can also be obtained online at **www.ssen.co.uk/privacynotice**

If you would like to be kept informed of progress on the project please tick this box. ☐

Thank you for taking the time to complete this feedback form. Please submit your completed form by one of the methods below:

Post: Scottish and Southern Electricity Networks, 10 Henderson Road, Inverness, IV1 1SN

Email: TKUP@sse.com

Online: ssen-transmission.co.uk/projects/project-map/hurlie-400kv-substation/

Download: Comments forms and all the information from today's event will also be available to download from the project website.

The feedback form and all information provided in this booklet can also be downloaded from the dedicated website: **ssen-transmission.co.uk/projects/project-map/hurlie-400kv-substation/**

Any information given on the feedback form can be used and published anonymously as part of Scottish and Southern Electricity Networks consultation report. By completing this feedback form you consent to Scottish and Southern Electricity Networks using feedback for this purpose.