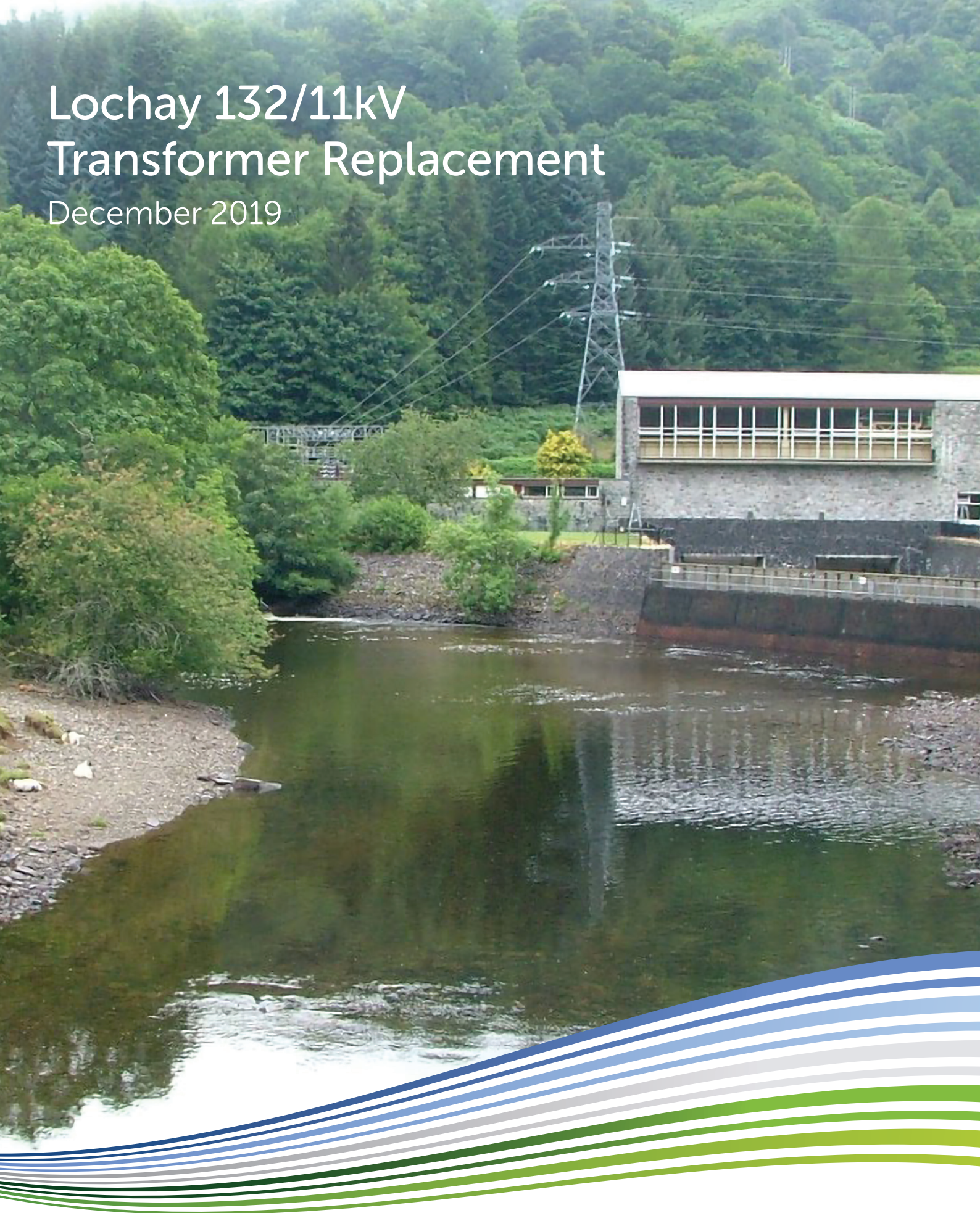


Lochay 132/11kV Transformer Replacement

December 2019

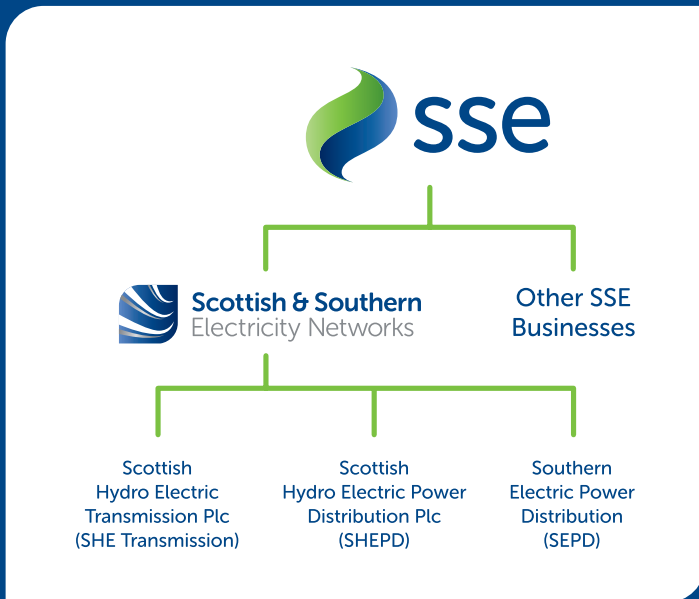


Scottish & Southern
Electricity Networks



Who we are

We are Scottish and Southern Electricity Networks, operating under licence as Scottish Hydro Electric Transmission Plc (SHE Transmission) 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 lines, underground cables and subsea cables. Our 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.

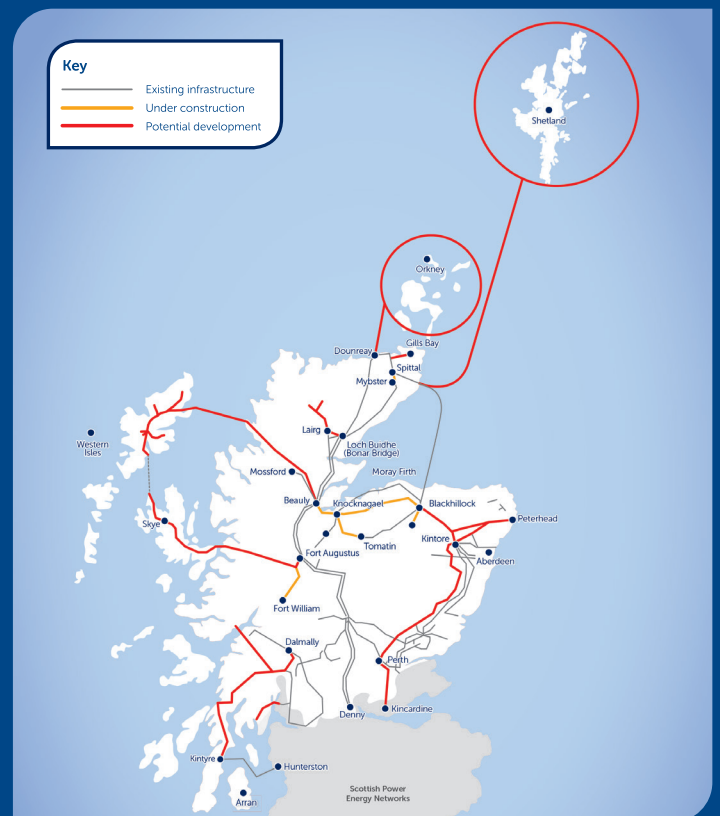
Our network crosses some of the UK’s most challenging terrain – including circuits that are buried under the seabed, are located over 750m above sea level and up to 250km long.

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 update

Following detailed consultation in May 2019 SHE Transmission is proposing to replace the two 25MVA 132/11kV grid transformers within the existing transformer space and extend the existing Lochay substation.

Concerns were raised by residents and members of the public about the visual impact of the layout we presented at the public consultation on the 9th of May. We took away these comments and explored alternatives. Re-design has taken place using a condensed layout and different technology.

This has enabled a significant reduction in the overall footprint and improved visualisation. Due to a reduction in the footprint of the entire proposed new substation, the existing transformer space can be used for replacement of the transformers.

Additional equipment can be accommodated in the adjacent space to the existing substation. Previously, this was not possible.

By exploring alternative design methods that were not previously available when we consulted in May we no longer need to do the following:

- Relocate grid transformers
- Install a new tower



Planning application

A Proposal of Application Notice (PAN) was submitted in March 2019 for a new substation on an area of unused grassland to the east of the existing Lochay Power Station access road. A public consultation event took place on 9th May 2019.

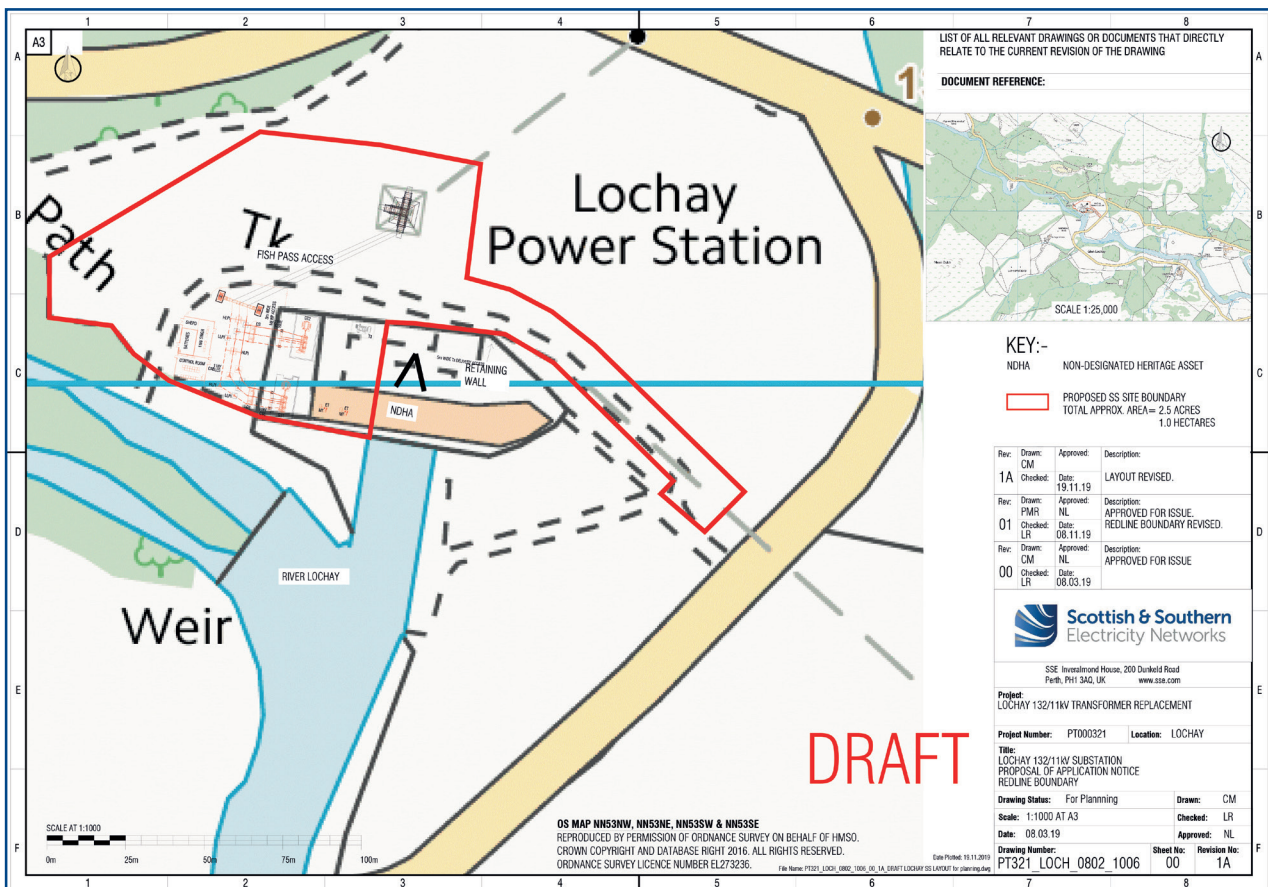
As a result of the design changes we have undertaken following the public consultation in May, we submitted a new PAN in November 2019.

Our proposed solution

Our new proposal is to replace the two transformers in their present location. The substation will be extended behind the transformer compound.

Extension of the substation will require plant and machinery, along with vehicles to transport materials and workers to site.

The largest plant items for the substation will be the installation of the two grid transformers.



Temporary construction compound

Temporary offices, welfare and storage facilities will be established during the planned construction period. These will be located in close proximity to the existing Lochay Power Station. A separate planning application will be submitted for the temporary construction compound.

Generally access to the substation will make best use of existing access routes. No improvements will be required to the local road network for general construction traffic. A new access track will be required which will branch off the existing access track to the power station.

Project details

Substation

The substation reinforcement works would involve:

- Replacement of existing transformer with their modern equivalent, 132/11kV, 36MVA grid transformers.
- Addition of circuit breaking and isolation facilities on high voltage and low voltage sides of transformers. Additional equipment will be located in the extended substation area behind the transformer compound.
- Associated civil engineering, environmental, drainage works.

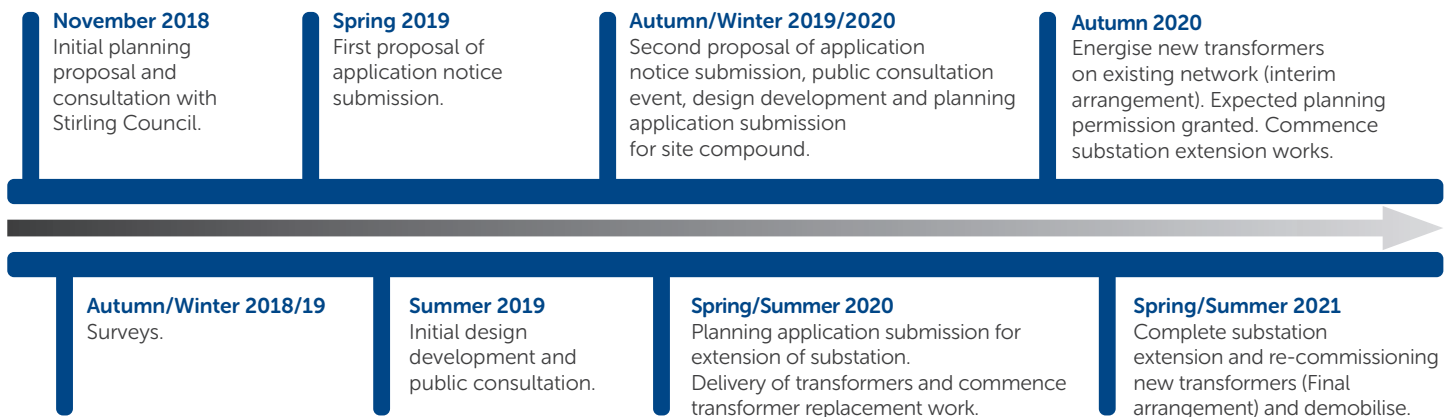


Public road improvement works

- Abnormal load deliveries for two grid transformers will be required.
- No significant road improvements identified.
- The abnormal load deliveries of the two grid transformers will be escorted through Killin village, this may be carried out by Police Scotland. Temporary restrictions to local parking will be required within the village of Killin along Main Street to allow the transformers through the village and to be delivered at Lochay Power Station; and
- Formation of a site entrance off the existing access track to Lochay Power Station.



Project timeline



Screening

Appropriate screening and bunding for this site to lessen the visual impact of our proposal will be agreed with Stirling Council, at this early stage of the process we do not have detailed designs of screening measures, however, these would most likely involve planting a variety of trees around designated areas of the footprint of the site.

Consideration of environmental effects

Visual effects

Taking into account the visualisation concerns raised by the public during the consultation in May 2019, we redesigned the project using new technology that was not yet available at the time of our last consultation. Replacing the equipment within the existing substation has helped to reduce the overall footprint significantly and improve the visual impact.

A Residential Visual Amenity Assessment (RVAA) was undertaken by specialist consultants on the basis that there is a residential property within 500m of the 132kV overhead line included in the project. The assessment concluded that the property would not result in pervasive, oppressive, overbearing or overwhelming impacts as a consequence of the substation works.

Terrestrial ecology (habitats and species)

The habitats on the project site are predominantly improved, poor semi-improved and amenity grassland of low ecological value and scattered deciduous trees and the works will not result in the loss of any notable habitats.

No signs of protected species were originally recorded within the project site boundary and no effects are predicted because of the proposed works. Some trees may need to be removed on the substation site in accordance with British Standard 5837: 2012. Trees in relation to design, demolition and construction. New planting will also be undertaken to enhance the habitats on and around the new project site and to facilitate connectivity with the habitats of greater nature conservation importance in the surrounding area.

Ornithology

The site is not adjacent to any sites designated for ornithological interests. A ground level assessment of the scattered broadleaved trees likely to be lost during construction found no obvious bird nests. Biological data records provided by The Wildlife Information Centre (TWIC) identified 25 bird species recorded around the existing Lochay Hydro Power Station site, with none of the recorded species being Schedule 1 listed. Birds recorded were largely common and widespread species, such as buzzard, oystercatcher, cuckoo, tawny owl, swift, great spotted woodpecker, swallow, wren, robin, redstart, willow warbler, goldcrest, blue, great and coal tits, nuthatch and siskin. Several other species were associated with the river Lochay including mallard, goosander and common sandpiper.

Water environment and soils

The site lies within the Tay local flood management plan catchment area. The management plan does not identify the project site as being within a 'potentially vulnerable area' for flooding.

Private Water Supplies (PWS) will be identified, and an assessment undertaken to determine potential risk to any supplies.

Where required, measures will be identified and put in place to ensure that the quality and quantity of water from these supplies would not be adversely affected.

Although the revised design reduces the visual impact of the Project, this site is closer to the River Tay Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) than the previous proposed location.

Following consultation with Scottish National Heritage (SNH) in October 2018, SNH requested that there should be some consideration of the River Tay special area of conservation (SAC). SNH concluded that the construction of the substation is unlikely to have a significant effect of the SAC if standard pollution prevention measures are adhered to. An updated letter was sent to SNH in November 2019 in light of progressing with the new option which lies only 20m from the river; with a response due imminently to confirm if the substation will still unlikely have a significant impact on the SAC.

A Construction Environmental Management Plan (CEMP) will be developed and implemented, based on the requirements of the SHET General Environmental Management Plan (GEMP). This will be kept on site and available if requested. Relevant sections of the GEMP will be built in to a CEMP including a surface water management plan.

Cultural heritage

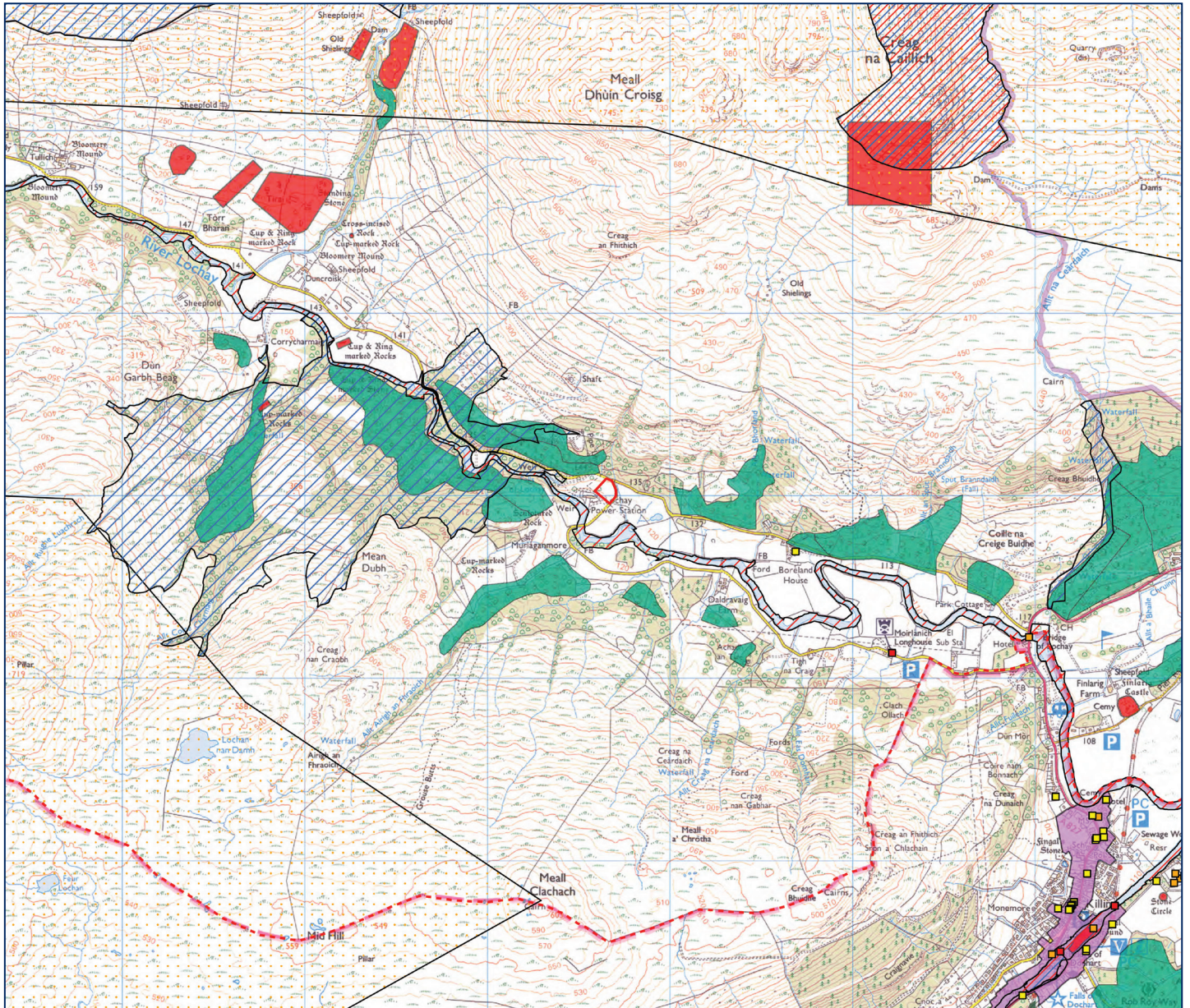
There are no designated heritage assets on the site, although Lochay Hydro Power Station is recorded on the National Record of the Historic Environment (NRHE) and is considered to be a non-designated heritage asset. Minor effects on landscape and visual receptors are identified during construction and operation. An archaeological watching brief will be maintained on all ground breaking works. The purpose of the watching brief would be to identify any archaeological remains that would be affected by the project, to assess their significance and to mitigate any effect upon them either through avoidance or, if preservation in situ is not warranted, through preservation by record.

Noise

The nearest noise sensitive receptors are Murlaganmore steading and a farm steading on the south banks of the river Lochay, approximately 350m southwest and 850m southeast of the hydro station respectively.

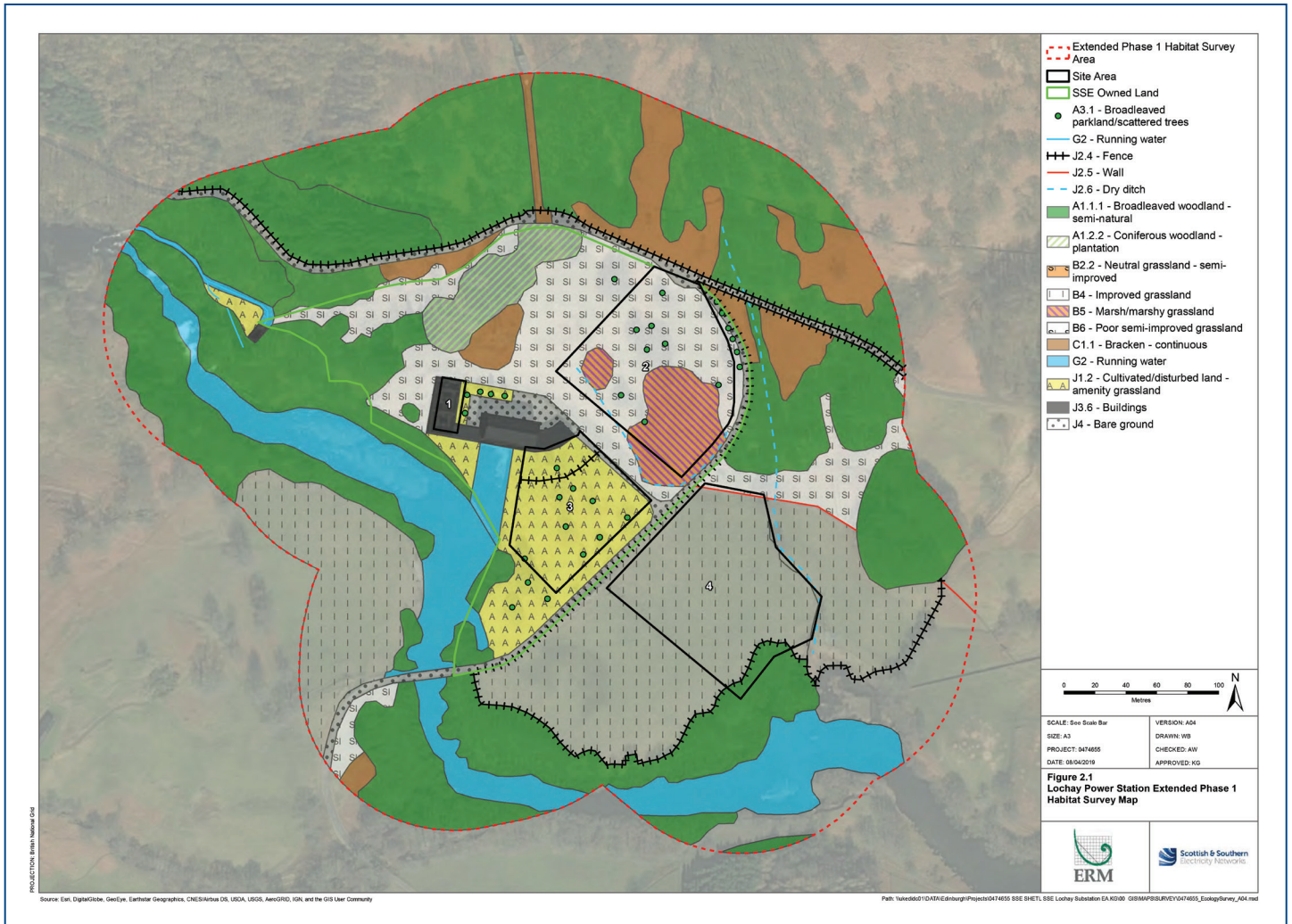
Given the distance between the project and nearest noise sensitive receptors, the nature of the construction works and operational characteristics and the presence of the existing hydro station and substation, any change in noise level is considered likely to be negligible.

SSEN Lochay substation environmental and heritage constraints map



- | | |
|---|--|
| Site Area | Site of Special Scientific Interest (SSSI) |
| Listed Building Category A | Wildland Area |
| Listed Building Category B | Scheduled Monument Area |
| Listed Building Category C | Ancient Woodland Initiative |
| National Park Boundary | Conservation Area |
| Special Area of Conservation (SAC) | |

Lochay power station extended phase 1 habitat survey map



Engineered canal which is part of the Lochay power station operations.



View of amenity grass.

What happens now and how do I have my say?

We understand and recognise the value of the feedback provided by members of the public during all engagements and consultations. Without this valuable feedback, the project development team would be unable to progress projects and reach a balanced proposal.

We are keen to receive your views and comments in regards to the following questions:

- Has the project information provided explained the need for the transformer replacement?
- Now that the transformers are not being relocated do you feel we have taken the feedback from May's consultation on board satisfactorily?
- Do you have any comments on our chosen location for the new grid transformers?
- Do you feel SSEN have given enough consideration to potential impacts on the environment that this project may have?
- Are there any additional factors, issues or concerns which you wish to bring to the attention of the project team regarding our proposal?
- Following your review of the information displayed today, how would you rate your knowledge of the Lochay 132/11kV transformer replacement?
 - Very well informed
 - Know a lot
 - Know a little
 - Know very little
 - Know nothing at all.

Comments

Your views and comments can be provided to the project team by completing a feedback form or by writing to Louise Anderson, Community Liaison Manager. We will be seeking feedback from the members of the public and Statutory Bodies until the 3rd of January 2020.

All received feedback will be assessed and the proposed options adapted where necessary.

Community Liaison Manager Louise Anderson



louise.anderson@sse.com



07384 454233



Louise Anderson
Scottish and Southern
Electricity Networks,
200 Dunkeld Road,
Perth, PH1 3AQ



Additional information

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

Project website:

www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement/

Follow us on Twitter:

@ssencommunity

Follow us on Facebook:

@ssencommunity



Your feedback

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

Please complete in **BLOCK CAPITALS**. (Please tick one box per question only)

Q1 Has the project information provided explained the need for the transformer replacement?

Yes No Unsure

Q2 Now that the transformers are not being relocated do you feel we have taken the feedback from May's consultation on board satisfactorily?

Yes No Unsure

Q3 Do you have any comments on our chosen location for the new grid transformers?

Q4 Do you feel SSEN have given enough consideration to potential impacts on the environment that this project may have?

Yes No Unsure

Q5 Are there any additional factors, issues or concerns which you wish to bring to the attention of the project team regarding our proposal?

Q6 Following your review of the information displayed today, how would you rate your knowledge of the Lochay 132/11kV transformer replacement?

Very well informed Know a lot Know a little
 Know very little Know nothing at all



Please use space below to provide further comments:

Full name

Address

Postcode

Telephone

Email

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

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

Thank you for taking the time to complete this feedback form.

Please hand your completed form in at the event or alternatively by one of the methods below:

Post: Louise Anderson, Scottish and Southern Electricity Networks, 200 Dunkeld Road, Perth, PH1 3AQ Email: louise.anderson@sse.com

Closing date for feedback is 3rd January 2020.

The feedback form and all information provided at the event can also be downloaded from the dedicated website:

www.ssen-transmission.co.uk/projects/lochay-13211kv-transformer-replacement/

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.

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