

Cross Border Connection: Gala North Substation to the Scottish Border

Proposed Option Report

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1. Introduction

1.1 Introduction

The Cross Border Connection (also referred to as the ‘Project’) is a joint development between SP Energy Networks and National Grid Electricity Transmission (NGET) comprising a new cross-border double circuit 400 kilovolt (kV) overhead line (OHL) between the proposed Gala North Substation in the southeast of Scotland and a connection point to the electricity transmission system in the northwest of England. Each Transmission Owner (TO) is responsible for the components of the Project within their licence area meaning that SP Energy Networks are responsible for the components of the Project in Scotland and NGET, the components of the Project in England.

In 2024 and 2025 SP Energy Networks consulted on its Preferred Option for its components of the Project (collectively referred to as the ‘SP Energy Networks Project’) comprising:

- A new double circuit 400kV OHL between the proposed Gala North Substation and a new Teviot Substation,
- The new Teviot Substation which will also connect various proposed renewable energy generation projects to the electricity transmission network, and
- A new double circuit 400kV OHL from the new Teviot Substation to the Scotland-England border where the Cross Border Connection would enter NGET’s licence area in England.

Consultation on a Preferred Option was originally undertaken in 2024 (referred to as Phase 1A Consultation) with a further round of consultation undertaken in 2025 on a Modified Preferred Option (referred to as Phase 1B Consultation). This Proposed Option Report (POR) draws on the feedback received through both Phase 1A and 1B consultation and sets out how the Proposed Option has been identified seeking to balance the feedback received with other routeing and siting considerations.

The PROR is intended to be a standalone document as far as possible, however, it should be read with reference to the Routeing and Siting Consultation Document (2024) which was published at the start of Phase 1A Consultation as well as the Phase 1 Pre-Application Consultation Report (2025) which has been published alongside the PROR and describes the Phase 1A and 1B consultation undertaken, the feedback received and responses to it.

1.2 About SP Energy Networks

SP Energy Networks is the trading name for Scottish Power Energy Networks Holdings Limited. SP Energy Networks owns and operates the electricity transmission and distribution networks in central and southern Scotland through its wholly-owned subsidiaries SP Transmission plc and SP Distribution plc. These businesses are ‘asset-owner companies’ holding the regulated assets and Electricity Transmission and Distribution Licenses. SP Transmission plc is the Transmission Licence holder under the Electricity Act 1989.

As the holder of a transmission licence under the Electricity Act 1989, SP Transmission is subject to a number of statutory duties and licence obligations. These include requirements *“to develop and maintain an efficient, coordinated and economical system of electricity transmission”* and *“to facilitate competition in the generation and supply of electricity”*. This requires SP Transmission to provide for new electricity generators such as wind farm developers wishing to connect to the transmission system in its licence area; to make its transmission system available for these purposes and to ensure that the transmission system is fit for purpose through appropriate reinforcements to accommodate the contracted capacity.

In addition, in formulating proposals for electricity transmission infrastructure, SP Transmission is subject to duties under Schedule 9 of the Electricity Act 1989: to *“(a) have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest”*; and to *“(b) do what [it] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”*

SP Energy Networks, acting on behalf of SP Transmission, is responsible for the development of the Scottish Components of the Project. This work is undertaken in accordance with SP Transmission’s statutory duties and licence obligations with the objective of ensuring that the Scottish Components of the Project are technically feasible, economically viable and on balance, causes the least disturbance to both the environment and the people who live, work and enjoy recreation within it.

1.3 Background to and Need for the Project

As Scotland and the rest of the UK transitions to more renewable sources of energy, demand for electricity is set to increase. The ability of the electricity transmission system to carry more renewable energy will be essential to help meet Scottish and UK government targets for net zero as well as for energy security.

SP Transmission has a number of statutory duties and licence obligations which underpin the need for the Project; firstly reinforcing the network to increase cross-border network capacity and enable increased north-south flows on the transmission system and secondly, facilitating the connection of proposed wind farms.

Each year, the National Energy System Operator (NESO) looks at how the electricity transmission system needs to adapt to meet the demands that will be placed on it over the next decade and beyond. They look at where network capacity or capability might need to be increased. Transmission Owners (TOs) such as SP Transmission and NGET put forward options for how network issues can be addressed and these are assessed by NESO, who also make recommendations about which should be developed further.

The need for onshore reinforcement between southeast Scotland to northwest England was first identified in the Network Options Assessment (NOA) in 2021 where it was identified as CMNC. More recently the need for the project was re-evaluated as part of NESO’s ‘Beyond 2030’ report. This was published in March 2024 and recommended the development of ‘CMN3’, a cross-border reinforcement between southeast Scotland and northwest England

increasing north-south network capability while also increasing access to the transmission network for generators. Since then, SP Energy Networks and NGET have been working jointly to develop 'CMN3', now known as the Cross Border Connection.

1.4 Development and Consenting of the Project

The approach taken to developing the parts of the Project within Scotland comprises the following key phases:

- **Phase 1. Routeing.** Phase 1 comprised a routeing and siting study in which alternative route and site options for the Project components were identified and assessed taking into account a range of environmental, technical and economic considerations in line with SP Transmission's statutory duties. It concluded with the identification of a Preferred Option which was then subject to consultation (referred to as Phase 1 Consultation). Two rounds of Phase 1 Consultation, referred to as Phase 1A and Phase 1B were undertaken in 2024 and 2025 respectively on a Preferred Option (2024) and then a modified Preferred Option (2025). Responses from both rounds of Phase 1 Consultation have been evaluated and informed the confirmation of a Proposed Option to be taken forward to Phase 2.
- **Phase 2. Environmental Impact Assessment (EIA).** The Cross Border Connection will require to be subject to EIA. Specifically in Scotland, the Project will be subject to EIA under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Through Phase 2 the EIA process seeks to identify and assess the likely significant effects of the Project on the environment, and identify measures envisaged to prevent or mitigate and, if possible, offset the likely significant adverse effects on the environment. The EIA process comprises several steps starting with scoping and concluding with the production of an EIA Report (EIAR) which will accompany the application for consent. During this phase SP Energy Networks will also undertake a second round of public consultation (referred to as Phase 2 Consultation) on the detailed design of the Project in Scotland.
- **Phase 3. Application for Consent.** SP Energy Networks will be applying to the Scottish Ministers for consent under Section 37 of the Electricity Act 1989, to install, and keep installed, the Project in Scotland. The EIAR will accompany the application for Section 37 consent. At the same time, SP Energy Networks will also seek deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, as amended, including ancillary development for example access for access tracks. While the Scottish Ministers will be responsible for the decision to approve the Project in Scotland or not, in reaching their decision they will consult with statutory and non-statutory stakeholders, relevant Local Planning Authorities (LPAs) and members of the public.

1.5 Purpose and Structure of this Document

The primary purpose of this PROR is to set out the Proposed Option which has been identified. In identifying the Proposed Option SP Energy Networks has sought to address feedback received through Phase 1A and Phase 1B Consultation as much as possible and balance this with other routeing and siting considerations. As noted above, a separate Phase

1 Pre-Application Consultation Report (2025) has also been produced which details the consultation process, feedback received and responses to it.

An overview of the structure and content of the POR set out below in Table 1.

Table 1 Proposed Option Report Structure

Section	Description of Content
1. Introduction	Provides an overview of the PROR and background to the Project.
2. Route-wide Feedback	Responds to route-wide feedback in relation to alternative options.
3. Identification of the Proposed Option	Describes how the Proposed Option has been identified in response to feedback and other considerations.
4. The Proposed Option and Next Steps	Describes the Proposed Option and provides an overview of the next steps in the development of the Project.

See Figure 1 Overview of Options Consulted on at Phase 1A and Phase 1B Consultation

2. Route-wide Feedback

2.1 Overview of Key Route-wide themes

This section addresses route-wide feedback received in response to Phase 1A and 1B Consultation. Through both rounds of consultation key feedback related to undergrounding the Project as well as alternative routes for the new overhead line making use of existing electricity network infrastructure or following other linear features.

2.2 Undergrounding the Route

Full Undergrounding of Cross Border Connection

As set out in SP Energy Network's Approach to Routeing and Environmental Impact Assessment¹ and repeated in the Routeing and Siting Consultation Document, SP Energy Networks' starting point for new electricity transmission infrastructure is typically an overhead line. This is because having regard to their statutory duties and licence obligations, the requirement to balance environmental, technical and economic factors supports the development of an overhead line in most circumstances. SP Energy Networks approach to routeing identifies the main effect of new overhead lines is visual and seeks to reduce the degree of impact through careful route selection. =

This approach has applied in preparing the Routeing and Siting Consultation Document for the Scottish components of the Cross Border Connection.

Respondents have proposed undergrounding the Cross Border Connection in Scotland in order to mitigate the potential impacts of a new overhead line route between the proposed Gala North Substation and Scotland-England border.

While underground cables would have a lesser permanent visual impact compared to an overhead line solution, the extent of temporary and permanent land-take has the potential for greater impacts on other environmental aspects including impacts on habitats and protected species, archaeology, surface and groundwater, soils and land use. This includes impacts resulting from more extensive vegetation removal, topsoil and subsoil stripping, excavation of multiple trenches (typically 1-2m deep) and installing cable crossings of watercourses as well as the installation of other temporary features to enable underground cable installation such as temporary roads alongside cable trenches. This can also result in greater impacts on land use during the construction stage, particularly agricultural land use compared to typical overhead line construction activities.

The early engineering assessment is that an alternative underground solution would require a minimum of 18 single core 400kV underground cables in order to deliver an equivalent capacity to the proposed 400kV double circuit overhead line. These cables would be laid within six trenches (i.e. three cables per trench) and, for technical reasons, these cables would be required to be suitably spaced out, increasing both the temporary and permanent land-take. To achieve the necessary separation and enable construction, a temporary working corridor of around 70-80m width would be required.

Technical requirements for underground cable solutions also require that ground surface infrastructure is installed. Cables are manufactured in sections and require to be connected. Adjacent sections of cable are connected at joint bays which are positioned at regular intervals along the route at which ground level infrastructure access would be required for operations and maintenance. Cable link boxes contained within access chambers would need to be located at these joint locations, and can be within small, fenced compounds depending on the surrounding land use which would protect the infrastructure from accidental damage and limit access to ensure safety. A cable solution, particularly over such lengths, would likely lead to the requirement for reactive compensation apparatus to be installed to offset the reactive power generated by these cables. This additional equipment would lead to an increase in project cost and the overall size of the substation footprint at each end of cable circuits and would likely increase the environmental impacts of the connected substations. It should be noted that the technical requirements and environmental impacts that an underground cable solution has, such as the increased space required to construct and install an underground cable as well as potential to impact features such as ecological habitats and archaeological remains, mean that an underground solution would not necessarily be feasible or preferable within the corridor identified for the overhead line solution, potentially requiring an alternative route altogether for an underground solution.

In addition to the technical constraints and environmental impacts outlined above, in line with its statutory duties, SP Energy Networks must also have regard to cost. The costs of undergrounding are significantly higher than those of an overhead line. The most recent research into electricity transmission technologies and their comparative costs was undertaken by the Institute of Engineering and Technology (IET) and published in 2025¹. This report estimated that the initial construction of an underground cable solution is generally between five to ten times more expensive than an equivalent overhead line. The IET research also estimates that the whole life cost for an underground cable solution is generally around 4.5 times more than an equivalent overhead line solution. Given that projects of this nature are ultimately funded by the consumer, SP Energy Networks must ensure that an economic, coordinated and efficient solution is developed and implemented.

Overall, having regard to its statutory duties and licence obligations, SP Energy Networks do not consider a wholly underground cable route to be a feasible alternative to an overhead line route for Cross Border Connection in Scotland. However, that does not preclude the potential use of underground cables for sections of the Proposed Option where for environmental or technical reasons an overhead line route is not feasible.

Localised Undergrounding of parts of Cross Border Connection

Some respondents provided feedback regarding the partial undergrounding of Cross Border Connection in specific sections of the route in order to mitigate the localised impacts of a new overhead line route.

As described above there are several factors which could influence the use of underground cables including over short or localised sections of a longer overhead line route. At each point where an overhead line transitions to an underground cable (or vice versa) there is a

¹ https://www.theiet.org/media/axwkktkb/100110238_001-rev-j-electricity-transmission-costs-and-characteristics_final-full.pdf

requirement for a Cable Sealing End Compound. These are fenced compounds, for safety and security reasons, to enable the transition from overhead line conductor to underground cable. A typical 400kV Cable Sealing End Compound is shown below.



The technical constraints and environmental impacts outlined for a full underground solution would apply to short or localised sections of undergrounding. Undergrounding multiple short sections over the length of Cross Border Connection in Scotland would encounter similar issues, and making multiple transitions from overhead line to underground cable across the route would increase technical challenges and may introduce a requirement for reactive compensation apparatus to be installed to offset the reactive power generated by these cables. This additional equipment would lead to an increase in the overall size of the substation footprint at each end of cable circuits.

At this stage SP Energy Networks does not propose to underground any sections of the Proposed Option, however, this will be kept under review as the design of the overhead line is developed, as set out in SP Energy Networks Approach to Routeing and Environmental Impact Assessment. Where no suitable route for an overhead line can be identified, for example for environmental or technical reasons, consideration may be given to sections of undergrounding.

2.3 Alternative Route Options

Alternative Eastern Route Corridor

Some respondents provided feedback suggesting an alternative route to the east of the Study Area traversing lower lying land would be preferable. The Routeing and Siting Consultation Document (2024) published at the start of Phase 1A Consultation described the two-step approach taken to the identification of alternative routes. The first step included the identification and appraisal of alternative strategic route corridors including a corridor located to the east of the Study Area. These are described in Chapter 7 of the Routeing and Siting Consultation Document.

Strategic Route Corridor B was developed which extended east and southeast from the proposed Gala North Substation crossing the A68. It broadly followed the A68 on its eastern side crossing south of Jedburgh and routed southwest across the A6088 towards Wauchope Forest.

While the landscape to the east of the Study Area which Route Corridor B crossed is lower lying compared to the west of the Study Area, the landscape was considered to be more sensitive to a new overhead line particularly to the north of the corridor. This was due to a number of landscape designations which are present including the Eildon and Leaderfoot National Scenic Area, the Tweed Lowlands and Teviot Valley Special Landscape Areas (SLAs) as well as a number of Gardens and Designed Landscapes. The majority of Route Corridor B comprises landscapes of higher sensitivity which contribute to the setting of designated landscapes including the National Scenic Area and Gardens and Designed Landscapes. As result this increased landscape sensitivity and the potential to impact sites of the highest or high environment value, this Corridor was not taken forward for development of more detailed route options.

Alternative Western Corridor through Dumfries and Galloway

Some respondents provided feedback suggesting an alternative route continuing on the west of the Study Area through Dumfries and Galloway would be preferable. The Routeing and Siting Consultation Document (2024) published at the start of Phase 1A Consultation described route options identified and appraised:

- Strategic Route Corridor D which extended through Dumfries and Galloway to the Scotland-England border (Chapter 7 of the Routeing and Siting Consultation Document).
- Section D Route Options 3, 4a, 4b and 5 which were developed within Strategic Route Corridor D (Chapter 8 of the Routeing and Siting Consultation Document).
- Purple Route Option (end-to-end) located to the west of the Study Area with the southern part of the Option crossing Dumfries and Galloway (Chapter 9 of the Routeing and Siting Consultation Document).

As described in the Routeing and Siting Consultation Document (2024) an option routeing through Dumfries and Galloway was considered to be less preferable overall. While there are differences in nature of environmental constraints present, the landscape traversed as well as settlement pattern between western option (described as the Purple Route Option) and eastern options (described as the Orange Route Option), on balance it was considered that

the eastern option within the Scottish Borders was preferred. This was also partly informed by the siting of the new Teviot Substation having regard to the contracted customer connections. By locating the substation to the east of the study area it also helps to minimise the amount of new electrical infrastructure required to connect planned developments and reduce impacts overall.

Upgrading an Existing 132kV Overhead Line

There is an existing 132kV circuit which is approximately 70km long and uses both underground cable and overhead line (known as 'V route') that extends from Galashiels to Hawick and further south towards the Scotland-England border south of Langholm. A number of respondents provided feedback on the potential to upgrade the existing overhead line to operate at 400kV as an alternative to constructing a new 400kV double circuit overhead line.

V route was constructed in the 1940s and was recently refurbished as part of the RIIO-T1 price control. The route was designed for an operating voltage of 132kV and would not be suitable for 400kV transmission as towers which are capable of operating at 400kV are significantly larger than 132kV towers. Also, upgrading of the existing 132kV cable section which connects into Galashiels substation is not technically possible. The electrical safety clearances of the existing towers on V route would not be suitable for operation at 400kV, and the towers would not be capable of supporting a conductor system which could deliver the capacity required for the Cross Border Connection. Therefore, V Route would need to be fully re-built using towers which are designed to operate at 400kV to accommodate the contracted generation as well as provide the required uplift in power transfer capability between SPT's and NGET's licence areas. Also, as V Route serves and supports customers from Hawick and Galashiels substations, any replacement of this existing route would require alternative solutions to maintain supplies to the Grid Supply Points in this area of the system to serve these customers.

V route plays a critical role in transmission and supply of electricity within the Scottish Borders, and upgrading the existing infrastructure on V Route to deliver the needs of the Cross Border Connection would not be technically achievable.

Following the A7

A number of respondents suggested an alternative route for the new 400kV overhead line following the A7. In the early development of route options consideration was given to broadly following the A7, however, this was not taken forward as it was not considered to provide a preferable route option. It would not be feasible to follow the A7 for its full length due to a number of different constraints which are present along and/or adjacent to it including larger towns as well as smaller villages and properties as well as in some places environmental and engineering constraints.

For completeness SP Energy Networks has included details of an alternative route option following the A7 as closely as possible as shown in Appendix A. While some sections provide opportunities to develop an overhead line route, others are considered to have potential for greater environmental impacts or are highly technically constrained. A description and appraisal of the alternative route option is contained in Appendix A. Overall, it is considered

that this alternative route does not provide a preferable alternative to the Proposed Option described in this report.

3. Identification of the Proposed Option

3.1 Approach to identifying the Proposed Option

The overall approach to routeing and siting is described in the Routeing and Consultation Document and illustrated below in Figure 2. Steps 11 to 14 comprise consulting on a Preferred Option, reviewing consultation feedback and making modifications to the Preferred Option concluding with the identification of a Proposed Option. Two rounds of consultation have been held by SP Energy Networks during this phase of Cross Border Connection; Phase 1A consultation in 2024 and Phase 1B in 2025 with modifications made to the Preferred Option between them.

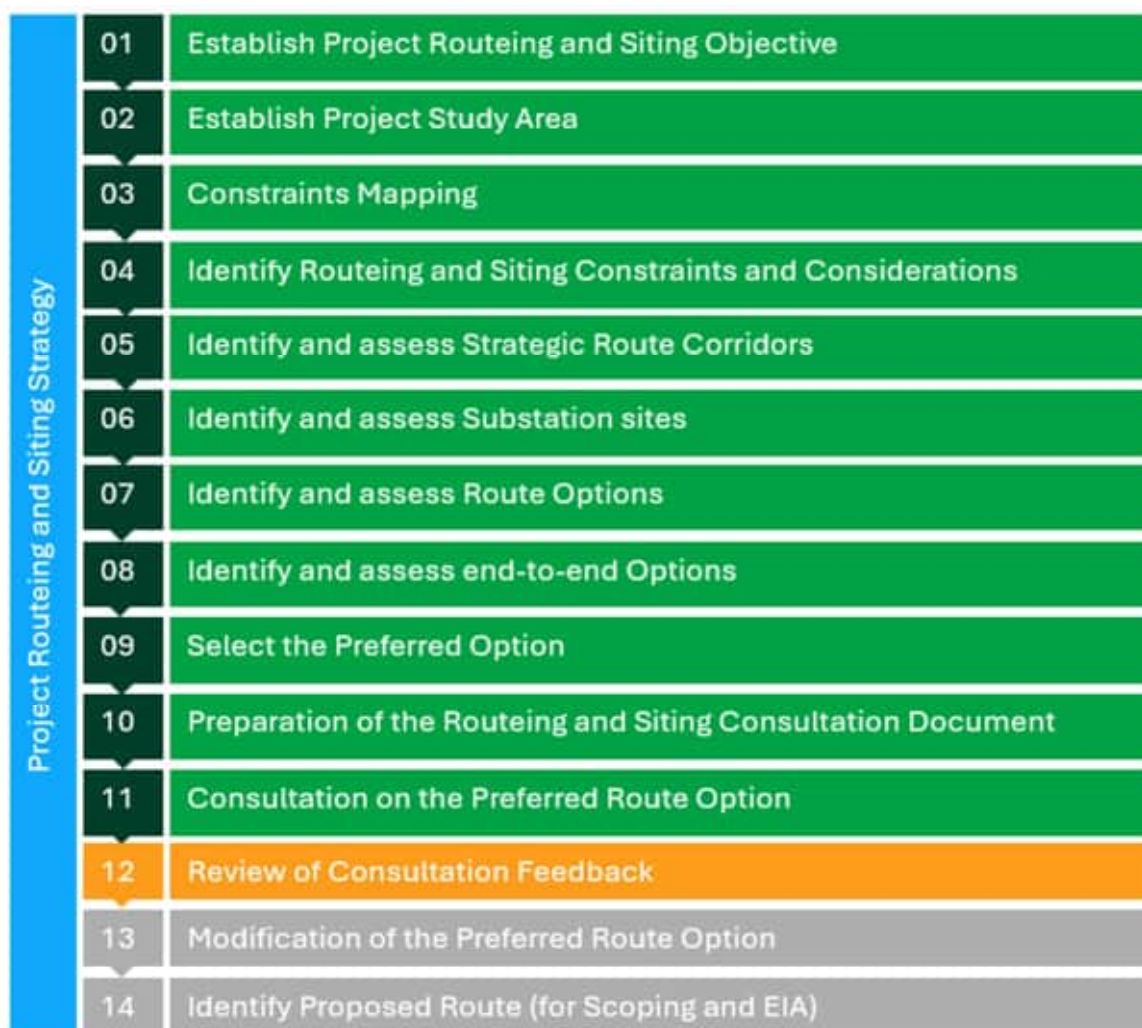


Figure 2 Approach to the Routeing and Siting Study

The different steps in consultation and how they have informed the identification of the Proposed Option are shown in Figure 3.

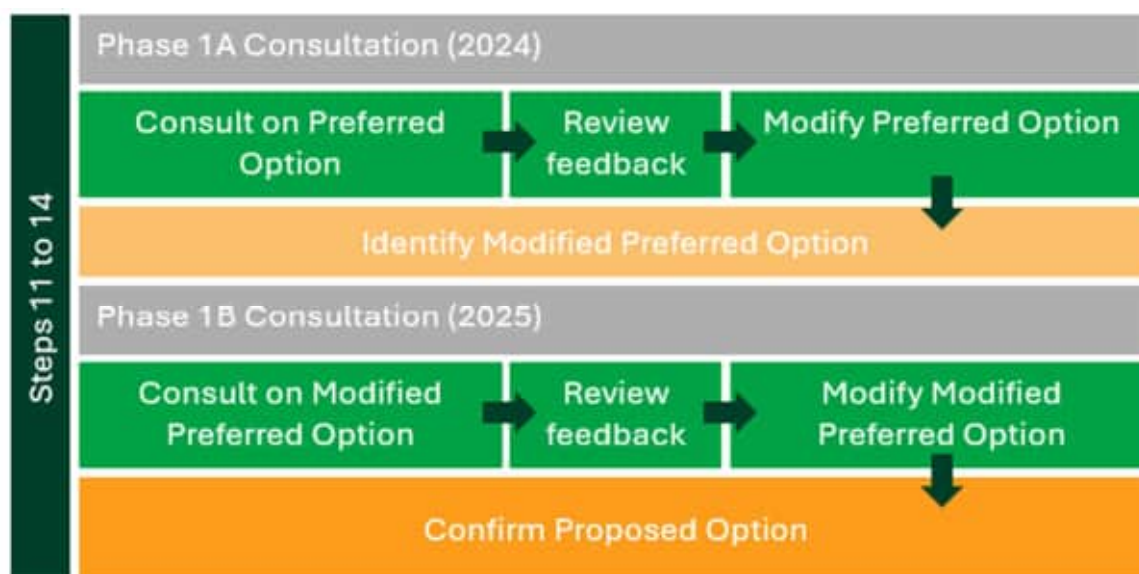


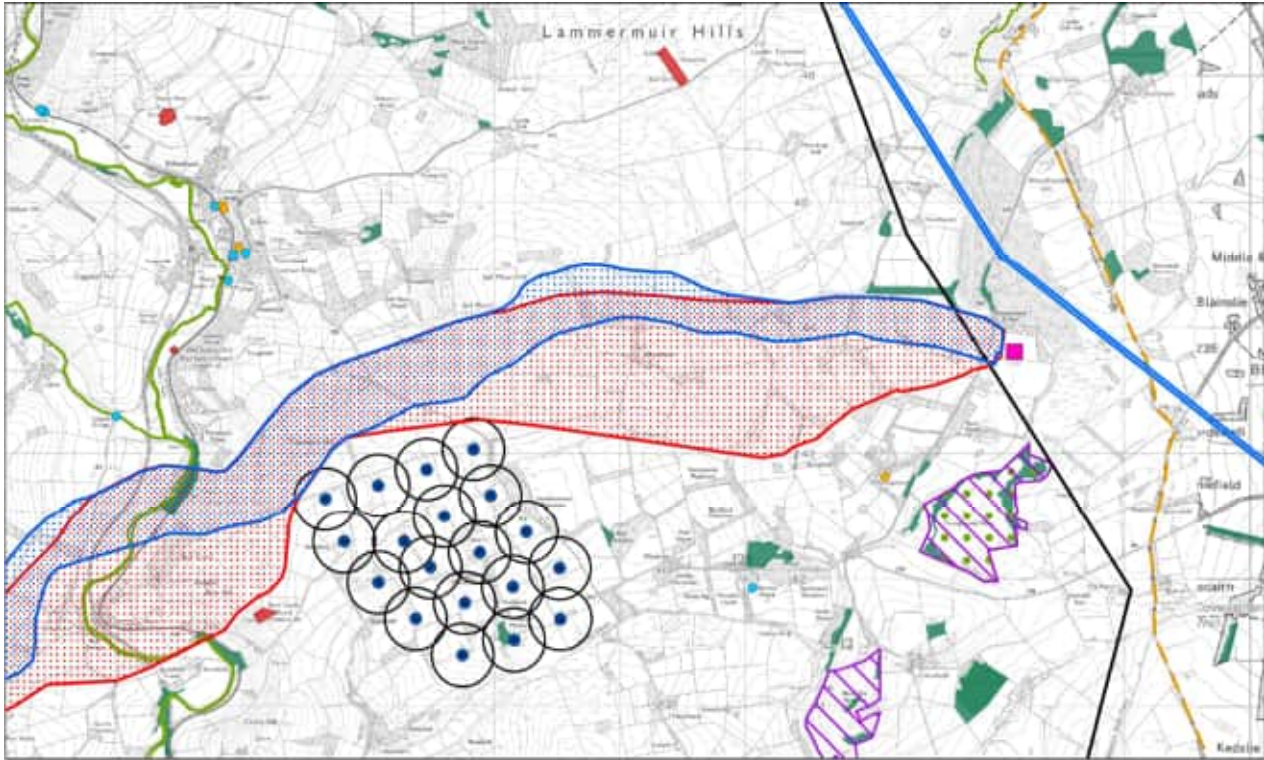
Figure 3 Approach to Identifying the Proposed Option

At routeing stage the Preferred Option is defined by a 'corridor' within the which the overhead line route would be designed. The corridor which establishes the Proposed Option has been identified taking into account a range of factors as described in the Routeing and Siting Consultation Document (2024) as well as feedback received in response to Phase 1A and 1B consultation. As a result, the width of the corridor is not uniform for its entire length as it narrows and widens in response to routeing constraints and opportunities. Through both Phase 1A and 1B consultation, the corridor which forms the basis of the Preferred Option and Modified Preferred Option has been adjusted to take account of feedback including re-routeing parts of the corridor in its entirety as well as localised narrowing or widening of the corridor to address feedback.

The following sections describe how the route corridor has evolved in response to feedback, concluding with the confirmation of the Proposed Option. The following sections set out how the Proposed Option has been identified in response to feedback from Phase 1A and 1B Consultation and includes a description of the changes made and why. Reference should also be made to the accompanying Phase 1 Pre-Application Consultation Feedback Report which describes the consultation undertaken and the feedback received.

3.2 Phase 1A Consultation 2024

Following Phase 1A Consultation, the Preferred Option was amended in response to feedback and information received, which resulted in the identification of a Modified Preferred Option. The following section describes what changes were made and why, describing these from north to south. Figure 4, at the end of this section, provides a comparative overview of the Preferred Option and Modified Preferred Option. Note that a legend and Ordnance Survey licensing details for the inset plans can be found on Figure 4.

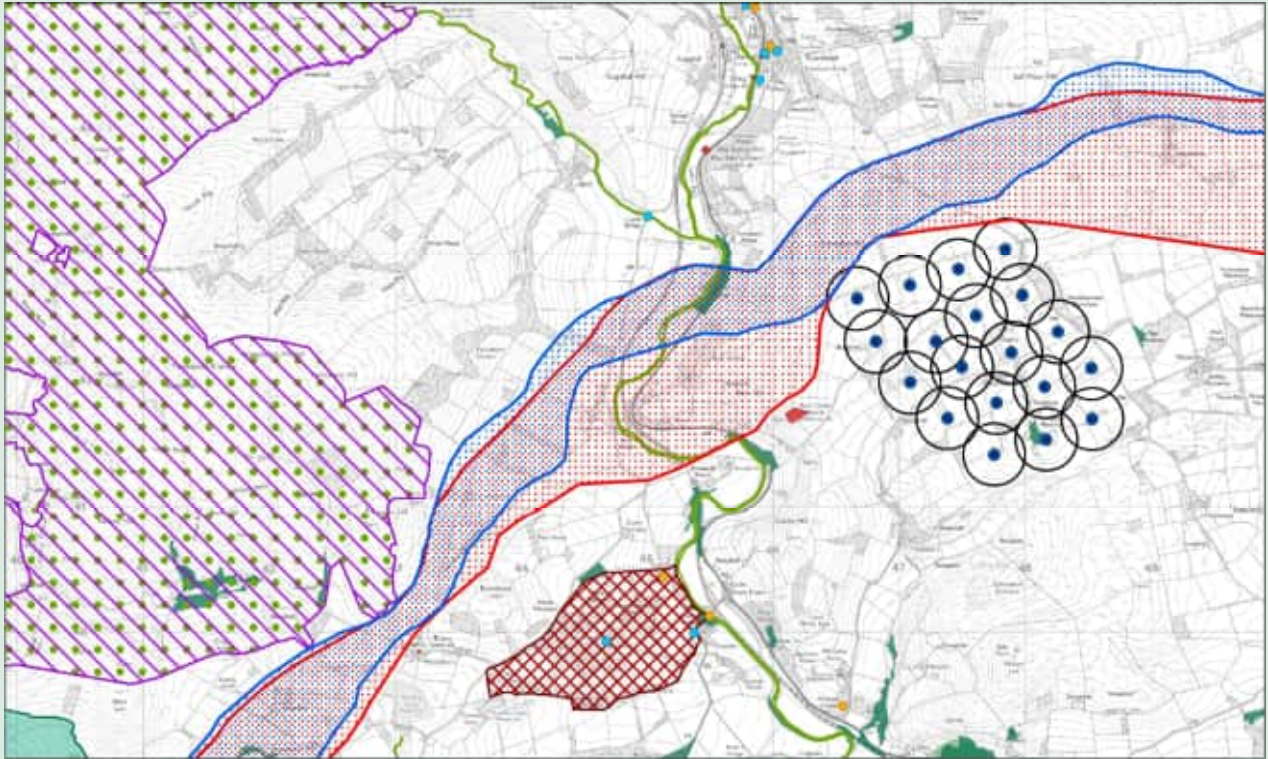
Description / Appraisal of Change	Inset Plan
<u>Route-wide</u> An update that applied universally to the Modified Preferred Option was with regard to the treatment of residential properties within the corridor. At routeing stage a 150m buffer was applied to residential properties which detailed overhead line routeing would seek to avoid. The distribution of settlement, in particular scattered rural properties, meant that some were present within the corridor which formed the Preferred Option, however, detailed overhead line routes would be designed to avoid oversailing them and maximise separation from them. In order to provide clarity, in defining the Modified Preferred Option, residential properties including the 150m buffer were ‘cut out’ of the corridor to reinforce that they would be avoided.	n/a refer to Figure 4.
<u>Proposed Gala North Substation to Torsonce Hill</u> Routeing west from the proposed Gala North Substation towards Torsonce, the Preferred Option was defined by a relatively wide corridor. This was narrowed on the southern side of the corridor removing Allenshaws from within the corridor and providing increased separation distance to it. The modification also took account of the interaction of Cross Border Connection with other future developments connecting to the proposed substation including the Dun Law Extension to Galashiels 132kV Reinforcement and the planned reinforcement between Harburn and Gala North.	

Description / Appraisal of Change

Inset Plan

Torsonce Hill to Bowshank Hill (A7 road crossing)

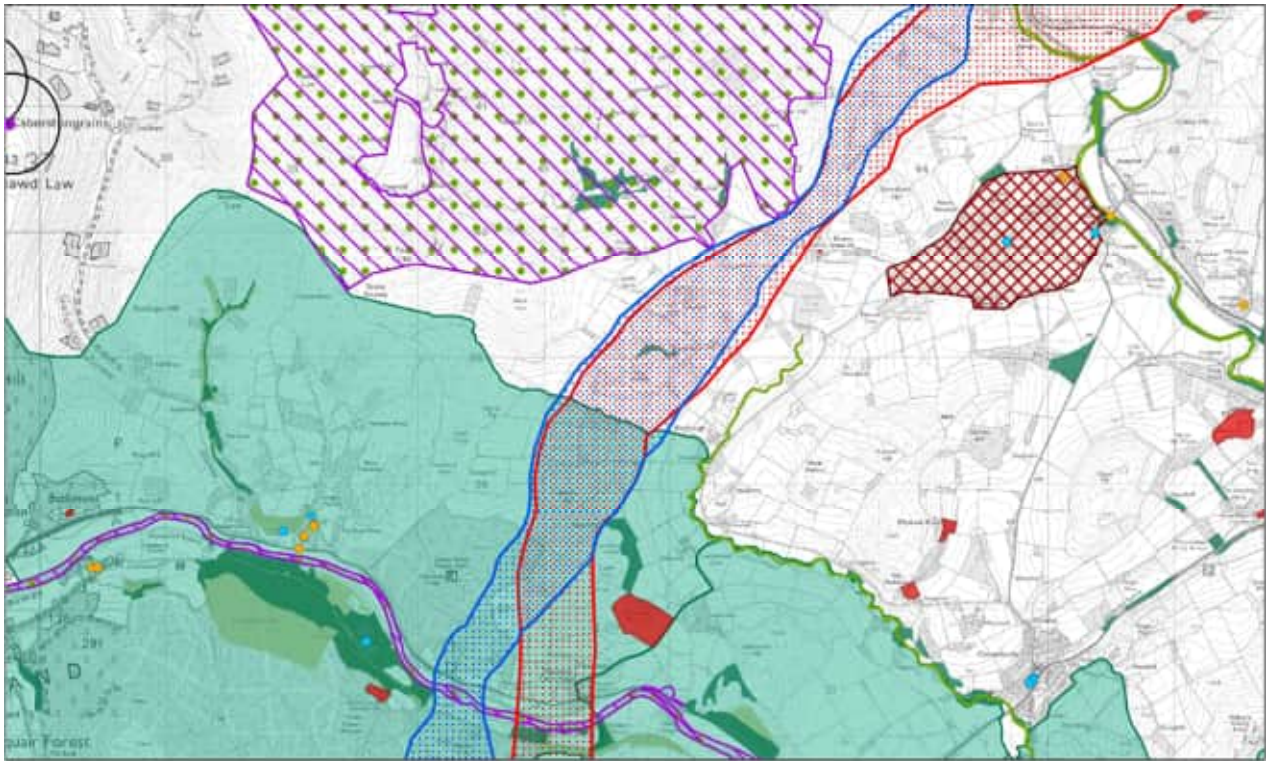
The Preferred Option was defined by a wider corridor where it crosses the A7, Gala Water and Borders Railway Line. It enabled these constraints to be crossed to either the north or south of Bow Farm. Steep hillslopes are present to the north and south of Bow Farm, however, a northern option was identified as preferable taking account of engineering constraints. The Modified Preferred Option was therefore narrowed to cross the A7, Gala Water and Borders Railway to the north between Torsonce Hill and Bow Farm. The corridor was also widened to the west of the crossing to increase the separation distance between the Modified Preferred Option and properties at Windlestraw.



Bowshank Hill (Bowland Garden and Designed Landscape) to Cauld Face

In response to feedback regarding potential impacts on the setting of Bowland Garden and Designed Landscape, the Preferred Option was narrowed and moved further west as it crosses the hillslopes behind the designation. A combination of landform and woodland in both the foreground and background as well as the slightly increased separation distance would help to reduce the prominence of an overhead line behind Bowland and impacts on its setting.

Feedback was also provided in relation to golden eagle activity in the Scottish Borders and highlighted the potential to impact on Golden Eagle within this section of the route. Based on the feedback provided the Modified Preferred Option is located on the margins of the area of potential interest. Further specialist bird surveys including for Golden Eagle will be undertaken as part of the Environmental Impact Assessment (EIA) of the Project which will inform the detailed design of the overhead line route seeking to avoid or reduce potential impacts on ornithological interests.

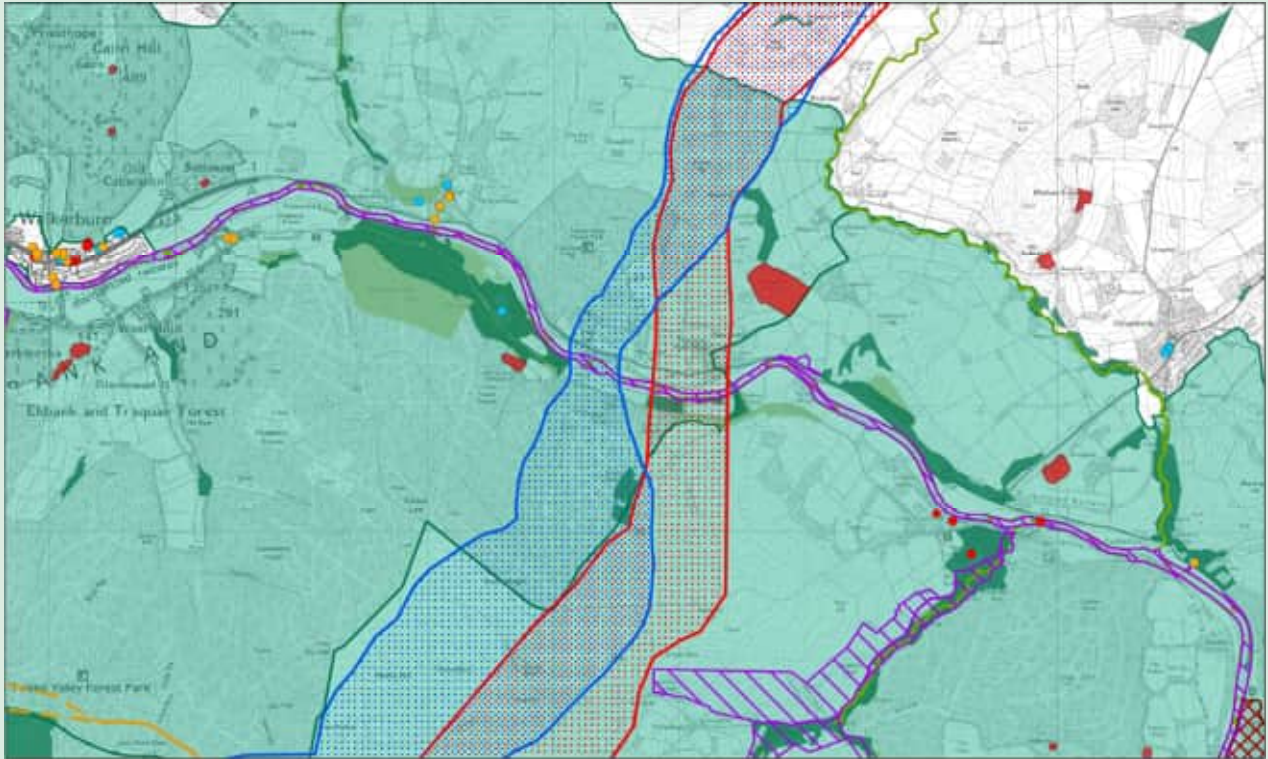


Description / Appraisal of Change

Inset Plan

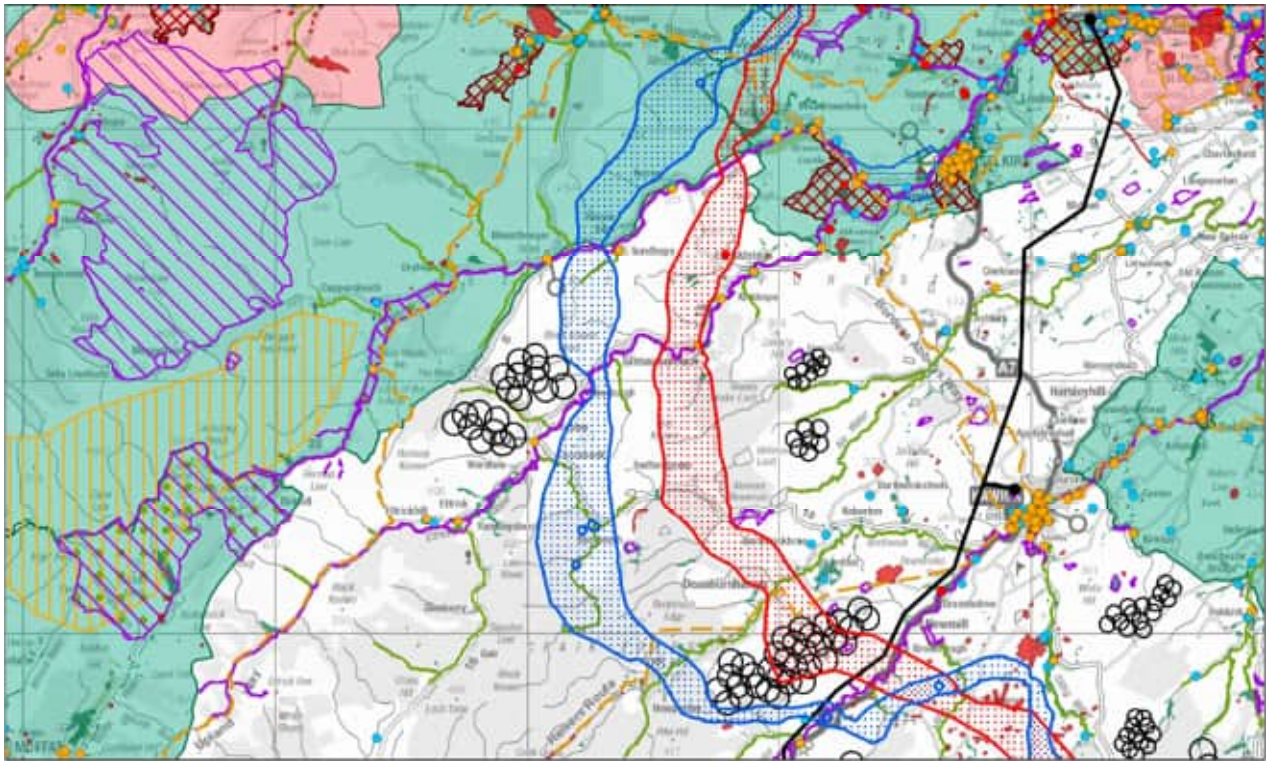
Cauld Face to Elibank Craig (River Tweed crossing)

The crossing point of the River Tweed was adjusted in response to feedback. The Preferred Option crossed to the east adjacent to a small cluster of residential properties at Thornelee but was modified to cross further to the west within or on the margins of commercial forestry. On the south side of the Tweed, the change in route corridor increases the proximity to a Elibank Castle, a scheduled monument. In order to reduce potential impacts on it as far as possible the Modified Preferred Option seeks to utilise landform and forestry cover provided by Traquair Forest.



River Tweed to the A7

From south of the River Tweed to the A7 the Preferred Option was changed in response to a combination of feedback and emerging proposals for Mid Hill Wind Farm (at preapplication (scoping) stage reference ECU00005192). It was modified to follow route options (Section B Route Options 2B, 3C and 4B) that were previously identified and assessed in the Routeing and Consultation Document as part of Phase 1A Consultation. This resulted in a significant change pushing the Modified Preferred Option further west as it is routed towards and across the Yarrow and Ettrick valleys before making a relatively sharper change of direction to cross the Teviot Water and A7. The change is described below in relation to different sections of the overall route.

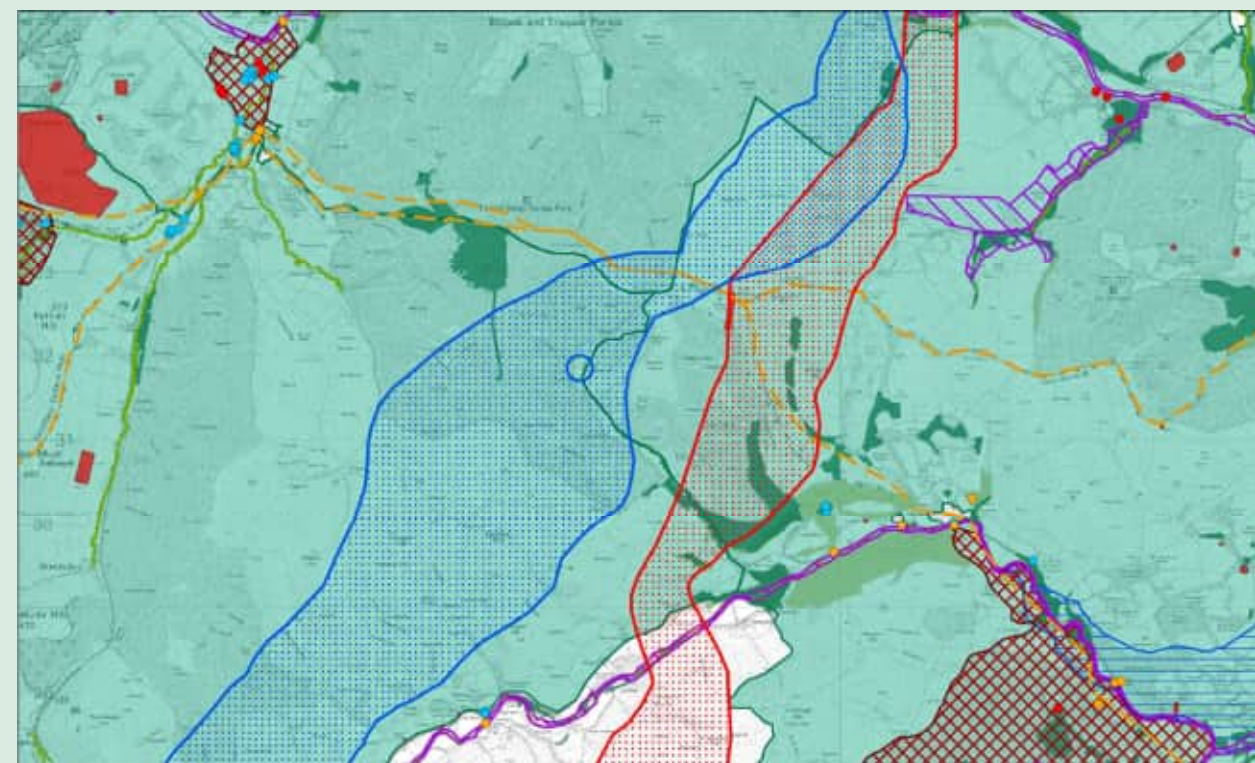


Description / Appraisal of Change

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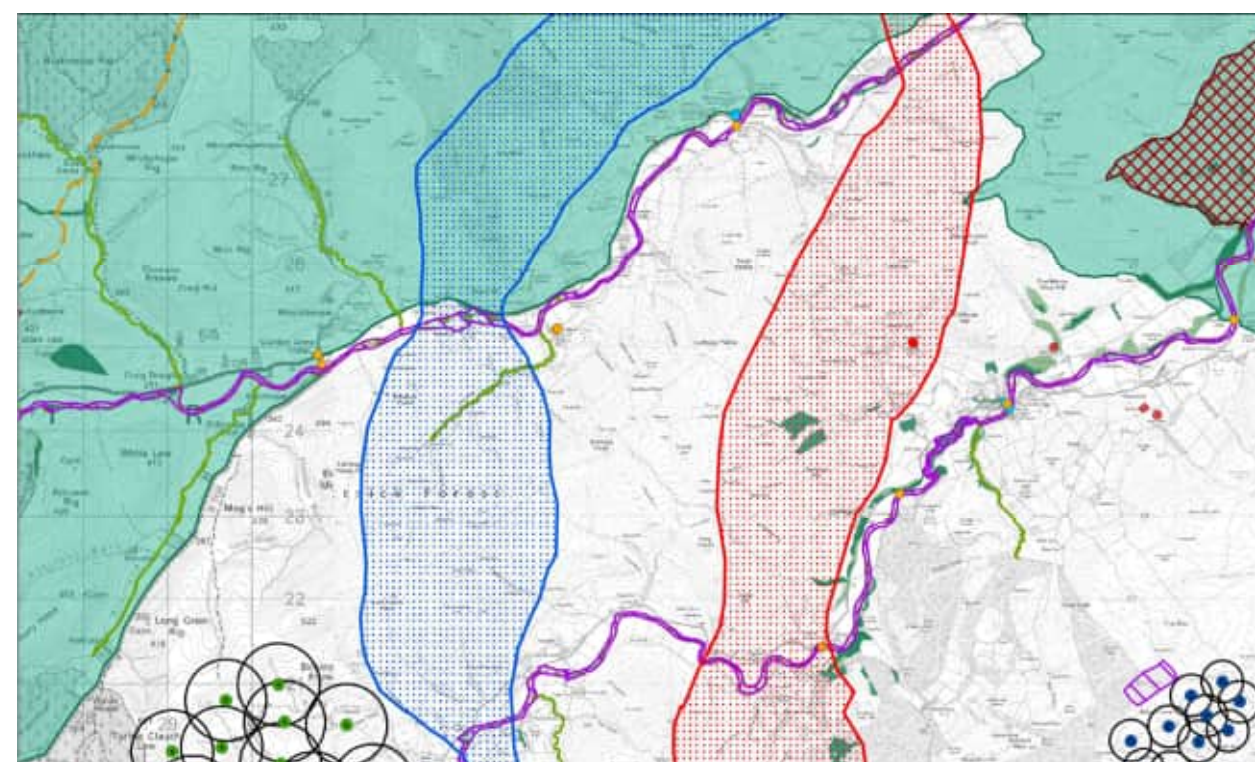
Traquair Forest to Yarrow Water

Between Traquair Forest and the Yarrow Water, moving further west increases the separation distance from scattered settlement along the A708 for a longer distance reducing potential impacts until the route corridor requires to cross the road at Feuars Hill between Mountbenger and Sundhope. This increases the overall the length of Modified Preferred Option and requires it to cross more elevated terrain compared to the original Preferred Option. Instead of crossing the Yarrow Water at Yarrowlea, the Modified Preferred Option crosses it between Mountbenger and Sundhope.



Yarrow Water to Ettrick Water

Similarly, between the Yarrow and Ettrick valleys the Modified Preferred Option was pushed further west traversing more remote and elevated areas compared to the Preferred Option which was in closer proximity scattered residential properties along the B7009. As result the Modified Preferred Option no longer crosses the Ettrick Valley at Singliehill and instead crosses to the west between Newburgh and Wester Deloraine.

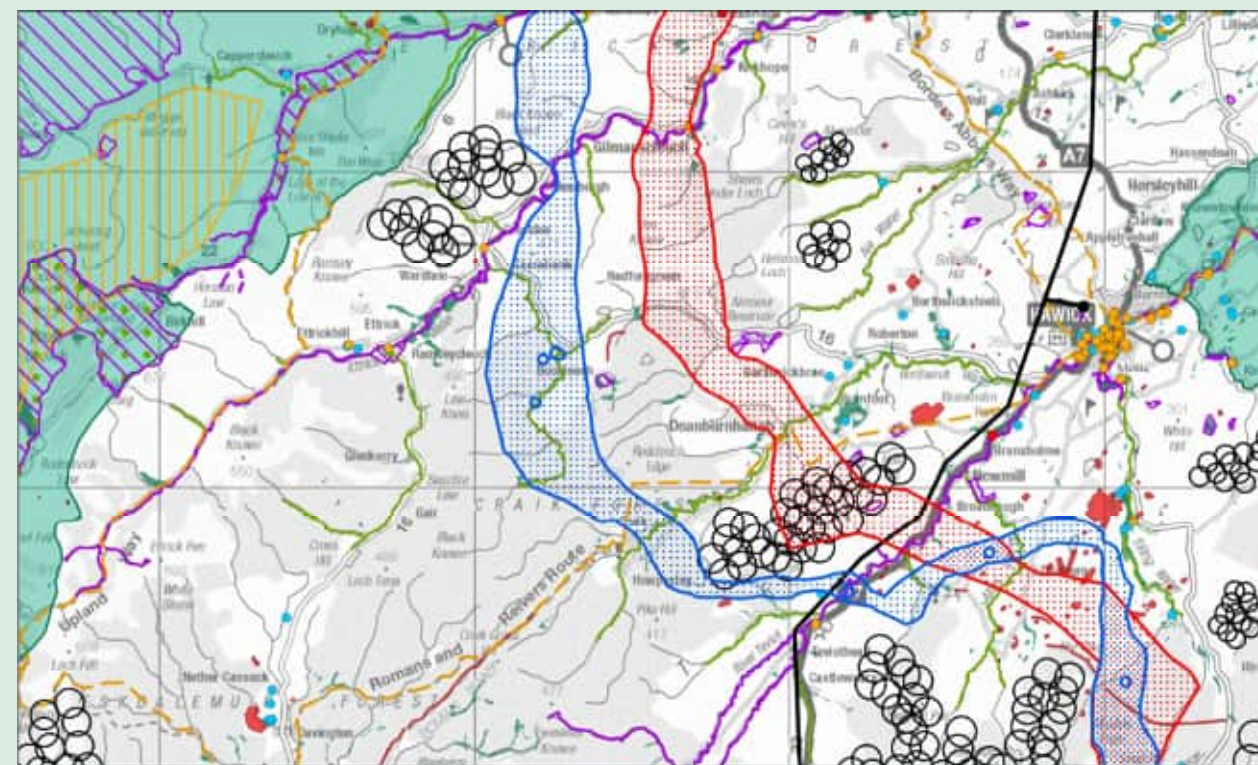


Description / Appraisal of Change

Ettrick Water to the A7

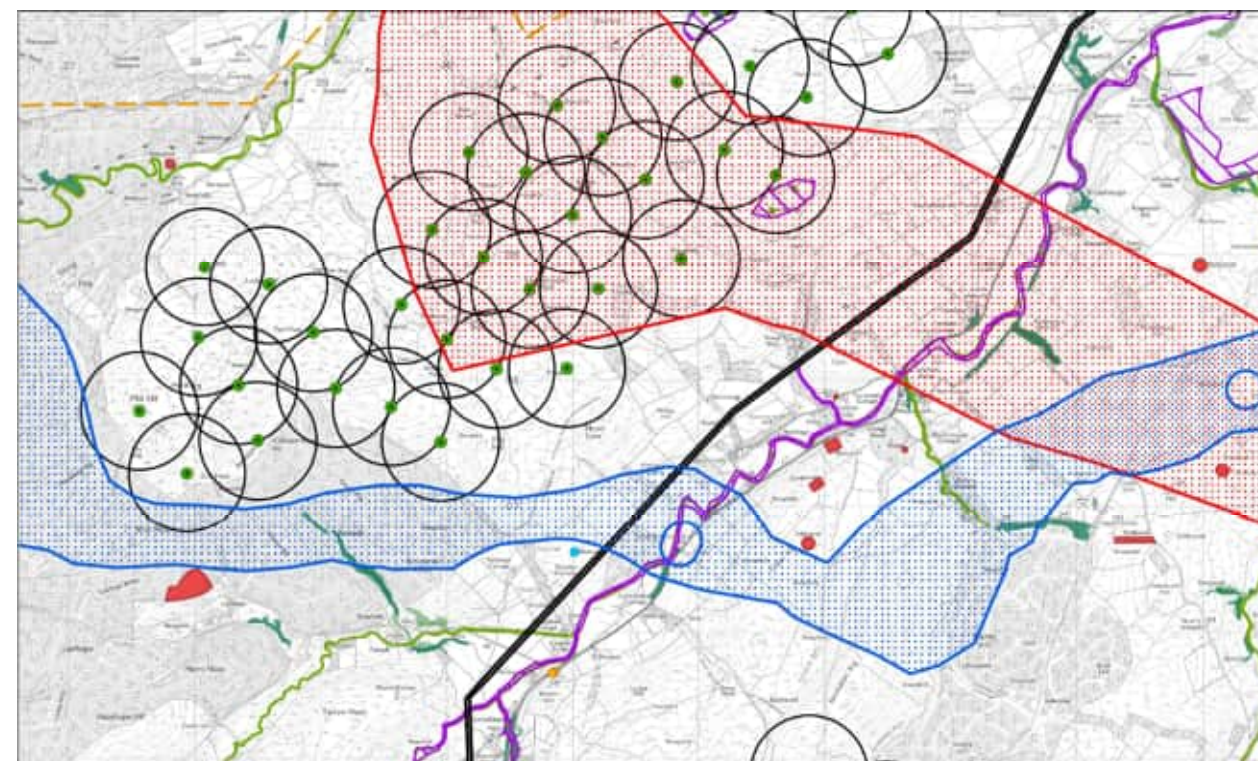
From here the Preferred Option was modified to continue further west with a larger proportion of the route passing through commercial forestry at Craik Forest. In this area the proposed Mid Hill Wind Farm extends from west to east across the Preferred Option preventing an overhead line route. By moving to the west, it avoids the wind farm and provides the opportunity to make use of commercial forestry to screen parts of the Modified Preferred Route, however, it brings the route corridor closer to settlement at Craik.

Inset Plan



A7 Crossing

In order to avoid the proposed wind farm the Modified Preferred Option is routed on its western and southern boundaries requiring the River Teviot and A7 to be crossed in a different location compared to the Preferred Option. Instead of crossing at Teinside, the Modified Preferred Option crosses slightly further south at Colterscleugh.

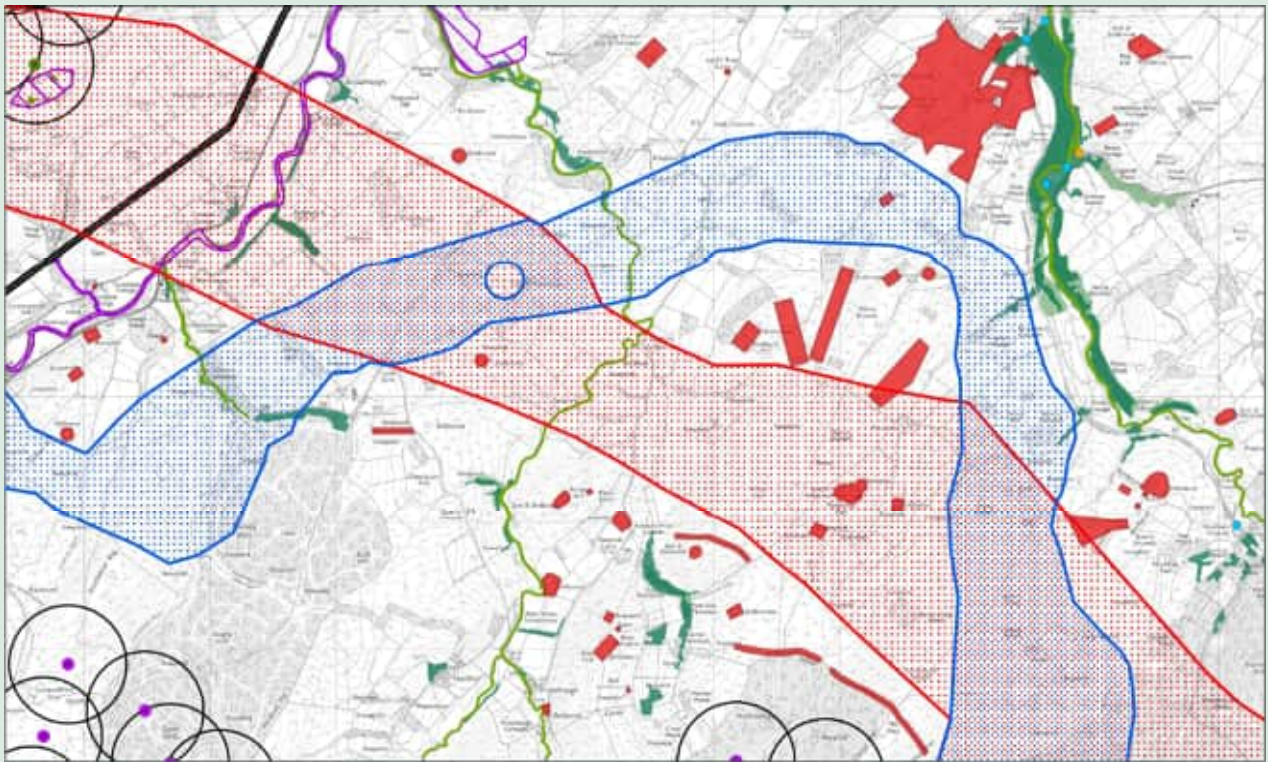


Description / Appraisal of Change

Inset Plan

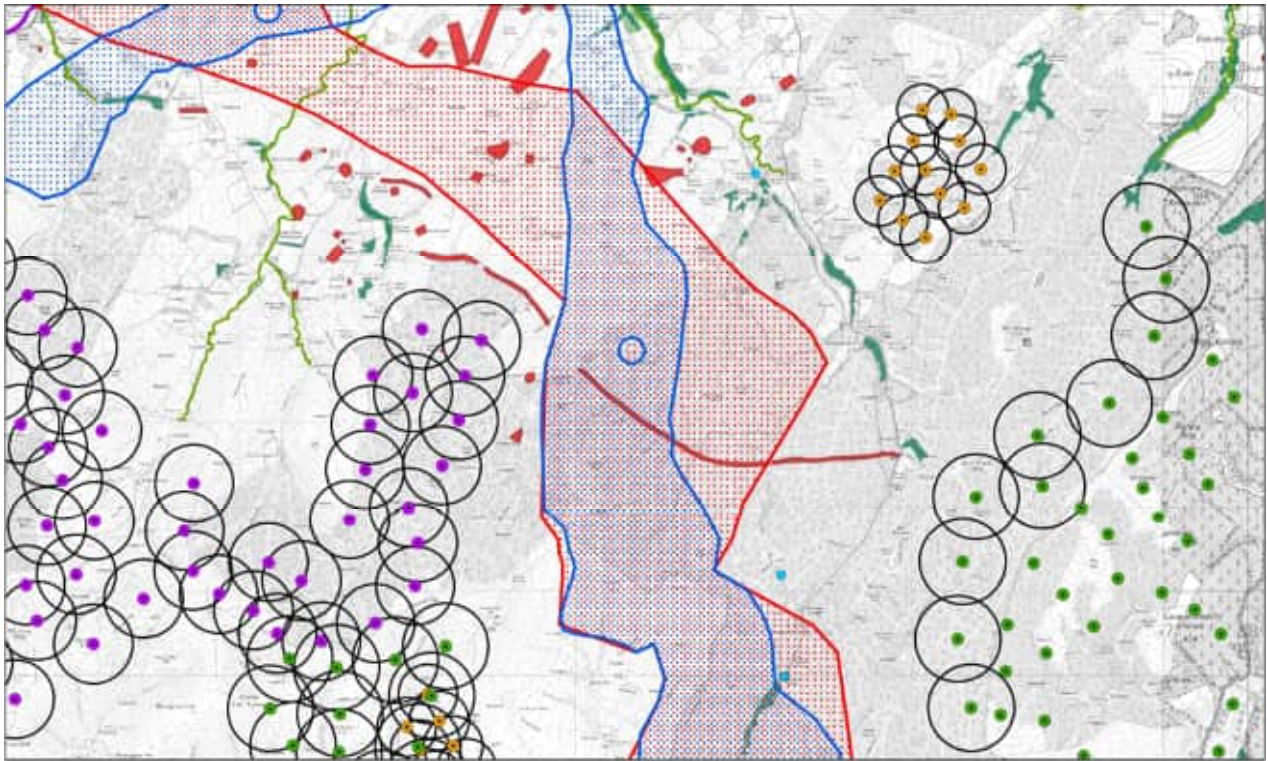
A7 to Penchrise Pen

From this location the Preferred Option was modified in response to feedback regarding potential impacts on scheduled monuments. There are a number of monuments present within the area including hill forts and earthworks thought to date back to the Iron Age, as well as more recent features such as Stobs Camp. The Preferred Option was designed to follow a more direct route through the area passing Penchrise Pen, however, as a result of feedback it has been modified. The change was identified in order to reduce the potential for setting impacts on the Iron Age features on Penchrise Pen. As a result, the Modified Preferred Option is routed northeast towards Stobbs Camp before making a sharp change of direction and continuing south to the east of Penchrise Pen. While there are scheduled monuments in this area including Stobbs Camp and associated rifle ranges, their setting was considered to be less sensitive to an overhead line than the setting of other monuments including those at Penchrise Pen.



Penchrise Pen to Teviot Substation Siting Area

Moving southwards towards the siting area for the new Teviot Substation, the Preferred Option was narrowed on its eastern side. This section was routed through commercial forestry and is wide enough that it would either pass through a 'gap' in the Catrail scheduled monument which extends east to west or span it with overhead line towers set back from the monument. While physical impacts on the monument would not occur, there is the potential for setting impacts subject to the design of the route.

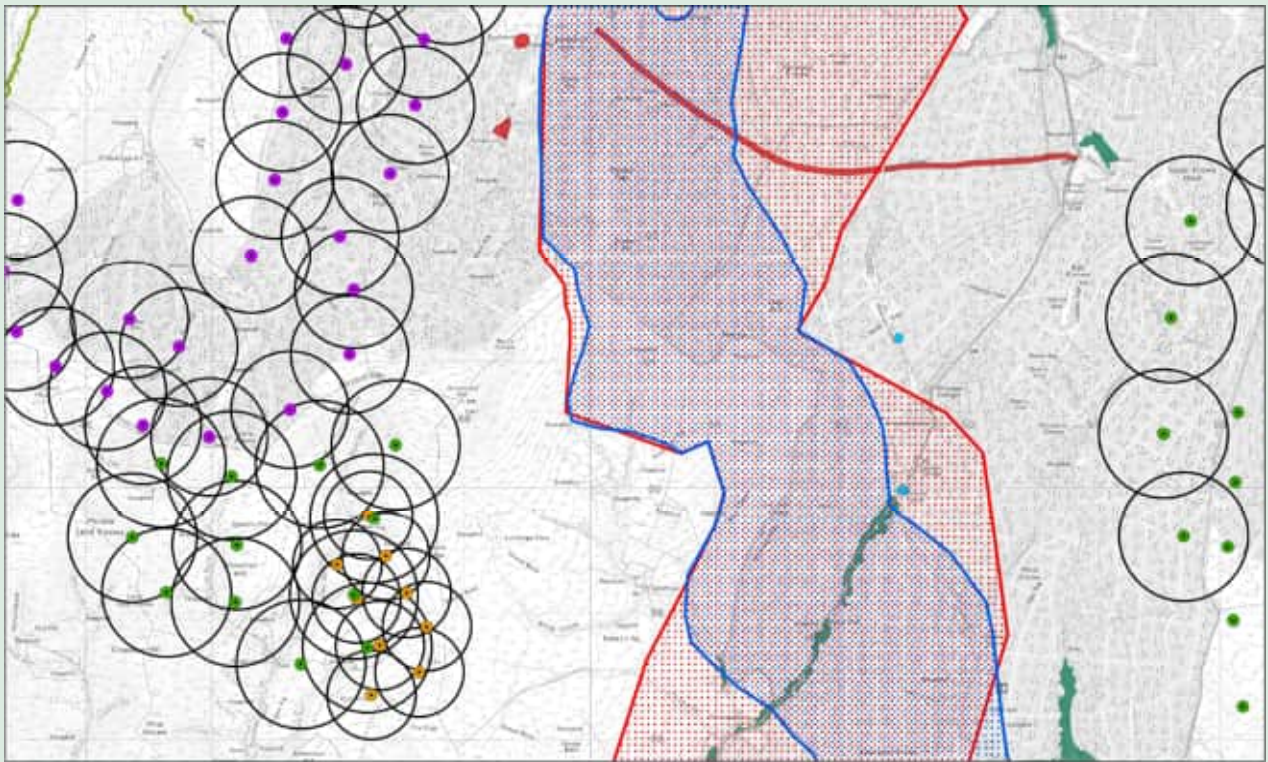


Description / Appraisal of Change

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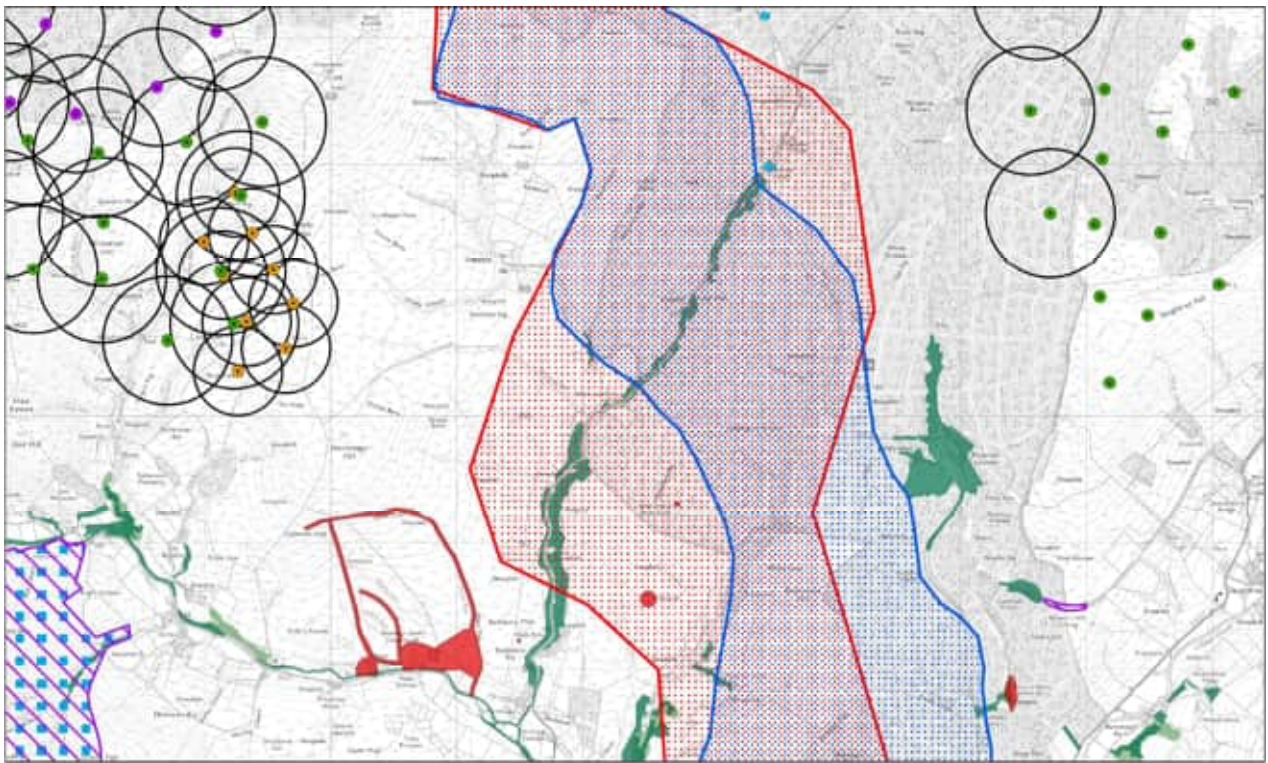
Teviot Substation Siting Area

Comments were received on the preferred location for and size of the new Teviot Substation. A larger siting area was identified in this location because it was considered to be less constrained in terms of physical landform providing some flexibility in design, however, the actual footprint of the substation is much smaller than the siting area (requiring less than 30% of the overall siting area). While the siting area is located on the margins of commercial forestry, the location utilises landform and vegetation cover to backcloth views of it. Views of the substation would generally be at distances >1km having regard to the location residential properties and roads within its vicinity. While further engineering studies are undertaken which may result in some micro-siting, the location of the new Teviot Substation in and on the margins of commercial forestry is considered to be preferable.



Teviot Substation Siting Area to Hermitage

Continuing south from the siting area for the new Teviot Substation, the Preferred Option was narrowed and extended slightly further east. This was in response to feedback in relation to potential setting impacts on Hermitage Castle, also a scheduled monument. The changes increased the distance from the corridor to the Hermitage Castle while also utilising the intervening landform to provide opportunities to avoid or reduce impacts on the setting of the Castle.

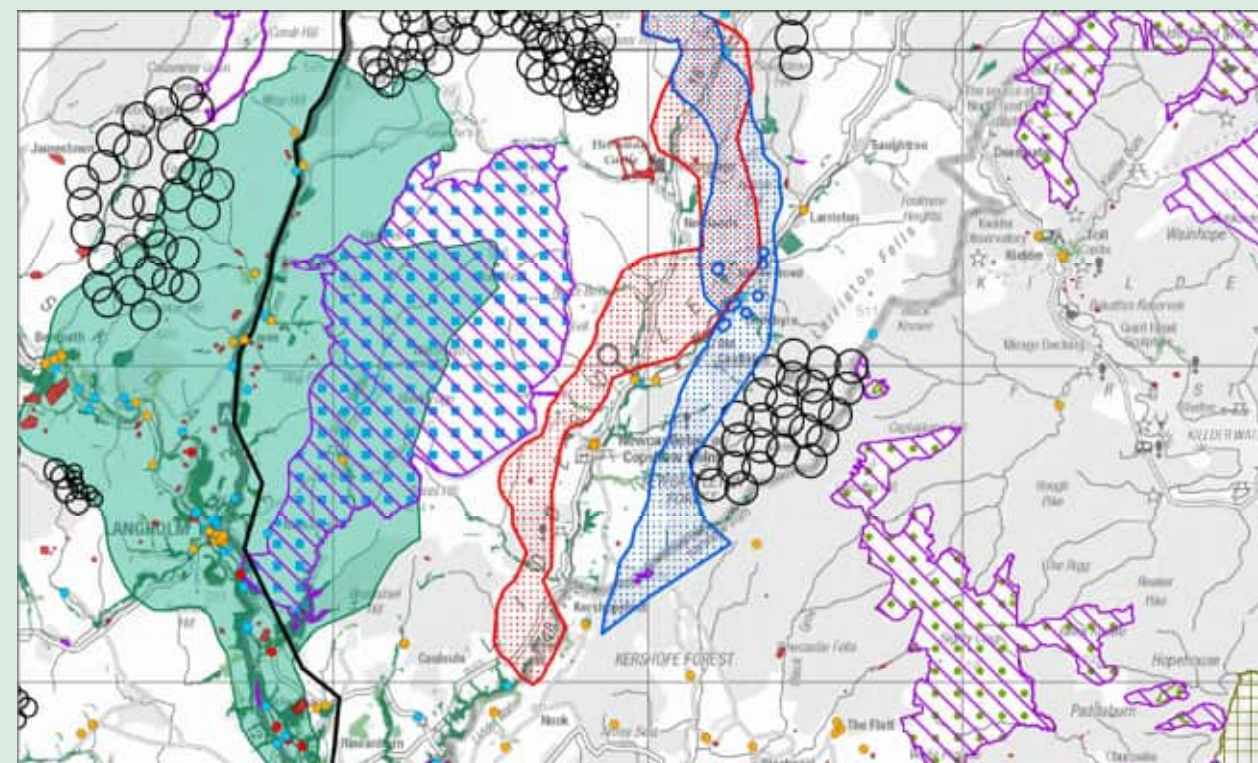


Description / Appraisal of Change

Hermitage to Scotland-England Border

The section of the Preferred Route from Hermitage to the Scotland-England border was changed in response to feedback regarding the impact of the Project on Newcastleton. The Preferred Option was routed to the west of Newcastleton, however, feedback indicated a preference for it to be routed to the east of the village adjacent to the boundary of the proposed Borders Wind Farm (at preapplication (scoping) stage reference ECU00004833) located in Newcastleton Forest. The Modified Preferred Option is located on the eastern side of the valley on the margins of commercial forestry while also taking account of layout of the proposed wind farm. This concentrates energy infrastructure on one side of the valley and removed the potential interaction of an overhead line with proposals by the Newcastle Development Trust (NDT) for recreational walking routes to the west of the village.

Inset Plan



See Figure 4 Phase 1A Consultation Preferred Option and Phase 1B Consultation Modified Preferred Option

Sheet 1

See Figure 4 Phase 1A Consultation Preferred Option and Phase 1B Consultation Modified Preferred Option

Sheet 2

See Figure 4 Phase 1A Consultation Preferred Option and Phase 1B Consultation Modified Preferred Option
Sheet3

See Figure 4 Phase 1A Consultation Preferred Option and Phase 1B Consultation Modified Preferred Option

Sheet 4

See Figure 4 Phase 1A Consultation Preferred Option and Phase 1B Consultation Modified Preferred Option

Sheet 5

See Figure 4 Phase 1A Consultation Preferred Option and Phase 1B Consultation Modified Preferred Option

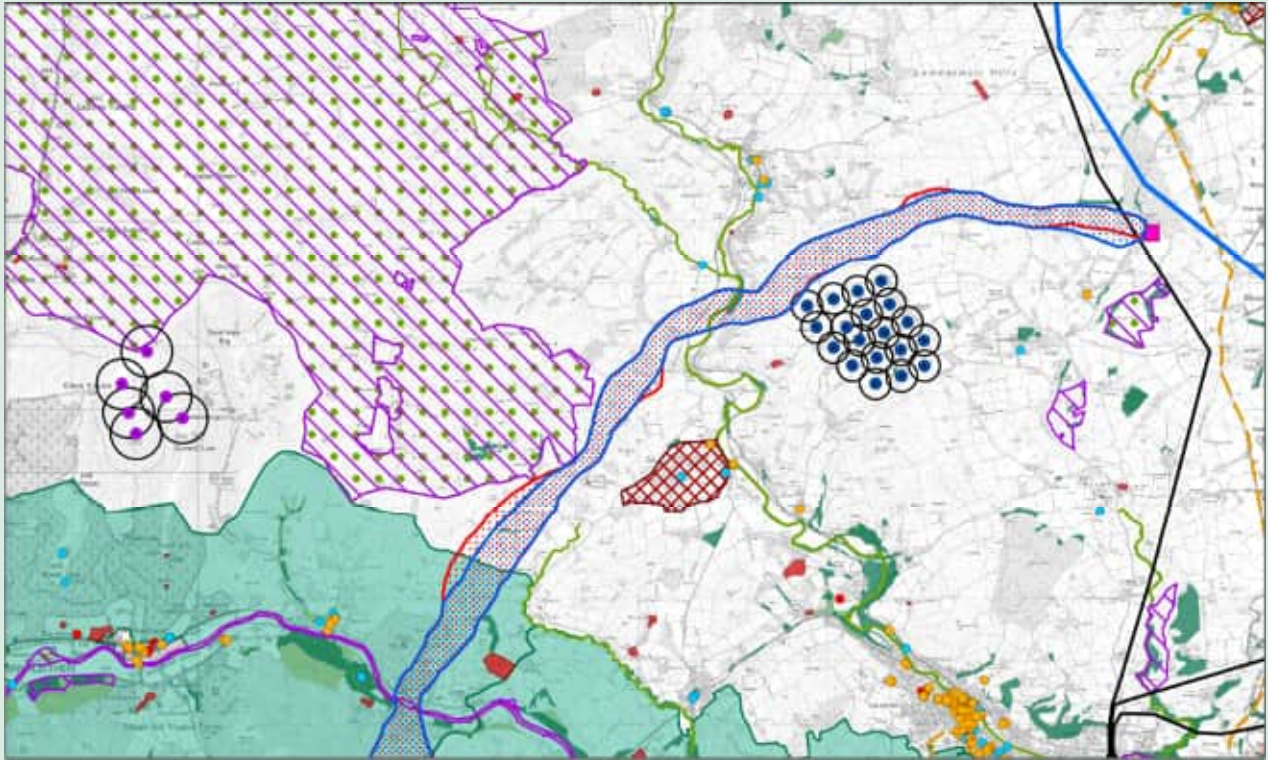
Sheet 6

See Figure 4 Phase 1A Consultation Preferred Option and Phase 1B Consultation Modified Preferred Option

Sheet 7

3.3 Phase 1B Consultation 2025

Following Phase 1B Consultation, the Modified Preferred Option was amended in response to feedback and information received which resulted in the confirmation of the Proposed Option. The following section describes what changes were made and why describing these from north to south. Compared to those changes made in response Phase 1A Consultation, the changes are typically much smaller scale. Figure 5, at the end of this section, provides a comparative overview of the Modified Preferred Option and Proposed Option. Note: A legend and Ordnance Survey licensing details for the inset plans can be found on Figure 5.

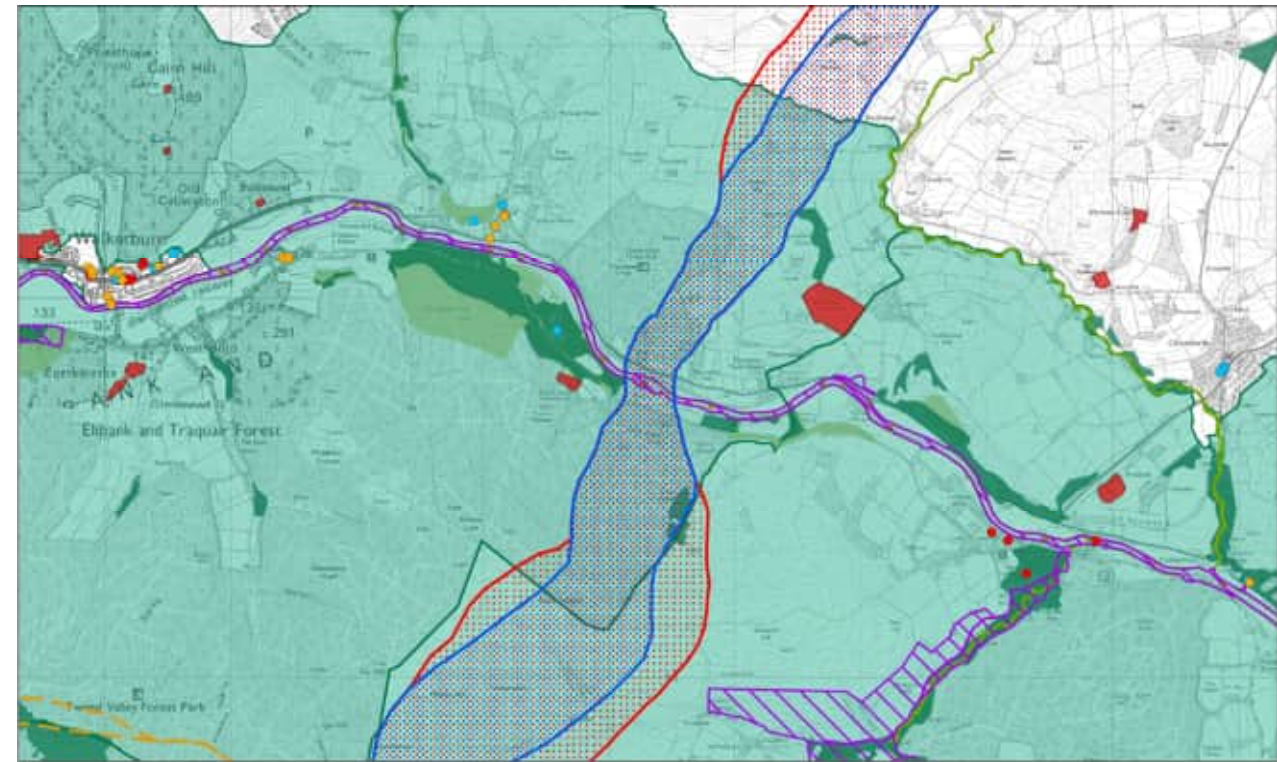
Description / Appraisal of Change	Inset Plan
<u>Proposed Gala North Substation to River Tweed</u> Between the proposed Gala North Substation the River Tweed, the Proposed Option is the same as the Modified Preferred Option with the exception of some localised widening immediately west of the substation. This is to provide some flexibility in developing the detailed overhead line route in response to other planned projects connecting to or in the vicinity of the substation.	

Description / Appraisal of Change

Inset Plan

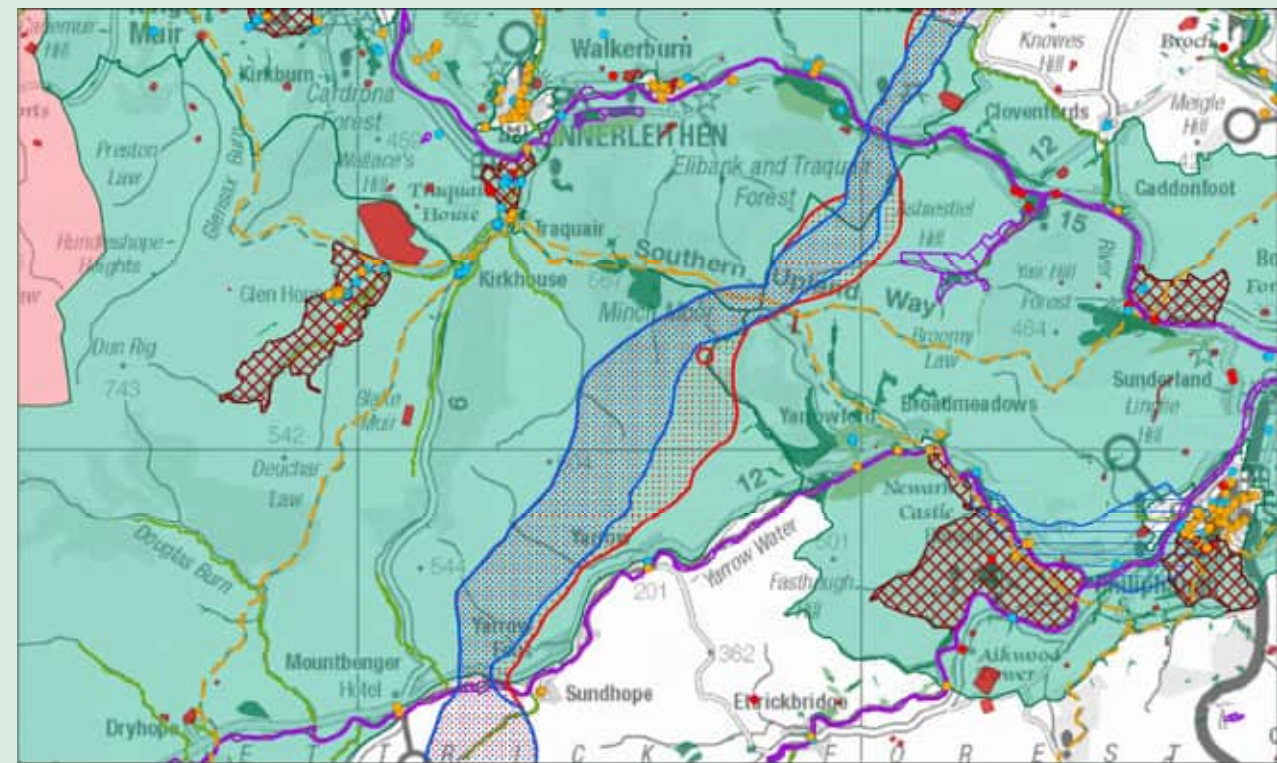
River Tweed Crossing

While there was feedback with regard to the location of the crossing of the River Tweed and potential impacts on residential properties and the setting of Elibank Castle, no changes were made in identifying the Proposed Option. There are no alternatives without moving the Proposed Option east and closer to residential properties that were previously being impacted by the Preferred Option or moving further west and impacting properties additional residential properties as well as routeing through Ancient Woodland Inventory sites for approximately 900m and requiring to clear a wayleave. On balance the Proposed Option provides scope to develop an overhead line route across the River Tweed while reducing impacts on residential properties at Thornielee and Elibank Castle through careful routeing as much as possible. To the north and south of the Tweed existing forestry and/or landform provides some opportunities to integrate an overhead line, however, spanning the valley itself some impacts would be unavoidable.



River Tweed to Yarrow Water

Moving south of the River Tweed the extent of the corridor which defines the Proposed Option has reduced in width from that of the Modified Preferred Option. The principal constraints through this section relate to engineering factors such as elevation and slope angle. The eastern/southern extent of the corridor has been reduced further increasing the distance between the Proposed Option and scattered settlement along the A708 including Yarrow and Yarrow Feus. The corridor has also been narrowed to the north of the Yarrow crossing with the eastern side reduced. While it is technically feasible to route across Feuars Hill it is preferable to cross to the western side of the corridor avoiding the steeper landform to the east.



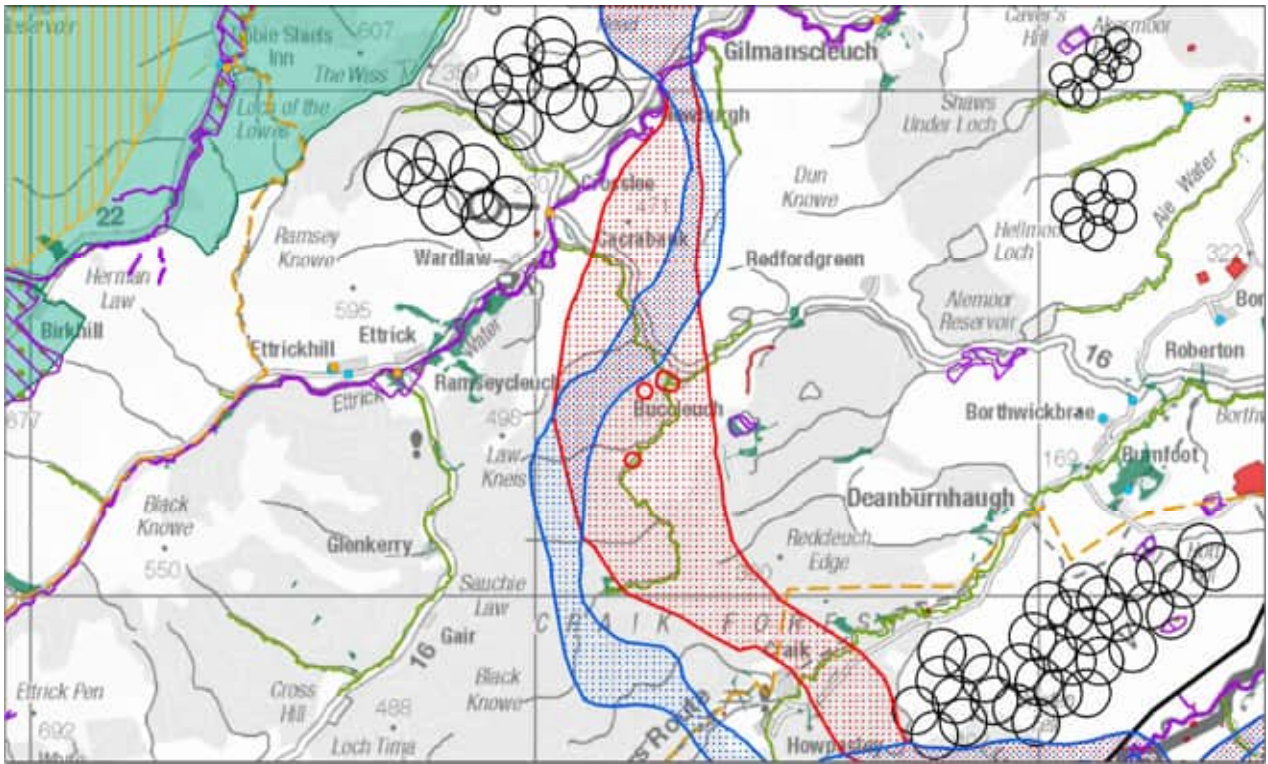
Description / Appraisal of Change

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Ettrick Water to Borthwick Water

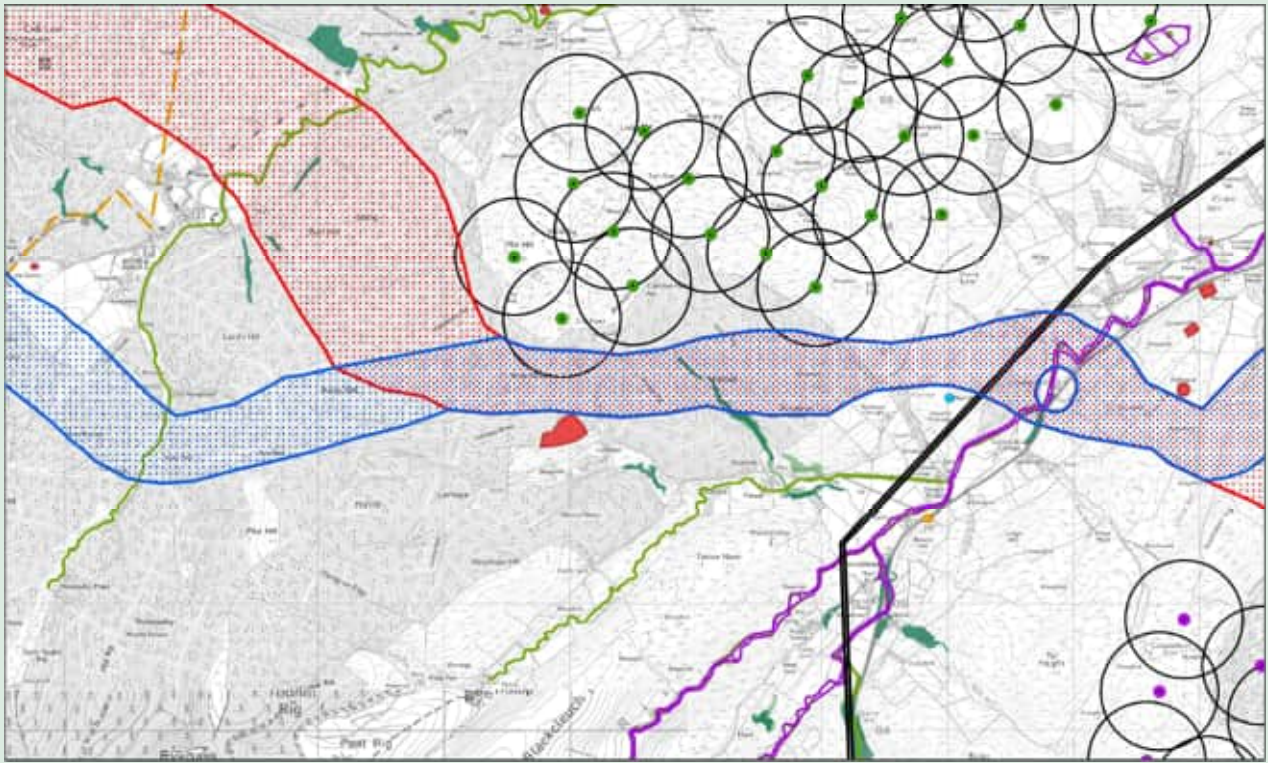
Moving south of the Ettrick Water the Proposed Option has been amended in response to feedback from Phase 1B Consultation. On its western side the corridor has been narrowed increasing the separation distance from scattered residential properties along the B7009. The corridor has also been widened along the eastern boundary providing opportunities to make more use of the east-facing slopes of hills including Cop Law, Muckle White Hill and Little White Hill.

In response to feedback regarding the impact on properties at Buccleuch and Craik, the Proposed Option is routed southwest to Craik Forest and then south and southeast within the commercial forestry. The Proposed Option lies to the west of the Modified Preferred Option through this area. While this slightly increases the overall route length, the Proposed Option lies to the west of Craik routing past it entirely within commercial forestry responding to feedback in this area. Approximately 1km south of Craik the Proposed Option changes direction heading eastwards to the River Teviot and A7 crossing.



Borthwick Water to A7 Crossing

The crossing point of the River Teviot and A7 has not changed from that identified as part of the Modified Preferred Option. In response to feedback, SP Energy Networks did consider an alternative crossing point located further south. This continued southeast from Craik Forest across Rashy Hill, Mid Hill and Hazelhope Hill before crossing the River Teviot and the unclassified road to Merrylaw before turning east and crossing the A7 south of Teviothead at Castleweary. Technical constraints associated with crossing the existing 132kV overhead line while routeing across steep slopes meant this alternative was not taken forward.

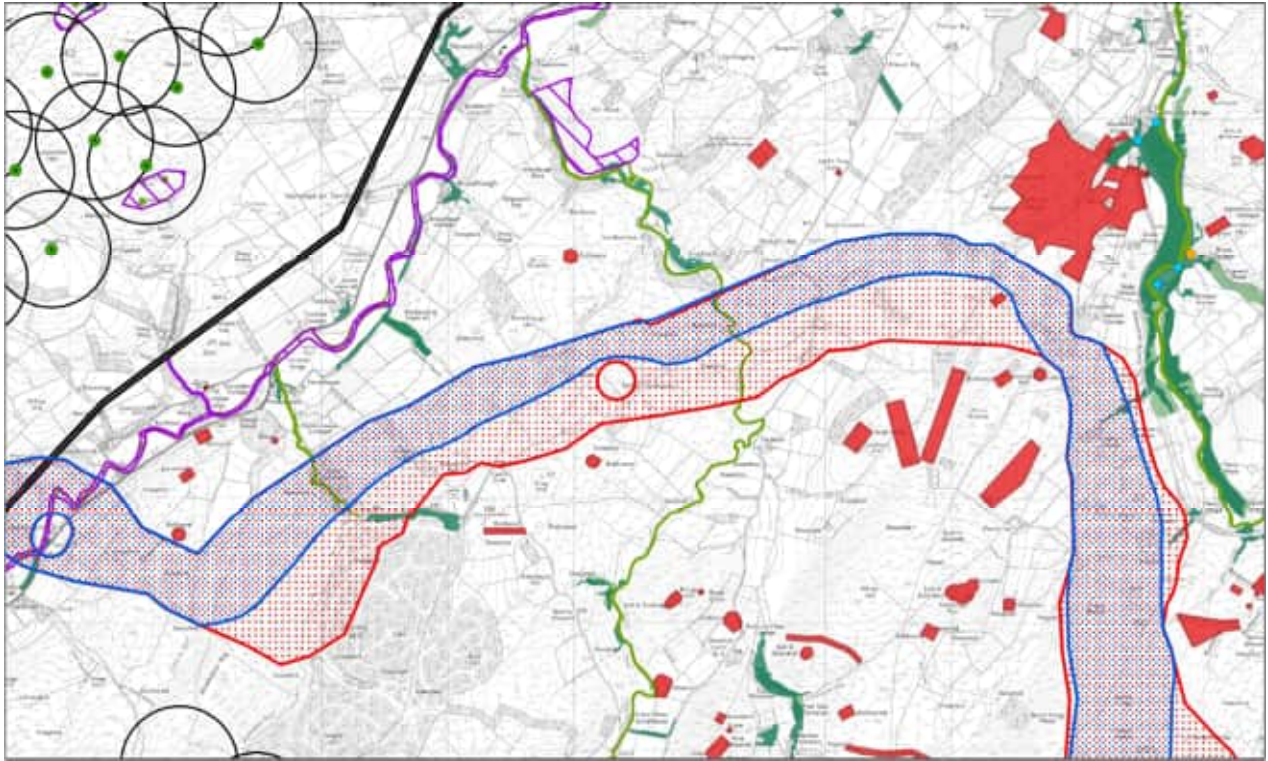


Description / Appraisal of Change

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A7 Crossing to Stobs Camp

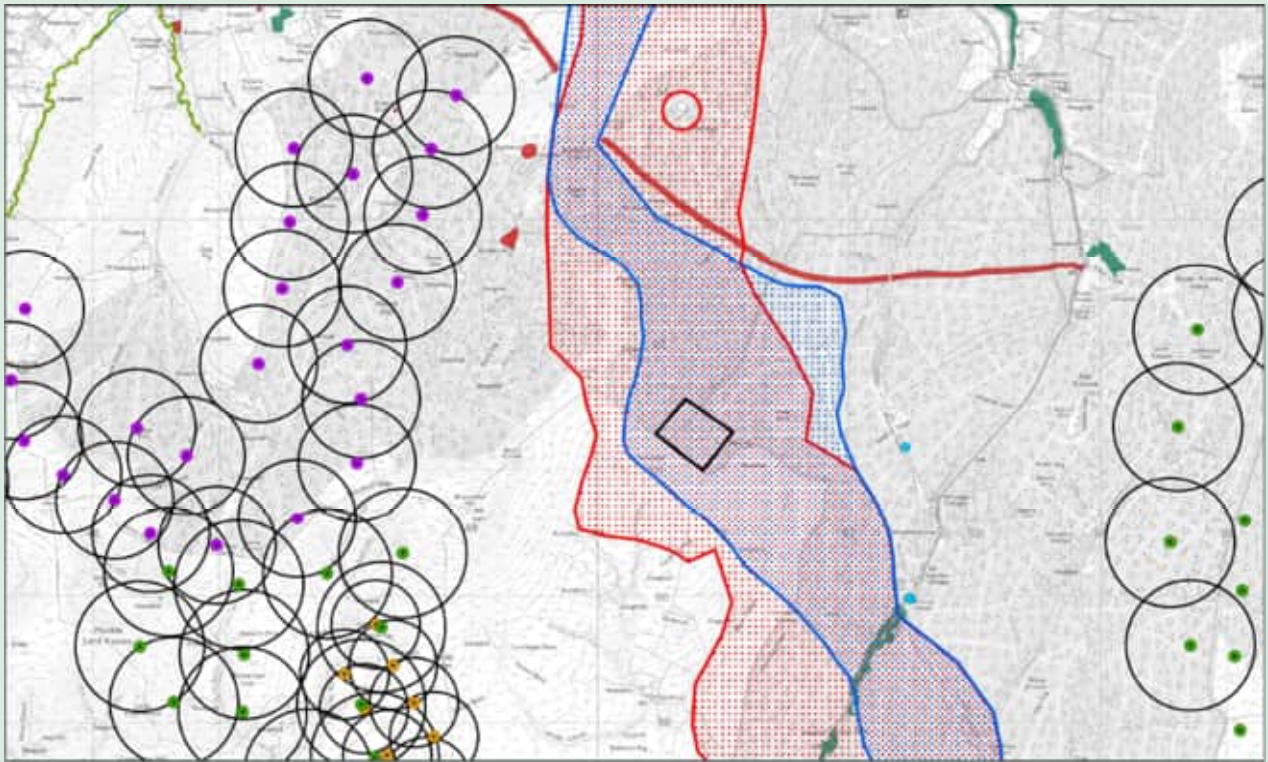
Moving east/northeast towards Stobs Camp the Proposed Option follows the same corridor as the Modified Preferred Option. To the south of Stobs Camp feedback has highlighted the presence of three potentially inter-related scheduled monuments comprising a fort east of Barnes Burn, a settlement west of Newton Hill and hillfort on the top of Newton Hill. The fort at Barnes Burn lies within the corridor with the other features lying to the south outside of it. Given the number and distribution of scheduled monuments in the wider area it is not possible to avoid all of them and some setting impacts are likely. In order to preserve the setting and interrelationship between the three monuments identified above, the Proposed Option has been narrowed so that it is routed to the north of fort at Barnes Burn. While this remains in proximity to the fort it avoids crossing the intervening area between it as the settlement and hillfort at Newton Hill.



Teviot Substation Siting Area

The Proposed Option follows the same corridor as the Modified Preferred Option towards the siting area for the new Teviot Substation within/on the margins of the commercial forestry at Whitrope with the exception of where it crosses the Catrail. In this location the corridor has been narrowed to cross through the 'gap' in the scheduled monument and no longer includes scope to span it.

The location for the new substation has not been modified. As the technical design of the new substation is developed ongoing consideration will be given to micro-siting opportunities to achieve a balance of environmental, technical and economic considerations. Any change to the location of the proposed substation will be communicated to stakeholders and communities via localised consultation.

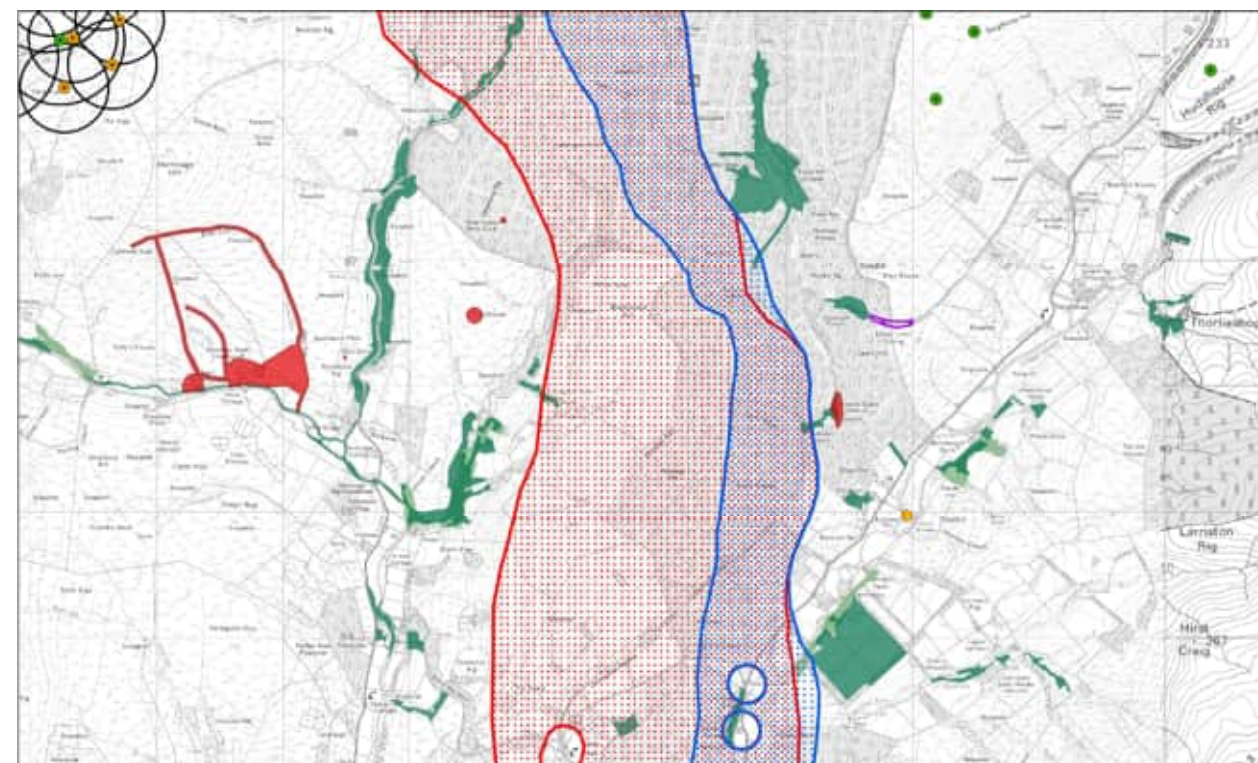


Description / Appraisal of Change

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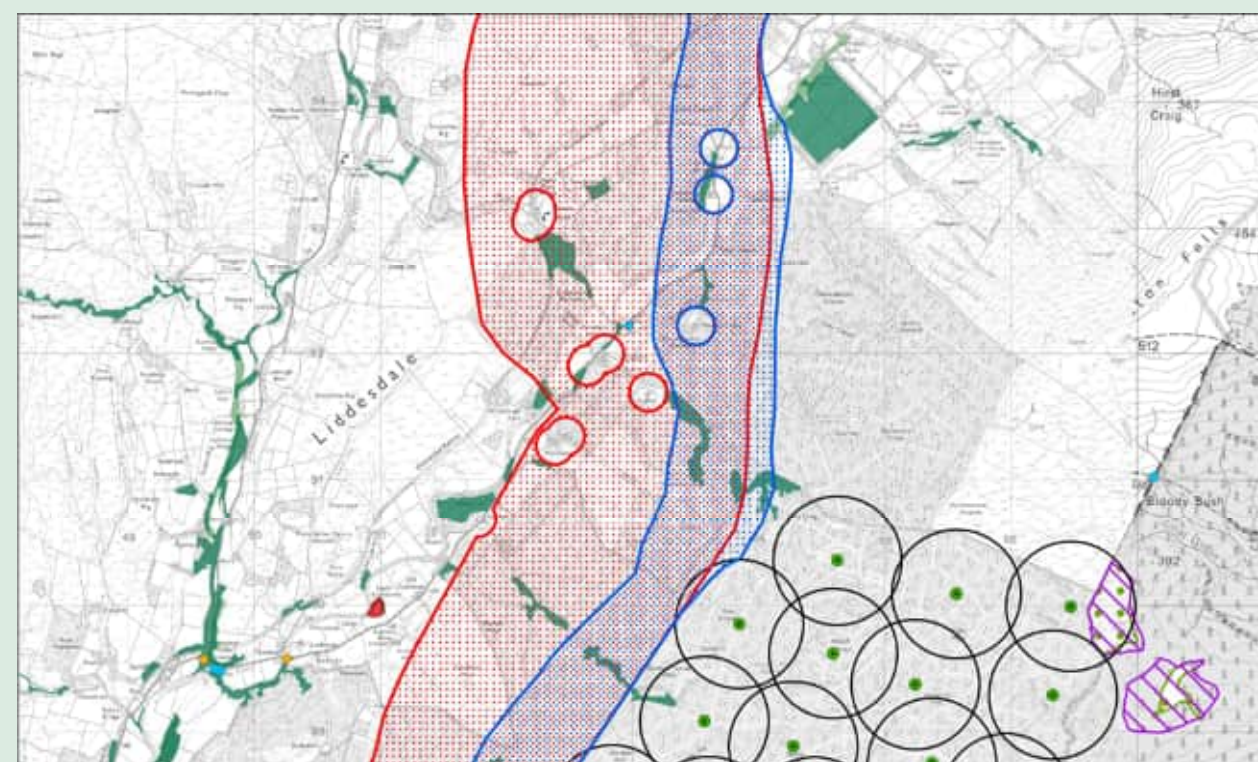
Teviot Substation Siting Area to the B6357

From south of the substation siting area, the Proposed Option has been narrowed as it approaches and then crosses the B6399. The corridor has been narrowed on the western side responding to feedback regarding the potential for setting impacts on Hermitage Castle. The Proposed Option is routed further to the east of Blackwood Hill and Arnton Fell with a combination of distance, intervening landform and forestry preventing setting impacts on Hermitage Castle. Continuing southwards to the B6357 a large proportion of the Modified Preferred Option has been removed as part of the process of identifying the Proposed Option.



B6357 to Newcastleton Forest

South of the B6357 the Proposed Option has been widened to the east to provide greater separation distance from the scattered settlement present along the road while to the west it has been narrowed containing the route to the upper slopes to the east of Newcastleton adjacent to the proposed Borders Wind Farm. Some feedback highlighted the presence of mountain biking tracks within the commercial forestry. The extent of these tracks is such that they cannot be fully avoided and may require to be spanned by the overhead line, however, this would not prevent their ongoing use.



See Figure 5 Phase 1B Consultation Modified Preferred Option and Proposed Option

Sheet 1

See Figure 5 Phase 1B Consultation Modified Preferred Option and Proposed Option

Sheet 2

See Figure 5 Phase 1B Consultation Modified Preferred Option and Proposed Option

Sheet 3

See Figure 5 Phase 1B Consultation Modified Preferred Option and Proposed Option

Sheet 4

See Figure 5 Phase 1B Consultation Modified Preferred Option and Proposed Option

Sheet 5

See Figure 5 Phase 1B Consultation Modified Preferred Option and Proposed Option

Sheet 6

See Figure 5 Phase 1B Consultation Modified Preferred Option and Proposed Option

Sheet 7

4. The Proposed Option and Next Steps

4.1 Development of the Proposed Option

As described in the introduction of this report, SP Energy Networks takes a three-phase approach to the development and consenting of its major infrastructure projects such as the Cross Border Connection. Phase 1 has comprised a routeing and siting study and concludes with the identification of the Proposed Option described in this report. Through this phase of developing the Scottish components of the Cross Border Connection a number of alternative route options between the proposed Gala North Substation and the Scotland-England border as well as alternative sites for the new Teviot Substation have been considered and subject to consultation with a range of statutory and non-statutory consultees as well as local communities.

Two rounds of consultation have been undertaken as the Proposed Option has evolved in response to feedback. While not all feedback received has resulted in amendments, alternatives have been considered as far as is reasonably possible taking account of SP Energy Networks statutory duties and licence obligations and informed the identification of the Proposed Option illustrated in Figure 6 and described below.

4.2 The Proposed Option

The Proposed Option has increased in length from around 80km at the start of Phase 1A Consultation to now approximately 96km. Much of this increase in length has been as a result of modifications made in response to feedback as well as avoiding proposed wind farm development which has emerged over the course of consultation. It is located entirely within the Scottish Borders until it reaches the Scotland-England border and crosses over into Cumberland, England in NGET's licence area.

As illustrated in Figure 6, it is routed west for a short distance from the proposed Gala North Substation before turning routeing southwest and crossing the Gala Water approximately 1.5km south of Stow. West of the Gala Water, the Proposed Option is routed in a south/southwestern direction crossing the River Tweed to the east of Innerleithen and continuing in southwestern direction until it crosses the Yarrow Water between Mountbenger and Sundhope. The Proposed Option then continues broadly south crossing the Ettrick Water and continuing towards Craik Forest. At the Borthwick Water the Proposed Option turns southeast and continues eastwards crossing the River Teviot and the A7 to the north of Teviothead at Colterscleugh. East of the A7, the Proposed Option follows an eastern/northeastern route before making a sharp change of direction at Stobs Camp and heading south to the new Teviot Substation siting area. The siting area is located on the margins of commercial forestry providing opportunities to integrate it within the forestry as well as provide supplementary planning to screen wider views of it. From the substation siting area the Proposed Option is routed south/southeast crossing the B6399 and B63577

towards Newcastleton Forest. It is then routed along the eastern slopes to the Liddel valley to the east of Newcastleton crossing the Scotland-England border east of Kershopefoot.

4.3 Next Steps

Phase 2 of SP Energy Network's approach to Cross Border Connection comprises Environmental Impact Assessment (EIA). In Scotland, the Project will be subject to EIA under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The EIA process will identify, assess and, as far as possible mitigate the likely significant adverse effects of Cross Border Connection on the environment. The EIA will be undertaken in parallel with developing the overhead line alignment within the Proposed Option in order to maximise opportunities to avoid and reduce adverse effects.

The EIA process comprises several steps starting with scoping and concluding with the production of an EIA Report (EIAR) which will accompany the application for consent. The Proposed Option will form the basis of a Scoping Opinion request to the Scottish Ministers. Their Scoping Opinion will formally set out the scope of and the approach to the EIA including the baseline surveys to be undertaken, assessment methods to be used as well as how the results of the EIA are presented. Through the EIA the Proposed Option will be further refined with a detailed overhead line alignment, details of the proposed Teviot Substation as well as temporary construction requirements all identified. During Phase 2 SP Energy Networks will also undertake a second round of public consultation (referred to as Phase 2 Consultation) on the detailed design of the Scottish components of Cross Border Connection providing further opportunity to provide feedback on the design.

It should be noted that pre-application consultation activities, either Phase 1 which has completed or Phase 2 which is to be undertaken in future, do not remove the right or potential requirement for interested parties to comment on the section 37 application once submitted to the Scottish Government.

An overview of anticipated timeline and main activities up to submission of an application for consent are set out below:

- Q1 2026 – EIA Scoping
- Q3 2026 – Round 2 Consultation
- Q1 2027 – Design Freeze
- Q3 2028 – Section 37 Application
- Q4 2029 - Construction

At the time of writing NGET are preparing for their Stage 1, non-statutory consultation on the section of the Cross Border Connection in England. While the routeing processes have been undertaken independently, SP Energy Networks and NGET have been closely engaging on progress on both sections. Upon conclusion of the NGET Stage 1 Consultation, the two organisations will work closely to ensure alignment of routes and ultimately alignment of the overhead lines.

See Figure 6 Proposed Option

Sheet 1

See Figure 6 Proposed Option

Sheet 2

See Figure 6 Proposed Option

Sheet 3

See Figure 6 Proposed Option

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See Figure 6 Proposed Option

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See Figure 6 Proposed Option

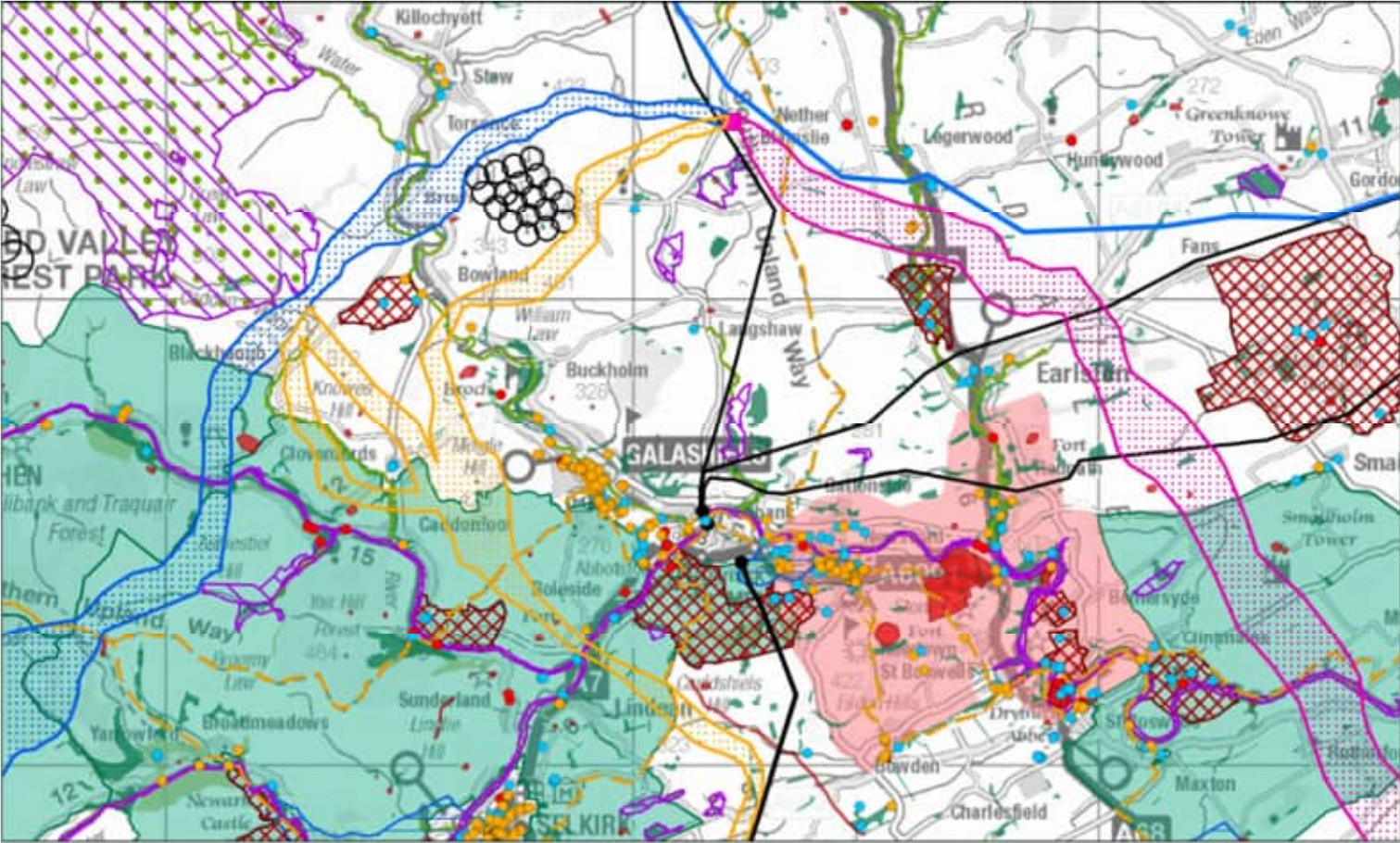
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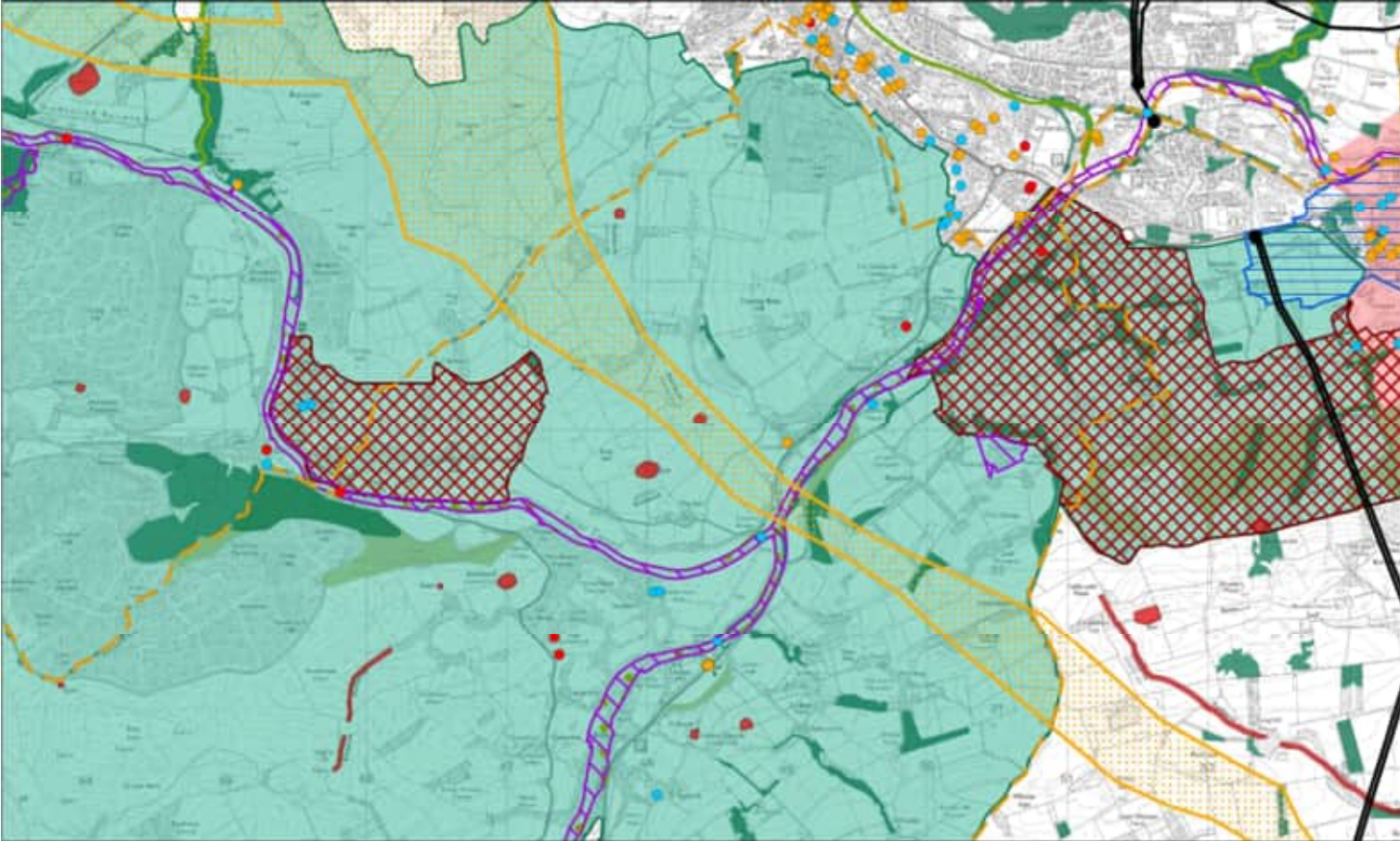
See Figure 6 Proposed Option

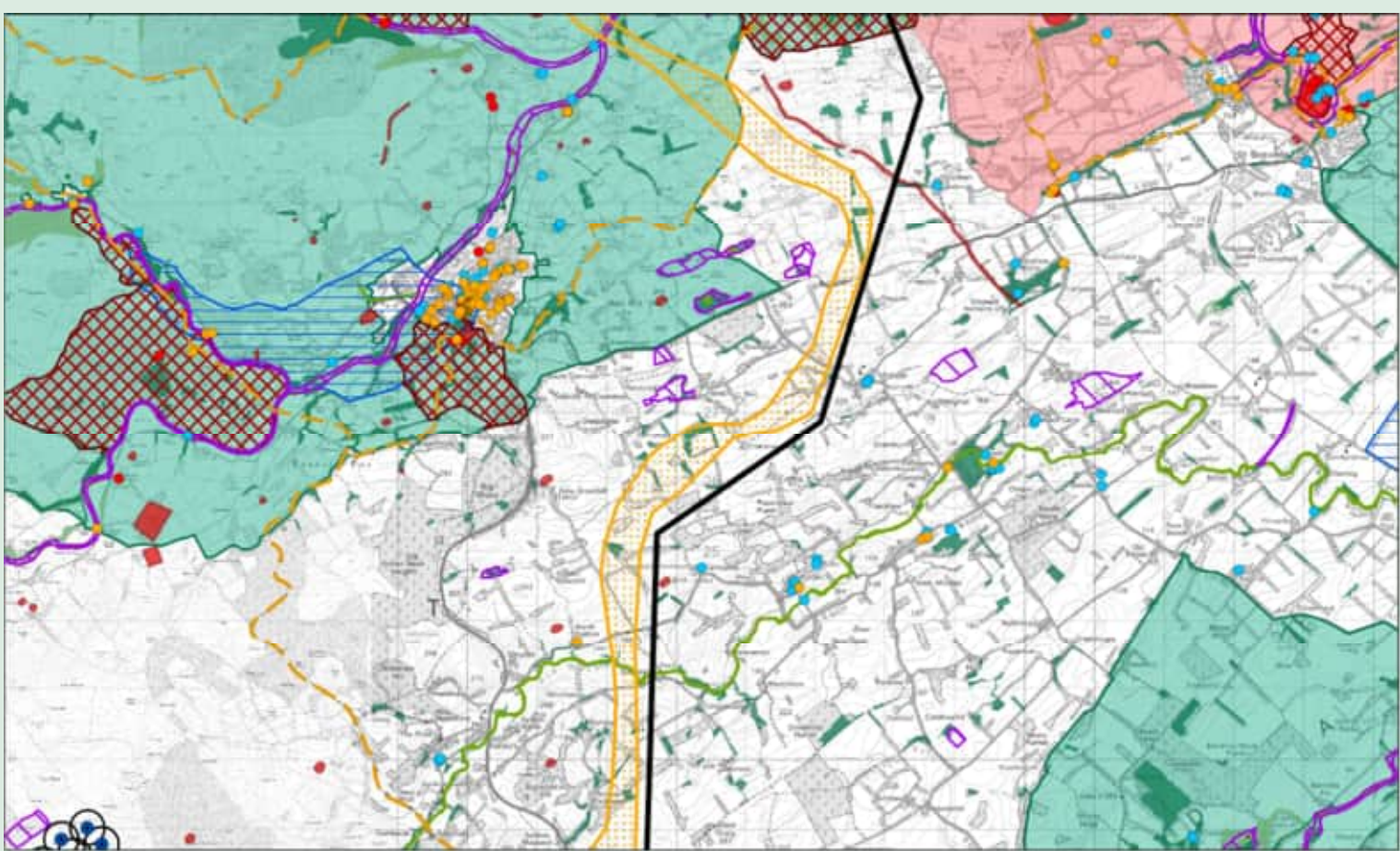
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Appendix A Alternative Route Option

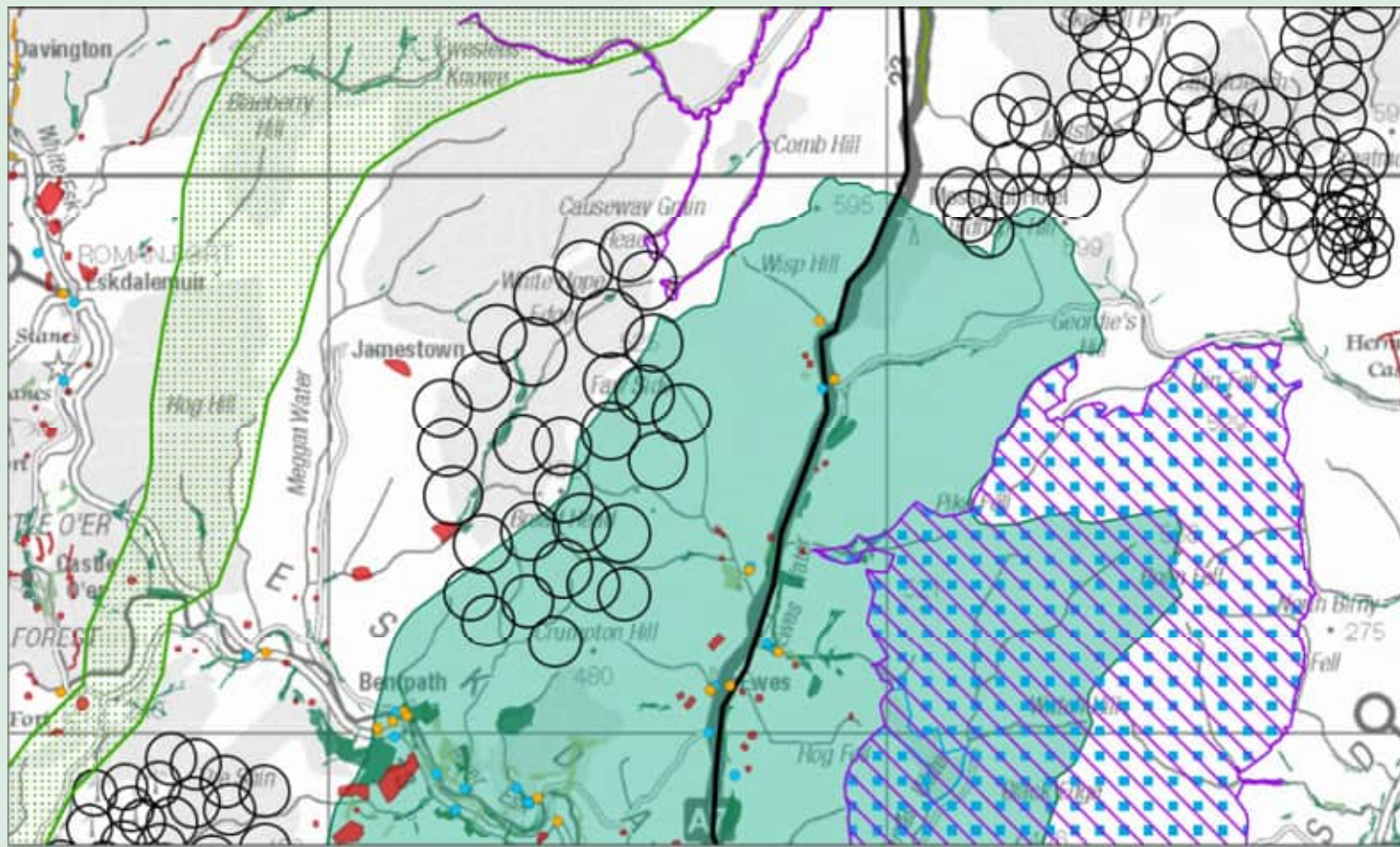
The following table and plans describe and illustrate the factors influencing an alternative route option following the A7. References to sections/route options relate to the terms used in the Routeing and Siting Consultation Document (2024).

Description / Appraisal	Image
A direct route south from the proposed Gala North Substation following the A7 or towards the A7 south of Galashiels is not feasible because of the extent of settlement along the Gala Water valley in this area. While they are relatively narrow, the settlements of Galashiels, Tweedbank and Melrose form an almost continuous area of west to east settlement for approximately 9-10km. East of the more urban part of the valley lies the Eildon and Leaderfoot National Scenic Area (NSA) which is considered to be an area of the highest environmental value and therefore should be avoided. As a result there are considered to be only two options from the proposed Gala North Substation consistent with the options previously consulted on: • An eastern option (Section A Route Option 4). This is considered less preferable on landscape grounds which is consistent with the previous appraisal. This is in the setting of the NSA and crosses the Tweed Lowlands Special Landscape Area (SLA). The landscape in this section has comparatively less capacity to accommodate a new OHL due to its characteristics which exhibit a strong intact field pattern with woodland and rolling landform forming an attractive combination and foreground to views of the Eildon Hills. Notwithstanding this would require a longer and much less direct route to get ‘back’ to the A7 route option due to the need to avoid the NSA as well as take account of its potential impacts on its setting. • A western option comprising two sub-options, either: a. Following the Preferred Option (within Section A Route Option 2b) which is to the west of Long Park Wind Farm (highlighted in blue opposite), b. A slightly shorter alternative to the east of Long Park Wind Farm (within Section A Route Option 2a) (highlighted in green opposite). On the basis that only a western option coming out of Gala North Substation is preferable owing to the landscape constraints on the eastern option, then in the context of an A7 option the sub-option to the east of Long Park Wind Farm (highlighted in green) would be slightly preferable as it is shorter overall. This is because the western option would require to turn east/southeast and wraparound Bowland Garden and Designed Landscape with increased potential to impact on the designation and its setting or take a longer, less direct route and partly/fully utilise the previous route option (Section A Link 2b to 2a) before requiring to turn east running parallel across the valley crossing the A72 and B710 between Clovenford and Caddonfoot to Meikle Hill. The shorter eastern option would traverse Mains Hill to the north of Clovenfords and cross the A72 in a southern/southeastern direction to Meikle Hill, just east of the A72.	

Description / Appraisal	Image
From this location the alternative A7 route option would be required to cross the prominent hills that separate the Gala Water and the River Tweed (including Meigle Hill, Mossilee Hill, Hog Hill and Mount Skep) in order to reach the A7 as it comes out of the south of Galashiels. An overhead line route would form a prominent feature in views from the north and/or south as it traverses this area noting that it also lies within the Tweed, Ettrick and Yarrow Confluences Special Landscape Area (SLA). While the preferred option crosses the Tweed Valley SLA and part of Tweed, Ettrick and Yarrow Confluences SLA it largely does so in a more direct fashion and avoids or provides opportunity to reduce landscape effects on the SLA as well as wider visual effects. The A7 option is less direct and would increase impacts on the SLA due to the route it follows across prominent landform, extending the visibility of the overhead line and resulting in more widespread visual effects. The alternative route option would continue east/southeast towards the A7 crossing the road at the confluence of the River Ettrick and River Tweed. To the west of the A7 the route would descend Rink Hill. Rink Hill Hillfort Scheduled Monument occupies two discrete areas; the nature of the landform and surrounding receptors including Fairnilee and Abbotsford Garden and Designed Landscapes, residential properties including Cascade House (a listed building) and ancient woodland to the east of the A7 constraint routeing in this area such that the overhead line would either be routed between the parts of Rink Hill hillfort severing its setting or be directly adjacent to Cascade House affecting its setting and also crossing a narrow band ancient woodland which could require some tree removal. Overall, the section from the A72 to the A7/River Tweed is significantly constrained by a combination of sites of the highest environmental value and increased potential for and extent of landscape and visual impacts.	

Description / Appraisal	Image
The scale, nature and distribution of constraints in this area prevent an option directly following the A7. This includes settlement on the margins of the road such as Lindean and Selkirk as well as individual or small groups of properties scattered more widely within the landscape moving further east and south. A number of ecological designations including Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSIs) are also present including Whitlaw Mosses and Whitlaw Rig SSSI and components of Whitlaw and Branxholm SAC. A scheduled monument (hillfort) is also present on Bell Hill. While in isolation these constraints occupy relatively small areas and could be avoided their distribution would significantly affect the directness of an overhead line. As a result these constraints combine to push the route option further east towards the existing 132kV overhead line (known as 'V route'). Subject to detailed routeing a new overhead line in this location would be within 100-300m of V route. The landscape in this upland fringe area exhibits some characteristics which increase its sensitivity to overhead lines including the diversity of landscape scale, pattern and the individual hills which form prominent points in views. There are opportunities to parallel V route from north of the A699 to the point where V route crosses the A7, however, in some areas crossed by the alternative option this would result in a concentration of wirescape within a low-lying landscape within which there are a number of scattered individual properties with potential for extensive impacts on visual amenity over a large area. This would be exacerbated to some extent by the difference in the heights of towers where there are in close proximity to each other (Cross Border Connection – c.50m and V route c.30m). The landscape in the more wooded upland fringe valley is of higher sensitivity due to the smaller scale and more intimate and enclosed character. The proximity to V route does pose a technical constraint requiring a separation distance of tower height plus 10% (i.e. 50m plus 5m and 30m plus 3m – 88m. For the purposes of routeing a minimum separation of 100m has been assumed. For much of this section the maximum separation that could be achieved between V route and the new 400kV OHL is between 300 and 400m until the route reaches a crossover point on the A7 southeast of Ashkirk. There are areas where existing properties and V route create significant pinchpoints such as to the west of Midlem or east of Ashkirk.	

Image

Description / Appraisal	Image
For completeness the alternative to intercepting and following the preferred option and crossing the A7 to Whitrope would be to re-locate the proposed Teviot Substation to the west of the A7 into Craik Forest area and from this point pick up the western options previously considered through Dumfries and Galloway area (Section D Option 3, Option 4a or 4b and Option 5 through the eastern extents of Dumfries and Galloway) to the Scotland-England border. This would require a significant change in the location of the substation which would increase the length of customer connection requirements for contracted customers at Teviot and Borders Wind Farms. Alternative substation sites located closer to the A7 which could result in minor reductions in the length of customer connections were previously discounted for a range of technical and environmental reasons. Notwithstanding this there would be limited benefit for onwards routeing south to the Scotland-England border as there is no option to follow the A7 or V route south of Teviothead. This is because the narrow v-shaped valley and proximity to the existing overhead line creates a significant pinch point and prevents a direct route without undertaking some major reconstruction of hillsides. Any A7 option would therefore require a more significant relocation of the proposed substation increasing the amount of infrastructure required overall as well as requiring the route through the eastern extents of Dumfries and Galloway.	

See Figure A1 Alternative following the A7

Sheet 1

See Figure A1 Alternative following the A7

Sheet 2

See Figure A1 Alternative following the A7

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See Figure A1 Alternative following the A7

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See Figure A1 Alternative following the A7

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See Figure A1 Alternative following the A7

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See Figure A1 Alternative following the A7

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See Figure A1 Alternative following the A7

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See Figure A1 Alternative following the A7

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See Figure A1 Alternative following the A7

Sheet 10

See Figure A1 Alternative following the A7

Sheet 11

