VOLUME 2: CHAPTER 4 - CONSIDERATION OF ALTERNATIVES

Appendices (Volume 4 of this EIA Report)

There are no appendices associated with this Chapter.

Figures (Volume 3 of this EIA Report)

Figure 4.1: Site Options

4. CONSIDERATION OF ALTERNATIVES

4.1 Introduction

4.1.1 This Chapter describes the substation site selection approach and process, how reasonable alternatives were identified and assessed which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

4.2 Alternative Sites

4.2.1 Nine candidate sites options were considered, designated as Site 1-7 and including 3A and 6A, which were subsequently added after the first site reconnaissance. Unsuitable sites were screened out for a detailed assessment and two sites were considered the least constrained and to warrant further assessment:

- Site 4: Land at Balkemback Farm, centred at NGR NO 389 377
- Site 7: Land to the south of North Mains of Baldovan, centred at NGR NO 391 364

4.2.2 After a detailed comparative appraisal of these two sites, taking into consideration the engineering, environmental and cost constraints, it was concluded that Site 4 was the preferred option to be taken forward into the consultation process.

4.3 Consideration of Alternative Substation Sites

Site Selection Process

4.3.1 SSEN Transmission operating under licence held by Scottish Hydro Electric Transmission plc has a statutory duty under Section 9 of the Electricity Act to develop and maintain an efficient, co-ordinated and economical electrical transmission system in its licence area. Where there is a requirement to extend, upgrade or reinforce its transmission network, SSEN Transmission's aim is to provide an environmentally aware, technically feasible and economically viable solution which would cause the least disturbance to the environment and to people who use it.

4.3.2 The approach to site selection has been informed by SSEN Transmission's Substation Site Selection Procedures for Voltages at or above 132 kV guidance document[1] (hereafter referred to as SSEN Transmission's Substation Guidance). The guidance advocates a three-stage process, Stage 0 Pre-Site Selection, Stage 1 Initial Site Screening and Stage 2, Detailed Site Selection.

4.3.3 The starting point in all substation site selection processes is to establish the need for the project and the preferred strategic option to deliver it. The definition of need and subsequent strategic options assessment is frequently iterative and will often be subject to change even after commencement of the initial site screening (and occasionally the detailed site selection) stages.

4.3.4 At Stage 1, the objective is to identify and compare technically feasible, economically viable and environmentally acceptable candidate site options within a defined area of search, typically a radius of 5 km from a connection point. The aim is to identify a short-list of 2-4 least-constrained, potential (or candidate) sites, based on a combination of technical and environmental factors, using data gathered mostly from desk-based sources, for further assessment at Stage 2, with Site options compared relative to each other, and not in absolute terms. GIS, site walkover, initial feedback from landowners (grantors) and other stakeholders may also be used. The analysis often involves comparing the relative importance of different factors and this importance might change with different site combinations.

4.3.5 Stage 2 seeks to identify, from the candidate site options considered at Stage 1, the least constrained site, which avoids where possible, physical, environmental and amenity constraints, is likely to be acceptable to stakeholders

[1] SSEN Transmission (September 2022) Substation Site Selection Procedures for Voltages at or above 132kV. PR-NET-ENV-502

and which is economically viable taking account of the engineering and connection requirements. The assessment builds on the data and information used at Stage 1, and would usually include site walkover, and granter feedback. In some cases, intrusive investigations and specific engagement with consultees may be undertaken to inform the assessment.

4.3.6 Ultimately, sites need to be developable in technical terms and consentable from an environmental, planning, and economic development policy perspective, taking into account national and local environmental and planning regulations and legislation. Securing ownership of land is a fundamental part of the process.

Project Need and Strategic Options

4.3.7 In July 2022, National Grid, the Electricity System Operator (ESO), published the Pathway to 2030 Holistic Network Design (HND), setting out the blueprint for the onshore and offshore electricity transmission network infrastructure required to enable the forecasted growth in renewable electricity across Great Britain, including the UK and Scottish Government's 2030 offshore wind targets of 50 GW and 11 GW respectively.

4.3.8 The ESO's Pathway to 2030 HND confirmed the requirement to increase the power transfer capacity of the onshore corridor from Kintore to Tealing. To meet its duty and provide for a significant and strategic increase in the capacity of the onshore electricity transmission infrastructure for the north of Scotland, SSEN Transmission is developing the new 400 kV overhead line (OHL) between Kintore and Tealing, as part the East Coast 400 kV Phase 2 Upgrade. This also requires new 400 kV substations, including Emmock substation, to be constructed to provide grid connection to enable future renewable energy connections and export routes to areas of demand.

Site Requirements

4.3.9 To meet the project need, it was determined that an Air Insulated (see paragraph 4.6.2-4.6.4) 400kV double busbar configuration would be required. To deliver this requirement, the site selection process sought to identify the following:

- A site, on predominantly flat ground (with a gradient of no more than 15%), large enough to accommodate a site substation platform of notionally 550m x 550m, with additional land to accommodate sustainable drainage, landscaping structures and features, land for biodiversity net gain (BNG) , internal access, and land for construction activities (site compounds, materials storage, equipment laydown).
- A site capable of being accessed by technically feasible, economically viable and environmentally acceptable future connection options. (see Section 2.3 below).
- A site which is within 5 km of the existing Tealing substation.
- A site which avoids areas of "high amenity value" interpreted as being sites designated for their natural or cultural heritage value at international and national levels.
- A site which avoids interaction with existing and future planned infrastructure (other transmission projects, roads, railways, communications, wind farms and pipelines) (in the case of underground pipelines, allowing for a buffer of no less than 100 m from any existing assets).
- A site which avoids hazards, neighbouring hazardous land uses, and potential soil contamination or pollution.
- A site which is not vulnerable to flood risk (climate adjusted 1:200, as defined by Scottish Environment Protection Agency) or subsidence.
- A site which avoids residential and other properties and which is capable of being substantially screened from view by properties in the vicinity and locations which are used by the local community.
- A site which is capable of being accessed from local roads allowing for local road improvements.

4.4 Initial Site Alternatives

4.4.1 A Site Selection Area of Search was defined as the area within a 5 km radius of the existing Tealing Substation. High-Level Suitability Multi-Criteria Analysis (MCA) and Geographic Information System (GIS) tools were used to identify candidate site options within the Area of Search, applying the principles in SSEN Transmission's Substation Guidance as summarised above at in Section 4.4 and with the Design Requirements described in Section 4.3.

4.4.2 Nine sites were identified as suitable for the initial screening stage. Following site visits by the SSEN Transmission project team, alternatives to original site options 3 and 6 (denoted as 3 'A' or 6 'A' on **Figure 4.1** below), were subsequently included as part of the assessment.

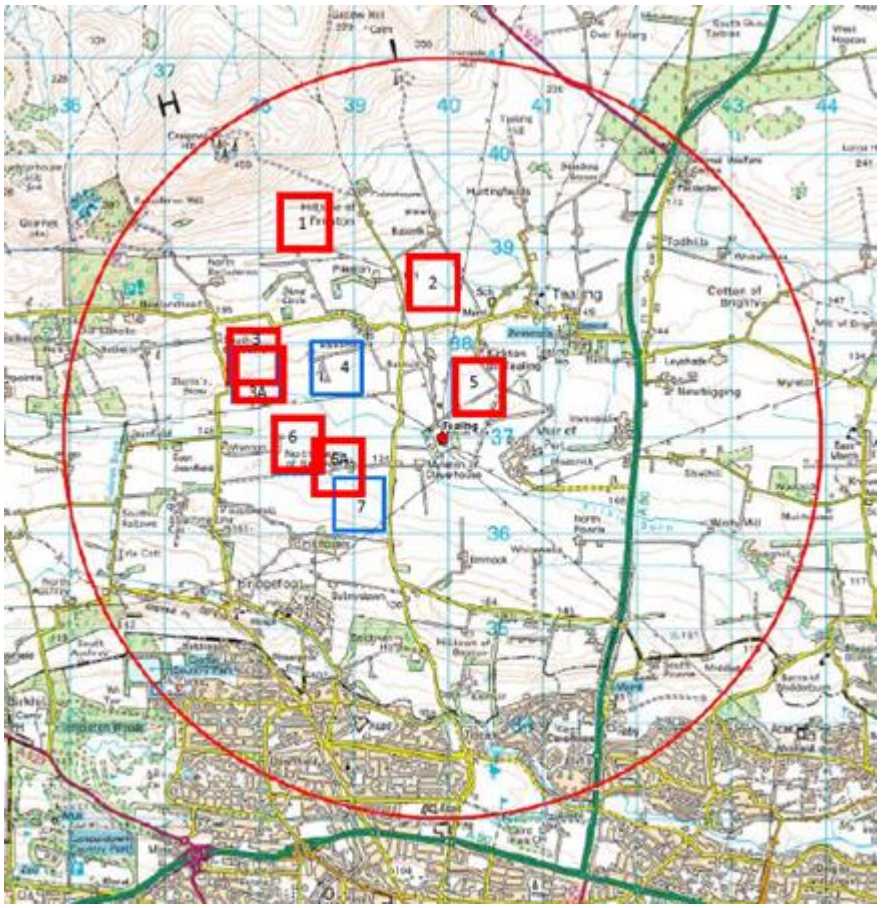

Figure 4.1: Site Options

4.4.3 Initial Site Screen (Stage 1) is summarized below in Table 4.1, which lists the candidate sites and compares their technical and environmental constraints.

Table 4.1: Stage 1 Assessment of Potential Substation Options

Initial Sites Identified at Screening	Summary of Site Characteristics/Constraints	Proceed to Stage 2?
All Sites	• Would require upgrading of existing access routes, likely to include road widening and bellmouth works	N/A
Site 1	• **On sloped terrain and at a prominent elevation, with likely open views and high visibility from receptors in the village of Tealing and at Prieston and Kirkton of Tealing**	**No** The Site was discounted due its slope, which

Initial Sites Identified at Screening	Summary of Site Characteristics/Constraints	Proceed to Stage 2?
	• Principal access route via Tealing would pass close to several residential properties • Existing Alyth to Tealing 275 kV OHL follows an east to west alignment immediately to the south of the site	would require extensive earthworks to create a level development platform, and its elevation and visibility from surrounding settlements.
Site 2	• **At a prominent elevation in the landscape, with likely open views and high visibility from receptors in the village of Tealing and from nearby farms at Prieston and Balcalk** • Principal access routes via Tealing would pass close to several residential properties • Tealing Primary School, a sensitive receptor with respect to noise, traffic and disturbance, is located 600 m to the east of the site • Crossed by a small heavily modified watercourse • Two existing 275 kV OHLs pass within 50 m of the site (Tealing to Alyth OHL to the west / Tealing to Fiddes OHL to the east) on a north to south alignment	**No** The Site was discounted due to its elevation and visibility and due to the likely requirement to divert a water course.
Site 3	• Located on sloped terrain in proximity to a Scheduled Monument (Balkemback Cottage Stone Circle) (circa 300 m northeast) and close to a group of listed buildings within 50 m northwest at South Balluderon • Principal access route via Tealing would pass close to several residential properties • Close to residential properties which may be impacted in terms of visual amenity and noise, particularly those within approximately 100 m to the north at South Balluderon and Dunian • **National Grid Transmission high pressure gas pipeline crosses under the site (not feasible to build a substation over this asset)** • Existing 275 kV Westfield to Tealing OHL is located within 300 m to the south of the Site • Two wind turbines are located on farmland to the east of the Site (adjacent to Site 4)	**No** The Site was discounted due to the presence of a National Grid high pressure gas pipeline through the Site, which had not been identified at the time of the initial site identification.
Site 3A	• Located down slope and to the south of Option 3 on relatively flat terrain in proximity to a Scheduled Monument (Balkemback Cottage Stone Circle) (circa 500 m northeast) and close to a group of listed buildings within 100 m northwest at South Balluderon. • The principal existing access route via Tealing passes close to several residential properties.	**No** The Site was discounted due to the presence of the gas pipeline.

Initial Sites Identified at Screening	Summary of Site Characteristics/Constraints	Proceed to Stage 2?
	• The upstream extent of the Fithie Burn is located in the southeast corner of the site. SEPA Flood Maps show no flood risk from the Fithie Burn at the Site but indicate some minor areas of surface water flood risk along drainage routes in the southeast part of the site • **National Grid Transmission high pressure gas pipeline crosses under the site (not feasible to build a substation over this asset)** • THe 275 kV Westfield to Tealing OHL follows an east to west course within 100 m to the south of the site. • Two wind turbines located to the east of the Site (adjacent to Site 4).	
Site 4	• Located on relatively flat and level terrain with the Fithie Burn just south of the site in proximity to a Scheduled Monument (Balkemback Cottage Stone Circle) (circa 600 m northwest of the site) and a Category C listed building at Balkemback Farm (within 150 m to the northeast) • SEPA Flood Maps indicate some risk of fluvial flooding just south of the Site • Existing access route to Tealing Substation could be utilised with upgrades • The principal existing access route via Tealing would pass close to several residential properties • The existing 275 kV Westfield to Tealing OHL crosses east to west within 50 m to the south of the site. • Two operational wind turbines are located within the Site, one on the western boundary and one located within the southwestern area	Yes The Site is considered to have suitable access, connectivity and is sited on flat terrain with no flood risk.
Site 5	• The Site is located immediately northeast of the existing Tealing Substation close to the hamlet of Kirkton of Tealing • **The principal existing access route via Tealing passes close to several residential properties. Scattered properties at Balnuith to the north, west and southwest of the Site (within 100 m at the closest point to the site) may be impacted in terms of visual amenity and noise** • A group of listed buildings associated with the farm and steading at Kirkton of Tealing is located within 150 m of the northern edge of the site. Tealing souterrain scheduled monument is located 750 m northeast of the Site • SEPA Flood Maps show there is a medium risk of surface water flooding across parts of the Site associated with drainage ditches, tracks and low-lying ground • **The presence of existing 275 kV OHLs running adjacent (to the west) to the site and an existing 132 kV OHL clipping the southeast corner of the site would make connection of the new and existing substations very complex**	**No** The Site was discounted due to the number of properties that would potentially be affected and due to the complexity of OHL connections.

Initial Sites Identified at Screening	Summary of Site Characteristics/Constraints	Proceed to Stage 2?
	• An existing wind turbine is located on farmland approximately 100 m to the southeast of the site	
Site 6	• Located on relatively flat farmland and within 300 m of residential properties located to the east at North Mains of Baldovan. There is a residential property located within the northwestern part of the Site (which would need to be purchased and demolished) • **SEPA Flood Maps show that there is a surface water flood risk spanning the width of the central area of the Site, and a further area of surface water and fluvial flood risk along the southern boundary of the Site associated with a field drain** • The existing Westfield to Tealing 275 kV OHL is located to the north of the site	**No** The Site was discounted due to flood risk.
Site 6A	• Located on flat terrain directly between and overlapping Sites 6 and 7, the site offers good connection back to Tealing Substation and for connection of the OHLs • Principal existing access route via Tealing would pass close to several residential properties • A cluster of properties located within the site associated with the farm and residential properties at North Mains of Baldovan • **SEPA Flood Maps show that there is a surface water and fluvial flood risk spanning the width of the central area of the Site associated with field drains**	**No** Site was discounted due to flood risk
Site 7	• Located on relatively flat terrain, relatively remote from residential properties, with one group of receptors located approximately 100 m north at North Mains of Baldovan • No watercourses or drainage ditches on site and it is not located within the flood plain • Considered to have good connectivity back to Tealing Substation • An existing 132 kV OHL passes across the southeast corner of the site	Yes It is considered that this site has good connectivity, would impact relatively few properties and reduce the overall requirement for purchase of properties and land.

Site Options Proceeding to Stage 2: Detailed Site Selection

4.4.4 Following the initial site screening process, two sites were considered to be the least constrained, warranting further and more detailed appraisal in the Detailed Site Selection (Stage 2):

- Site 4 - located at Balkemback Farm on relatively flat terrain with an elevation change of approximately 25 m, comprised of open arable farmland with some fields separated by drystone dykes.
- Site 7 - located south of North Mains of Baldovan on relatively flat terrain, comprising of arable fields with a polytunnel horticulture on neighbouring land to the east, and overlaps with a minor road.

4.5 Summary of Detailed Site Selection (Stage 2)

4.5.1 The following section provides a comparative assessment of the environmental, engineering and cost considerations for each substation site option (Sites 4 and 7).

Environmental

4.5.2 With reference to environmental criteria, the differences between the two sites were considered to be marginal. The key constraints identified were as follows:

4.5.3 The presence of protected species constrained both site options in relation to the potential to support otter associated with the Fithie Burn and the potential for badger. Site 7 was considered to be more constrained due to the potential for nearby structures to have bat roosting potential.

4.5.4 Ornithology constrained both site options as they both had the potential to support breeding birds (including those listed as Schedule 1 species and the UKBAP) as well as qualifying interest species of nearby Special Protected Areas (SPAs) including over-wintering or migratory species.

4.5.5 Both sites were located within 5 km of a number of cultural heritage designations and assets. Site 4 was considered to be more constrained, due to the Site being located within a closer proximity to cultural heritage designations than Site 7. Site 4 was also within close proximity to cultural heritage assets of 'Regional Significance'. Site 7 was considered to be preferred in this respect due to a greater distance from cultural heritage designations, and there were no heritage assets of 'Regional Significance' or Non-Inventory Designed Landscapes (NIDLs) within 1 km of the Site.

4.5.6 Landscape character constrained both sites as they both could compromise the characteristic elements of the same landscape character types. Visual considerations significantly constrained both site options in relation to the close proximity of views from nearby properties. Site 4 was considered to be preferred in this respect as the Site was located at a further distance from properties than Site 7 and had sufficient space to accommodate landscape mitigation.

4.5.7 Land use constrained both site options. Site 4 was considered to be preferred in this respect as the Site was not situated on any prime agricultural land (Class 1 to 3.1) although the Site did have two wind turbines located within the Site boundary which would need to be removed. Site 7 was considered to be constrained in relation to agriculture as there was a small area of prime agricultural land identified within the Site boundary.

4.5.8 From an environmental perspective, it could be concluded that Site 7 was the preferred option. It was considered that this preference was marginal, however Site 7 was preferred with respect to cultural heritage assets as it was located furthest from the Scheduled Monuments and Category A Listed Buildings and also presented the lowest risk with respect to flooding as it was located further from any fluvial flood risk noted by SEPA Flood Maps associated with the Fithie Burn.

Engineering

4.5.9 With reference to engineering criteria, the differences between the two sites were considered to be marginal. The key constraints identified were as follows.

4.5.10 Site 7 was located at a greater distance from existing circuits / networks than Site 4, with a distance in excess of 1 km, which would result in a greater number of constraints between the point of connection and the site. In terms of future development possibilities, both options were considered to be constrained as there was space available outwith existing wayleaves with low risk to existing assets.

4.5.11 Both options were considered to be constrained by unique hazards due to the presence of two wind turbines within the boundary that would need to be removed. Further information regarding these turbines was required.

4.5.12 Elevation was a constraint to both options as they both were located at elevations between 100 m and 200 m Above Ordnance Datum (AOD). Site 4 was located at an elevation of approximately 150 m and Site 7 was located at a slightly lower elevation of 130 m.

4.5.13 Noise considerations was a constraint to both site options, as they both were located in close proximity to a number of farm buildings and residential houses. Site 7 was considered to be located at closer distances to properties than Site 4.

4.5.14 From an engineering perspective, it was concluded that Site 4 was the preferred option as it was anticipated to have the least disruption to the OHL network. Site 7 was in excess of a distance of 1 km to the highest voltage connecting circuit, resulting in more constraints between the point of connection and the site compared to Site 4. The OHL diversion routes to Site 7 would be difficult to establish and more costly than the routes between Site 4.

Cost

4.5.15 Both Sites 4 and 7 were broadly comparable in terms of anticipated ground works as they were located on similar terrain and topography. Both were situated in similar proximity to the public highway and would anticipate similar public road improvement costs. Site 4 would require the purchase of two wind turbines which are currently located on Balkemback Farm. However, it was likely that these would be required to be purchased to accommodate an OHL route to Site 7, and therefore cost was considered comparable.

4.5.16 Site 7 was marginally closer to the existing Tealing Substation site and therefore the 275 kV connection from the proposed new 400 kV substation back to the existing Tealing 275 kV Substation was shorter. There was no established OHL corridor and therefore, this site could result in an intrusive connection. However, there was an opportunity identified at Site 4 to reuse the existing Tealing to Glenrothes to Westfield OHL circuit to achieve the connection back to Tealing Substation. This would reduce the cost and complexity of connecting the two sites together and would reduce the demolition cost also. The OHLs to be connected to the proposed Emmock 400 kV substation site would enter from the north and northwest and therefore, Site 4 would reduce the length of diversions and new OHL infrastructure to achieve the OHL tie-ins. Site 7 would require an increased length of OHL diversions and new connections and therefore was considered to be more expensive. Additionally, the increased length of the OHL tie-ins to Site 7 would result in a higher number of properties that would likely be impacted by the OHL. This would increase the land assembly costs associated with developing the Site and the OHL tie ins.

4.5.17 The only difference identified between the two Sites that would have driven a difference in operational and maintenance costs was the additional OHL infrastructure that would be required to establish the connections to Site 7. The connections into Site 7 and back to the existing substation site at Tealing would require more new infrastructure which would result in a higher maintenance burden than required for Site 4, which was identified as having shorter and less complex connection options. The connection between Site 7 and the existing Tealing Substation may have had to be an underground cable which could result in significant maintenance costs.

4.5.18 From a cost perspective, it could be concluded that Site 4 was the preferred option. Most aspects of each Site would result in broadly comparable costs with the exception of connectivity and diversions of the new and existing OHLs. As Site 4 is in closer proximity to the required OHLs, the capital cost to construct the diversion and connections will be less and as less landowners are impacted, the land assembly costs will be less too, compared to Site 7.

Conclusion

4.5.19 The consultation process confirmed that Site 4 was most the appropriate option to be progressed through the Environmental Impact Assessment and subsequent consenting stages. The site was chosen for the following reasons:

- The Site can accommodate the substation size and design and has a lower relative cost
- There were fewer residential properties in close proximity to the site.
- Nearby cultural heritage assets were unlikely to be adversely impacted by the development.
- The Site offered efficient connections to the existing Tealing substation, reusing redundant sections.
- The requirement of new infrastructure needed to connect upgraded existing circuits was minimised.

- The location allowed over 3km of existing 275kV OHL to be removed.

4.6 Further Consideration of Alternatives during the EIA Process

4.6.1 The work that was undertaken during the site selection process enabled a rigorous consideration of reasonable alternatives with respect to site selection and the consideration of different detailed design solutions available for the project. In addition to design revisions made as a result of public comment from the Pre-Application Consultation (PAC) events, the Site has been subject to additional design changes that were made to eliminate, avoid, or mitigate environmental and technical constraints. In particular, decisions were made on appropriate choice and location of equipment, infrastructure, and access for visual impact, drainage, and biodiversity. See Figure 5 of the Tealing (Emmock) 400kV Substation Pre-Application Consultation, June 2024 and Figure 3.2 General Arrangement for the evolution of the Site design.

Technology Solutions (AIS versus GIS)

4.6.2 SSEN Transmission is developing both air insulated switchgear (AIS) and gas insulated switchgear (GIS) infrastructure currently, with technology choice dependent on site requirements, which are in turn influenced by strategic network requirements. The base case in technology selection and therefore site selection, is AIS. While such technology requires a larger site footprint than GIS, which in turn has implications for landscape and local visual amenity, habitats and wildlife and surface drainage, these considerations are balanced against the need to maintain network operability and service continuity, feasibility and speed of maintenance / repair of the infrastructure and cost (as a business regulated by Ofgem). The relative advantages and disadvantages of AIS versus GIS typically see GIS employed in more exposed locations, such as those closer to the coast, where the need to utilise buildings to protect the main switchgear is more prevalent.

4.6.3 The starting point in selecting a site for a new substation is to locate a plot large enough to accommodate AIS technology, while meeting the other site requirements listed at Section 4.3, above. The expectation being that a site large enough to accommodate an AIS solution would also be sufficient to accommodate a GIS solution. Should this process be unable to identify a site capable of meeting the requirements of technical suitability, consentability and economic feasibility for an AIS solution, GIS technology would be considered more explicitly. This would include cases where the only suitable sites are in exposed locations e.g. coastal, requiring greater use of buildings. It is also worth noting that in order to make the connections to the various circuits coming into a 400kV substation, sites using GIS technology for the main switchgear will utilise sections of AIS busbar, which reduces the overall size differential between the two technologies. This is because the AIS busbars do not rely on containing gas to operate effectively, making them less vulnerable to environmental corrosion in the Scottish climate than gas insulated busbar, which has benefits for network reliability.

4.6.4 Once candidate sites capable of meeting the technical requirements for the selected technology have been identified, the site selection process focusses on the selection of the least constrained site of the candidates identified, taking into account environmental, technical and cost considerations, as described in Sections 4.3 – 4.5 above.

Platform Location Alternatives

4.6.5 The substation design was refined by reducing the platform width slightly from 300m to 285m and by lowering the platform from 140.5m to 139m. Combined with the landscaping bund and design along the north of the substation platform, this reduces the visibility of the substation equipment from the north as well as reducing the height of the fill along the southern edge of the platform. To meet safe operations requirements and minimise overall access requirements, the terminal connection towers and the connection points within the substation have been increased from 25m to 75m which has required that the platform has been extended. Rather than increase the whole platform, the platform has been extended locally, in a trapezoidal shape by approximately extensions which are approximately 45m have been limited to around the tower bases. Having the towers located at the same level as the platform reduces their overall height.

Visual Impact

4.6.6 The new terminal connection towers connecting with the proposed Kintore to Tealing OHL, upgraded and diverted Alyth and Westfield 400kV OHLs and tie-backs between Emmock and Tealing substations will be the main visible elements but are not part of the Proposed Development and are subject to separate consent applications.

4.6.7 Access to the site has been redesigned, moving it further away from Balnuith, reducing direct views of the site. The landscape bund has been repositioned closer to the eastern boundary and the compound and laydown area has been sited immediately behind the bund, screening views from Balnuith. This and the bund running the full length of the eastern boundary will be formed and planted early in the construction programme to maximise its benefit in screening the construction works.

Landscape and Biodiversity

4.6.8 The landscape design has evolved to include a variety of habitat types that would provide both visual screening and improved opportunities for biodiversity. Landscaping has been developed with BNG requirements in mind as reflected in the habitat creation and species selections included in the design.

Hydrology

4.6.9 The channel which currently drains the hills above the site into the Fithie Burn would be reshaped to slow storm flows and reduce risks from flooding the Emmock Road. Some of the screening bunds to the south and south-east within the Planning Application boundary have been adjusted for improved drainage and visual impact screening. An access track crossing would be required over unnamed watercourse that is culverted beneath a field in the eastern part of the Site. To avoid overland flood flow and to maintain safe access to the Site during extreme events, the crossing would be designed to pass the 200-year plus climate change flood flow.

4.6.10 The SuDs have also been adjusted with the evolving design and replaced with a swale. Initially, there were three SuDs ponds, two located laterally just below the substation platform, and a third in a northwest to southeast configuration below the westernmost pond. The easternmost pond adjacent to the platform was located just below the proposed tie-in between Emmock and Tealing substation. This design presented an access hazard for maintenance; therefore, it was proposed the ponds be relocated west with the two upper ponds merged and the third eliminated. The SuDs were subsequently repositioned with a single linear grassed drainage swale that follows and complements the existing natural drainage of the site to the south toward Fithie Burn. Screening bunds 6, 7, and 8 were adjusted accordingly.

Access

4.6.11 Access to the site has been redesigned, moving it further away from Balnuith, reducing direct views of the site. The original access route extended east from the south-eastern corner of the substation platform bending slightly north to remain within the lower line of the Planning Application boundary where it connects with Emmock Road. Due to likely visual effects on adjacent properties to the east from placing the offices, car park and laydown area next to the road with marginal bunding, these were moved closed to the platform and screened by moving the larger bund (5) along Emmock Road. This required extending the access road further north and then east along the upper part of the Site connecting to Emmock Road. This change left a gap between bunds 5 and 6 where the offices, car park, and laydown area were once again visible as seen from the southeast. The design was revised merging bunds 5 and 6 to block this exposed view.

4.6.12 Improvements to the bellmouths at the new site entrance on Emmock Road, and at the junction of Emmock Road and Moatmill Road, are also planned for safety and access of AIL and HGV vehicles.