Chapter 3: Sloy Pumped Hydro Storage Scheme: Site Selection and Design Evolution

Chapter 3: Site Selection and Design Evolution - Contents

Figures

Appendices

3. Site Selection and Design Evolution

3.1. Introduction

This Chapter focuses on the environmental, technical and aesthetic factors considered by SSE as part of the design evolution of the Proposed Development.

A number of meetings have been held with key consultees during the design phase of the Proposed Development and this has played an integral part in the design evolution process. In particular, due to the Proposed Development being within the LLTNP consultation with LLTNP Authority (LLTNPA) was initiated from an early stage. Further information on the consultation that has been undertaken with statutory and non-statutory consultees in relation is provided in **Volume 1, Chapter 6: Scoping and Consultation.**

For full details on the Proposed Development design see **Chapter 4: Description of Development.**

3.2. Project History

As described in **Chapter 1: Introduction**, the Scottish Ministers previously granted consent for a pumping station at Sloy in September 2010, (the 'consented pumped hydro storage scheme'), with subsequent extensions to that consent granted in 2013 and 2014, until December 2018. However, due to a perceived lack of market at the time, the scheme was never built. In recent years there has been an increase in the development of flexible renewable schemes (principally wind farms). In order to assist Scotland and the UK in achieving their net zero targets, there is now a recognised clear, and urgent need for the development of pumped storage to improve the network's capacity to match electricity supply with demand.

3.3. Site Selection

Over 15 years ago, SSE carried out a review of potential greenfield pumped storage schemes and reviewed existing operational assets where an upgrade to pumped hydro storage would be possible, taking into account environmental, planning and technical considerations. A decision was made to concentrate on the potential to upgrade existing generating assets to pumped storage rather than pursuing new schemes given that much of the supporting infrastructure for these sites was already in place, including connections to the grid and good local road network connections.

Sloy (the largest conventional hydroelectric power station in the UK) was identified as being a well-suited site, given that the existing power station has a low load factor and has large upper and lower reservoirs. Sloy Hydroelectric Power Station remains an ideal asset to upgrade to a pumped hydro storage. While it is acknowledged that the scheme is located within the LLTNP, a highly valued, sensitive and popular area with visitors, if designed sympathetically and to a high standard, it is considered that significant adverse effects can be avoided, as was demonstrated by the previously consented scheme.

3.4. Preliminary Design Considerations

Prior to arriving at the current Proposed Development, design consideration has been given to a range of factors including technical constraints, environmental constraints, economic factors, aesthetic considerations, and health and safety considerations. These factors have been determined by desk-based and field studies, and consultation with key stakeholders.

The starting point for the design evolution process was to re-examine the consented pumped hydro storage scheme in the context of technological advancements and changes in the attitudes and policy with regard to preservation of natural resources and the push to achieve net zero.

Some of the key environmental constraints that steered the preliminary design considerations are described below.

3.4.1. LOCH LOMOND AND TROSSACHS NATIONAL PARK (LLTNP)

LLTNP is afforded protection under The National Parks (Scotland) Act 2000[1]. LLTNP is valued for its accessible countryside which offers local and international visitors a chance to experience nationally significant landscapes, and rich cultural and historical assets within easy reach of the Central Belt. The Loch Lomond and Trossachs National Park Partnership Plan 2024-29 sets out four aims designed to safeguard a sustainable future for LLTNP which are a material consideration in planning decisions and so have shaped the design evolution process, these are:

- **Conserve and enhance** – we conserve and enhance the natural and cultural heritage of the area;
- **Sustainability** – we promote the sustainable use of the natural resources of the area;
- **Understanding and enjoyment** – we encourage people to enjoy the special qualities of the area; and
- **Social and economic development** – we promote sustainable development of the communities in the area.

An assessment of the potential impacts on the landscape and visual receptors of the LLTNP along with landscape restoration and enhancement proposals are included in **Chapter 12: Landscape and Visual Impact Assessment**. The design of the Proposed Development and its relationship to its setting in the LLTNP is discussed in detail in **Volume 4, Appendix 4.1: Design Statement**.

3.4.2. CULTURAL HERITAGE

A number of cultural heritage assets have been recorded within the vicinity of the Proposed Development including:

- Category A Listed Sloy Awe Hydro Scheme, Sloy Power Station including Boundary Walls, Gates and Gate Piers (LB 43188);
- A section of former military road; and
- Inveruglas Castle (SM 9264).

The existing 1950s Sloy Hydroelectric Power Station is of heritage value at the national level. As one of the first hydro-schemes of the North of Scotland Hydro-Electric Board (NoSHEB) and a prominent example of the bold modern design by NoSHEB, it is assessed as being of high sensitivity.

The former 18th century military road is recorded in the Historic Environment Record (HER), is depicted on historic maps (1747-55, 1776, 1777 and 1864) and is visible on aerial photographs from 1946-1954. As a section of former 18th century military road, it is assessed as being of heritage value at the local level, and of low sensitivity.

Inveruglas Castle is located within the wider area. This monument comprises the ruins of a medieval tower house, two additional buildings and a stone jetty all of which are located on a small island off the western shore of Loch Lomond, around 250m southeast of the PDA. As the remains of a medieval tower

[1] Scottish Government (2000), National Parks (Scotland) Act 2000. Available at: https://www.legislation.gov.uk/asp/2000/10/crossheading/the-national-park-aims

house, in a strategic position, it has the potential to provide information on settlement activity and social status during the medieval period. The Castle is a Scheduled Monument, of heritage value at the national level, and is assessed as being of high sensitivity.

An assessment of the potential impacts on these and other cultural heritage assets in the area is included in **Chapter 15: Cultural Heritage**.

3.4.3. SENSITIVE VISUAL RECEPTORS

The Proposed Development is located on the shores of Loch Lomond, which is a popular recreational destination. Careful consideration has been given to how the design of the Proposed Development will be experienced by sensitive visual receptors including users of Loch Lomond, users of the A82 (a busy tourist road), users of the Inveruglas Visitor Centre (a popular stopping point), users of recreational routes in the surrounding area (including the Three Lochs Way and Loch Lomond and Cowal Way), and those accessing local summits (Ben Vorlich and Ben Vane). Measures undertaken to minimise potential visual impact on sensitive visual receptors and integrate the Proposed Development into its setting are described throughout this Chapter, in **Chapter 12: Landscape and Visual Impact Assessment** and in **Appendix 4.1: Design Statement.**

3.4.4. INVASIVE NON-NATIVE SPECIES (INNS)

Numerous INNS are known to be present in Loch Lomond. Of particular relevance to the Proposed Development given their potential transfer to Loch Sloy through pumping operations are ruffe (*Gymnocephalus cernua*), Nuttall's pondweed (*Elodea nutallii*), Canadian pondweed (*Elodea canadensis*) and New Zealand pigmyweed (*Crassula helmsii*).

The ruffe within Loch Lomond present a threat to native powan (*Coregonus clupeoides*) populations through their effect on breeding success due to egg predation. Powan were previously introduced to Loch Sloy from Loch Lomond as part of a conservation scheme to create a refuge population. The population in Loch Sloy would be vulnerable to the potential introduction of ruffe. As part of the agreed mitigation for the consented pumped storage scheme further refuge populations were created in Alt na Lairige, Lochan Shira, Loch Glashan, and Loch Tarsan Hydro-Electric Reservoirs. These populations have since established successfully and have been regularly monitored (see **Chapter 8: Aquatic Ecology and Fish**).

The potential of transfer of ruffe and other plant INNS from Loch Lomond to Loch Sloy has been a key consideration, and consultation with SEPA has been undertaken throughout the EIA process (see **Chapter 8: Aquatic Ecology and Fish**).

3.5. Building Design Evolution

In order to convert the existing Sloy Hydroelectric Power Station into a pumped hydro storage scheme, new pumps, associated infrastructure and a new pumphouse building would be constructed adjacent to the northern end of the existing power station.

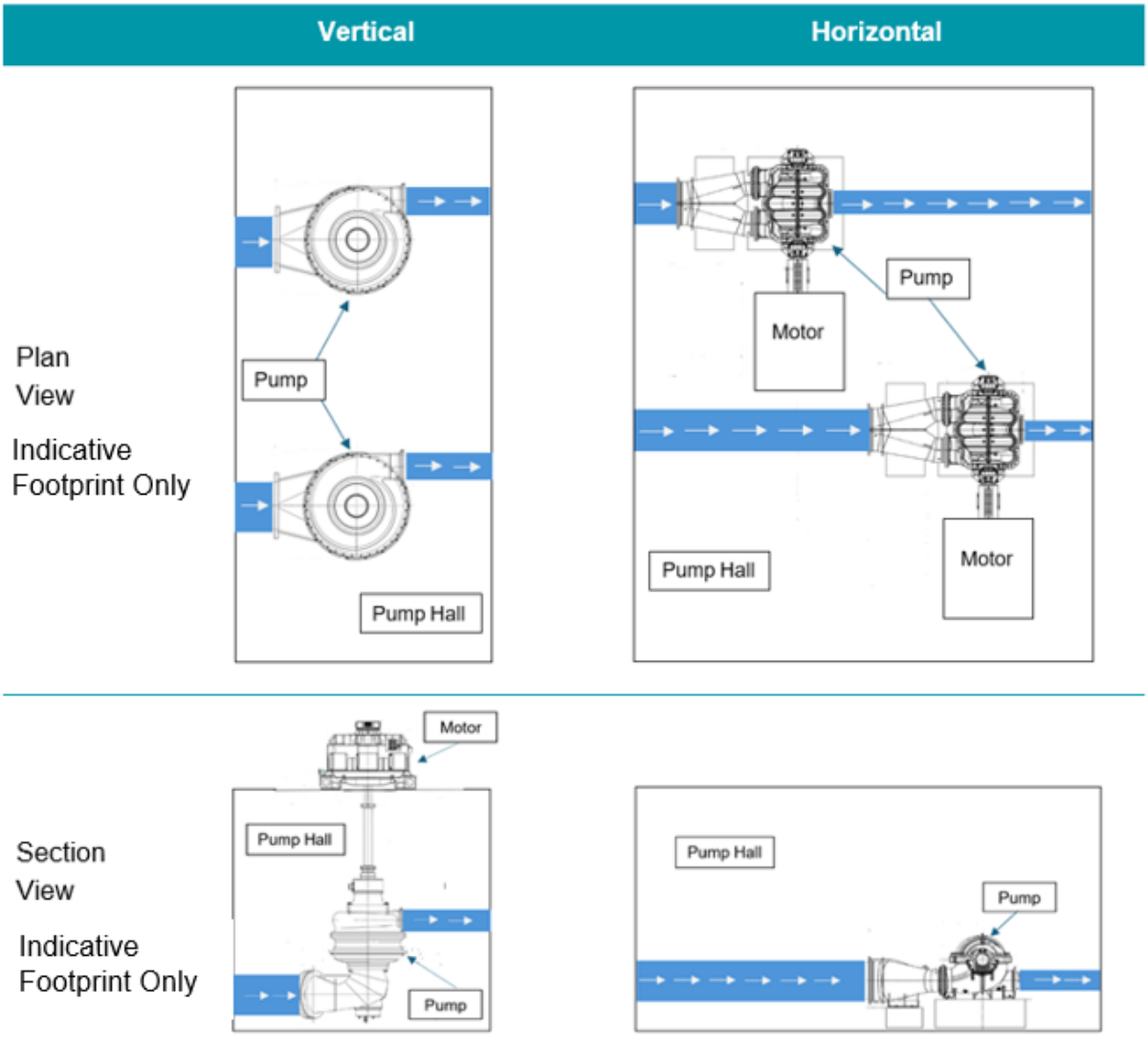
The design of the building, in terms of location and footprint, is largely constrained by engineering and technical requirements, however, the materials, building form and height, and overall aesthetics have also been carefully considered and consulted on with LLTNPA and Historic Environment Scotland (HES).

3.5.1. PUMP OPTIONEERING

An optioneering exercise was undertaken with pump manufacturers and client design engineers, to explore the potential configurations of pumps that would be possible given the specific requirements of the site. The type and configuration of the pumps would have a direct impact on the dimensions of both the above and below ground structures which would house them, this would influence the amount of excavation required. This was therefore a key driver of the design.

Two possible pump configurations and technology types presented themselves as feasible options; vertically oriented multistage pumps, and horizontally oriented multistage pumps.

Plate 1: Typical General Arrangement Drawings of Horizontally Oriented Multistage Pumps and Vertically Oriented Multistage Pumps (Indicative) (Image Credit: Andritz AG).



Initially a vertical three pump design was explored, in an attempt to maximise pump capacity, however, due to constrained space, required excavation and spoil volumes, the vertical three pump design was reduced to two vertical pumps. Concurrently, horizontal two pump and horizontal four pump options were explored. Both options would result in trade offs, vertical pumps would require less excavation but a greater building height. In contrast, horizontal pumps would require greater excavation, but a lower building height. Due to the unique nature of the pumps and the tendering processes, the final pump

design cannot be determined until the detailed design stage. Therefore, a 'worst-case' option was taken forward for assessment. This would comprise the considerably larger excavation volume required for the horizontal pumps and the taller building required for the vertical pumps.

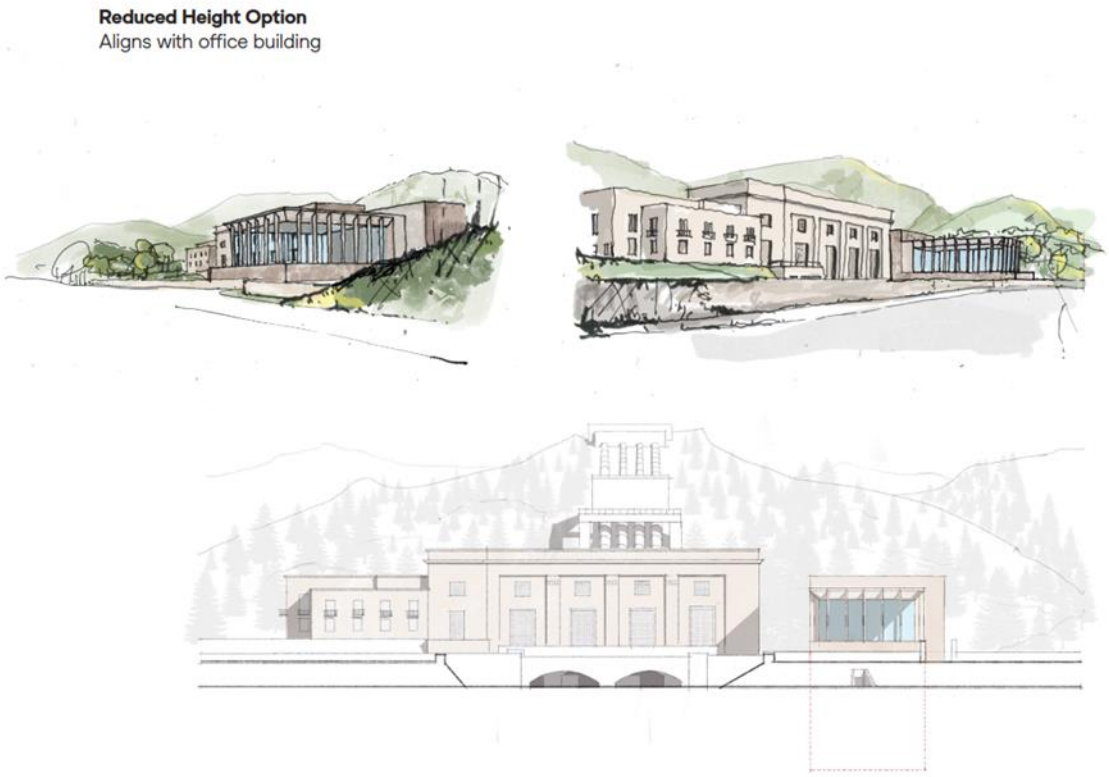
3.5.1.1. Building Height

The building height was considered alongside the pump optioneering exercise as the pump configuration would determine the required building dimensions. Three potential building heights were considered based on possible pump configurations as detailed previously (**Section 3.5.1)**. These were:

- a low height option (4m)
- a middle height option (12m)
- a high height option (16m)

The middle height option was initially taken forward for consultation with LLTNPA and HES for its potential to reduce impacts on sensitive visual receptors located within the vicinity (see **Plate 1: Middle Height Option (12m) Concept Drawing**).

Plate 1: Middle Height Option (12m) Concept Drawing



For the middle and lower height options the pump motors would likely be positioned below ground level and so would not be visible through the proposed glazing. However, initial feedback received from consultees was in favour of a taller building, in order to showcase the engineering components inside of the pumphouse by having the pump motors visible above ground level. Although the pump design evolution may still result in the motors being positioned below ground level, the taller height option, as shown in **Plate 2: High Height Option (16m) Concept Drawing**, was taken forward.

Plate 2: High Height Option (16m) Concept Drawing

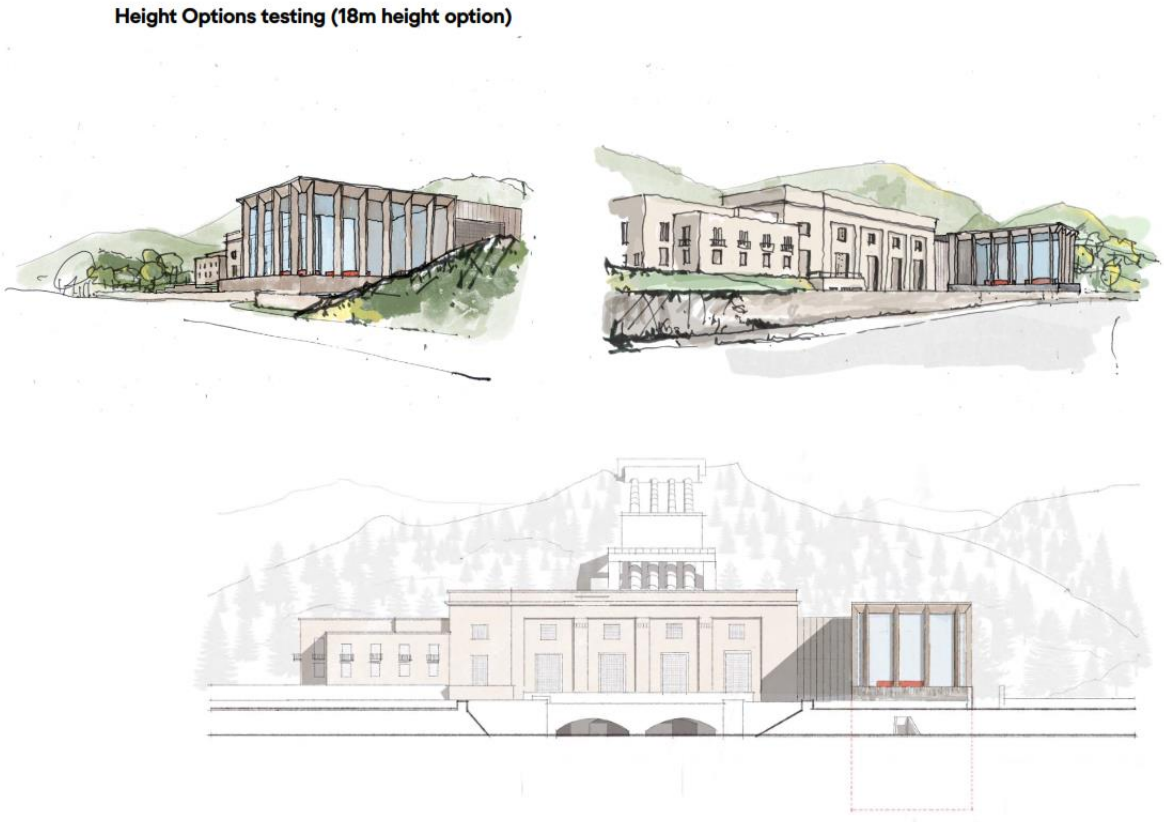
Further to this, a key consideration was the balance between the height of the building and the required excavation depth (and resultant excavation of spoil material).

There were three main issues raised and addressed through these meetings which were:

- The need to ensure the new building is subservient to the existing building;
- How to maximise visibility of the machinery within the building, without dominating the Category A listed setting; and
- Clarity on the building materials proposed.

Following consultation, a taller height option of 18m (see **Plate 3: Higher Height Option (18m) Concept Drawing**) was developed for discussion with LLTNPA and HES. The revised proposals reduced the scale of the rear section of the building while maximising the height of the new pumphouse building. Feedback noted the improvement to the design, the proportions of the proposal, and the positive relationship with the context. Consultees also noted the positive impact that the proposed building could have to draw attention to the existing building and increase its prominence. There was an acknowledgement of the need to balance exposing the building's function, while not dominating the Category A listed building and setting. There was therefore, notable support for the taller design as it maximises the potential for the internal machinery to be visible to the public

Plate 3: Higher Height Option (18m) Concept Drawing



The overall preferred height, developed in liaison with LLTNPA and HES, has been further refined in terms of aesthetic and building materials, and forms the basis of the Proposed Development. Further details on the design development are presented in **Volume 4, Appendix 4.1: Design Statement**.

3.5.1.2. Building Components

During consultation, stakeholders requested indicative information on the materials to be used on the building facade. This prompted an exercise to be carried out to examine the materials used on the existing hydroelectric scheme as well as the palette of materials currently used within the surrounding area and the LLTNP as a whole. It was determined that the building would be finished with high quality materials, in keeping with the Category A listed building setting and to celebrate the new chapter of hydroelectric power at Sloy. Materials that would most likely be available locally for construction were explored with an emphasis on encouraging the reuse of spoil material as far as possible. The detailed design of the building and associated materials would be further developed and agreed in discussion with LLTNPA and HES, post consent. The main components elements of the building aesthetic and associated materials used for their construction are as follows:

Rustic Plinth

The base of the pumphouse building, visualised as a ‘temple’, is envisioned to be formed by a weighty plinth made from locally extracted stone which would be constructed in a dry-stone wall arrangement, taking inspiration from the distinctive dry-stone walls that already occur in the vicinity.

Refined Columns

The columns of the pumphouse building are envisaged to be finished in a honed stone with solid stone cappings to the outer face. The colour of the stone would be selected to complement the colour of the existing Sloy Hydroelectric Power Station building.

Recessed Frieze

The frieze which would be inset between the columns is proposed to be recessed to introduce texture and contrast to the honed columns.

For further details on the design evolution and the proposed concept designs see Volume 4, Appendix 4.1: Design Statement.

3.6. Spoil Management

Based on the above evolution of the pump configuration and building concept design, the maximum volume of spoil from excavation of the worst-case building envelope was calculated to be 40,000m^3. This assumes that the Proposed Development would use horizontal pumps which would require a greater excavation volume than vertical pumps. As outlined above, the final decision on the type of pumps cannot be made at this stage (**Section 3.5.1**), however, SSE will endeavour to reduce the spoil volume as much as possible regardless of the final pump configuration.

It has been agreed that where possible spoil will be reused onsite for the construction of the Proposed Development. However, it is expected that there will still be an excess of spoil to be managed. As the Proposed Development is within the LLTNP and is located close to popular tourist and recreational areas it is an important consideration during project development that construction related traffic on the road network is kept to a minimum. This is further highlighted by the constrained access to the Proposed Development from the A82 trunk road, which is a single carriage way utilised by a relatively high volume of traffic.

An optioneering exercise was undertaken to assess if there were any suitable temporary or permanent spoil storage locations within the SSE's landholdings in close proximity to the site. The former Coiregrogain Quarry located to the west of the Proposed Development and south of Sloy Dam was initially identified as a potential site worthy of further review (see **Plate 4: Coiregrogain Quarry and Access Road**). After a joint site visit by the environmental and design teams, the following concerns were raised:

- Unnecessarily disrupting the existing ecosystem that has established within the quarry;
- Disruption / safety concerns regarding potential conflicts with hill walkers who regularly use the access track as part of the Three Lochs Way / Loch Lomond and Cowal Way;
- Condition of the narrow access tracks being unsuitable for HGV's which would require extensive upgrades which would further disrupt hill walkers and adversely affect the character and visibility of the track; and
- Additional vehicle movements onto and off of the A82 at the track access point.

In addition to the above concerns, there were no conceivable additional environmental benefits in using the former quarry for spoil storage for either the short or long term. As a result, it was determined that Coiregrogain Quarry would be an inappropriate location for either temporary or permanent spoil storage and was removed from further consideration.

Plate 4: Coiregrogain Quarry and Access Road

3.6.1. SPOIL MANAGEMENT LAYOUT 1 – 40,000M^3

Given that there is no appropriate nearby site within SSE's landholdings, other options for the use of the spoil volume were explored. The first of these was if the full worst-case option volume of 40,000m^3 could be accommodated on-site.

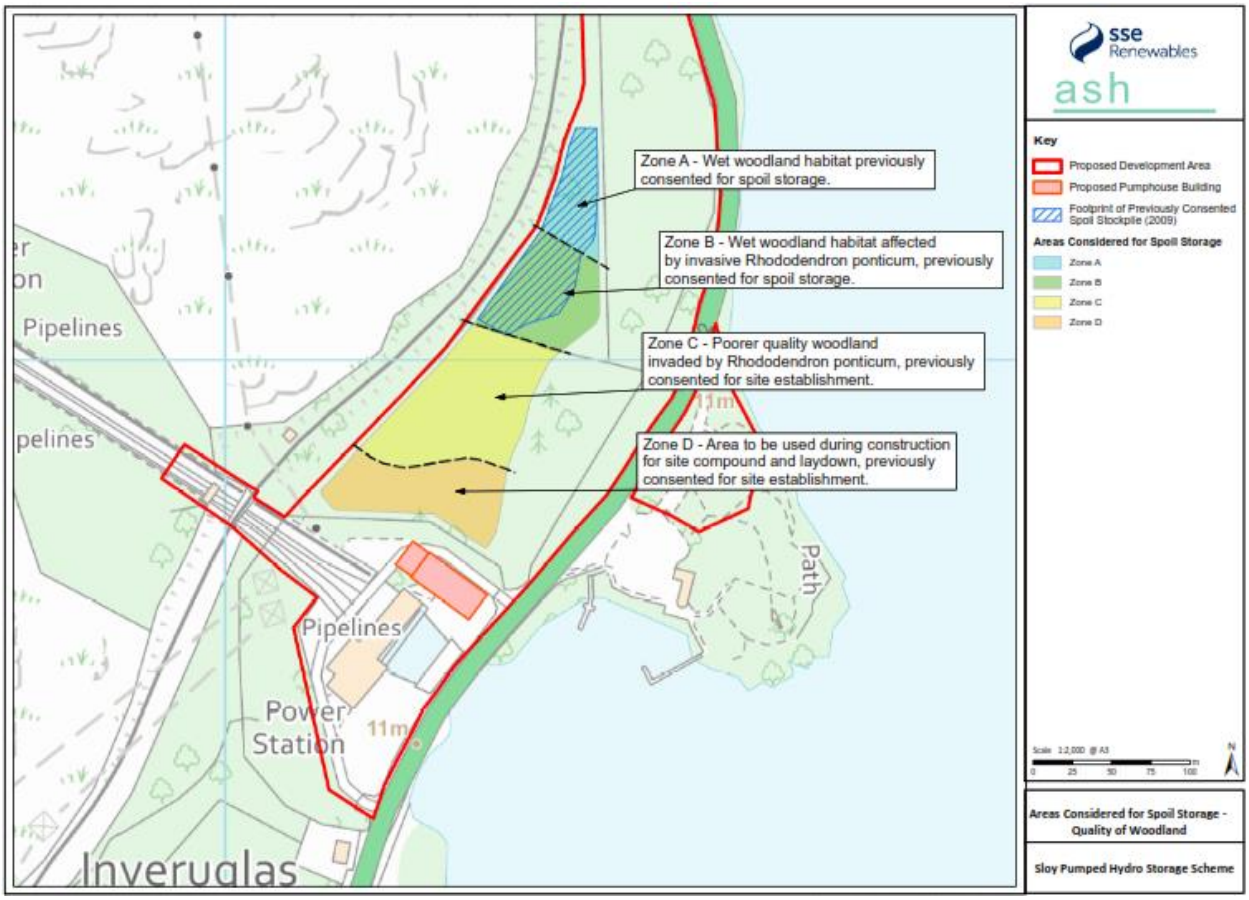
The wooded area to the north of the existing power station presented an ideal starting point for considering on-site storage options. In the 1950's it was used for the storage of rock spoil during the construction of the existing scheme and was previously approved for use for spoil storage as part of the 2010 consented scheme. Part of this area would need be cleared irrespective of the spoil management location to accommodate the main site establishment/construction compound area for the Proposed Development**.**

A joint site visit took place in October 2023 with the project ecologist, landscape architect and SSE engineers, to review the quality of the woodland and suitability of the area for spoil storage and reuse. A plan was produced which divided the woodland into four zones (A-D) (see **Plate 4: Areas Considered for Spoil Storage – Quality of Woodland**).

The 2010 consented scheme intended to use the entire area (Zones A, B, C and D) for site establishment and permanent spoil storage. However, during the October 2023 site visit, it was noted by the project

ecologist that while not in a good condition, partly due to grazing, the most northern area, Zone A is in a somewhat better condition than Zones B, C, and D. The current condition of each Zone is also annotated on **Plate 5**. It was therefore concluded that Zone A should be protected from use, for the current proposal. Elsewhere, the woodland is in poor condition, and non-native *Rhododendron ponticum* is widely present. When used in combination with conventional suppression methods, storage of the spoil on site would have the added benefit of assisting in the successful suppression of INNS.

Plate 5: Areas Considered for Spoil Storage – Quality of Woodland



SSE engineers have calculated how the storage of the maximum volume of spoil of 40,000m^3 (assuming the use of horizontal pumps) could be accommodated within Zones B, C and D. The adjacent railway line and the potential wider visibility of the spoil pile were key considerations for spoil storage during construction and during operation.

During construction, spoil would be stored within Zones B and C, with a site establishment area in Zone D. The spoil would be stored to a maximum elevation of approximately 41m Above Ordnance Datum (AOD) (up to approximately 12m depth), as shown on **Plate 6: 40,000m^3 Spoil Storage During Construction**, which also provides an indicative section of the spoil profile.

Post-construction, the stored material would be regraded and landscaped across Zones B, C and D to a maximum elevation of approximately 37m AOD (up to approximately 9m depth), as indicated on **Plate 7: 40,000m^3 Spoil Storage During Operation**, which also includes an indicative profile of the landform.

While the spoil pile would be higher in the short-term during construction, this would be reduced in the longer term and would be regraded to tie in with the existing topography between the railway embankment to the west and the existing higher ground adjacent to the A82, to the east.

Plate 6: 40,000m³ Spoil Storage During Construction

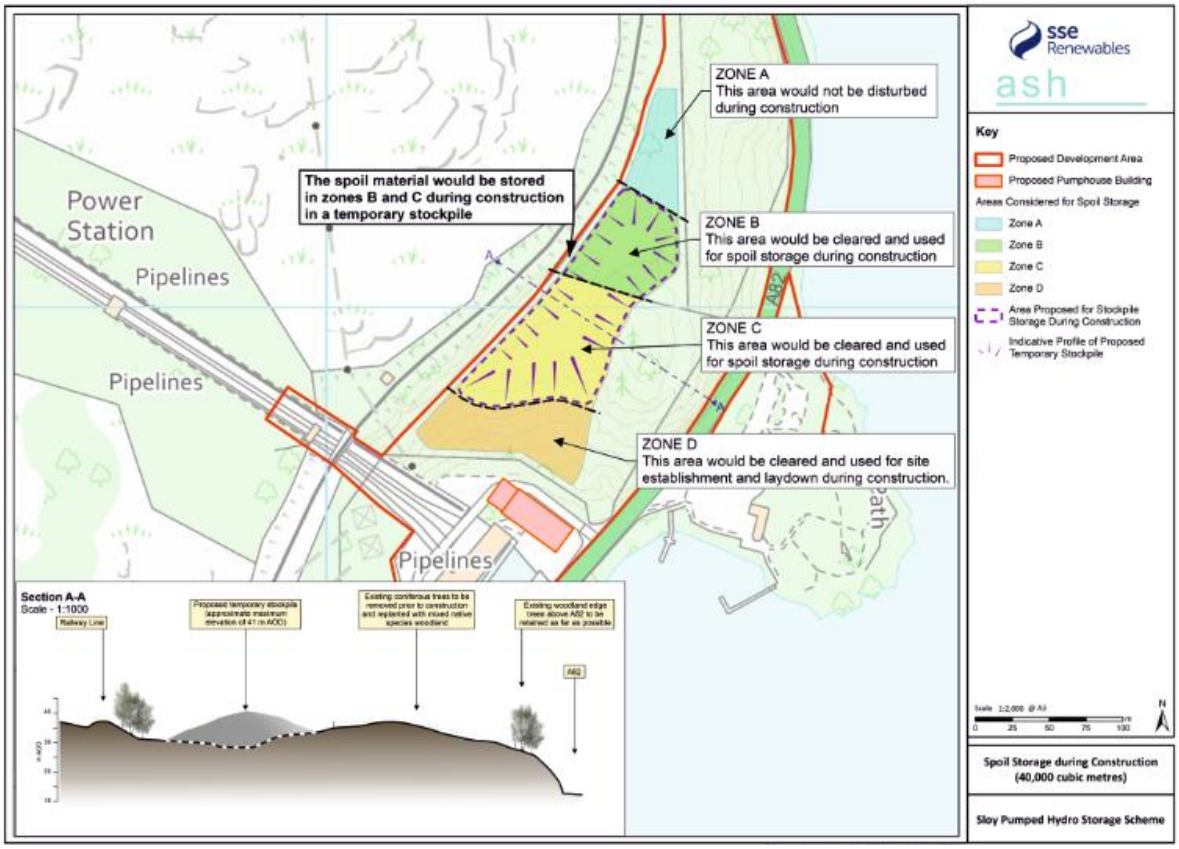
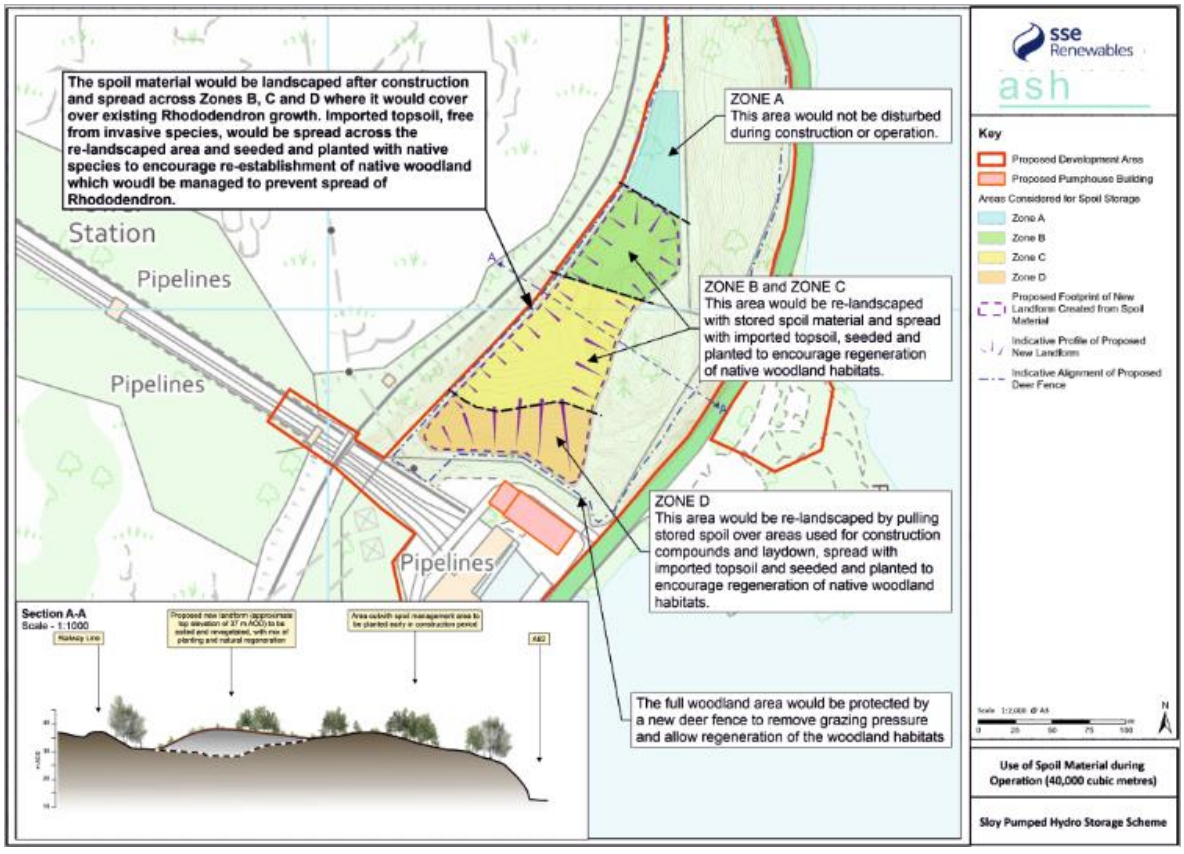


Plate 7: 40,000m³ Spoil During Operation



3.6.2. SPOIL MANAGEMENT LAYOUT 2 – 29,000M^3

As the above scenario represents the worst-case, the SSE engineers also considered how the smaller volume of spoil associated with vertically orientated pumps (approximately 29,000m^3) could be accommodated within Zones B, C and D.

As with Layout 1, during construction spoil would be stored within Zones B and C, Zone D would be used for site establishment. The spoil would be stored to a maximum elevation of approximately 35m AOD (up to approximately 7m depth), as shown on **Plate 8: 29,000m^3 Spoil Storage During Construction**, which also provides an indicative section of the spoil profile.

Post-construction, the stored material would be regraded and landscaped across Zones B, C and D to a maximum elevation of approximately 34m AOD (up to approximately 6m depth, as indicated on **Plate 9: 29,000m^3 Spoil During Operation**, which also includes an indicative profile of the landform.

As this is not the worst-case option, it is therefore not considered further within the EIA.

Plate 8: 29,000m^3 Spoil Storage During Construction

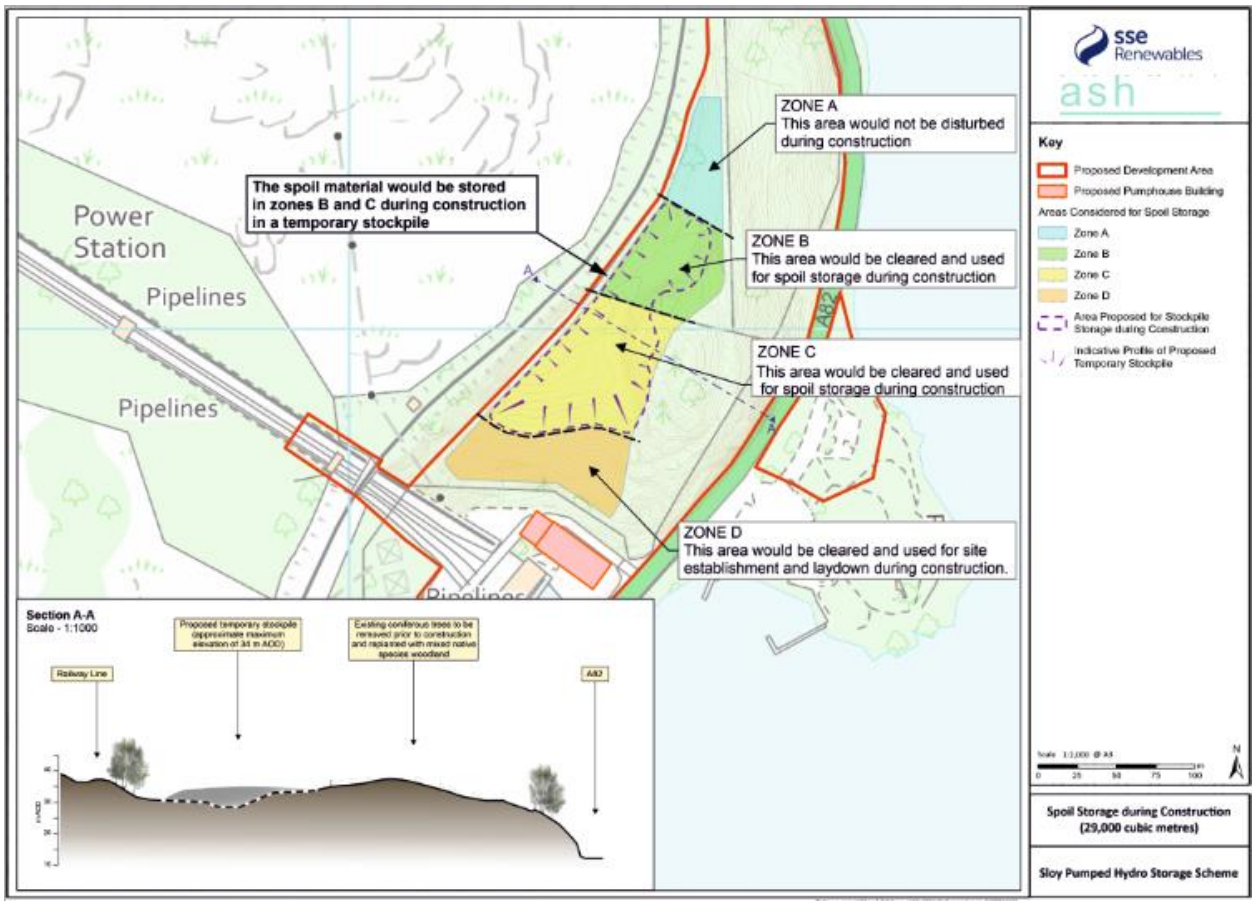
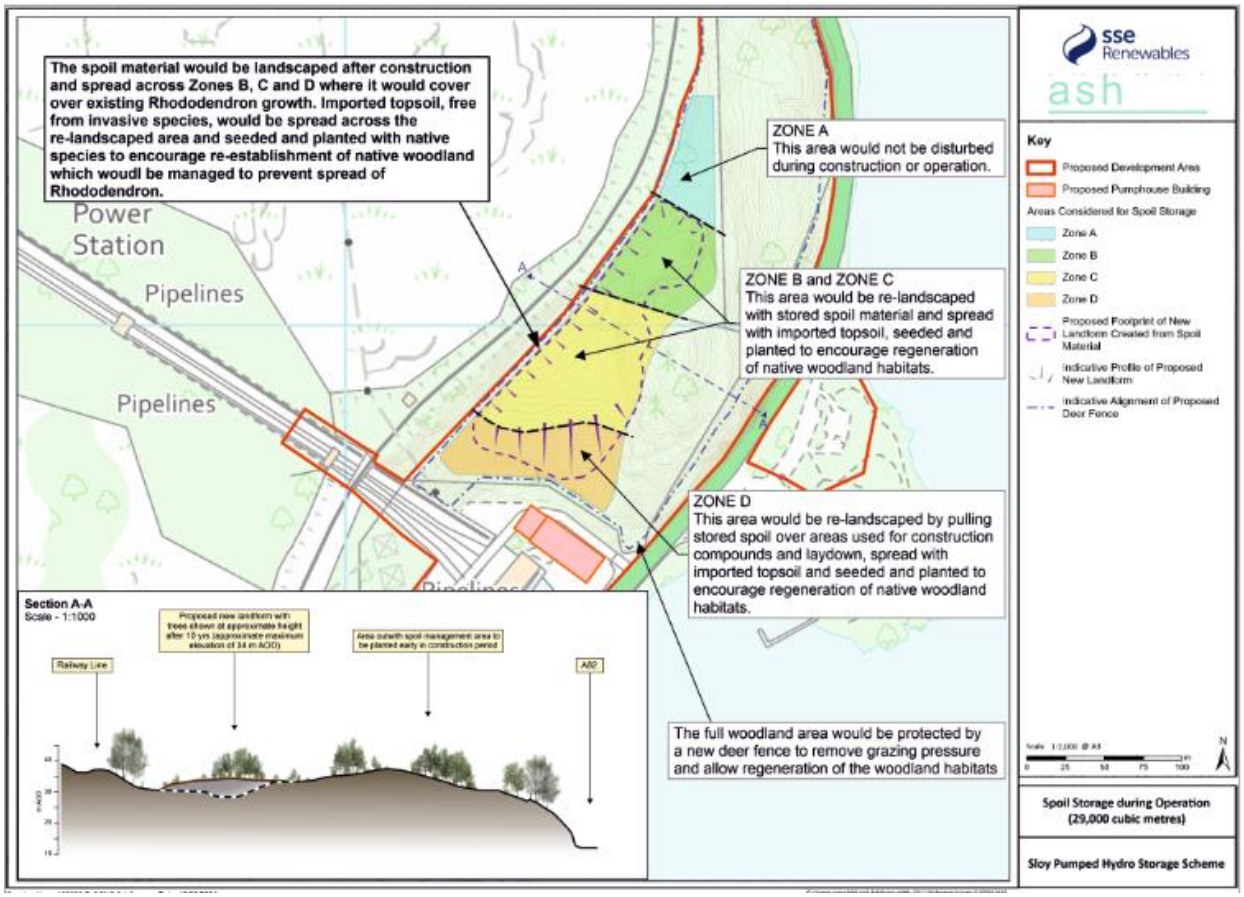


Plate 9: 29,000m³ Spoil During Operation



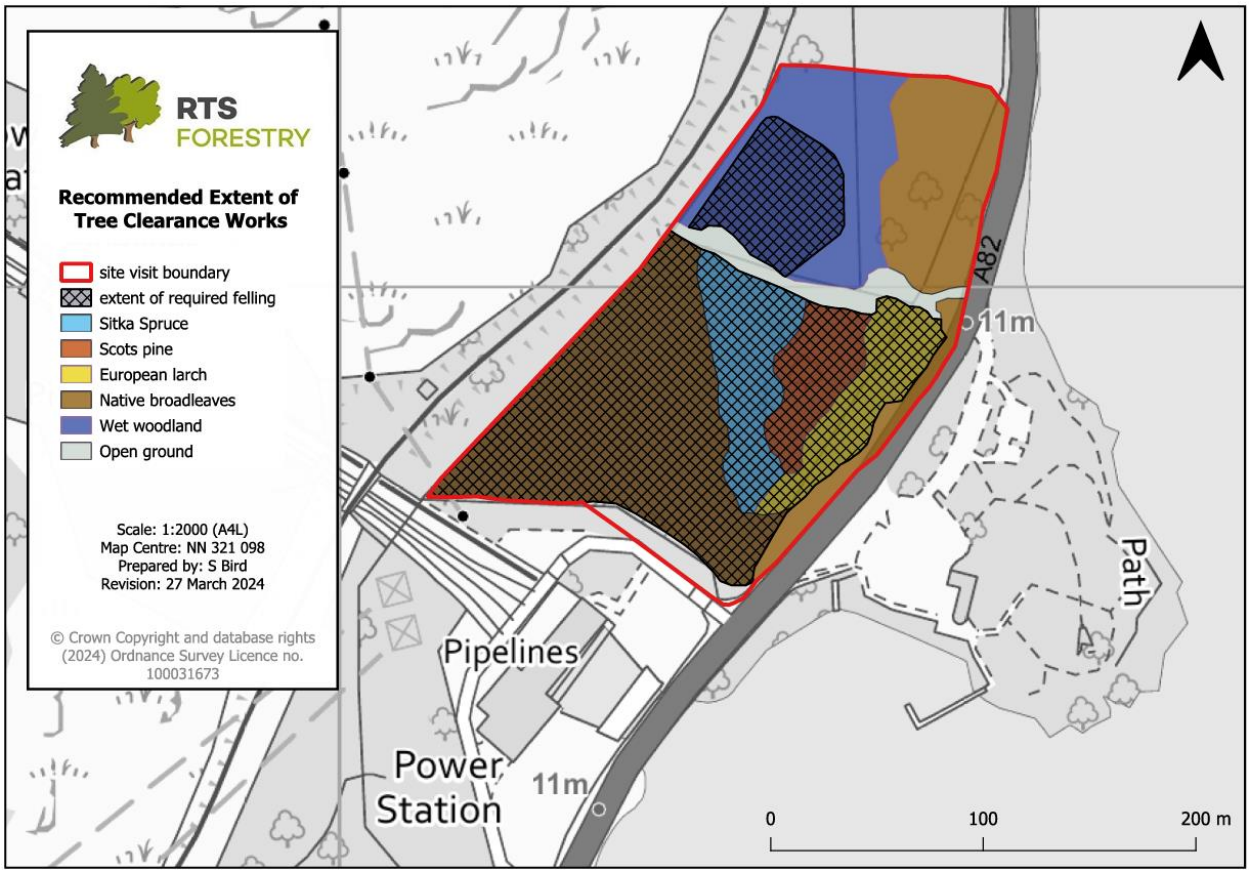
3.6.3. SPOIL MANAGEMENT LAYOUT 3 – LARCH FELLING

Information on how the storage of spoil would be managed on-site, as described above, was shared with LLTNPA for consideration in early 2024. Ongoing consultation with LLTNPA highlighted concerns about the spread of a disease that is affecting larch (*Phytophthora ramorum*) within the LLTNP. In light of discussions with the park it was agreed that pre-emptive felling of the larch within the northern wooded area would be undertaken as part of the site establishment works.

A review has been undertaken of the woodland and tree species which would remain after felling of the larch to to determine if they would remain windfirm or if they may become a topple hazard (**Appendix 3.1 Woodland Site Visit Report**). The study confirmed that in addition to the larch there are areas of Sitka spruce, Scots pine, wet woodland and native broadleaves would need to be felled as shown in **Plate 10: Recommended Extent of Tree Clearance Works**. The area of native broadleaves immediately adjacent to the A82 would be retained and reinforced with new planting at an early stage in the construction process to assist with screening of the felling, temporary spoil storage and construction works.

Consideration would be given to replanting the areas not required for spoil storage early in the construction phase to improve opportunities for early screening, and restoration of habitats (see **Volume 2, Figure 12.7**).

Plate 10: Recommended Extent of Tree Clearance Works



3.6.4. SPOIL MANAGEMENT – OFFSITE USAGE

In addition to consideration of the use of Coiregrogain Quarry for temporary or permanent storage of spoil, consultations with LLTNPA encouraged exploration of potential positive offsite uses for the spoil on nearby projects. Discussions have been held with Forestry and Land Scotland (FLS) and RTS Forestry and they indicated that there are a number of track construction, improvement and maintenance projects locally whose timescales are expected to align with the Proposed Development. The required rock for these projects is in line with the type and volume anticipated to be excavated.

A key consideration in taking spoil off site would be to minimise the additional vehicle movements along the A82. As noted earlier, the A82 is a busy, single-carriageway road and there are numerous sensitive visual receptors that use it and the surrounding area.

Given the potential added benefits of assisting with INNS suppression, and a desire to minimise vehicle movements it was determined that a portion of the spoil should be kept on site. SSE engineers calculated a volume which would be required for INNS suppression, which was estimated to be approximately 12,000m^3. This would result in approximately 28,000m^3 of spoil being transported on the A82 to be repurposed on local projects.

3.6.5. EIA ASSESSMENT

Two scenarios which consider the worst-case option for each environmental discipline were taken forward for assessment in this EIA. Both include the worst-case spoil volume of 40,000m^3.

Scenario 1 considers the full 40,000m^3 of spoil remaining on site in the wooded area to the north of the existing power station and includes pre-emptive larch felling (as detailed above in Layout 1 and 3).

Scenario 2 considers approximately 12,000m^3 of spoil remaining on site in the wooded area to the north of the existing power station to help supress INNS and includes pre-emptive larch felling. Approximately 28,000m^3 of spoil would be transported off site via the A82 to be repurposed on local projects (as detailed above).

The scenarios considered within each of the EIA Chapters is outlined below in **Table 3.1**.

Table 3.1: Spoil Management Scenario Assumptions

Chapter Number	Chapter Name	Spoil Management Scenario Assumption
9	Ecology (Terrestrial and Aquatic)	Scenario 1
10	Ornithology	Scenario 1
11	Soils, Geology and Water Environment	Scenario 1
12	Landscape and Visual Impact Assessment	Scenario 1
13	Traffic and Transport	Scenario 2
14	Noise and Vibration	Scenario 2
15	Cultural Heritage	Scenario 1
16	Land Use and Recreation	Scenario 1

3.6.6. ACHIEVING A BEST CASE FOR SPOIL MANAGEMENT

SSE is committed to achieving a 'best-case' scenario for spoil management. Post consent, the detailed design will endeavour to reduce the overall spoil volume and minimise potential impacts of the storage solution where feasible.

This could be achieved by:

- Pump selection, i.e. vertically oriented pumps which would likely result in spoil volumes in the region of 29,000m^3 which would require a smaller spoil management area in the woodland;
- Refinement of civil design with a focus on reducing excavation volumes where feasible; and
- Continued discussions with 3rd parties who may require excavated stone for projects in the area.

Any options progressed at the detailed design stage, post consent, would be subject to detailed engineering and environmental studies to ensure slope stability and no negative impact on railway infrastructure or any existing watercourses/drainage. Key stakeholders (i.e. LLTNPA, Network Rail and SEPA) would be consulted during these studies.

3.7. Site Access

As with any large construction project, access and site establishment are important design considerations. Early in the design it was determined that construction traffic would need to use the existing northern bellmouth junction onto the A82 at Sloy Hydroelectric Power Station. This would allow construction traffic to be segregated from operational traffic which would continue to use the existing southern access junction. Use of the northern junction for construction access would require the

temporary dismantling and safe storage of the northern entrance gates, gate pillars and a short section of walling which are part of the site's Category A listing. The listed elements would then be reinstated on completion of construction.

It was determined that while the main construction compound / site establishment area could be accommodated on-site to the north of the existing power station, due to site constraints, an additional secondary construction compound would be required. This area would need to be able to safely accommodate HGV deliveries which could then be transferred to the main site.

Located immediately adjacent to the site and owned by SSE, the overflow car park to the north of the Inveruglas Visitor Centre was identified as an ideal location for the secondary construction compound. The area can be completely segregated from the main public car park to the south during the construction of the scheme and accessed via the junction to the north, which is not currently in-use. While this would maintain safe separation of the public and construction traffic, improvements to the northern junction would be required to enable safe access and egress. Following completion of the construction works, the improved road junction would remain and the area would be reinstated, with the central 'island' replanted with appropriate native species.

3.8. Summary of Design Measures to Reduce Potential Impacts

The following measures have been implemented throughout the design evolution to minimise the potential impacts of the Proposed Development:

- The relationship of the new pumphouse design to the existing power station has been carefully considered to ensure it remains subservient in scale and appearance, whilst complementing the existing Category A listed structure;
- The relationship of the new building to the setting within the LLTNP has been carefully considered to ensure it minimises potential impacts on sensitive receptors;
- Alternative options have been considered for the temporary and permanent storage of excavated spoil. These will continue to be reviewed as the design progresses in order to achieve a best-case scenario for spoil management; and
- Construction access to the site has been carefully considered to minimise potential disturbance to users of the A82 and Inveruglas Visitor Centre and to maintain a safe separation between the public and construction works.

The following measures to further minimise potential impacts of the proposed development would be explored in the subsequent design phases:

- Opportunities to further reduce the excavation volume through mechanical and civil design refinement; and
- Careful selection of materials used in the construction to ensure they complement the existing power station and relate to the setting within LLTNP.

Assessment of the potential direct and indirect impacts of the Proposed Development is included in **Chapters 8-16** of this EIA Report. For full details on the Proposed Development design see **Chapter 4: Description of Development** and **Volume 4, Appendix 4.1: Design Statement.**