Appendix 4.3: Sloy Pumped Hydro Storage Scheme: Schedule of Mitigation

Appendix 4.3: Schedule of Mitigation - Contents

1. Schedule of Mitigation

1.1. Introduction

The purpose of this Appendix is to provide a summary of mitigation measures proposed throughout this Environmental Impact Assessment (EIA) Report, to minimise or offset the potential effects of the Proposed Development on the receiving environment.

1.2. Summary of Measures

Table 4.3.1 provides a summary of those mitigation measures identified throughout the EIA related to the Proposed Development.

Table 4.3.1: Schedule of Mitigation Measures

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		General		
G1	Site Establishment and Reinstatement	Areas affected by construction of the Proposed Development would be reinstated with new profiled earthworks and planting. This includes: <u>Primary Site Establishment Area</u> The regrading of the main construction compound / site establishment area, and the reinstatement of the area to an improved condition to the existing, in order to achieve the SSE's Biodiversity Net Gain (BNG). Upon completion of the construction works, and in conjunction with conventional suppression techniques, spoil would be spread over the area to help eradicate the INNS. The area would be reprofiled, covered in suitable soil, seeded and planted to ensure an improved habitat would be established, the area would also be fenced to protect the area of new woodland from grazing. This would also reduce the need for rock spoil to be transported off site via the public road network. <u>Secondary Site Establishment Area</u> Permanent upgrades to the access junction and reinstatement post-construction of the secondary construction compound / site establishment area and vehicle holding area in the overflow car park to the north of the Inveruglas Visitor Centre car park. 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.	**Volume 1, Chapter 4: Description of Development** - Sections 4.2, 4.3.6 and 4.3.7.	Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
G2	Site Access	There are two existing junctions off the A82 at the Sloy Hydroelectric Power Station. The southern junction is used for day-to-day access for the existing power station, whereas the northern junction will be used exclusively by construction vehicles during the construction of the Proposed Development, allowing the separation of construction traffic to operational traffic while utilising an existing junction. To facilitate construction of the Proposed Development, the existing northern gates, gate posts and a short section of walling (which are all part of the Category A listed Sloy Hydroelectric Power Station schedule) would be carefully dismantled and stored prior to construction, to enable suitable junction geometry for the maximum swept path of anticipated delivery vehicles. The junction would be fully reinstated in its current location upon completion of construction. This work would require Listed Building Consent (as it was for the previously consented scheme) and would be subject to further discussion with LLTNPA and Historic Environment Scotland (HES). The overflow car park would be fenced off to maintain separation between the construction works and the Visitor Centre, public facilities and main car park. Construction access would be through the northern junction only. A Construction Traffic Management Plan (CTMP) would be agreed with LLTNPA and Transport Scotland prior to construction works commencing.	**Volume 1, Chapter 4: Description of Development -** Section 4.5. Also refer to: **Volume 4, Appendix 13.1: Transport Assessment**	Contractor / SSE
G3	Construction Hours	It is anticipated that the standard working hours would generally be between 07:00 and 19:00 hours Monday to Saturday, and 07:00 to 16:00 hours on Sunday with some key periods within the programme requiring 24 hour working. In the event of work being required outwith standard hours e.g., commissioning works or emergency mitigation works, the Local Authority, key	**Volume 1, Chapter 4: Description of Development -** Section 4.6.	Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		stakeholders, and local residents would be notified prior to these works taking place, wherever possible.		
G4	Community Liaison	Ongoing engagement with the local community during the construction of the Proposed Development would be an important consideration for SSE and the Principal Contractor. A community liaison group would be set up to provide the local community with information about the timing of key construction activities and a mechanism by which concerns from within the local community could be shared and discussed.	**Volume 1, Chapter 4: Description of Development -** Section 4.6.	SSE
G5	Construction Lighting	During the winter, work areas across the site would have temporary construction lighting at the start and end of the working day. In the event of work being required outside of the proposed working hours, temporary lighting would also be required and would be agreed with the Local Authority in advance.	**Volume 1, Chapter 4: Description of Development -** Section 4.6.	Contractor
G6	Environmental Management	Prior to construction works, sensitive ecological areas, and other specific sensitive locations (e.g. cultural heritage assets and watercourses) would be marked out as appropriate on site by specialist advisers (e.g. the Ecological Clerk of Works (ECoW)) in order to avoid unnecessary encroachment and protect sensitive areas during construction. A Landscape Clerk of Works and an Architect would also be involved during the detailed design and construction phases of the Proposed Development where required, to ensure the key principles of the design and mitigation are realised. The Principal Contractor would ensure that no vehicle movements or other activities take place outwith the approved working area.	**Volume 1, Chapter 4: Description of Development -** Section 4.7.1.	Contractor / ECoW / LCoW / Architect

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
G7	Construction Environmental Management Plan	A Construction Environmental Management Plan (CEMP) would be prepared for the Proposed Development. The CEMP would apply to all construction activities required as part of the proposals. In particular, the CEMP would specify conditions relating to protection of habitats and species, pollution prevention and the means by which site monitoring would occur. The final site-specific CEMP would be secured by a condition of consent and would be prepared by SSE in conjunction with the Principal Contractor, and in consultation and agreement with the Local Authority, Scottish Environment Protection Agency (SEPA), and NatureScot.	**Volume 1, Chapter 4: Description of Development -** Section 4.7.2. Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	Contractor / ECoW
G8	Construction Waste Management	It is anticipated that any excavated material generated during the works, would be re-used on site where possible. Any materials to be removed from site (packaging etc.) would be segregated on site and removed to suitable recycling facilities or disposed of to a suitably licensed waste management facility, in accordance with current waste management regulations. A Waste Management Plan would be provided by the Principal Contractor as part of the Construction Phase CEMP.	**Volume 1, Chapter 4: Description of Development -** Section 4.7.3. Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	Contractor / ECoW
G9	Restoration and Reinstatement	Reinstatement works would generally be undertaken during construction (and during the immediate post-construction phase) and would aim to restore areas of ground disturbance and changes to the landscape as part of the construction works. Reinstatement would be undertaken as soon as practical	**Volume 1, Chapter 4: Description of Development -** Section 4.7.4. Also refer to:	Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		following the construction works. A Site Reinstatement Plan would be provided by the Principal Contractor as part of the CEMP. Outline Landscape Proposals have been included within **Volume 2, Figure 12.7: Outline Landscape Proposals** and would be updated and implemented as part of the Proposed Development to in order to ensure an improved habitat would be established in the woodland area to the north once it has been reprofiled, covered in suitable soil, seeded and planted and fenced to protect the area from grazing. All construction equipment and other temporary infrastructure would be removed from site and the temporary storage areas would be reinstated including the Inveruglas Visitor Centre overflow car park.	**Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan** **Volume 2, Figure 12.7: Outline Landscape Proposals**	
Terrestrial Ecology				
TE1	Habitats	The following general recommendations are aimed at reducing impacts across the range of habitats present within the PDA and within the zone of influence. • A CEMP would be produced detailing environmental management and monitoring measures to occur during the construction phase. • Grassland and woodland should be retained / enhanced where possible to maintain resources for wildlife. Where retention is not feasible, compensatory habitat should be provided.	**Volume 1, Chapter 9: Terrestrial Ecology –** Section 9.9.2 Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan** **Volume 4, Appendix 9.4: Aboricultural Impact Assessment**	Contractor / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• Scottish Environmental Protection Agency (SEPA) pollution prevention guidelines[1] would be followed in order to prevent pollution of wetland habitats and watercourses during any site clearance or construction works; • In order to protect retained trees noted in the Arboricultural Impact Assessment (**Volume 4, Appendix 9.4: Aboricultural Impact Assessment**), measures including a Tree Protection Plan and Tree Constraints Plan would be implemented prior to, and for the duration of construction works, as detailed in **Appendix 9.4**. • Heras fencing or similar would be used to mark the construction boundary to protect off-site habitats and limit access to the works area. No building materials, spoil, machinery, or tools would be stored in areas outside of the Heras fencing. • To compensate for the loss of semi-natural broadleaved woodland and plantation woodland within the PDA, the spoil management area would be regenerated with new native tree and planting following the 24-month construction period. • Subsoil and topsoil uninfected by INNS or pathogens would be sourced from sites of local provenance. Soil would be dispersed in variable depths across the spoil management area. – Areas with a thin coating of topsoil would be allowed to self-seed allowing pioneer broadleaved trees which have higher survival and growth rates on spoil to establish. Leaf fall would lead to a build-up of		

[1] SEPA (n.d.) Guidance Documents [online]. Available from: https://www.sepa.org.uk/regulations/water/guidance/ (Accessed March 2024)

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		litter and formation of humus and roots would help to stabilise spoil surface. – Areas of deeper spoil would be stocked with native trees of local provenance consistent with the cleared W4 and W11 woodland, such as disease-resistant varieties of oak (*Quercus* sp.), birch (*Betula* sp.), common alder (*Alnus glutinosa*), grey willow (*Salix cinerea*), Scots pine (*Pinus sylvestris*), hazel (*Corylus avellana*), rowan (*Sorbus aucuparia*), hawthorn (*Crataegus monogyna*), and juniper (*Juniperus communis*). LLTNPA would be consulted regarding planting species composition. • The Miyawaki method[2] of woodland creation would be explored in order to increase woodland growth and speed. The topsoil could be supplemented with perforator materials to help roots grow, water retainers to help soil retain moisture, organic fertilizers, and a layer of mulch to insulate the soil.[3] • Tree losses are expected, and tree replacement would be undertaken in the early life of the new planting. Tree replacement would be supplemented annually while the crop establishes.		

[2] The Miyawaki method is a tree-planting technique that creates dense, native forests rapidly by mimicking natural ecosystems. It involves planting a mix of native species in a high-density, multi-layered structure that encourages rapid growth and biodiversity. The soil is enriched before planting, and after 2-3 years of initial care, the forest becomes self-sustaining. This method results in forests that grow up to 10 times faster, are more biodiverse, and better absorb CO2, making it effective for restoring degraded land.

[3] Forest Creators (2020). A Beginner's Guide to Miyawaki Method of Tree Plantation. Available from: A Beginner's Guide to Miyawaki Method of Tree Plantation – Miyawaki Forest, Tree Plantation NGO, Afforestation in India – Forest Creators (Accessed March 2024

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• A Woodland Management Plan would be produced outlining how the woodland would be managed over a 10 year time scale. LLTNPA would be consulted regarding management objectives detailed in the plan.		
TE2	Invasive Non-Native Species (INNS)	The following general measures would be followed in relation to terrestrial INNS: • An Invasive Species Management Plan would be produced detailing eradication / control measures and monitoring regime of all terrestrial INNS species within the Proposed Development Area (PDA) and wider land ownership boundary. • Toolbox Talks would be given to all personnel regarding terrestrial invasive plants within the PDA prior to the commencement of works. • Prior to ground works, the extent of all invasive plants within the PDA would be mapped and a plan to avoid spread of plants off-site would be shared with NatureScot. • All terrestrial invasive species plant species would be treated at their original location. • Rhododendron would be cut and treated again prior to burial. • Deep burial would only be undertaken if the intended plant material is previously treated with glyphosate herbicide (biodegradable or non-persistent) only and left in-situ for the herbicides prescribed 'active' period. Soils and plant material contaminated with some persistent herbicides is classed as hazardous waste and so would need to be disposed of as such. Soil contaminated within invasive species is controlled waste.	**Volume 1, Chapter 9: Terrestrial Ecology -** Section 9.9.3.1. Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	Contractor / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• Biosecurity measures would be employed if plant material is to be moved for disposal, including plant wash down facilities, screening, and monitoring protocols. • Plant material would be covered in a barrier membrane and buried beneath the proposed re-graded ground surface. • Landscape maintenance during the operational phase would include treatment eradication of all INNS on site.		
TE3	Fauna - General	The following general measures would be followed in relation to all fauna: • Toolbox Talks would be given to all personnel prior to the commencement of works, including an overview of relevant protected species constraints on site. • A pre-works check for protected species would be conducted by an ecologist. • Care must be taken during clearance / groundworks to ensure wildlife is not harmed. In the event any protected species are found when the ECoW is not in attendance, works must stop, the animal must not be handled, and the project ECoW contacted immediately. • Machinery / tools and building materials would be stored on an impermeable area such as hardstanding or pallets wherever possible. • Any works causing high levels of noise or vibration would be limited to daylight hours to reduce disturbance to nocturnal or crepuscular species in the locale such as bats, otter, and pine marten. • Should a protected species be seen within the PDA, all works must cease and the project ECoW contacted immediately. • Appropriate covers would be fitted over any excavations at the end of every working day. At the very least, a shallow sloping edge or some form	**Volume1, Chapter 9: Terrestrial Ecology -** Section 9.9.4.	Contractor / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		of ramp would be placed in the excavations to allow any animals to climb out. • All temporarily exposed pipes must be capped overnight to prevent animals gaining access and later becoming trapped. • Excavations would be managed to avoid the formation of temporary waterbodies.		
TE4	Bats	An elevated inspection of the moderate PRF tree would be undertaken ahead of site works commencing to confirm suitability and search for field evidence of roosting bats. The requirement for Protected Species Licences from NatureScot would be reviewed following the results of the bat tree inspection. If the PRF is considered to have suitability for bats during the initial check, the PRF tree would be re-inspected to confirm no roosting bats are present immediately prior to felling. To avoid constraints relating to summer roosting or winter hibernating bats, felling of the PRF tree would be scheduled in autumn or early spring, where possible. To compensate for the loss of bat PRF, the provision of two woodcrete bat boxes suitable for cavity dwelling bats would be installed on up to two suitable retained trees within the PDA. Bat boxes would be installed no lower than 4m (5-7m is preferred to prevent disturbance from people and / or predators) above ground and out of prevailing winds facing a south-easterly to south-westerly direction. The tree line within the Network Rail land to the northwest of the PDA and the strip of birch woodland adject to the A82 would be unmodified so that habitat	**Volume 1, Chapter 9: Terrestrial Ecology -** Section 9.9.4.1.	Contractor / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		connectivity exists between the woodlands to the north and south of the site. The areas closest to the A82 would be replanted with fast growing native tree species[4] and nectar and fruit producing species to encourage invertebrates as early in the programme as possible to help reinforce retained commuting corridors for bats. The development design would maintain dark corridors and any permanent lighting and would be 'bat friendly' i.e., would not illuminate bat commuting, foraging and roosting habitats including woodland. Lighting during the construction and operational phase would follow the Bats and Artificial Lighting in the UK guidance note.[5]		
TE5	Good Practice for Protection – Badger / Otter / Red Squirrel / Pine Martin	Any red squirrel dreys recorded within 50m of the woodland clearance area during the pre-works inspection would require monitoring to confirm their status. Felling or construction works within 50 m of a confirmed or suspected breeding drey would be suspended until the juveniles have dispersed or the drey is confirmed to be of non-breeding status. The requirement for Protected Species Licences from NatureScot would be reviewed following the results of monitoring. Tree removal would be scheduled for late autumn / winter to avoid impacts to breeding squirrel dreys. Further information on Species Protection Plans (SPP) can be found in **Volume 4, Appendix 9.5**.	**Volume 1, Chapter 9: Terrestrial Ecology -** Section 9.9.4.2. Also refer to: **Volume 4, Appendix 9.5: Species Protection Plan**	Contractor / ECoW

[4] Common alder (Alnus glutinosa), birch (Betula sp.), osier willow (Salix viminalis), hazel (Corylus avellana), and/or rowan (Sorbus aucuparia)

[5] ILP and BCT. (2018). Bats and Artificial Lighting in the UK. Bats and the Built Environment. ILP. Warwickshire. Available from: layout (bats.org.uk) (Accessed March 2024)

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
TE6	Beaver	Terrestrial and aquatic habitat suitable for beaver within Inveruglas Bay adjacent to the tailrace would not be illuminated during the construction or operational phases, unless prior agreement with ECoW. Stringent pollution prevention measures would be in place and managed via the CEMP, audited by the ECoW and site engineer to avoid pollution by sediment, fuels and oils to the freshwater habitat. A sensitive lighting strategy would be in place during the construction and operational phase and inappropriate lighting of riparian woodland habitat in Inveruglas Bay will be avoided.	**Volume 1, Chapter 9: Terrestrial Ecology -** Section 9.9.4.3. Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	Contractor / ECoW
TE7	Amphibians/Reptiles	Mitigation measures pertaining to amphibians and reptiles are further detailed in the accompanying SPPs included in **Appendix 9.5**. Key mitigation measures are detailed below. Disturbance of features suitable for amphibian hibernation (boulders) should be avoided within the amphibian hibernation period (October - March) to avoid death or injury to breeding / hibernating. Where clearance of long grass or other dense vegetation is required, a two-stage cut would be applied to allow any reptiles, amphibians or small mammals present to disperse of their own volition. The first cut should be made to a height of no less than 150mm, with a minimum of one hour and a visual inspection before a second cut to ground level.	**Volume 1, Chapter 9: Terrestrial Ecology – Section 9.9.4.4.** Also refer to: **Volume 4, Appendix 9.5: Species Protection Plan**	Contractor / ECoW
TE8	Invertebrates	The creation of species-rich grasslands or flower meadows within the PDA, including grassland glades within the woodland planting, using location appropriate native wildflower seed mix would encourage pollinators such as	**Volume 1, Chapter 9: Terrestrial Ecology – Section 9.9.4.5.**	Contractor / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		bumblebees and butterflies and improve biodiversity within the PDA. These would be managed as wildflower meadows, using a 'cut and collect' mower, cutting up to four times during the growing period. There is further off-site land within SSE's ownership which could be enhanced for invertebrates, if required. The compensatory planting area would be enhanced for invertebrates by: • Burying pieces of untreated dead wood just below the surface would provide shelter for a range of invertebrates. This would attract invertebrates such as spiders, snails, and beetles but it may also provide shelter over the winter for butterflies and lacewings; • The addition of commercially available 'invertebrate hotels' would additionally provide valuable invertebrate habitat. These provide a good general insect habitat for beneficial species in summer and later in the year, including overwintering ladybirds and lacewings. Once installed, these do not need to be maintained. These would be installed in sheltered parts of the PDA close to pollen / nectar rich plants.		
TE9	Monitoring	Monitoring would be required to determine the success of mitigation and enhancement measures and provide data on which to base adaptive management if objectives are not being achieved. It is anticipated that the following post-construction monitoring would be required. The results of annual monitoring would be included in a short-form technical report that would be shared with LLTNPA, as required. • Woodland planting would be monitored by a woodland specialist to ensure that planting has been successful and that it reaches the target condition to provide habitat for the IEFs. Planting would be monitored for mortality	**Volume 1, Chapter 9: Terrestrial Ecology – Section 9.10.1.**	Applicant

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		and establishment success. It is anticipated that the woodland would require annual monitoring for the first three years, as planting becomes established, and then at three year intervals for the duration of the 10 year time scale of the Woodland Management Plan • Terrestrial INNS control and eradication would be monitored by an INNS specialist to ensure that objectives detailed in the INNS Management Plan are being met and that actions are updated where necessary. INNS monitoring would be undertaken concurrently with woodland monitoring. • Bat boxes, and invertebrate enhancements would be checked for the first three years for condition and signs of use.		
		Aquatic Ecology		
AE1	Invasive Non-Native Species (INNS) – Aquatic Plants	It is not anticipated that there would be a significant transfer risk of aquatic INNS (plants) due to the following reasons: • The seasonal drawdown of Loch Sloy is likely to be a limiting factor for plant establishment. • The intake screen would be routinely monitored during the operational phase for aquatic invasive plant debris by SSE staff who are trained to identify a range of plant matter which may collect at this location. • SSE would commission biennial INNS plant surveys of the shore of Inveruglas bay and Loch Sloy. In the event that an INNS is discovered on site, a suitably qualified ecologist would be consulted to provide species specific best management practices. Potential management measures for control of Canadian pondweed, Nuttal's pondweed, and New Zealand pigmyweed are detailed in **Volume 4, Appendix 8.1: Aquatic Macrophyte Outline INNS Management Plan**, and include:	**Volume 1, Chapter 8: Aquatic Ecology and Fish** – Section 8.9.1.1. Also refer to: **Volume 4, Appendix 8.1: Aquatic Macrophyte INNS Report**	ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		– Mechanical or hand removal of Nuttal's pondweed and New Zealand pigmyweed could be used. Cutting once per year in early spring has been shown to be effective. Every precaution would be taken during the removal not to leave fragments behind, as these fragments will repopulate the area. Fine mesh netting (0.4mm) would be installed around the target area. – Multiple layers of light-excluding jute matting could be used to shade out Canadian pondweed, Nuttall's pondweed, and New Zealand pigmyweed. The jute also compresses the plant. The matting would be left for up to 17 months to allow the plant material to decompose. During the 17 months, the jute matting may need to be changed for fresh material, as the jute is designed to decompose[6]. The removed jute material would be placed in sealed hazardous bags to be incinerated. – High applications of lime, concentrations to pH 10.8-11[7], has been highly effective against Canadian pondweed by suppressing root growth and significantly reducing biomass. This method would also have other ramifications for the water body and would need to be sealed in a cell before applying.		

[6] Caffrey, J. M., Millane, M., Evers, S., Moron, H. and Butler, M. 2010. A novel approach to aquatic weed control and habitat restoration using biodegradable jute matting. Aquatic Invasions 5: 123-129.

[7] James, W.F. 2008. Effects of lime-induced inorganic carbon reduction on the growth of three aquatic macrophyte species. Aquatic Botany 88: 99-104.

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• SSE would consult with SEPA during the detailed design phase to develop a control plan and would consider design changes that would further reduce the risk of plant INNS transfer.		
AE2	INNS – Fish	Despite the low likelihood of ruffe surviving pump entrainment and transfer to Loch Sloy (detailed in **Chapter 8, Section 8.8.1.2**), in consultation with SEPA, additional measures to deter fish from entering the tailrace would be explored, including the use of acoustic, light and bubble systems during pumping operations. Despite the low likelihood of ruffe surviving pump entrainment and transfer to Loch Sloy (detailed in **Chapter 8, Section 8.8.1.2**), additional measures to deter fish from entering the tailrace would be explored, including the use of acoustic, light and bubble systems during pumping.	**Volume 1, Chapter 8: Aquatic Ecology and Fish** – Section 8.9.1.2. and Section 8.9.2.2	ECoW
AE3	Good Practice for Protection – Native Fish Species	Mitigation measures to be implemented during the construction phase include: • A combination of fyke netting and electro-fishing would be utilised within the construction area for removal of fish to facilitate construction. • The project CEMP will align with Guidance for Pollution Prevention (GPP)[8,9,10] and construction water quality monitoring would be undertaken.	**Volume 1, Chapter 8: Aquatic Ecology and Fish –** Section 8.9.2.1	ECoW

[8] Works and maintenance in or near water: GPP 5. Version 1.2 February 2018. Available at: gpp-5-works-and-maintenance-in-or-near-water.pdf (netregs.org.uk) (Accessed July 2024).

[9] Vehicle Washing and Cleaning GPP 13. Version 1.2 June 2021. Available at guidance-for-pollution-prevention-13-2022-update-v2.pdf (netregs.org.uk) (Accessed July 2024).

[10] Dealing with spills: GPP 22. October 2018 (Version 1.). Available at: gpp-22-dealing-with-spills.pdf (netregs.org.uk) (accessed July 2024).

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• The project CEMP will include measures to avoid illumination of water such as directional lighting. • An intake screen with an 8mm flat bar and 12mm bar aperture would be installed which would exclude smolts >99mm in length, and eels >318mm in length[11]. Salmon smolts in the Loch Lomond catchment have been recorded over 200mm in length[12]. Sea trout smolts are typically larger than salmon smolts[13] and would exceed the minimum size threshold for exclusion by 12mm aperture screens. • Following early-design phase consultation with SEPA, it has been agreed that the maximum approach velocity at the intake would be 0.45m/s. Previous guidance recommending 0.3m/s through-velocities to prevent entrainment of salmon smolts is based on studies using hatchery-reared smolts, which are weaker than their wild counterparts. Wild salmon smolts can swim against currents up to 1.26m/s indefinitely, maintain velocities of 1.64m/s for short periods, and achieve bursts of up to 1.95m/s. Screen sizes would be based on the proposed approach velocities with additional surface area to account for blinding. • Intake screens would be regularly cleaned by automated cleaning devices to avoid the build-up of debris.		

[11] Turnpenny, A. (1981). An Analysis of Mesh Sizes Required for Screening Fishes at Water Intakes. Estuaries, 4(4), 363–368. Available at: https://doi.org/10.2307/1352161

[12] Lilly, et al. (2022). Combining acoustic telemetry with a mechanistic model to investigate characteristics unique to successful Atlantic salmon smolt migrants through a standing body of water. Environ. Biol. Fish. **105**, 2045–2063. Available at: https://doi.org/10.1007/s10641-021-01172-x

[13] Jonsson, B. & Jonsson, N. (2011). Habitats as Template for Life Histories. In: Ecology of Atlantic Salmon and Brown Trout. Fish & Fisheries Series, 33. Springer, Dordrecht. Available at: https://doi.org/10.1007/978-94-007-1189-1_1

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• Additional measures to deter fish from entering the tailrace would be investigated, including the use of acoustic, light, and bubble systems during pumping operations.		
AE4	Monitoring Measures	Ongoing monitoring is required to determine the success of mitigation and enhancement measures. This will provide quantitative data on how to best implement adaptive management if objectives are not being achieved. It is anticipated that the following monitoring would be required during the construction and operational phases. The results of annual monitoring would be included in a short-form technical report that would be shared with LLTNPA, as requested. • Inveruglas Bay and Loch Sloy would be monitored biennially for signs of Nuttal's pondweed, Canadian pondweed, and New Zealand pigmyweed establishment. This would utilise strandline observations, bathyscape survey, and underwater (video) cameras during the construction and operational phases. Appropriate control measures would be enacted if required. • A programme of drinking water quality monitoring would be undertaken in Loch Sloy during the initial period of the operational phase, as agreed with Scottish Water. The results of this would enable monitoring of the trophic status. • Monitoring of Loch Sloy for the presence of ruffe. • Monitoring of the powan population in Loch Sloy and the two refuge reservoirs from the 2009 translocation that received powan of Loch Lomond genetic origin (Lochan Shira and Allt na Lairige).	**Volume 1, Chapter 8: Aquatic Ecology and Fish –** Section 8.10.1.	ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
AE5	Licensing	A Marine Directorate licence[14] would be in place prior to a pre-construction fish rescue utilising otherwise unlawful methods (fyke netting and electro-fishing). A NatureScot licence would be in place during the construction phase where the Proposed Development could directly impact powan in Inveruglas Bay.	**Volume 1, Chapter 8: Aquatic Ecology and Fish –** Section 8.10.2.	ECoW
		Ornithology		
O1	Vegetation Clearance	Vegetation clearance or tree removal would not be completed during the nesting bird season (March to September, inclusive, although some species may breed outwith this period), unless no active nests are identified during a nesting bird survey within 48 hours prior to works. Should any nesting birds be identified, an appropriate buffer zone should be maintained and works suspended until all dependent young have left the nest. No activity may take place within this exclusion zone until the ECoW confirms that either the young have fledged, the brood has failed, or nest has become inactive. Fencing or signage would delineate these restricted zones.	**Volume 1, Chapter 10: Ornithology** – Section 10.9 Also refer to: **Volume 4, Appendix 10.2: Breeding Bird Report**	Contractor / ECoW
O2	Noise Disturbance	Noise reduction measures would be implemented during the construction phase in working areas adjacent to retained habitat. Machinery would not be left idling within sensitive areas and noisy activities would be scheduled during times when birds are less active.	**Volume 1, Chapter 10: Ornithology** – Section 10.9	Contractor / ECoW

[14] Available at: wat-sg-75.pdf (sepa.org.uk) (Accessed July 2024)

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
			Also refer to: **Volume 4, Appendix 10.2: Breeding Bird Report**	
O3	Light Disturbance	To minimise the impact of artificial lighting on birds, retained habitat would not be illuminated during the construction or operational phase. Lights within the working area would be installed within shields to direct light downwards and reduce light spill into natural habitats. The lowest light intensity necessary for functioning would be used to minimise disturbance.	**Volume 1, Chapter 10: Ornithology** – Section 10.9 Also refer to: **Volume 4, Appendix 10.2: Breeding Bird Report**	Contractor / ECoW
O4	Habitat / Bird Boxes	Compensatory bird boxes suitable for the bird species confirmed or suspected of breeding within the survey area would be provisioned within existing adjacent woodland and mature trees during the construction phase and in the compensatory planting area during the operational phase. The bird boxes would be suitable for the range of species recorded as having confirmed or probable breeding territories within the PDA. Small hole nest boxes would be utilised for species such as wood warbler, willow warbler great tit, blue tit, coal tit. Boxes would be positioned both between 3-5m above ground level on retained semi-mature/mature trees and low to the ground in dense scrub. Some of the small hole nest boxes would be installed on conifer trees as preferred by coal tits. Open front nest boxes would be utilised for species such as song thrush, blackbird, dunnock, and robin and positioned low to the ground within dense scrub and on tree bases. Specialised woodpecker boxes would be utilised for great spotted	**Volume 1, Chapter 10: Ornithology** – Section 10.9 Also refer to: **Volume 4, Appendix 10.2: Breeding Bird Report**	Contractor / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		woodpecker and installed between 3-5m above ground level on retained semi-mature/mature trees. Some species do not use nest boxes, and thickets of dense, native shrubs of local providence would be incorporated into the compensatory planting area, including hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), holly (*Ilex aquifolium*), and crab apple (*Malus sylvestris*).		
O5	Monitoring	Monitoring would be required to determine the success of compensation measures and provide data on which to base adaptive management if objectives are not being achieved. It is anticipated that the following post-construction monitoring would be required. The results of annual monitoring would be included in a short-form technical report that would be shared with LLTNPA, as required. • Bird boxes would be checked for the first three years for condition and signs of use.	**Volume 1, Chapter 10: Ornithology –** Section 10.10.1. Also refer to: **Volume 4, Appendix 10.2: Breeding Bird Report**	SSE
		Soils, Geology and Water Environment		
SGWE1	Water Management and Protection of Scottish Water Assets – CAR License	The existing CAR licence (CAR/L/1011861/V2) will be Varied to accommodate the Proposed Development. The abstraction and discharge rate between Loch Lomond and Loch Sloy water will be subject to controls agreed with SEPA and regulated by a CAR authorisation.	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.1.1.	SSE / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		It is expected as part of the Variation application SEPA will consult with Scottish Water and NatureScot such that their interests are reflected and afforded protection by the revised CAR authorisation.		
SGWE2	Buffer to Watercourses and Waterbodies	As requested by SEPA a minimum buffer of at least 6m has been applied to watercourses and waterbodies, where possible, and where practical any proposed construction activities or infrastructure has been located outside of this buffer, this includes the secondary compound proposed at Inveruglas LLTNPA car park. Construction of the proposed intake would require an extension of the existing tailrace, this would require works being carried out in the tailrace which is hydraulically connected to Loch Lomond. To enable safe construction and mitigate the potential of locally impairing water quality, it is proposed that the works would be isolated by use of a temporary cofferdam. This will ensure that there is no direct connection between the construction works and Loch Lomond. Water which collects behind the cofferdam, for example, from rainfall or groundwater ingress, would be collected and treated before discharge in-line with the CEMP, thus safeguarding water quality in Loch Lomond.	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.1.2.	ECoW / Contractor
SGWE3	Construction and Environmental Management Plan	A contractual requirement of the successful Contractor would be the development and implementation of a comprehensive and site-specific CEMP. This document would detail how the successful Contractor would manage the works in accordance with all commitments and mitigation detailed in the EIA Report, statutory consents and authorisations, and industry best practice and guidance, including pollution prevention guidance.	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.	ECoW / Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		An outline CEMP has been prepared and is presented as **Volume 4, Appendix 4.2**. The outline CEMP includes measures to ensure that the works minimise the risk of an adverse impact to soils, groundwater, surface water and water dependent habitats.	Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	
SGWE4	Environmental / Ecological Clerk of Works	A qualified ECoW will be appointed before construction begins. The ECoW will provide expert advice to SSE and the Contractor on ecological and hydrological issues throughout the construction phase. They would attend work programming meetings and conduct regular site audits, to provide advice on how mitigate potential adverse impacts on soil and water environments.	**Volume1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.1.	ECoW
SGWE5	Soils Management	Excavated soils will be safeguarded and handled in accordance with industry best practice in order that their integrity and carbon content is safeguarded as required by NPF4. Where practicable, excavated soils would be beneficially reused as part of the landscaping and restoration proposals (see **Chapter 12: Landscape and Visual**). It is recognised that the proposed spoil management area has been subject to previous development which dates back to the construction of the existing power station. Although there was no evidence of contamination in the 2010 ground investigation, there is potential for contaminated ground to be present. The Project CEMP will include a soils and materials management plan consisting of a method statement for identifying potentially contaminated soils, measures to quarantine these while testing of the soils is undertaken, and a procedure for their handling and management.	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.2. Also refer to: **Volume 1, Chapter 12: Landscape and Visual.** **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
SGWE6	Water Quality Monitoring	Water quality monitoring plans would be developed during the detailed design stage in consultation with relevant stakeholders. Baseline surface water quality data will be collected prior to commencement of the works alongside ongoing monitoring during the works in order to identify any significant changes of water quality which may be attributed to the construction works. An example of monitoring frequency and an analysis suite is presented in the outline CEMP (see **Volume 4, Appendix 4.2**). Water quality monitoring would also be used to confirm there is no impact to the Loch Sloy and Loch Lomond DWPAs and nearby private water supplies.	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.3. Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	ECoW / Contractor / SSE
SGWE7	Pollution Risk	Good practice measures in relation to pollution prevention would include the following: • On-site fuel storage will be bunded and safeguarded against vehicle collisions, • COSHH items (chemical storage) shall be stored in lockable, bunded secondary containment, • Emergency spill response kits will be available and maintained throughout the construction phase, • Stationary plant items will have drip trays available. Each item of mobile plant shall carry an individual spill kit, • Waste water from temporary welfare facilities will be collected for offsite disposal by a licensed contractor, in line with the duty of care for waste, • Refuelling would take place at least 10m from watercourses / waterbodies. Where this buffer distance cannot be achieved a minimum distance will be agreed with the ECoW,	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.4.	SSE / Contractor / ECoW

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• Foul water generated onsite would be managed in accordance with Pollution Prevention Guidance 4 (PPG4), • Fuel pipes on plant, outlets at fuel tanks etc will be regularly checked and maintained to ensure that no drips or leaks to ground occur, • Areas designated for production of concrete or wash down would be a minimum distance of 10m from a watercourse. Washout water would be stored in the washout area before being treated and disposed of in accordance with the Site Waste Management Plan, • Any runoff within the PDA would be collected and treated prior to discharge.		
SGWE8	Erosion and Sedimentation	Good practice measures for the management of erosion and sedimentation would include the following: • All excavated material will be stockpiled in-line with spoil management layout plans and as agreed with the ECoW, • Measures will be implemented to prevent surface water runoff from entering excavations such as trenches and foundations. • Appropriate mitigation measures would be employed, such as silt fencing and settlement ponds to prevent silt-laden runoff having an impact on the water environment. develop and implement a wet weather protocol for weather events that have the potential to result in sediment runoff, including provisions to temporarily suspend work during severe conditions. • The ECoW and the Contractor would carry out regular visual inspections of watercourses to check for silt-laden water downstream of work areas. The inflow / outflow to Loch Sloy from the existing hydraulic system already benefits from erosion protection. As part of the preliminary design completed to inform this planning application, it has been confirmed that the existing	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.5.	ECoW / Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		water transfer infrastructure from Sloy Power Station to Loch Sloy would maintain its structural integrity and does not need to be modified to safely transfer the proposed volume or rate of water transfer. This analysis has included review of the potential revised operating conditions and the more frequent rise and fall of water level which would be experienced in Loch Sloy as a result of the Proposed Development. No erosion of the banks of Loch Sloy is anticipated during the operational life of the Proposed Development. Similarly, the proposed new intake arrangements in Loch Lomond at the tie in to the existing tailrace have been designed to accommodate the proposed water transfer volumes and rates (in both abstraction and power generation modes). This will ensure that there is no erosion impact in Loch Lomond as a result of operation of the Proposed Development.		
SGWE9	Fluvial Flood Risk	During construction a wet weather working protocol would be implemented. This would restrict working in potential flood prone areas reducing the risk to workers and machinery. The wet weather working protocol would also specify low risk flood areas where construction equipment would be moved to should extreme weather warnings be issued by the Met Office and / or SEPA. It is proposed to adopt good practice in relation to the management of surface water runoff rates and volumes and potential for localised fluvial flood risk. This would include the following: • Drainage systems would be designed to ensure that any sediment, pollutants or foreign materials are removed before water is discharged into a watercourse,	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.6. Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	ECoW / Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• On-site drainage would be subject to routine checks to ensure that there is no build-up of sediment or foreign materials which may reduce the efficiency of the original drainage design causing localised flooding; and • Drainage measures would attenuate runoff rates and/ reduce runoff volumes to ensure minimal effect upon flood risk. This may include collection in a tank for offsite disposal at an appropriately licenced facility. Further information on drainage designs would be provided in the final Project CEMP.		
SGWE10	Concrete Transport, Pouring and Batching	In relation to works involving concrete transport and pouring, in line with best practice the following mitigation would be adopted: • Where concrete transfers are required, measures would be adopted at the point of concrete transfer to prevent accidental spillage of liquid concrete. No transfers would be undertaken in proximity to watercourses or areas of standing water, • There would be no full wash-out of concrete carrying vehicles within the proposed development. Concrete wash-down (e.g. chutes/small hoppers) would be carried out at suitably bunded/protected facilities. Water used for wash-down would be collected within a suitable container, allowed to settle and disposed at suitably licensed facilities, • Excess concrete would not be discharged to drains or watercourses. This would be collected and disposed of in accordance with the waste management plan. Vehicles and plant working on foundations would be confined to the area required for safe working to prevent compaction, rutting and habitat damage to adjacent areas of land; and	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.7. Also refer to: **Volume 4, Appendix 4.2: Outline Construction Environmental Management Plan**	ECoW / Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• Concrete works will be supervised and monitored. Shuttering would be used to ensure all concrete is contained during pours and curing. As stated above, the proposed pumphouse and tailrace would be isolated from Loch Lomond and dewatered and dry during concrete pouring, this is likely to be through the construction of a temporary cofferdam which will only be removed once all foundations and formation works have cured and approved by a suitably qualified engineer; this will ensure there is no risk to soils or water from pollution from concrete following construction. Should any concrete batching be undertaken at site this would only be undertaken in accordance with strict controls and best practice. The need for concrete batching would be identified by the Contractor at the detailed design stage of the project and if required a method statement and controls required to safeguard the water environment specified in the final CEMP.		
SGWE11	Dewatering	The proposed pumphouse requires a deep foundation in which the pumps will be located. Good practice measures which have been incorporated in the Proposed Development design will prevent significant dewatering occurring and include the following: • Site investigation data have shown no contaminated ground (and therefore water) beneath the pumphouse footprint, • The superficial and solid geology at this location have a low bulk permeability and thus would not store or permit a large quantity of groundwater movement, • Measures will be taken to isolate the works from Loch Lomond (and therefore prevent ingress of water from the loch) during construction,	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.8.	ECoW / Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• Provision would be made for collecting incident rainfall and any limited groundwater ingress in the pumphouse foundation during construction; and • A suitably qualified engineer would be present to confirm the temporary works and limited dewatering do not induce any ground instability. Following construction there would be no need for any dewatering as the pumphouse foundations will be watertight. No permanent lowering of groundwater levels would occur.		
SGWE12	Water Abstraction for Dust Suppression	There is potential that water may be required on occasion for dust suppression during the construction phase. Dust suppression would only be required during dry periods and as directed by the site ECoW. There would be no requirement for dust suppression, or for water abstraction for any other use, during the operational phase of the Proposed Development. Any water abstraction would only be made by the Contractor who would ensure authorisation from SEPA and in accordance with the CAR. Good practice that would be followed in addition to the CAR regulations includes: • Confirmation of the proposed water source and point of abstraction, • Water use would be planned to minimise abstraction volumes, • Water would be re-used where possible; and • Abstraction volumes would be recorded.	**Volume 1, Chapter 11: Soils, Geology and Water Environment -** Section 11.7.2.9.	ECoW / Contractor / SSE
Landscape and Visual				

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
LV1	Mitigation Through Design	The minimising of landscape and visual effects and long-term aim to present a positive development within the context of the LLTNP and popular Inveruglas area has been a key consideration throughout the design process. The following key elements of mitigation would be implemented as part of the design and are considered within the LVIA in the assessment of effects after 10 years: <u>Landmark Building Design</u> A high standard of architectural design proposed for the proposed pump house, using quality materials, is one of the key elements of mitigation through design. It is intended that this building would form a new prominent and positive addition to the Inveruglas area which would complement the existing Hydroelectric Power Station which already forms a notable landmark within the setting of Loch Lomond and in passing from adjacent routes. This high standard and attention to detail would mitigate the potential for negative longer term effects with the intention that the Proposed Development would be perceived as having a positive contribution to the landscape and visual setting and LLTNP. <u>Setting of Buildings</u> Following the completion of construction, the boundary walls and gates would be restored which would return elements of the character of the Sloy Hydroelectric Power Station setting and grounds. The extended hardstanding area and new transformer compound would be largely hidden from public areas by these features and by the new building. Detailing within the Power Station grounds would be considered in order to retain the existing character of the setting as far as possible. This would include grassing over of the proposed crane pad and access route, replacing the small trees removed on	**Volume 1, Chapter 12: Landscape and Visual Impact Assessment -** Section 12.11.1. Also refer to: **Volume 2, Figure 4.2: Proposed Development during Operation – Plan and Section** **Volume 4, Appendix 4.1: Design Statement**	SSE / Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		the south side of the existing Power Station, and careful consideration of materials used for ground retention on the north-side to reflect the existing standard of detailing and proposed detailing of the new building. This may include the use of similar stone to the Proposed Building plinth to finish retaining walls and / or a vegetation based ground retention system that would allow grass and wildflower growth on steep cut slopes. <u>Retention of Existing Trees</u> Where possible existing trees which provide landscape and visual value would be retained. This would include trees in the following areas: • Retention of a fringe of woodland edge trees, mainly birch, located above the cutting of the A82 which would help filter views towards the larger felled area of mainly coniferous trees behind from the Inveruglas visitor centre and car park area. • Two large oak trees on the southern side of the tailrace would be retained and their root zone protected throughout construction. Smaller, more recently planted trees around these would be retained where possible, although it is likely that at least two of these smaller trees would need to be removed to enable construction access for the crane pad. These would be compensated for by newly planted trees within this area, following completion of construction works. <u>Restoration of Spoil Management Area</u> Once works were complete, the stored materials would be reprofiled, to form a new mounded area which would reflect and tie in with the landform of adjacent areas. This would then be spread with a suitable locally sourced soil and established with a mix of woodland planting and seeding. Natural		

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		regeneration would also be encouraged to help develop an age diverse and biodiverse woodland habitat. It is predicted that, by 10 years post construction, this landform is unlikely to be identifiable as artificial within the context. <u>Replanting of Felled Woodland Areas</u> It is proposed that areas of mainly conifer woodland to be felled to the east and northeast of the primary site establishment and spoil management area would be replanted early in the construction phase, with a mix of native woodland species to reflect adjacent areas and habitats. This would include a mix of oak and Scots pine with other native understory and woodland edge species. Early planting would assist in this area establishing faster, which would help to soften views towards the spoil storage area which would take longer to establish. <u>Re-establishment of Overflow Car Park Area</u> Once no longer required as a site establishment area, the overflow car park area would be restored to its original use, with the existing woodland character being re-established as far as possible. The vegetated island would be reinstated in the centre of the hard-stand area and planted with native woodland species, and parking areas would be established suitable for use by a mix of cars and motorhomes.		
	Secondary Mitigation	<u>Maintenance and Management Regime</u> A programme of on-going maintenance and management would be put in place for all woodland areas within the PDA. This would be primarily focussed on the removal of invasive species including *Rhododendron ponticum* with a	**Volume 1, Chapter 12: Landscape and Visual Impact Assessment -** Section 12.11.2.	Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		focus on establishing native woodland habitats which would enhance both the landscape setting and biodiversity of the site. There would be a commitment to continued management to ensure that these and other invasive species do not become re-established. During construction, a deer fence would be erected around all areas not required for construction works, including the felled areas to the east and northeast of the site establishment area, to encourage regeneration of native woodland species in existing woodland areas, and to help protect planting from grazing animals. This would be extended around the full woodland area once construction works were complete to also protect planting and regeneration within the re-landscaped spoil management area. Monitoring of all planting would take place to ensure that successful establishment.		
		Traffic and Transport		
T1	Construction Traffic Management Plan	The CTMP would be agreed with LLTNPA and TS prior to construction works commencing through the imposition of a planning condition, with proposed measures to be included provided below. The following measures would be implemented during the construction phase through the CTMP: • where possible, the detailed design process would minimise the volume of material to be imported and exported to site to help reduce HGV numbers; • a site worker transport and travel arrangement plan, including transport modes to and from the worksite (including pick up and drop off times);	**Volume 1, Chapter 13: Traffic and Transport -** Section 13.10.1	Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• a Transport Management Plan for AIL deliveries; (if required); • all materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads; • specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway; • wheel cleaning facilities may be established at the site entrance, depending on the views of LLTNPA and TS; • normal site delivery hours would be limited to between 07:00 and 19:00 (Monday to Saturday) and 07:00 to 15:00 hours (Sundays), with some key periods within the programme requiring 24 hour working. In the event of work being required outwith standard hours, e.g., commissioning works or emergency mitigation works, the Local Authority would be notified prior to these works taking place, wherever possible; • appropriate traffic management measures would be put in place on the A82(T) to avoid conflict with general traffic, subject to the agreement of LLTNPA and TS. Typical measures would include HGV turning and crossing signs and / or banksmen at the site access and warning signs; • provide construction updates on the project website and / or a newsletter to be distributed to residents within an agreed distance of the site; • adoption of voluntary reduced speed limits at locations to be agreed with LLTNPA and TS; • all drivers would be required to attend an induction to include: – a toolbox talk safety briefing; – the need for appropriate care and speed control; – a briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through the villages); and		

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		– identification of the required access routes and the controls to ensure no departure from these routes. Transport Scotland are likely to request that an agreement to cover the cost of abnormal wear on the A82(T) in the vicinity of the Proposed Development is put in place. Video footage of the pre-construction phase condition of the construction vehicles route would be recorded to provide a baseline of the condition of the road prior to any construction work commencing. This baseline would provide evidence of any change in the road condition during the construction phase. Any necessary repairs would be coordinated with TS. Any damage caused by construction traffic associated with the Proposed Development, that would be hazardous to public traffic, would be repaired immediately. Damage to road infrastructure caused directly by construction traffic would be remediated, and street furniture that is removed on a temporary basis would be fully reinstated. There would be a regular road review, and any debris and mud would be removed from the carriageway using an on-site road sweeper to ensure road safety for all road users.		
T2	Abnormal Load Transport Management Plan (If Required)	There are a number of traffic management measures that could help reduce the effect of AIL convoys on the public road network should the current situation change and AILs are required. These measures would be enacted for example, should the proposed pump sections be classed as AILs. All abnormal load deliveries would be undertaken at appropriate times (to be discussed and agreed with LLTNPA, TS and police) with the aim to minimise the effect on the local road network. It is likely that the abnormal load convoys would travel in the early morning periods before peak times.	**Volume 1, Chapter 13: Traffic and Transport -** Section 13.10.2.	ECoW / Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		The majority of potential conflicts between construction traffic and other road users would occur with abnormal load traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them. Potential conflicts between the abnormal loads and other road users can occur at a variety of locations and circumstances. The main potential conflicts are likely to occur: • at other locations where there are significant changes in the horizontal alignment of the carriageway, requiring the loads to use the full carriageway width; • where traffic turns at a road junctions, requiring other traffic to be restrained on other approach arms; and • in locations where high speeds of general traffic are predicted. Advance warning signs would be installed on the approaches to the affected road network. Information signage could be installed to help assist drivers. Flip up panels would be used to mask over days where convoys would not be operating. When no convoys are moving, the sign would be bagged over by the Traffic Management contractor. This signage would assist in helping improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist). The location and numbers of signs would be agreed post consent and would form part of the Traffic Management Proposal for the project. The Abnormal Load Transport Management Plan would also include: • procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles would not be impeded by the loads. This is normally undertaken by informing the emergency services of delivery		

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		times and dates and agreeing communication protocols and lay over areas to allow overtaking; • a diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events; • a protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and • proposals to establish a construction liaison group to ensure the smooth management of the project with the applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising. The Abnormal Load Transport Management Plan would be conducted post consent and would be secured through a planning condition. Should AILs be required, information on the AIL convoys would be provided to local media outlets such as local papers and local radio to help assist the public if deemed necessary. Information would relate to expected vehicle movements from the Port of Entry (POE) through to the site access junction. This will assist residents becoming aware of the convoy movements and may help reduce any potential conflicts. The applicant would also ensure information was distributed through its communication team via the project website, local newsletters, and social media.		

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		A police escort would be required to facilitate the delivery of any AILs should the current situation change and they are required for the Proposed Development. The police escort would be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advance escort would warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy would remain in radio contact at all times where possible. The abnormal loads convoys would be no more than three AIL long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so. The times in which the convoys would travel would need to be agreed with Police Scotland who have sole discretion on when loads can be moved.		
T3	Spoil Transport	The excavated rock would be used productively in the construction of the new works, where feasible. In order to reduce the need for rock spoil to be transported off site, via the public road network, it is proposed a portion of the excavated rock would be spread over the area to the north of the existing power station. This would aid in the suppression and eradication of invasive non-native plant species. The area would be reprofiled, soiled, seeded, and planted, to ensure an improved habitat would be established.	**Volume 1, Chapter 13: Traffic and Transport -** Section 13.8.	ECoW / Contractor / SSE
T4	Path Management Plan (If Required)	In the immediate vicinity of the site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the paths and public roads. If required by LLTNPA, a Path Planning Study can be conducted post consent and secured through a planning condition. Findings from the study would be used to	**Volume 1, Chapter 13: Traffic and Transport -** Section 13.10.3.	ECoW / Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		formulate a set of measures into a Path Management Plan (PMP), which can be a standalone document or form part of the CTMP. Appropriate *Traffic Signs Manual Chapter 8* compliant temporary road signage would be provided to assist at these crossing for the benefit of all users. The principal contractor would ensure that speed limits are always adhered to by their drivers and associated subcontractors. This would be particularly important within close proximity to the paths, Core Paths and at crossing points. Advisory speed limit signage would also be installed on approaches to areas where path users may interact with construction traffic. Signage would be installed on the site exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This would also be emphasised in the weekly toolbox talks.		
T5	Staff Travel Plan	A Staff Travel Plan will be deployed where necessary, to manage the arrival and departure profile of staff and to encourage sustainable modes of transport, especially car-sharing. A package of measures could include: • appointment of a Travel Plan Coordinator (TPC); • provision of public transport information; • mini-bus service for transport of site staff; • promotion of a car sharing scheme; and • car parking management.	**Volume 1, Chapter 13: Traffic and Transport** – Section 13.10.4	Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
T6	Operational Phase	Site entrance roads would be well maintained and monitored during the operational life of the Proposed Development. Regular maintenance would be undertaken to keep the site access drainage systems fully operation and to ensure there are no run-off issues onto the public road network.	**Volume 1, Chapter 13: Traffic and Transport -** Section 13.10.5.	ECoW / Contractor
		Noise and Vibrations		
NV1	Noise Management and Barriers	Mitigation has been incorporated into the construction noise assessment in the form of acoustic barriers located around temporary generating plant that may be operational during night-time periods. A number of options exist for the barrier construction, including Heras type fencing fitted with acoustic blanket panels, or a more permanent structure constructed from wood or other materials. The barrier would enclose the generators / generator enclosures on three sides to prevent transmission around the sides (with no gaps or openings at the joins between sections), with the open fourth side facing away from the nearest NSRs (i.e. northwards). The barriers would have a minimum density of 10kg/m^2.	**Volume 1, Chapter 14: Noise and Vibration -** Section 14.8.1.1.	Contractor / SSE
NV2	Good Practice Measures	A number of good practice measures would be implemented to minimise the likely effects. Section 8 of *BS 5228-1:2009+A1:2014* recommends a number of simple control measures, as summarised below, that would be employed on-site: • Keep local residents informed of the proposed working schedule, including the times and duration of any abnormally noisy activity that may cause concern; • All vehicles and mechanical plant should be fitted with effective exhaust silencers and be subject to programmed maintenance;	**Volume 1, Chapter 14: Noise and Vibration -** Section 14.8.1.2.	Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		• All vehicles would use non-tonal (white noise type) reversing alarms; • Select inherently quiet plant where appropriate - all major compressors would be 'sound reduced' models fitted with properly lined and sealed acoustic covers, which would be kept closed whenever the machines are in use; • All ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers; • Machines would be shut down between work periods (or when not in use) or throttled down to a minimum; • Regularly maintain all equipment used on site, including maintenance related to noise emissions; • Vehicles would be loaded carefully to ensure minimal drop heights so as to minimise noise during this operation; and • All ancillary plant such as generators and pumps would be positioned so as to cause minimum noise disturbance and temporary acoustic screens or enclosures would be provided.		
NV3	Construction Vibration Monitoring Scheme	A scheme for vibration monitoring would be developed and included within the Construction Environmental Management Plan (CEMP) prior to the commencement of works. The vibration monitoring survey would take place throughout the duration of the construction period to ensure vibration levels are controlled at the closest residential NSR (NSR1 – Sloy Power Station Bungalow). Where appropriate vibration level limits are established prior to the commencement of construction works, and a monitoring survey undertaken for the duration of works, sufficient mitigation can be implemented where	**Volume 1, Chapter 14: Noise and Vibration -** Section 14.8.2.1.	Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		required in order to ensure that vibration level limits are met at the nearest NSRs.		
		Cultural Heritage		
CH1	Preservation In-Situ	All visible surviving remains of the former military road (2) would be avoided by the proposed pumphouse. The remains of the military road (2) would be marked out for avoidance during forestry felling and construction works. The asset would be identified by placing high visibility markers from the outer limits of the visible remains, facing the working area. A stand-off buffer of 5m would be applied from the outer limits of the military road remains. Tree felling would be directed to steer timber away from the marked remains, and any trees required to be felled in close proximity to the military road remains would be removed by hand.	**Volume 1, Chapter 15: Cultural Heritage -** Section 15.8.2.1.	Archaeological Clerk of Works / Contractor
CH2	Watching Briefs	Any requirements for archaeological monitoring through pre-construction trenching evaluation or construction phase monitoring of works through watching briefs would be agreed in advance with West of Scotland Archaeological Service (WoSAS).	**Volume 1, Chapter 15: Cultural Heritage -** Section 15.8.2.2.	Archaeological Clerk of Works / Contractor
CH3	Post-Excavation Assessment and Reporting	If new, archaeologically significant discoveries are made during archaeological monitoring, and it is not possible to preserve the discovered remains in situ, provision will be made for their excavation where necessary. The provision will include the consequent production of written reports on the findings, with post-excavation analysis and publication of the results of the works, where appropriate.	**Volume 1, Chapter 15: Cultural Heritage** - Section 15.8.2.3.	Archaeological Clerk of Works / Contractor

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
CH4	Listed Building Consent and Protection	Listed Building Consent (LBC) will be required from the Loch Lomond and Trossachs National Parks Authority (LLTNPA) for modification of the fabric of the Category A Sloy Awe Hydro Electric Scheme, Sloy Power Station including Boundary Walls, Gates and Gate Piers (LB 43188). A photographic record would be made of the Category A Listed Gates, Gate Piers and Boundary Wall of Sloy Power Station prior to their dismantling to enable site access. This work would be sufficient to provide record of the existing power station northern entrance and to inform the restitution works at the end of the construction phase. A similar record would be made of the rubble wall surrounding the existing penstocks. Protection of Category A Listed Sloy Awe Hydro Electric Scheme, Sloy Power Station including Boundary Walls, Gates and Gate Piers (LB 43188) would be required during the construction phase to prevent potential accidental damage from plant and vehicle movement during construction activities. The scope and details of required protection would be agreed through consultation with LLTNPA in advance of development works and would be set out in a WSI.	**Volume 1, Chapter 15: Cultural Heritage -** Sections 15.8.2.4. and 15.8.2.5.	Archaeological Clerk of Works / Contractor
CH5	Post Construction Monitoring	Post-construction monitoring would be carried out to: • check that marking out of the military road (2) within the PDA has been effective and that the asset has not been disturbed during forestry felling / construction works. • check that all markers have been removed from the military road following completion of the Proposed Development. • Check that the Category A Listed Sloy Power Station (LB 43188) Gates, Gate Piers and Boundary Wall have been reinstated to the required	**Volume 1, Chapter 15: Cultural Heritage -** Section 15.8.2.6.	Archaeological Clerk of Works / Contractor / Applicant

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
		standard and in accordance with the Listed Building Consent. The fabric and character of the reinstated gates, gate piers and boundary wall would be recorded by photographic and written record. A similar record would be made of the rubble wall surrounding the penstocks to the rear of the existing substation.		
		Recreation		
LUR1	Outdoor Access Management	An Outdoor Access Management Plan (OAMP) would be implemented to ensure the safe and continued access of all recreational routes located within the vicinity of the Proposed Development during construction. The overflow car park at Inveruglas Visitor Centre would be securely fenced off and closed to the public during the construction of the Proposed Development and information would be provided to the public regarding alternative facilities. The main car park at Inveruglas Visitor Centre would remain open to the public during the construction of the Proposed Development. All best practice construction guidance should be followed to ensure safety for recreational users of the area surrounding the PDA during construction.	**Volume 1, Chapter 16: Recreation -** Section 16.9. Also refer to: **Volume 4, Appendix 16.1: Draft Outdoor Access Management Plan.**	Contractor / SSE
LUR2	Recreational Camping and Overflow Car Park Use	Signposts to alternative site locations available to campers via the Visitors Centre is proposed to reduce the impacts as far as possible. The implementation of the OAMP would ensure the continued safety of recreational users of the area.	**Volume 1, Chapter 16: Recreation -** Section 16.8.	Contractor / SSE

Mitigation Reference	Issue	Mitigation / Monitoring Measure	EIA Report Reference	Responsibility
LUR3	Popular Recreational Routes	Direct disruption of core paths and walkers, due to construction activities close to the A82, can be reduced through safety measures to separate them all from the construction activities. Signposts will also be used at a safe crossing point on the A82.	**Volume 1, Chapter 16: Recreation -** Section 16.7.1.	Contractor / SSE