March 2025

Glen Earrach Pumped Storage Hydro

Environmental Impact Assessment Report

Volume 5: Appendices
Appendix 3.1: Outline Construction Environmental Management Plan

Glen Earrach Energy Ltd

Glen Earrach AECOM

Quality information

Prepared by	Checked by	Verified by	Approved by
Alex Irvine Niamh Sheehy	Aaron Cleghorn	Ian Gillies	David Lee
Environmental Consultant Senior Planning Consultant	Civil engineer	Renewables & Energy Transition Practice Lead	Technical Director

Issue	Issue date	Details	Authorized	Name	Position
1	March 2025	Submission	DL	David Lee	Technical Director – Renewable Energy

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1. Introduction

1.1 Background

1.1.1 Glen Earrach Energy (GEE) (hereafter referred to as the 'Applicant') are seeking consent under Section 36 (of the Electricity Act 1989) (S36) to construct and operate a Pumped Storage Hydro scheme (PSH) to be known as the Glen Earrach PSH scheme (hereafter referred to as the 'Proposed Development'). As the Proposed Development comprises an electricity station with a capacity of more than 50 megawatts (MW), it is required to be determined by Scottish Ministers in accordance with the provisions of S36. The Scottish Ministers will also be requested to give direction for planning permission to be deemed granted under Section 57 (2) of the Town and Country Planning (Scotland) Act 1997 (TCP(S)A).

1.1.2 This outline Construction Environmental Management Plan (OCEMP) is being produced to accompany the S36 application. The objective of this oCEMP is to provide information on how potential environmental impacts will be avoided, managed and/ or minimised. It is designed to ensure that the requirements of legislation, the S36 application, the accompanying environmental information and good practice guidance are complied with.

1.1.3 The oCEMP will be updated and finalised post consent in line with any relevant planning conditions and in agreement with The Highland Council (THC), NatureScot (NS) and the Scottish Environment Protection Agency (SEPA).

1.1.4 The oCEMP will form part of the induction which is mandatory for all employees, contractors and visitors attending the site. All employees and Construction Contractors shall familiarise themselves with the content of this oCEMP. This document is an outline of measures that will be subject to further discussions with stakeholders and will be updated to respond to construction practices adopted by the Construction Contractor which may reduce the extent of the mitigation measures required.

1.1.5 There are several other topic-specific Management Plans which have been prepared for this Proposed Development and therefore should be read in conjunction with this oCEMP.

1.1.6 The oCEMP will be subject to continual review to address, for example:

- Any conditions stipulated in the S36 Consent;
- To ensure it reflects good practice during construction;
- To ensure it incorporates the findings of any pre-construction site investigation and surveys; and
- To accommodate the working practices of the Construction Contractor(s).

1.1.7 It is intended that this oCEMP should continue to be viewed as a live document to be updated and agreed post consent to include all final method statements and policies from the Construction Contractor.

1.2 Structure of this oCEMP

- **Section 2: Construction Environmental Management Plan**, covering:
  - Safety;
  - Security;
  - Construction Site Housekeeping;
  - Pre-Construction Enabling Works & Construction Compounds;
  - Welfare Facilities;
  - Crane Arcs;
  - Movement and Storage of Material;
  - Piling;

  - Timing of Works;
  - Working Hours; and
  - Lighting.
- **Section 3: Environmental Policies, Roles and Communication**:
  - Environmental Policy and Management Systems;
  - Roles and Responsibilities;
  - Communication; and
  - Environmental Training and Awareness.
- **Section 4: Monitoring & Auditing**:
  - Complaints Procedure;
  - Inspections and Audits;
  - Environmental Monitoring; and
  - Environmental Incident and Corrective Action Reporting.

- **Section 5: Topic Specific Management Plans**. In addition to the above, this oCEMP includes the following topic specific Environmental Management Plans (EMPs).

Table 1 Topic Specific Management Plans

Management Plan	Status	Reference
Materials Management Appraisal (MMA)	Draft	Appendix 15.1 (Volume 5: Appendices)
Outline Peat Management Plan (oPMP)	Draft	Appendix 15.2 (Volume 5: Appendices)
Outline Landscape and Ecology Management Plan (oLEMP)	Draft	Appendix 6.4 (Volume 5: Appendices)
Outline Peat Restoration Plan	Draft	Appendix 7.6 (Volume 5: Appendices)
Construction Traffic Management Plan (CTMP)	Draft	Appendix 13.2 Transport Assessment (Volume 5: Appendices)
Outline Access Management Plan (oAMP)	Draft	Appendix 16.1 (Volume 5: Appendices)
Outline Water Management Plan (oWMP)	Draft	Appendix 10.4 (Volume 5: Appendices)
Outline Drainage Strategy	Draft	Appendix 11.2 (Volume 5: Appendices)
Report on Private Water Supplies (PWS)		Appendix 10.2 (Volume 5: Appendices)
Outline Construction Noise Management Plan	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)
Emergency Response & Flood Risk Management Plan (ERFRMP)	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)
Waste Management Plan (WMP)	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)
Outline Dust Management Plan	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)
Outline Ecology Management Plan	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)
Outline Biosecurity Management Plan	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)
Outline Pollution Prevention Plan	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)
Outline Landscape Working Methods	Outline in CEMP	Appendix 3.1: oCEMP (Volume 5: Appendices)

Management Plan	Status	Reference
Watercourse Crossing Detailed Assessment	To be developed post consent	N/A
Water Quality and Flow Monitoring Plans	To be developed post consent	N/A
Final CEMP	To be developed post consent	N/A
Final WMP including Emergency Response Plan	To be developed post consent	N/A
Construction Ground Water Control Strategy	To be developed post consent	N/A
Water Supply Strategy (Construction & Operation)	To be developed post consent	N/A
Detailed Drainage Strategy (surface and foul drainage)	To be developed post consent	N/A
Loch Ness Water Quality and Stratification Monitoring, Modelling and Management Strategy	To be developed post consent	N/A
Sediment Management Plan	To be developed post consent	N/A
Loch Ness Shoreline Management Plan	To be developed post consent	N/A
Operators Environmental Management System	To be developed post consent	N/A
Water Features Restoration Plan	To be developed post consent	N/A
Compensatory Planting Strategy/Plan (objectives outlined in Section 18.9 of Chapter 18 Forestry)	To be developed post consent	N/A
Bird Protection Plan (BPP)	To be developed post consent	N/A
Species Protection Plan (SPP)	To be developed post consent	N/A
Blasting Plan	To be developed post consent	N/A

1.2.1 All the Management Plans, which are labelled as Draft, are provided as separate appendices to the EIAR and can be found in **Volume 5: Appendices** as listed above. All Management Plans which are “Outline in oCEMP” have their minimum contents outlined in **Section 4 Topic Specific Management Plans** of this document. All other documents are recommended to be developed post consent.

2. Construction Environmental Management Plan (CEMP)

2.1 Introduction

2.1.1 This document has been prepared to comply with the requirements of S36 consent.

2.1.2 All mitigation measures which have been outlined in the Environmental Impact Assessment Report (EIAR), and additional measures proposed in other Management Plans, submitted as part of the S36 application, have been outlined in the Schedule of Mitigation **(Appendix 19.1 Mitigation Register (Volume 5: Appendices).**

2.1.3 This document sets out the minimum standards to be adopted when constructing the Proposed Development. It also provides information about the associated Management Plans which should be read in conjunction with this oCEMP.

2.1.4 The objective of this oCEMP is to provide initial information on how potential construction stage environmental impacts are to be minimised. The document provides minimum requirements and measures to be implemented rather than construction detail, as the Construction Contractor has not yet been appointed. Once a Construction Contractor is in place, the oCEMP will be updated and a finalised CEMP will be submitted to THC for their approval in consultation with NS, SEPA, and other relevant consultees.

2.1.5 The CEMP is designed to ensure compliance with environmental legislation, committed construction stage mitigation as reported in the EIAR, mitigation developed within the topic-specific management plans and the Construction Contractors own environmental policies.

2.1.6 The CEMP will remain a live document throughout the construction phase and will be regularly reviewed to take into account additional environmental information encountered during the construction phases; however, at all times the minimum standards identified in the CEMP will be complied with.

2.1.7 All personnel and sub-contractors working on the Proposed Development will perform their duties in accordance with the requirements of the CEMP. The Environmental Manager will report regularly to the Project Manager (PM) on the status and effectiveness of its implementation.

2.2 Safety

2.2.1 Site specific risk assessments and method statements will be undertaken by the Construction Contractor in accordance with the applicable legislation prior to the commencement of construction activities; to identify any potential risks, assess their likelihood and significance, and to identify mitigation measures to be implemented to ensure the safety of workers and the general public.

2.2.2 Site security during the construction phase will be strict. Access to the site will be prevented by the use of temporary fencing to prevent unauthorised access. Compounds for the temporary storage of equipment or materials will be provided. These will be locked with restricted access. Security staff will be utilised as appropriate.

2.2.3 The Applicant will ensure that adequate arrangements are in place for the discharge of all duties under the Construction (Design and Management) Regulations 2015 (CDM).

2.2.4 A Construction Phase Health and Safety Plan (CPHSP) will be prepared by the Construction Contractor which will set out how all health and safety matters on site are to be managed and how risks are to be identified and managed in accordance with current good practice and legal requirements.

2.3 Security

2.3.1 A Permit to Work system (or equivalent) will be introduced during construction to ensure that only authorised construction personnel are allowed within the construction area and that an accurate record of site-based personnel is available in case of emergency.

2.3.2 The Construction Contractor will ensure that the construction sites are secure. Access to the Proposed Development will be limited to specified entry points only and all personnel entries and exits will be recorded and monitored for both security and health and safety purposes.

2.3.3 Visitors to the Proposed Development Site during construction will be required to report to the construction reception office (location to be confirmed) and will only be permitted to access the construction area under escort by appropriately authorised staff or following successful completion of specific safety induction / training.

2.3.4 All working areas will be appropriately fenced off from members of the public and to prevent animals from straying onto working areas.

2.4 Construction Site Housekeeping

2.4.1 Good construction site housekeeping practice will be applied at all times. As far as reasonably practicable, the layout of the site will be designed using the following principles:

- All work areas will be secured;
- Any fuels or liquid materials will be stored and bunded in compliance with the relevant regulation;
- Signage and boundary fences, where required, will be regularly inspected, repaired and replaced as necessary;
- All working areas will be kept in a clean and tidy condition as far as reasonably practicable;
- Wheel washing and dust suppression facilities will be provided when and where required;
- All practicable measures will be taken to minimise the risk of fire, and the Construction Contractor will comply with the requirements of the local fire service;
- Waste will be removed at frequent intervals;
- Construction waste susceptible to spreading by wind or liable to cause litter will be stored in secure containers;
- The Construction Contractor shall take all precautions as are reasonably practicable to prevent the occurrence of smoke emissions or fumes from site plant or stored fuel oils for safety reasons and to prevent, as far as is reasonably practicable, such emissions or fumes drifting into residential areas, nearby workplaces or areas of public open space. In particular:
  - Plant shall be well maintained, regularly serviced and measures taken to ensure that engines are not left running for long periods when not directly in use.
  - Plant which emits visible emissions after warm-up shall be taken out of service either repaired or replaced.
  - Vehicle exhausts should be directed away from the ground and other surfaces and preferably upwards to avoid road dust being re-suspended to the air and should be positioned at a sufficient height to ensure adequate local dispersal of emissions.
- The Construction Contractor will ensure that all construction vehicles will conform to at least Euro 4 emissions standards;
- Under the Clean Air Act (1993), open fires will be avoided on site;
- To minimise the production of black smoke particles minimum acceptable temperatures will be used e.g. when heating bitumen, avoiding heating with open flame burners where possible. Pots or tanks containing hot bitumen will be covered; and,
- All works, at all phases of Proposed Development, will be undertaken in accordance with SEPA Guidance on Pollution Prevention (GPP), Pollution Prevention Guidance (PPG), and Construction Industry Research and Information Association (CIRIA) guidance). Further detail can be found within the **Outline Water Management Plan (Appendix 10.4 (Volume 5: Appendices)**).

2.5 Pre-Construction and Enabling Works & Construction Compounds

2.5.1 Prior to any enabling or pre-construction works, no topsoil or subsoil stripping should be undertaken without the written permission of THC in consultation with the appropriate stakeholders. This should include details of any storage of materials and locations of construction access tracks.

2.5.2 All groundworks, clearing land and reprofiling will take into consideration the Guidance contained within SEPA's Supporting Guidance (WAT-SG-75) Sector Specific Guidance: Construction Sites[1] which provides guidance on the application of environmental standards and good management practice techniques in relation to large scale construction sites and pollution control.

2.5.3 No access tracks should be located on unstripped vegetation or ground.

2.5.4 The Construction Compounds will meet standard good management practice which include but are not limited to:

- New permanent infrastructure or temporary compounds will align with distances from watercourses as per SEPA advice, being 50 m wherever possible;
- Bunds will be used where required to meet the requirements of the SEPA PPG and oil storage regulations;
- Adequate parking will be provided to ensure that the safety and efficient operation of the public highway is not reduced;
- Welfare facilities will be provided to minimise the need for offsite trips by staff during the working day;
- Compound design and layout will ensure that dust emission sources are located away from sensitive receptors; and,
- Where compound lighting is required, it will be designed to minimise light pollution to the surrounding area.

2.5.5 **Figure 2.25 Indicative Construction Compound (Volume 3: Figures)** shows the typical Construction Compound detail and associated design principals the Construction Contractor should follow.

2.6 Welfare Facilities

2.6.1 Workers' Safety Information Sheets and control of substances hazardous to health (COSHH) safety data sheets will be kept on site.

2.6.2 Where portable generators are used, industry good practice will be followed to minimise noise and pollution from such generators in addition to any measures outlined in **Section 4.2 Complaints Procedure** of this document.

2.6.3 Temporary welfare facilities will be provided onsite during pre-construction, construction and demobilisation. These will be located at an appropriate distance from sensitive receptors, such as watercourses or residential properties. Prior to construction, the Construction Contractor will prepare the arrangements for welfare provision and will be responsible for the maintenance of the facilities throughout the construction of the Proposed Development. The nature and scale of facilities required will be in proportion to the size and location of the Proposed Development. Facilities will include:

- Toilets;
- Washing facilities;
- Drinking water;
- Changing rooms, drying rooms and lockers;
- Facilities for rest; and
- Canteen and kitchen facilities.

[1] SEPA (2021) *Sector Specific Guidance: Water Run-Off from Construction Sites* (online) Available at: https://www.sepa.org.uk/media/340359/wat-sg-75.pdf [Accessed: 07 October 2024]

2.6.3.1 No design of foul drainage has been undertaken at this stage. This will be undertaken during detailed design stage in agreement with SEPA, THC and Scottish Water as required. If possible, foul drainage will be connected to the public sewer. However, if this is not possible alternative options may be considered such as:

- Collection in sealed cesspits with foul wastewater pumped out on a regular basis for disposal at a suitable licenced waste facility. The foul drainage system will be managed and maintained by a specialised waste management company for the life of the Proposed Development; and,
- On site treatment and disposal such as a septic tank system or bespoke/package treatment works. Given the numbers of workers on the Proposed Development Site during construction it is expected that an onsite package treatment works will be required. However, in the longer term a septic tank system may be more appropriate. Both options will require suitable environmental assessment and authorisation from SEPA through the Controlled Activities Regulations (CAR) process. The foul drainage systems will also need to be managed and maintained by a specialise waste management company for the life of the Proposed Development.

2.6.4 The risk of infestation by pests or vermin will be minimised by the appropriate collection, storage and regular collection of waste, the prompt treatment of any pest infestation and effective preventative pest control measures.

2.6.5 Wastewater facilities will be arranged with appropriate sewerage provisions included within these facilities and all necessary consents obtained from THC and SEPA.

2.6.6 The welfare and other facilities required for the personnel will be located across the Proposed Development Site, with the main compounds located within the northern section of the Proposed Development Site, approximately 425 m south of the River Coiltie.

2.7 Temporary Workers Accommodation

2.7.1 The Temporary Workers Accommodation and facilities for up to 1,000 persons will be located within the northern section of the Proposed Development Site, approximately 425 m south of the River Coiltie.

2.7.2 The workers accommodation will be constructed in phases according to the construction programme and will contain all necessary infrastructure to support the residents throughout construction, minimising need for travel off-site.

2.7.3 This includes medical facilities, shops, catering, gym and sports facilities, site offices, firefighting facilities, water treatment and distribution infrastructure, waste management and recycling facilities, gas storage and distribution infrastructure, and others.

2.7.4 Compound staff will also be housed on-site, and a park and ride system will be implemented should off site travel be required. Please refer to **Figures 2.28: Temporary Workers Accommodation Plan** and **Figure 2.29: Temporary Workers Accommodation Section (Volume 3: Figures).**

2.8 Crane Active Rotation Controls (ARCs)

2.8.1 Crane ARCs will be confined within the construction areas and cranes will be operated in accordance with the requirements of BS 7121, Code of Practice for Safe Use of Cranes[2] and the requirements of the CPHSP.

2.9 Movement and Storage of Material

2.9.1 Approximately 9,670,000 m³ of excavated material (bulked) will be generated by the Proposed Development, with a significant proportion of this to be reused within the Proposed Development. Details of anticipated material volumes can be found within the **Appendix 15.1: Material Management Appraisal (MMA) (Volume 5: Appendices))** and the excavation, storage and management of peat can be found within **Appendix 15.2: Outline Peat Management Plan (Volume 5: Appendices).** In order to demonstrate reuse and resourcing of the excavated material, a Materials Management Plan (MMP) will be prepared to audit and record the movements of materials.

[2] BSI. (2016). BS 7121-1:2016 Code of Practice for Safe Use of Cranes.

2.9.2 Good practice measures for movement and storage of materials in relation to dust are provided in the Outline Dust Management Plan in **Section 4.5 Outline Dust Management Plan** of this CEMP.

2.9.3 Movement and storage of materials is also covered with relation to protection of water from sediment laden run-off in the **Appendix 10.4: Outline Water Management Plan (Volume 5: Appendices).**

2.10 Timing of Works

2.10.1 A detailed construction methodology will be produced by the Construction Contractor for the Proposed Development post-consent. Works will be phased to minimise effects on the surrounding environment and local communities through the following measures:

- Default work exclusion zones to be established during the breading bird season to protect nesting Slavonian grebe and red-throated diver, and lekking black grouse. Exclusion zones will be established around known Slavonian grebe breeding sites (from 2024 AECOM surveys) plus any additional nest sites recorded during subsequent pre-construction and construction phase bird surveys. Exclusion zones will be implemented from 01 April to 15 September (inclusive) each year for Slavonian grebe and red-throated diver or until such a time that the ECoW confident that no breeding by the species is taking place (by the 30th of June at the earliest). Exclusion zones will be implemented around black grouse lek sites between late March and Mid-May encompassing the time period one hour either side of sunrise and sunset only. No works will be permitted with the exclusion zones unless explicitly permitted by the ECoW
- Pre-work surveys will determine the appropriate derogation licences for protected species to be obtained. Species Protection Plans (SPP(s)) will be produced to support the application for any derogation licences. The SPPs will include (but not be limited to) specifications relating to Environmental Clerk of Works (EnvCoW) supervision of works, restrictions on the timing of works and methods used. The exact content of the any individual SPP would be informed by the results of pre-works surveys. For further details see SPP in **Section 7.9.2 and 7.9.3 Species Specific-Additional Mitigation** see **Chapter 7: Terrestrial Ecology (Volume 2: EIA Main Report)**;
- Due to the uncertainty with respect to the Zone of Influence (ZoI) for blasting activities, and the number of sensitive and specially protected birds recorded, restrictions on above ground blasting activities during the breeding season will be implemented until an appropriate blasting exclusion zone can be determined. No above ground blasting will be permitted on site between February and September inclusive, unless and until an appropriate ZoI is demonstrated by the Construction Contractor specific to the blasting methodology that will be employed (extended to February/March to account for nesting golden eagle). A project specific Blasting Plan will be produced by the Construction Contractor, supported by appointed ECoW, for review and approval by The Highland Council, Energy Consents Unit and Nature Scot (the Blasting Plan could be appended onto the Bird Protection Plan). It is anticipated that the Blasting Plan would be informed by the following:
  - A literature review on the responses of breeding birds to blasting activities to determine a potential ZoI from blasting sites with respect to noise and vibration; and
  - A program of initial or ‘test blasting’, undertaken outside the bird breeding season, to monitor baseline noise and vibration levels at specific distance bands from above ground blasting locations and /or sensitive sites (e.g. Slavonian grebe breeding sites).
    - Based on the results of the above two activities a breeding season blasting exclusion zone will be implemented, if required, to protect Slavonian grebe and red-throated diver breeding sites with temporal restrictions as detailed above under ‘Works Exclusion Zones’;
- Scheduling construction activities to minimise the area and period of time that excavated soil will be exposed, particularly during wetter periods;
- Timing soil handling and overburden stripping to suit weather conditions;
- Adherence to standard construction working hours, i.e. 0800 hours – 1900 hours weekdays and 0800 hours – 1300 hours Saturdays, although this may be extended to 19.00 at critical path construction phases, with no working on Sundays or Bank Holidays (including site deliveries) unless agreed in

advance with THC. However, it is anticipated that tunnel construction will be a 24-hour operation. The anticipated blast cycle is likely be up to two blasts per 24 hours;

- Implementation of strict water management and pollution prevention measures to control contaminants, sedimentation and run-off in line with the requirements in the **Outline Water Management Plan (Appendix 10.4 (Volume 5: Appendices))**;
- Timing noise, vibration and dust producing activities to avoid key sensitive times most disturbing to the local residents and noise sensitive receptors within and close to the Proposed Development Site;
- Avoidance of ground blasting in the early morning, late afternoon or evening, where practicable. The Construction Contractor will undertake consultation with the local community in advance of construction activities;
- The Construction Contractor will liaise with local forestry operators to minimise impacts on proposed felling plans for local forestry operations;
- Timing of forestry operations to avoid disturbance to wildlife present on the Proposed Development; and,
- Construction traffic will be managed via the requirements of the Construction Traffic Management Plan (CTMP) and will be scheduled to ensure that deliveries and plant movement occur at set times, avoiding peak periods. A framework CTMP is contained within **Appendix 13.2 Framework CTMP (Volume 5: Appendices)**. The final CTMP will be finalised following consultation with Police Scotland, THC and Transport Scotland.

2.10.2 Further details can be found within **Chapter 8: Ornithology, Chapter 10 Water Environment, Chapter 13: Access, Traffic & Transport, Chapter 14: Noise & Vibration, Chapter 16: Socio-economics, Tourism and Recreation and Chapter 18: Forestry (Volume 2: EIA Main Report).**

2.11 Working Hours and Duration

2.11.1 Construction is expected to last up to 8 years including the Pre-construction and Enabling Works. The construction work is anticipated to peak between years 2 and 4 as the tunnelling construction and the Headpond construction are the two biggest operations, and they are sequenced in parallel. The tunnelling work is expected to be a 24-hour operation. Further details on timing and sequencing of activities can be found within **Chapter 2: Project and Site Description (Volume 2: EIA Main Report).**

2.11.2 Other than underground construction works, construction activities will be limited to 0800 – 1900 Monday to Friday and 0800 – 1300 on Saturday, although this may be extended to 1900 at critical path construction phases, and at no time on Sundays and Bank Holidays except in case of emergency. Any deviation from these working hours will be agreed with THC in advance of the works being undertaken (where possible).

2.12 Lighting

2.12.1 Where lighting is necessary, appropriate low glare lighting will be used to minimise the impact of lighting on ecological receptors, including nocturnal species. Any artificial lighting required for construction works would be directional to avoid or minimise light spill beyond immediate works areas and would be turned off when not required.

2.12.2 Lighting during construction and operation will also be required at the LCW. The form of lighting will be determined by the Constructor Contractor and will seek to minimise the impact on the adjacent communities as far as practicable whilst maintaining the safe and efficient operation of the Proposed Development.

2.12.3 Navigational lighting at the LCW will likely be required, a marker in the water should be lit and may be by means of a special marker buoy to warn of the presence of the smolt screen structure. These will be agreed at detailed design stage in consultation with the relevant navigational authority.

2.13 Climate Emissions Reduction

2.13.1 The Construction Contractor will employ best practice measures where practicable during the construction phase of the Proposed Development to reduce Greenhous Gas (GHG) impacts. These measures may include:

- Adopting the Considerate Constructors Scheme (CCS) to assist in reducing pollution, including GHG emissions, from the Proposed Development by employing good industry practice measures which go beyond statutory compliance;
- Implementing a Construction Traffic Management Plan (CTMP) to reduce the volume of construction trips to the development site;
- Minimising construction worker transport emissions by providing coaches for transportation to site;
- Switching vehicles and plant off when not in use and ensuring construction vehicles conform to European Union (EU) vehicle emissions standards for the types of plant and vehicles to be used;
- Conducting regular planned maintenance of the plant and machinery to optimise efficiency;
- Increasing recyclability by segregating construction waste to be re-used and recycled where reasonably practicable;
- Designing, constructing and implementing the Proposed Development in such a way as to minimise the creation of waste;
- Where practicable, maximise the use of alternative materials with lower embodied carbon, such as locally sourced products and materials with a higher recycled content;
- A preliminary Peat Management Plan has been developed for the Proposed Development. This contains measures to reduce the impact of damaged peat lands as a result of the Proposed Development and will be finalised post-submission under the relevant planning conditions. Measures include reusing excavated peat for access tracks.

3. Environmental Policies, Roles and Communication

3.1 Environmental Policy and Management System

3.1.1 The Construction Contractor will ensure that copies of their environmental policies are clearly displayed on site notice boards during the construction period. All employees are expected to comply with the requirements of the Environmental Policy and the requirements of the Environmental Management System (EMS) under a suitable accreditation such as ISO14001.

3.1.2 The Applicant and its Construction Contractor expects its employees and support staff (contractors, sub-contractors, suppliers etc.) to actively promote and administer a strong environmental culture. To achieve this, a number of initiatives will be implemented during the construction phase from day one. This will include the use of environmental inductions, poster campaigns to raise awareness of topical subjects (such as seasonal activities and timings) and toolbox talks (TBT) involving all members of the project team and site workforce.

3.1.3 As part of the EMS for the site, a Project Environmental File (PEF) will be maintained. Within this PEF, a legislation register will be stored which will be reviewed periodically and updated as necessary. Any changes to relevant environmental legislation will be disseminated to project management immediately, after which the method statements of any affected construction activities will be amended as necessary.

Consents and Licences

3.1.4 A register of required consents and licences will be held in the PEF, including the relevant reference numbers and responsible/ named competent persons.

Schedule of Mitigation

3.1.5 A schedule of all mitigation measures or commitments to be complied with will be kept by the Applicant and their Construction Contractor. This schedule will detail the mitigation measure or commitment, its securing mechanism and relevant management plan (if appropriate), method and timing of implementation and responsibility. This will be maintained throughout the construction phase and linked to the Environmental Assessments undertaken in the EIAR.. For further details please see **Appendix 19.1 Mitigation Register (Volume 5: Appendices)**.

3.2 Roles and Responsibilities

Project Manager

3.2.1 A PM will be appointed as part of the Applicant's or Construction Contractor's team and shall have overall responsibility for the management of the construction phase. In terms of environmental protection and implementation of this CEMP, they will be responsible for:

- Appointing the Project Environmental Manager / ECoW;
- Appointing the Environmental Liaison Officer (ELO);
- Appointing any other environmental support staff such as clerk of works for specific ecological watching briefs or archaeological works;
- The PM will also programme any required pre-construction surveys into the construction schedule. These will then be the responsibility of the Environmental Manager / EcoW; and
- The PM will also progress any discharge of conditions, especially those that require access agreements to be in place to allow for pre-commencement sampling or surveying to be undertaken. This includes private water supplies.

3.2.2 The Applicant and Construction Contractor will ensure that a suitable, independent person with appropriate knowledge and experience of similar scale or type of projects will be employed.

Environmental Manager

3.2.3 The Environmental Manager will be specifically appointed for this Proposed Development to assist the PM and the role may be shared between more than one person. The Environmental Manager will be responsible for the following:

- Confirming all required consents are in place before work starts and compliance with consents;
- Confirming that all mitigation measures and commitments are implemented properly and effectively;
- Undertake and / or organise any required pre-construction surveys, baseline surveys or samples as required, and continue with any monitoring to be undertaken during construction as required;
- Supervision of construction processes with potential for environmental consequences such as dredging (e.g. fish to be encountered during the works) and installation of temporary site drainage;
- Confirming compliance with the topic-specific Management Plans by undertaking spot checks such as audits on the timing of Heavy Goods Vehicles (HGVs) and abnormal indivisible loads (AILs) deliveries, speed checks on the approach to site and along access tracks throughout the site, observations of works in sensitive areas (if not already undertaken by a specific EcoW);
- Maintaining the consents register and also the schedule of mitigation with the ELO (see **Section 3.1.4 - 3.1.5**);
- Undertake weekly audits / site checks and is responsible for supervising refuelling of tanks and bowsers;
- Confirming environmental and waste requirements are included on requisitions and in subcontracts and orders;
- Confirming oil, including diesel, is stored in properly bunded tanks/ drip trays;
- Reporting incidents and non-conformances to the PM and relevant stakeholders in line with the reporting procedure of this oCEMP;
- Including environmental performance, review of contract objectives and targets (including environmental), review of Incidents and non-conformances at the contract review meetings;
- Confirming employees and subcontractors implement the controls outlined in the finalised and approved CEMP and any other appropriate plans, mitigation measures or commitments;
- Confirming employees and subcontractors receive induction training (including project environmental issues) and TBTs, as appropriate;
- Confirming personnel needed for audits are available when required;
- Verifying actions resulting from corrective action requests and Observations raised during audits are completed by the deadlines;
- Liaising and working with the ELO to ensure that construction programme is effectively communicated;
- Confirming environmental training is provided; and,
- Confirming all preconstruction checks and surveys are undertaken.

Environmental Clerk of Work / Ecological Clerk of Work

3.2.4 The Environmental Manager will be assisted by the EnvCoW and ECoW for specific tasks where subject matter experts are required, such as archaeological watching briefs, or where a specific skill set or license for a European Protected Species (EPS) is required, such as for potential disturbance to otters.

3.2.5 These are likely to comprise of several specific roles and will be required at various periods during the full construction phase.

3.2.6 The ECoW / EnvCoW will be led by the Environmental Manager.

3.2.7 The remit of the ECoW / EnvCoW would include, but may not be limited to:

- If appropriate, undertaking the pre-works surveys described in **Section 7.9.2: Pre-works Surveys for Protected Species in Chapter 7: Terrestrial Ecology (Volume 2: EIA Main Report)**;

- Confirming that all personnel involved in the construction and operation of the Proposed Development are made aware of the ecological features within the Zone of Influence (ZoI) and the mitigation measures and working procedures that must be adopted. This would be achieved as part of the induction process and through the delivery of TBTs, where required;
- Advising on exact infrastructure placement within micro-siting tolerances;
- Monitoring of, and advising on, storage of overburden to minimise habitat damage;
- Monitoring of any peat /vegetated turves that may be stored for later reinstatement;
- Advising on habitat reinstatement;
- Monitoring of pollution control measures and advising on placement of ditches, settlement ponds, etc. to minimise habitat damage;
- Monitoring and advising on the additional control measures (e.g. construction lighting, standard wildlife protection measures etc) mentioned below;
- Monitoring and advising on adherence to SPPs as required.
- Sightings of protected and/or important species within the Proposed Development Site during the construction period would be recorded. If any evidence or sightings of protected species are recorded in the works area, then works would stop immediately and the ECoW would be contacted for further advice;
- During all phases of the Proposed Development, pollution prevention measures would be adopted, following SEPA PPGs and GPPs, including the following:
  - Controls and contingency measures would be provided to manage run-off from construction areas and to manage sediment;
  - All oils, lubricants or other chemicals would be stored in an appropriate secure container in a suitable storage area, with spill kits provided at the storage location and at places across the Proposed Development Site;
  - In order to avoid pollution impacts to soils, vegetation and watercourses/waterbodies during construction, all refuelling and servicing of vehicles and plant would be carried out in a designated area which is bunded and has an impermeable base. This would be situated at least 50 m away from any watercourse;
- Works near or at any retained native trees or semi-natural woodland would follow guidance in British Standard 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*[3];
- Construction traffic would be subject to controls including on speed;
- Any artificial lighting required for construction works would be directional to avoid or minimise light spill beyond immediate works areas, and would be turned off when not required; and,
- Standard best practice measures to protect wildlife would be implemented, including providing overnight means of escape from excavations and capping pipes that animals might enter.

Environmental Liaison Officer (ELO)

3.2.8 The primary objective of the ELO will be set up the Project Liaison Group (PLG) and also to act as the main point of contact between the:

- Construction Contractor;
- the Applicant;
- Regulators such as THC, SEPA and NS and others;
- Local communities;

[3] British Standards Institution (2012). *British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations*.

- Community Councils (CC) such as Glenurquhart CC. Stratherrick and Foyers CC and Fort Augustus Glenmoriston CC; and,
- The public and visitors to the area.

3.2.9 They will be the focal point for queries, comment and questions on project progress meetings, reporting and also communication on critical activities of the Proposed Development. This will include communicating when pre-construction works are likely to commence and then keeping the local communities and stakeholders aware of the continuing activities which will occur during the construction phase including regular updates on progress.

3.2.10 The ELO will specifically communicate the following construction activities to local communities (please note this list is not exhaustive):

- Works which involve the loss or temporary replacement of access (for example road diversions and the recreational routes);
- Works adjacent or within key sensitive areas such as watercourses and bodies including Loch Ness and the River Coiltie;
- Periods when higher levels of noise may occur during specific operations including blasting;
- Temporary closures of recreational routes;
- Traffic management: including construction traffic in the PM peak hour to be scheduled and managed to minimise the slight impact forecast at the A82 / A831 junction at Drumnadrochit, any works impacting the A82 and the site access junction on the A831.;
- Progress / compliance with mitigation measures and reporting of same;
- Notification of monitoring at relevant locations, including requests for permission to access third party land or property where there is a monitoring or sampling point; and,
- Changes in working hours if extending beyond what is planned for.

3.2.11 Once the Construction Contractor is appointed and the construction programme confirmed, the ELO will communicate this programme to the community and facilitate meetings as required. The ELO will chair the PLG, which is outlined more in **Section 3.3 Communication.**

3.2.12 The ELO will ensure that records of communication (including verbal communication) are kept, and that regular reporting is provided to THC, SEPA and NS and also to the local communities.

3.2.13 It is expected that the Environmental Manager / EcoW will work very closely with the ELO.

3.2.14 Working with the Environmental Manager / EcoW, the ELO will also be responsible for identifying private water supplies, both for existing and additional properties, and investigating any which may not have responded to previous communication.

All Staff

3.2.15 All site staff have a responsibility to the environment, responsibilities include but are not limited to:

- In the case of an incident, stopping work, implementing control procedures and reporting it to the PM;
- Contacting the Environmental Manager / EcoW when waste needs to be collected;
- Passing any queries or correspondence on environmental issues to the site management;
- Working in accordance with the finalised and approved CEMP and associated management plans; and,
- Compliance with consents.

3.3 Communication

Internal Meetings & Communication

3.3.1 Weekly internal construction meetings shall be held during the construction phase.

3.3.2 These meetings shall include Health, Safety and Environmental (HSE) matters and shall be attended by the Environmental Manager / EcoW. Any issues resulting from daily or weekly audits shall be discussed with

appropriate corrective actions agreed. A 'weekly look ahead' shall be provided at the construction meeting where any environmental constraints or special requirements can be discussed and agreed in advance.

3.3.3 The Environmental Manager / EcoW shall attend daily construction briefings alongside the PM as required to ensure personnel are advised of any specific environmental requirements and constraints. The ELO will also attend for any critical path or construction activities which have the potential to affect the local community and need to be communicated.

3.3.4 Environmental performance meetings will be arranged as necessary. These meetings will be attended as appropriate by the Environmental Manager / EcoW, PM and representatives of the workforce. Notes of the meetings will be distributed and shall assist in the environmental management of the Proposed Development.

3.3.5 Site Environmental Notice Boards will display the Environmental Policy of the Applicant and the Construction Contractor, Emergency Contacts List, relevant statutory and non-statutory advice and guidance; and any other relevant information. These Environmental Notice Boards will be situated in prominent positions in the main reception area of the Proposed Development construction office.

External Meetings

3.3.6 The ELO will arrange and attend meetings with relevant statutory bodies as necessary together with the Environmental Manager / EcoW.

Project Liaison Group

3.3.7 The ELO will be responsible for chairing a PLG and communicating information on the programme of construction activities. The PLG will likely include representatives from the following parties:

- THC;
- SEPA;
- NS; and,
- Community Councils (CC) such as: Glenurquhart CC, Stratherrick and Foyers CC and Fort Augustus and Glenmoriston CC.

3.3.8 All parties will be invited although it is likely that THC, SEPA, NS and local communities will likely form the core group participants, with other stakeholders attending when relevant.

3.3.9 The PLG will meet on a regular basis but at least once a month during critical path activities such as start of enabling works, commencement of construction, blasting activities and works in Loch Ness and other waterbodies.

3.4 Environmental Training and Awareness

Inductions

3.4.1 All project personnel and sub-contractors will receive an Environmental Induction. No personnel, including sub-contractors, will be permitted to undertake any work on site without undertaking a site induction. The site induction will evolve to reflect changes in the CEMP as the project develops. Environmental topics covered in the induction shall include, but will not be limited to:

- Water Resources;
- Pollution Prevention;
- Emergency Response Procedures;
- Waste Management and Housekeeping;
- Management Structure;
- Duties and Responsibilities;
- Relevant Procedures;
- Terrestrial, Aquatic and Marine Ecologically and Ornithological Sensitive Areas;
- Incident and non-conformance Reporting;

- Consents and Licenses and compliance;
- Legislation; and
- Environmental Good Practice.

Toolbox Talks

3.4.2 Toolbox talks (TBTs) on specialised topics shall supplement the induction course. TBTs shall be used to highlight issues of concern and to disseminate any new information or responsibilities. They will also be used as a means of providing basic environmental training to crews on a specialised topic, e.g. water management. The TBTs also offer site personnel the opportunity to provide feedback.

3.4.3 TBTs would be provided routinely, but also when:

- There is a change to existing legislation, which requires an operational change;
- Site inspections or audits have identified corrective actions which require to be rolled out;
- Work is being undertaken in particularly sensitive areas; and,
- There are significant changes in environmental conditions, e.g. heavy rainfall.

3.4.4 Records of all TBTs undertaken, including attendance, will be kept in the PEF.

Specialist Training

3.4.5 Specialist training for specific members of the construction crews will be provided as required. This may include, but will not be limited to:

- Emergency environmental crews;
- Confined spaces operatives;
- Working at height operatives;
- Water management operatives;
- Waste management representatives; and,
- Fuel tanker drivers and refuellers.

4. Topic Specific Management Plans

4.1 Introduction

4.1.1 The following sections provide further information on the topic specific Management Plans to be secured through the CEMP. Some topics have been included within separate topic specific Management Plans and have therefore not been included below. Details of all plans produced can be found within **Table 2: Construction Environmental Monitoring Requirements.**

4.1.2 The Schedule of Mitigation **(Appendix 19.1 Mitigation Register (Volume 5: Appendices))** covers all phases of the Proposed Development as reported in the EIAR. It also outlines the hierarchy of the Management Plans and the responsibility for their completion, approval, and compliance.

4.1.3 The Applicant and the Construction Contractor will adhere to these mitigation measures during construction of the Proposed Development.

4.2 Construction Noise Management Plan

4.2.1 A Construction Noise Management Plan (CNMP) will be prepared by the Construction Contractor and will include provisions to;

- Develop a Noise Monitoring Plan (NMP) during the construction phase to check that construction noise levels on NSRs are compliant with any imposed noise limits; and,
- Control noise generated throughout the construction period. The Construction NMP will outline measures to achieve best practical means of minimising construction noise in accordance with the Control of Pollution act 1974[4].

4.2.2 Measures to achieve Best Practicable Means (BPM) may include the following provisions:

Construction Works

- Establishing and maintaining good community relations throughout the construction process to keep residents and stakeholders informed on progress and the measures put in place to minimise noise impacts;
  - Voluntary compliance to construction working hours for work potentially creating noise at the receptor, set by the EHO:
    - Monday to Friday; 08:00 to 18:00 - 55 dB $L_{Aeq,1hour}$
    1. Saturdays; 08:00 to 13:00 - 55 dB $L_{Aeq,1hour}$
    2. Saturdays; 13:00 to 18:00 - 45 dB $L_{Aeq,1hour}$
    3. Out-with the above times, noise from construction related activities shall not exceed 35 dB $L_{Aeq,1hour}$
- Selection of quiet and low vibration equipment and methodologies in accordance with the principles of BPM;
- Locating of fixed and semi-fixed ancillary plant such as generators, compressors and pumps away from NSR locations whenever possible;
- Provision of electrical power to the Construction Contractor for the construction phase which minimises the requirement for diesel generators at the Proposed Development Site, where practicable;
- Regular maintenance of all plant used on site, paying attention to the integrity of silencers and acoustic enclosures;
- Fitting of compressors with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;

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- Shutting down of all noise generating construction plant when not in use;
- Loading and unloading of materials away from residential properties, ideally in locations which are acoustically screened from nearby NSRs;
- Handling of materials with care and placement rather than dropping where possible. Drop heights of materials from lorries and other plant shall be kept to a minimum;
- Selection of modern plant shall which complies with the latest European Commission noise emission requirements. . All major compressors shall be low noise models fitted with properly lined and sealed acoustic covers. All ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers;
- Organisation of site operations and vehicle routes to minimise the need for reversing movements, and to take advantage of any natural acoustic screening present in the surrounding topography;
- No employees, subcontractors and persons employed on the Proposed Development Site will cause unnecessary noise from their activities, e.g., excessive 'revving' of vehicle engines, music from radios, shouting and general behaviour etc. All staff inductions at the Proposed Development Site shall include information on minimising noise and reminding them to be considerate of the nearby residents; and,
- As far as practicable, planning of noisier activities to take place during periods of the day which are generally considered to be less noise sensitive, i.e., not particularly early or late in the day.

Airborne Noise from Marine Haul Route

- Selection of the frequency and timing of vessel movements to reduce the predicted equivalent continuous sound pressure level over the 1 hour reference period at NSRs;
- Appropriate selection of the engine and propulsion design i.e. diesel/petrol, hybrid, electric to reduce the predicted equivalent sound pressure level over the 1 hour reference period at NSRs; and,
- Selection of the route to maximise the distance to NSRs where practical in order to reduce the predicted equivalent sound pressure level over the 1 hour reference period at receptors.

Blasting Air Overpressure and Vibration

- Reduction of the air overpressure and vibration effects of blasting through good blast design. Smaller, more frequent blasts lead to smaller but more frequent effects, and the balance between these factors will need to be discussed with THC;
    - Agreement of the methods employed to control air overpressure and vibration from blasting operations agreed with THC prior to any surface blasting, as well as the frequency of blasting and a 90% confidence limit for blast Peak Particle Velocity (PPV) values at receptors. The PPV blasting vibration limit should follow the requirements set the THC EHO in **Section** Error! Reference source not found. of **Chapter 14: Noise & Vibration (Volume 2: EIA Main Report):**
        - Monday to Friday; 8am to 7pm The peak particle velocity shall not exceed 5 $mm \cdot s^{-1}$
        - Saturdays; 8am to 1pm The peak particle velocity shall not exceed 5 $mm \cdot s^{-1}$
        - Out-with the above times, the peak particle velocity shall not exceed 0.3 $mm \cdot s^{-1}$
        - The above limits apply to all construction activities other than blasting. For blasting, the applicant will be required to submit a scheme demonstrating that the best practicable means will be employed to minimise the impact of noise and vibration.
    - Avoidance of ground blasting where practicable, in the early morning, late afternoon or evening. The Construction Contractor will undertake consultation with the local community in advance of construction activities.
- Establishing an air overpressure limit at NSRs following the guidance provided within BS 6472-2:2008 (120 – 150 dB(lin)) and agreed with THC;
- Implementation of a blast monitoring scheme for air overpressure and vibration. Any scheme should include details on the location of monitoring points and vibration sensitive properties, and the equipment to be used. This should include a series of representative initial trial blasts at the start of the blasting to accurately identify allowable MICs to prevent exceedance of the identified limits at nearby receptors;

- Monitoring of all blasts at the Proposed Development Site and maintenance of records so that the historical peak particle velocity from blasts can be produced as required;
- Maintenance of a close working relationship between the construction / blasting operator and the local planning authority to facilitate the exchange of information regarding blasting events;
- Carrying out of all blasting using BPM, to ensure that the resultant noise, vibration and air overpressure are minimised in accordance with current British Standards and guidelines;
- Development of blast designs with the aid of regression lines determined from a logarithmic plot of PPV against scaled distances. The regression lines should be regularly updated using the blasting monitoring information. The regression lines should be made available for inspection upon request; and,
- Control of fly rock requirements through Health and Safety legislation.

4.2.3 Further details can be found within **Chapter 14: Noise and Vibration (Volume 2: EIA Main Report).**

4.3 Emergency Response & Flood Risk Management Plan

4.3.1 An Emergency Response and Flood Risk Management Plan (ERFRMP) will be prepared by the Construction Contractor for approval of THC in consultation with SEPA and NS.

4.3.2 The ERFRMP will detail the actions to be taken to prevent and manage a flood incident and will follow guidance published by SEPA. Its objective will likely be as follows:

- Raise awareness of the risks of flooding associated with the Proposed Development;
- Detail the flood warning and estimated lead times where possible;
- Detail how the ERFRMP is triggered, by who and when;
- Define any areas of responsibility for those participating in the ERFRMP;
- Describe what actions are required by any personnel present at the Proposed Development;
- Establish a safe route to a safe location and outline the evacuation procedure;
- Establish procedures for implementing the ERFRMP and the way it will be monitored; and,
- In the incidence of a flood event, the ERFRMP will be implemented in conjunction with the Pollution Prevention Plans (PPP) incident and emergency response procedures.

4.3.3 All construction works will be undertaken in accordance with the Control of Major Accident Hazard Regulations (COMAH Regs).

4.3.4 All construction areas and associated accommodation and welfare facilities will have in place appropriate plans and management controls to prevent fires. The Proposed Development Site fire plans will be prepared, regularly reviewed, and updated as necessary, and will have due regard to the following documents:

- Fire Prevention on Construction Sites (Joint Code of Practice on the Protection from Fire of Construction Sites & Buildings Undergoing Renovation); and,
- Fire Safety in Construction (HSG 168).

4.3.5 A project emergency plan will be developed by the Construction Contractor, providing telephone contact details for the emergency services, local authorities, and maps showing the location of local hospitals. The project emergency plan will be displayed within the construction areas and will form part of the site induction.

4.4 Waste Management Plan

4.4.1 A Waste Management Plan (WMP) will be prepared by the Construction Contractor. The waste management plan will set out measures to ensure compliance with the Duty of Care responsibilities as prescribed in Section 34 of the Environmental Protection Act 1990 and amended by The Waste (Scotland) Regulations 2012 including:

- Implementation of the waste hierarchy;

- Classification and segregation of waste;
- Waste storage; and,
- Waste documentation and transport.

Waste Hierarchy

4.4.2 The waste management plan will align with the Waste Hierarchy[5], which promotes efficient resource use and minimisation of waste through the priority ordering of the following measures:

- Prevention;
- Preparing for re-use;
- Recycle;
- Other recovery; and,
- Dispose.

4.4.3 Site specific waste prevention measures will be set out within the waste management plan, such as:

- Ordering of new materials will be avoided if there are existing materials available or able to be adapted to the task within the Proposed Development Site. Deliveries will be timely and directly placed in secure storage areas, double handling will be kept to a minimum;
- Re-usable materials will be identified on-site and removed for storage and re-sale;
- Excess materials will be returned to the supplier if possible; and,
- General information on site waste management will be provided in Proposed Development site inductions and TBTs with feedback welcomed.

4.4.4 There may be deviation from the priority order if a better overall environmental outcome is recognised for a particular resource or waste.

Classification and Segregation of Waste

4.4.5 The waste management plan will list all the Proposed Development Site waste streams as identified and classified by the Construction Contractor in line with the methods and categories set out in the Waste Classification Technical Guidance WM3[6].

4.4.6 The identified waste streams will be segregated and the storage and management of each will be set out within the waste management plan including measures for special waste and organic material.

Special Waste

4.4.7 “Special waste” is any waste which contains properties that might make it harmful to human health or the environment.

4.4.8 Special waste could arise during construction from the following sources:

- Maintenance of plant and machinery;
- Oily water waste; and
- Environmental spill recovery (small amounts only; larger volumes taken away directly for disposal).

4.4.9 Measures will be set out within the waste management plan to ensure that:

- All special waste will be segregated by type from other waste streams;
- All waste oil will be stored in a bunded facility until such times that it is collected; and,
- Used filters, rags and absorbents will be stowed in the special waste container in drums or waste oil bags.

[5] Scottish Government. (2017). Guidance on Applying the Waste Hierarchy. [Online]. Available: https://www.gov.scot/Resource/0052/00528402.pdf. [Accessed 11 March 2025]
[6] Technical Guidance WM3 - Waste Classification: Guidance on the classification and assessment of waste (2015) https://www.sepa.org.uk/media/361865/waste-classification-technical-guidance-wm3.pdf [Accessed 11 March 2025]

Organic Matter and Forestry Waste Management

4.4.10 The waste wood and foliage material resulting from site clearance will be managed in-line with the Waste Hierarchy (as detailed above), thus helping to minimise potential environmental issues pertaining to this process.

4.4.11 Site clearance will be conducted in line with the procedure outlined in **Chapter 18: Forestry (Volume 2: EIA Main Report)**. All felling operations are detailed in **Appendices 18.1 and 18.2 Woodland Report (Volume 5: Appendices).**

4.4.12 Wherever feasible, the generation of tree and foliage waste will be prevented, and these features will be retained in-situ. However, the retention of trees and foliage will not always be possible; therefore, the reuse of material onsite will be explored wherever practicable, with wood material either reused in construction, or within landscaping aspects such as the use of wood chippings, or as mulch to enhance soil quality to aid the reinstatement of the Proposed Development Site.

4.4.13 Should this not prove to be a viable option for all generated material, then excess wood waste will be stored under cover, such as tarpaulin, to protect wood from the weather so that it may be re-used wherever possible off-site e.g. as carpentry material or offered to the local community for firewood and biomass.

4.4.14 Attention will also be paid to the proximity principle, with local uses for waste materials considered where this represents the best practicable environmental option. For all material that cannot be re-used on- or off- site, or recycled, then elements of the wood and foliage material can be converted into woodchip. By following this process, it will be possible to limit the volume of tree and foliage waste sent for disposal as far as practicably possible.

4.4.15 Any topsoil or subsoil generated will remain onsite to be reused for any landscaping.

Storage of Waste

4.4.16 The WMP will outline measures regarding waste storage to minimise the risk of waste escaping, litter and/ or pollution, such as:

- All waste will be stored at the location in which it is generated, or within a designated central waste storage area;
- These designated waste storage areas will be isolated from surface water drains and areas that discharge directly to the water environment;
- Waste will be stored in suitable containers of sufficient capacity to avoid loss, overflow, or spillage;
- Storage of liquid wastes will be on impermeable bunds that hold the capacity of the container;
- Waste will be segregated by waste stream and storage containers will be clearly signed with the waste that they will hold e.g. wood, metal, plastics, or other appropriate waste stream;
- Storage containers will be secure, covered, or enclosed;
- There will be separate containers for special waste;
- Skips will be monitored, and action taken if waste levels are too high; and,
- Burning of waste will be prohibited.

Documenting and Transporting Waste

4.4.17 The Proposed Development Site WMP will set out the requirements for documenting and transporting waste including that:

- Waste contractors will be checked periodically (bi-annually) to ensure they have valid licences;
- A compliance check will be carried out prior to waste disposal activities commencing and all environmental permits for destination sites and waste carrier's licences are required to be in place before these works commence. If expiry occurs during construction period, ensure renewal has taken place; and

,

- All waste leaving the Proposed Development Site will be accompanied by a Waste Transfer Note (WTN) for non-hazardous waste or a Special Waste Consignment Note (SWCN) for hazardous waste. A copy of which will be retained for 2 (WTN) or 3 years (SWCN).

4.5 Outline Dust Management Plan

4.5.1 A Dust Management Plan (DMP) will be prepared by the Construction Contractor to manage any potential effect from generation of dust and fine particulate matter (such as PM10) within the boundaries of the construction areas. Although the majority of this dust would be contained within the Proposed Development Site, some may be transported in the air to the surrounding environment. Activities which have the potential to give rise to dust emissions during the construction phases include:

- Site preparation, earthworks, reprofiling and establishment, including blasting;
- Construction of infrastructure and buildings;
- Materials handling including;
  - Transfer to and from trucks/ lorries/ conveyors.
  - Material spills during transportation and handling.
  - Storage/ stockpiling/ use of cement or other fine particulate materials.
- Vehicle/ plant movements, including on unpaved haul routes;
- Tarmac laying, bitumen surfacing and coating; and,
- Construction processes and establishment of access tracks and landscaping.

4.5.2 The effective mitigation will be achieved by controlling the emissions at the source through measures that prevent or reduce potential dust generation or capture it before it can travel a significant distance.

Mitigating Dust Generation

4.5.3 Guidance to mitigate dust generation in a way to minimise nuisance dust is given in **2: Dust Control Measures** below.

Table 2 Dust Control Measures

Dust Control

Activity	Control Measure
Design and location of dust generating activities	Dust-generating activities should, where possible, be located where maximum protection can be obtained from topography, woodland or other sheltering features. Stockpiles, haul roads, tips and mounds, and exposed areas should be located as far away as possible from sensitive receptors. Where practicable, they should not be located directly upwind of the sensitive receptors. Methods and equipment should be in place for immediate clean-up of spillages of dusty or potentially dusty materials. Regularly inspect site for spillages.
Water sprays	Suitable and sufficient water sprays must be available. Spraying should be carried out prior to and during works whenever the risk of visible emissions of dust is identified. Use static sprinklers, bowsers, handheld over the site boundary hoses and other watering methods, as necessary to prevent dust dispersing. Consultation with SEPA may be necessary to discuss the control of surface water run-off.
Earthworks, excavation and digging	Vegetation and cover should be removed in discrete sections and not all at once. Earthworks, excavation and digging activities should be kept damp and, if possible, be avoided during exceptionally dry weather periods.
Completed earthworks	Stabilise surfaces and/or re-vegetate where practicable, as soon as possible.
Storage and stockpile locations	Store materials and stockpiles away from the boundary and sensitive areas, wherever possible.
Building stockpiles/ storage mounds	Ensure slopes of stockpiles, tips and mounds are at an angle not greater than the natural angle of repose of the material. Avoid sharp changes of shape. Where possible, ensure stockpiles are screened and/or under sheeting.

Activity	Control Measure
	Wind barriers (protective fences) of similar size and height to the stockpile may be used. Long-term stockpiles /storage mounds can be capped or grassed over or surface with vegetation that has previously been removed from the site.
Transitory soil mounds	Soil mounds may be treated with surface binding agents or covered with appropriate materials to reduce wind erosion. Consultation with SEPA is necessary before employing any binding agent due to potential water run-off.
Storage of Fine, dry materials (less than ~3 mm in particle size)	Store inside buildings or enclosures or with adequate protection from the wind e.g. by using sheeting.
Storage of Dry materials (greater than ~3 mm in size)	Store materials in bunded areas.
Storage of Bulk cement, bentonite and similar materials	Some materials must be kept dry, and so they may be delivered by tanker and stored in silos or sealed bulk containers.
Accidental spills when filling/ operating silos	Methods and equipment for cleaning should be in place. If necessary, include the use of audible and visual alarm systems. Silo ventilators should be fitted with particle filters.
Landscaping	Soils may be landscaped into suitable shapes for secondary functions, such as screening temporary stockpiling areas from wind.
Processing sandstone, crushing, and screening	Material to be crushed should be dampened. Crushers should be sited as far away as possible from sensitive receptors or the site boundary and should be sited to use the landscape for screening wherever practicable. Mobile plant for crushing, screening, and grading of materials may require authorisation by the relevant competent authority.
Blasting using explosives	Blasting will only be undertaken following communication with stakeholders and only be carried out within defined working times, in accordance with the Blast Management Plan.
Cutting, grinding, drilling, sawing, trimming, planning, sanding.	Cutting on-site should be avoided by using prefabrication whenever possible. Fans and filters should be serviced and maintained to ensure correct operation. Dust extraction/ minimisation systems should always be used.
Loading materials onto vehicles	Use material handling methods that minimise the generation of airborne dust e.g. Enclose chutes and skips. Regular water spraying and damping down should be carried out. Material drop heights should be minimised.
Conveyors	Enclose transfer points and conveyor discharges where visible dust emissions occur. Installation on an even alignment with no abrupt changes in grade. Return belt cleaners, with arisings collected into a bin or cleaned up. Maintenance of the structures and rollers to minimise spillages. Shrouding of feed hoppers, transfer points and discharges. Fixed sprays where required. Clearance of any spillages to minimise accumulations of loose dry material around the structures. Minimisation of drop heights at feed hoppers and discharges. Screening material to remove dusty fractions prior to external storage. Design hopper load systems to ensure a good match with truck size and enclose fully on all sides.
Removal of materials from site	Waste materials should be removed from the site as soon as is practical to avoid prolonged storage on site.
Transport of materials	Vehicles removing dry materials must have their loads effectively enclosed or sheeted. Fine powdery materials will be transported in closed tankers. There is the potential for conveyor belts to be used as semi-permanent haul routes within the Development Site in preference to haulage vehicles.
Material handling operations	Always keep the number of handling operations to a minimum by ensuring that dusty material isn't moved or handled unnecessarily. Keep all handling areas clean and free from dust.
Vehicle routes	As far as practical, routes should be located away from residential and commercial properties. Install permanent surfaces where possible, with regular inspection and maintenance
Construction and maintenance of unsurfaced roads and verges	Grade unsurfaced haul roads.

Activity	Control Measure
	Keep in compacted condition using static sprinklers, bowsers, commercially available additives and binders (subject to SEPA requirements).
Vehicle and wheel washing	Washing facilities, such as hosepipes and ample water supply should be provided at site exits, including mechanical wheel spinners where practicable. All vehicles should be washed down before moving between construction areas and exiting the Proposed Development Site. This is to minimise dust, but also as an INNS control.
Site traffic management and speed control	Restrict general site traffic to watered or treated haul roads. Keep vehicle movements to a minimum. Limit vehicle speeds – the slower the vehicle speeds as per Framework CTMP.
Road cleaning including vehicle waiting areas and hard standing	Approved mechanical road sweeper should be readily available, with circular brush commonly fitted to side for leaning kerbs, removed. Frequency of cleaning will depend on site size, location and operation. However, cleaning should be carried out as frequently and appropriately as required.

4.6 Outline Ecological Management Plan

4.6.1 The Ecological Management Plan sets out the general good practice and site-specific measures that have been identified through the EIAR as being relevant to the Proposed Development.

4.6.2 **Appendix 6.4 Outline Landscape and Ecology Management Plan (Volume 5: Appendices)** sets out the proposed measures to achieve landscape and habitat mitigation, compensation and enhancement, that would be implemented. prior to and during the construction phase of the Proposed Development, as well as the outline management and monitoring measures to be implemented once the Proposed Development is operational. Set out below are additional mitigation measures that will be required during construction.

4.6.3 It should be noted that the implementation of mitigation does not negate the requirement to comply with relevant wildlife legislation. Therefore, any works which could result in an offence being caused must necessarily be avoided or only undertaken under a valid protected species licence, issued by NS. It will be the responsibility of the Construction Contractor, in consultation with the ECoW, to ensure that the need for a protected species licence(s) is identified and that the licence(s) is in place.

Habitat Protection

4.6.4 The following measures will be implemented to minimise the disturbance of habitat within the Proposed Development Site during construction and constrain effects to the areas being developed:

- Where practicable, works near or at any retained trees or woodland will follow guidance detailed in British Standard 5837:2012 Trees in relation to design, demolition, and construction – Recommendations (British Standards Institution, 2012);
- Sightings of protected or notable species within the Proposed Development Site during the construction period will be recorded. If any evidence or sightings of protected species are recorded in the works area, then works would stop immediately and the ECoW would be contacted for further advice;
- Sightings of protected and/or important bird species within the Proposed Development Site during the construction period will be recorded. If any evidence or sightings of specially protected bird species listed on Schedule 1 of the WCA suggest that a nest site may be present then works in that area will stop immediately and the ECoW will be contacted for further advice. As far as possible, works that will directly impact upon areas of vegetation that could be used by nesting birds will be undertaken outside of the breeding season, this being taken to be between March and September, inclusive. Should vegetation clearance works be required during the breeding season, a pre-works check for active nests will be carried out by the ECoW or another suitably experienced ornithologist. Such checks will be completed no more than 48 hours in advance of clearance works taking place as nests can be quickly established. Where any active nests are identified or suspected, suitable species-specific exclusion zones will be implemented and maintained until the breeding attempt has concluded;
- All Compounds, Access Tracks and other works areas will be of the minimum size required for the safe construction of the Proposed Development. Compounds will be fenced to prevent encroachment of

Site personnel, machinery and materials onto adjacent habitats. The temporary stockpiling of materials will be restricted to predetermined locations such as the Compounds and will not be done on undisturbed adjacent habitats;

- All site compounds, access tracks and other works areas will be of the minimum size required for the safe construction of the Proposed Development;
- Site Compounds will be fenced to prevent encroachment of Site personnel, machinery, and materials onto adjacent habitats;
- The temporary stockpiling of materials will be restricted to predetermined locations such as the construction compounds and will not be done on undisturbed adjacent habitats; and,
- Construction works will take place within a clearly demarcated works area;

Protected Species

4.6.5 The following good practice measures are proposed to minimise effects on protected species at the Proposed Development Site:

- Sightings of protected or notable species within the Proposed Development Site during the construction period will be recorded. If any evidence or sightings of protected species are recorded in the works area, then works would stop immediately and the ECoW would be contacted for further advice;
- To minimise the risk of mortality to protected species during construction, construction traffic would be subject to controls including on speed;
- Any excavations will be left with a method of escape for any animal that may enter overnight and will be checked at the start of each working day to ensure no animals are trapped within them;
- Standard best practice measures to protect wildlife would be implemented, including providing overnight means of escape from excavations and capping pipes that animals might enter. As far as possible, works will be carried out in daylight to minimise the risk of disturbing protected species outside the Proposed Development Site such as foraging/ commuting bats, badger, or pine marten;
- Any artificial lighting, such as security lighting or lighting for construction works during the winter, will be directional to avoid or minimise light spill outside the Proposed Development Site; and,
- All watercourse crossings, both temporary and permanent, will be designed so as to be passable to otter.

4.6.6 SPPs will be developed if required following the results of pre-works surveys for Protected Species as per the recommendations in **Chapter 7: Terrestrial Ecology (Volume 2: EIA Main Report)**. These SPPS would be appended to the final CEMP and submitted to the THC and NS and would provide detailed information on additional measures to be adopted during construction works to comply with relevant legislation and reduce impacts on the relevant species.

Breeding Birds

- All personnel involved in the construction and operation of the Proposed Development will be made aware of the ornithological features within the ZoI and the mitigation measures and working procedures that must be adopted. This will be achieved as part of the induction process and through the delivery of TBTs, where required;
- An ECoW / EnvCoW will be employed for the duration of the construction of the Proposed Development. The remit of the ECoW / EnvCoW will include, but may not be limited to:
    - Advising on exact infrastructure placement within micro-siting tolerances;
    - Monitoring of, and advising on, storage of overburden to minimise habitat damage;
    - Monitoring of any peat/vegetated turves that may be stored for later reinstatement;
    - Advising on habitat reinstatement; and
    - Monitoring of pollution control measures and advising on placement of ditches, settlement ponds, etc. to minimise habitat damage.

- As far as possible, works that will directly impact upon areas of vegetation that could be used by nesting birds will be undertaken outside of the breeding season, this being taken to be between March and September, inclusive. Should vegetation clearance works be required during the breeding season, a pre-works check for active nests will be carried out by the ECoW or another suitably experienced ornithologist. Such checks will be completed no more than 48 hours in advance of clearance works taking place as nests can be quickly established. Where any active nests are identified or suspected, suitable species-specific exclusion zones will be implemented and maintained until the breeding attempt has concluded;
- Sightings of protected and/or important bird species within the Proposed Development Site during the construction period should be recorded. If any evidence or sightings of specially protected bird species listed on Schedule 1 of the WCA suggest that a nest site may be present then works in that area will stop immediately and the ECoW will be contacted for further advice.
- A Construction Environmental Management Plan (CEMP) will be prepared and submitted for approval by THC in consultation with SEPA and NS, where necessary, prior to commencement of construction. The CEMP will set out all environmental management measures and the roles and responsibilities of construction personnel;
- During all phases of the Proposed Development, pollution prevention measures will be adopted, following SEPA PPG and GPP, including the following:
    - Controls and contingency measures will be provided to manage run-off from construction areas and to manage sediment;
    - All oils, lubricants or other chemicals will be stored in an appropriate secure container in a suitable storage area, with spill kits provided at the storage location and at places across the Proposed Development Site;
    - In order to avoid pollution impacts to soils, vegetation and watercourses / waterbodies during construction, all refuelling and servicing of vehicles and plant will be carried out in a designated area which is bunded and has an impermeable base. This will be situated at least 50m away from any watercourse; and,
- Any artificial lighting required for construction works will be directional to avoid or minimise light spill beyond immediate works areas.

4.7 Outline Biosecurity Management Plan

4.7.1 This section provides an overview of what would be included within the Biosecurity Management Plan (BMP) should the ECoW deem it necessary. Post-consent, a detailed BMP will be prepared by the Construction Contractor and agreed with THC, SEPA and NS. This will support the contractors CEMP.

4.7.2 The Great Britain (GB) Invasive Non-Native Species (INNS) Strategy provides guidance for the prevention, detection, eradication, and management of INNS, including marine species[7]. Best practice measures will be adopted in compliance with the relevant International Maritime Organisation (IMO) guidance regarding ballast water, should it be present, and biofouling. These measures will reduce the overall risk of introduction of INNS, resulting in a low magnitude of change. Best practice biosecurity measures should be implemented and adhered to throughout construction, operation, and decommissioning.

4.7.3 It is anticipated that BMP will be implemented throughout the Proposed Development Site following ‘Check, Clean, Dry’ principles. These measures will include, but are not limited to:

- Vigilance for the presence of INNS, including pre-commencement surveys, supervision, and monitoring by the ECoW;
- Vehicle washing facilities, including washing plant and vehicles before transferring between the Proposed Development Site and different construction sites;

[7] GB Non-Native Species Secretariat, 2023. *The Great Britain Invasive Non-Native Species Strategy 2023 to 2030*. [pdf] Available at: https://www.nonnativespecies.org/assets/Uploads/GB-INNS-Strategy-2023-to-2030.pdf [Accessed 12 March 2025].

- Disinfection of Plant, Personal Protective Equipment (PPE), and materials after works in aquatic habitats;
- Ensuring where possible that materials are retained in the habitats where they originated;
- Drying facilities should be provided for equipment and PPE – some INNS can live, or seeds remain viable, in moist conditions for long periods; and,
- Avoid the transfer of water between aquatic habitats on-site.

Biosecurity Pre-commencement Checks

4.7.4 Prior to construction pre-commencement checks for INNS will be conducted by the ECoW with particular attention to:

- Areas of woodland affected by the Proposed Development;
- The areas for the Construction Compounds and areas for material storage;
- Watercourse crossing points;
- The Tailpond work area; and,
- The location identified for implementation of Sustainable Drainage Systems (SuDs) / drainage.

4.7.5 As part of the pre-commencement checks, any identified INNS will be accurately mapped so that a baseline at the start of construction is available and easily referenced.

Development Works

4.7.6 The following measures should be adopted during the Proposed Development works to reduce the potential spread and/ or introduction of INNS:

4.7.7 Material excavated or dredged from Loch Ness must be retained in the immediate area, i.e. stockpiled on the loch shoreline, to prevent the spread of INNS.

4.7.8 The Aquatic ECoW will supervise all excavation and dredging works in Loch Ness to check for the presence of INNS and ensure that appropriate biosecurity measures are implemented.

4.7.9 Biosecurity measures should be implemented throughout the Proposed Development, following ‘Check, Clean, Dry’ principles as set out in the CEMP. These measures will include, but are not limited to:

- Vigilance for the presence of INNS, including pre-commencement surveys, supervision, and monitoring by the ECoW;
- Vehicle washing facilities, including washing plant and vehicles before transferring between this and different construction sites;
- Washing and disinfection of Plant, PPE, and materials after works in aquatic habitats;
- Ensuring where possible that materials are retained in the habitats where they originated, especially where INNS are known to be present;
- Drying facilities should be provided for equipment and PPE – some INNS can live, or seeds and propagules remain viable, in moist conditions for long periods; and,
- Avoid the transfer of water between aquatic habitats on site.

Water Transport

4.7.10 The LCW will, in many respects, be a marine construction project and all major construction plant and materials will be transported by water via Loch Ness. The following management measures are proposed to minimise the risk of spreading INNS from vehicles, by water, to the Proposed Development Site:

- Local vehicles should be sourced, where possible, to reduce the potential to introduce INNS from other waterbodies;

- All project vessels will adhere to the International Convention for the Control and Management of Ships' Ballast Water and Sediments with the aim of preventing the spread of INNS[8]. In addition, vessels will be required to adhere to the IMO guidelines for the control and management of ships' biofouling to minimise the transfer of invasive aquatic species [9]. These measures lower the probability of INNS transmission from vessels to the aquatic habitat;
- Where possible, vehicles should be inspected prior to arrival on-site and between deployments for the presence of INNS; and,
- Biosecurity measures implemented as considered necessary, according to check, clean, dry principles.

Specific Species Plans

- If necessary, the ECoW will supervise installation of an exclusion zone covering the habitats around INNS extending out to the limits of the nearest infrastructure or as otherwise appropriate;
- The exclusion zones will be appropriately marked out (e.g. with rope tied to stakes) and signposted, and no plant, vehicles, materials, or personnel will be permitted to enter them; and,
- The ECoW will monitor the exclusion zones to ensure compliance and to take action in the event of non-compliance.

Monitoring

4.7.11 The following surveys are required to reduce the potential spread or introduction of INNS:

- Survey of the extent of the proposed cofferdam in Loch Ness for the presence of INNS; and,
- Walkover survey of watercourse crossing locations for INNS, both aquatic and riparian species (to be combined with pre-commencement surveys for terrestrial INNS).

4.8 Outline Pollution Prevention Plan

4.8.1 The section provides an overview of what will be included within the PPP. Measures relating specifically to water pollution from particulates and sediments in run-off are addressed within **Appendix 10.4: Outline Water Management Plan (Volume 5: Appendices).**

4.8.2 Post-consent, the PPP will be prepared by the Construction Contractor and agreed with THC, SEPA and NS. This will support the appointed contractors CEMP and will include agreed emergency procedures in the event of a pollution incident. The PPP will take into consideration the Guidance contained within SEPA's Supporting Guidance (WAT-SG-75) Sector Specific Guidance: Water Run-Off from Construction Sites[1], which provides guidance on the application of environmental standards and good management practice techniques in relation to large scale construction sites and pollution control.

4.8.3 All temporary works will be carried out under the necessary consents/permits (e.g. CAR licences as required under the Water Environment (Controlled Activities) Regulations 2011). The contractor will ensure that all permits/ consents are obtained in advance of any relevant works in, over, under or near watercourses.

4.8.4 The design of surface water drainage systems, incorporating appropriate attenuation and treatment measures, will be undertaken post-consent as part of a Detailed Design Strategy.

4.8.5 A temporary drainage system will be implemented during construction using sustainable drainage systems where possible to manage the risk of flooding and to treat run-off. Measures may include temporary ponds/ settlement lagoons, ditches, silt fences, the use of silt busters or lamella clarifiers, dewatering/ sediment bags (e.g. silt tubes), silt curtains; and measures to manage pollution risks such as designated bunded refuelling areas. Further details can be found within the **Outline Water Management Plan (Appendix 10.4 Outline Water Management Plan (Volume 5: Appendices)).**

[8] International Maritime Organization (IMO), 2004. International Convention for the Control and Management of Ships' Ballast Water and Sediments. International Maritime Organization. Available at: https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships%27-Ballast-Water-and-Sediments-(BWM).aspx [Accessed 12 March 2025]

[9] International Maritime Organization (IMO), 2011. Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (Resolution MEPC.207(62)). International Maritime Organization. Available at: http://www.imo.org/en/OurWork/Environment/PollutionBiofouling/Pages/default.aspx [Accessed 12 March 2025].

4.8.6 Works in the Headpond area will be supervised by the EcoW to ensure that water management measures, including SuDS, drainage ditches and attenuation ponds, will be effective in preventing the runoff of silt-laden water to adjacent watercourses and waterbodies.

4.8.7 To minimise the risk of chemical spillages, a cut off drain will be installed at the toe of the new Embankments to collect water run-off during construction and prevent it, and any chemicals that may have been spilled, propagating from the Proposed Development Site without treatment. Further details can be found within **Section 6.4** of the **Outline Water Management Plan (Appendix 10.4 Outline Water Management Plan (Volume 5: Appendices))**.

Plant and Machinery

4.8.8 All plant and machinery shall be regularly inspected and maintained to ensure good working order and clean for use in a sensitive environment. Checks for leaks of fuel and lubricants will be conducted before works with plant and machinery is allowed to commence and maintenance and servicing records will be reviewed and updated as required. This maintenance is to take place offsite if possible or only at designated areas in the site compounds.

4.8.9 A suitable quantity of pollution control equipment, e.g. spill kits containing absorbent pads, absorbent granules, absorbent booms etc. will be kept on site in the event of an emergency. The Environmental Manager will check pollution control equipment on a weekly basis to ensure that it is adequately maintained (for example ensuring equipment is within date) within the construction areas, “Emergency Grab Packs” or spill kits to be carried in site vehicles and mobile plant and larger kits with fuel bowsers and emergency vehicles.

4.8.10 Static plant such as pumps and generators will be self-bunded or placed on drip trays wherever practicable to prevent leaking materials, from contaminating the ground or surface waters.

4.8.11 Mobile plant to be in good working order, kept clean and fitted with plant ‘nappies’ at all times.

4.8.12 No washing out of concrete and cement delivery vehicles will take place on-site without suitable provision for the washing out water and provision of a suitable location that is lined with a geotextile to prevent infiltration to ground. Such washing would not be allowed to flow into any drain and the CEMP would contain a methodology for dealing with any washing out water, or wheel wash. Wash water would be adequately contained, prevented from entering any drain, and removed from the Proposed Development Site for appropriate disposal at a suitably licenced waste facility.

4.8.13 If on-site batching facilities are required, they will be operated under the conditions of the appropriate authorisation. Where possible, batching will be conducted at least 50 m from any watercourse, on flat ground, and suitable impermeable hardstanding so that surface water run-off can be intercepted for either treatment or disposal off-site at an appropriate licence waste facility.

4.8.14 The Proposed Development Site is to be secure to prevent any vandalism that could lead to a pollution incident.

4.8.15 Further details of arrangements for dealing with spills, leaks and unplanned emissions, unplanned damage to the environment and other environmental incidents will be provided in the PPP.

Vessels

4.8.16 The LCW will be a marine construction project and the majority of construction plant and materials will be transported by water via Loch Ness.

4.8.17 All vessels will be in compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL) regulations and will therefore be equipped with waste disposal facilities onboard. The discharging of contaminants is not permitted within 12 Nautical Miles (NM) from the coast to preserve bathing waters.

4.8.18 Control measures and shipboard oil pollution emergency plans (SOPEP) will be in place and adhered to under MARPOL Annex I requirements for all vessels.

4.8.19 Ballast water discharges from all vessels will be managed under International Convention for the Control and Management of Ships’ Ballast Water and Sediments, 2004 (Ballast Water Management Convention).

Storage and Handling

Fuel and Lubricants

4.8.20 All fuels will be stored in designated fuel storage areas that will satisfy the requirements of Schedule 3 of The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003[10].

4.8.21 All fuels shall be stored in integral bunded fuel bowsers, designed to hold at least 110% of the contents of the tank. All connections shall be situated within the bund. Fuel shall be stored at least 20 m away from any watercourse, where reasonably practicable. Refuelling within the construction areas shall be undertaken at least 20 m from any watercourses. An impermeable bunded area for the storage of drums shall be constructed in accordance with SEPA guidelines.

4.8.22 Oils and lubricants used within the construction areas will also be stored in temporary impermeable bunded areas or sealed bunded tanks designed to hold 110% of the container volumes. No oil or fuel shall be stored within 20 m of a watercourse.

4.8.23 Construction waste/ debris are to be prevented from entering any surface water drainage or water body.

4.8.24 Further details will be provided in the PPP.

Herbicides

4.8.25 Only trained sub-contractors shall apply herbicides, and only where their use is essential.

4.8.26 Certificates of competence shall be inspected before application is allowed and a record of application made in accordance with the Control of Pesticides Regulations 1986. Where herbicide use is essential a glyphosate herbicide, suitable for use in or near watercourses and approved by SEPA, shall be used.

Control of Substances Hazardous to Health (COSHH)

4.8.27 All COSHH materials will be stored and handled in accordance with the COSHH Regulations 2002 (Ref 4)[11]. A secure COSHH store will be set up within one of the Proposed Development Site Compounds. COSHH assessments and Material Safety Data Sheets shall be held with the COSHH materials. A COSHH register shall be created and maintained on- site. All site personnel and subcontractors will be made aware of the COSHH requirements through site inductions and specific TBTs. Daily site inspections will used to review and monitor the storage and issue of materials.

Pollution Incident Response

4.8.28 As part of the PPP, the Construction Contractor will incorporate incident response measures[12]. These measures are likely to include:

- A suitably trained emergency environmental crew will be provided by the Construction Contractor to deal with pollution incidents in conjunction with other safety-related incidents as required;
- An emergency contact list and spill response flowchart shall be displayed on notice boards and on fuel bowsers; and,
- Proposed incident response triggers and actions are provided in **Annex 3.1.1: Pollution Incident Response** at the end of this oCEMP.

4.9 Outline Landscape Working Methods

4.9.1 The ECoW or Environmental Manager will be supported by a Landscape Architect to advise on the implementation of the oLEMP proposals **(Appendix 6.4 Outline Landscape and Ecology Management Plan (Volume 5: Appendices)).** Summarised below are the key measures that will be undertaken during implementation of the proposed landscaping.

[10] SSI 2003 No. 531. Water Resources. The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003
[11] SI 2002 No. 2677. Health and Safety. The Control of Substances Hazardous to Health Regulations 2002.
[12] Natural Resources Wales, SEPA and Northern Ireland Environment Agency. (2017). Pollution Incident Response Plans, GPP 21.

Landscape and Visual Measures

4.9.2 General good practice measures that will be implemented during construction in order to limit impacts on the landscape and visual resource include:

- Land and vegetation clearance and occupation although relatively extensive will be limited to the minimum area necessary for the works;
- Good housekeeping measures will minimise unsightly waste and secure storage will be provided for materials at risk from displacement by wind;
- Temporary stockpiles will be located in defined storage areas within the identified compounds, and sited away from sensitive visual receptors;
- All boundary fences will be maintained in a neat and tidy condition;
- Any temporary fencing will be removed as soon as reasonably practicable after completion of the works; and,
- Temporary lighting will be selected and sited so as to minimise visual intrusion to residents, whilst maintaining the safe and efficient operation of the work site. At night and during periods of darkness, directional security lighting will be used where required.

Protection of Retained Trees

4.9.3 The following good practice measures will be adopted and implemented for the protection of trees retained onsite:

- Where practicable, works near or at any retained trees or woodland will follow guidance detailed in BS 5837:2012[13];
- A Root Protection Area (RPA) will be set up around trees to be retained onsite prior to commencement of construction;
- The RPA will be demarcated by 'Netlon' fluorescent mesh fencing or similar physical barrier. The protective fencing will be maintained for the duration of the construction phase and checked on a regular basis;
- In the event that an RPA cannot be maintained at 12 times the diameter at breast height (DBH) mitigation such as bog matting, flotation tyres and hand digging will be utilised;
- No machinery or material will be stored within the RPA;
- To ensure retained trees do not become hazardous, the condition of trees will be checked by the Environmental Manager or ECoW at an appropriate frequency and following storm events where there may be damage from wind throw;
- Where a tree is damaged or diseased advice will be sought from an Arboriculturalist (unless the ECoW is appropriately qualified) for appropriate treatment measures;
- Where hazardous branches or trees require to be felled this will be done by a qualified tree surgeon in line with BS 3998: 2010[14];
- Before felling trees, surveys for potential bird nest or bat roosts will be undertaken by the ECoW; and
- The waste hierarchy will be applied to vegetation and biomass arising and alternative onsite uses will be sought before disposal is considered.

[13] BSI. (2012). BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations.
[14] BSI. (2010). BS 3998: 2010 Tree Work. Recommendations.

5. Monitoring & Auditing

5.1 Introduction

5.1.1 Monitoring of the environmental effects and inspections during construction enable the effectiveness of environmental mitigation to be evaluated and allow unforeseen environmental problems to be identified and responded to at an early stage. Monitoring and inspections/ audits may also help the Applicant and the Construction Contractor to identify and implement environmental enhancement and improvements, which may contribute to the overall environmental performance of the project.

5.2 Complaints Procedure

5.2.1 The Construction Contractor will provide details (postal details and email address) to which all written complaints should be addressed. All complaints will be addressed by the ELO.

5.2.2 The Applicant will ensure that a system is introduced for the logging and recording of any complaints that will be collated and a copy made available to the Construction Contractor, ELO and the relevant department of THC. Any complaints received will be acknowledged within 24 hours during all hours when works, including deliveries, are taking place. The ELO shall ensure that all complaints receive a written response, to include details of any action undertaken if such action is deemed appropriate. The ELO shall provide the Applicant with a monthly report that details all complaints, who they were filed by, and the actions taken.

5.3 Environmental Incident and Corrective Action Reporting

5.3.1 All environmental incidents and near misses shall be reported and investigated by the Construction Contractor, reporting to the Applicant. Incidents will be recorded and those that, in the judgement of the Environmental Manager / EcoW, are deemed significant, will be reported to the PM as soon as possible who shall inform the Applicant. Where relevant, the appropriate statutory authority (e.g. NS or SEPA) shall be informed immediately. Copies of incident investigation reports shall be supplied by the Construction Contractor to the Applicant and action taken to prevent recurrence.

5.3.2 All corrective action, incident and near miss report forms shall be held in a register maintained at the construction site office base.

5.3.3 Any incident that may result in an environmental impact, will be reported immediately to the following incident numbers, together with details of date, time, location, type, potential impact and person calling:

- SEPA - 24 hour hotline 0800 80 70 60; and,
- THC, Environmental Health Department 01349 886606

5.4 Inspections and Audits

5.4.1 The Construction Contractor will undertake a programme of weekly environmental inspections and monthly environmental audits to record performance and identify any corrective actions required.

5.4.2 Provision will be made to carry out appropriate environmental inspections and monitoring of the Construction Contractor's environmental performance in the form of monthly audits. Formal audits will be against an audit checklist which will provide a mechanism to monitor and assess legislative standards, licence conditions and any other provisions agreed with statutory undertakers.

5.4.3 Where problems are identified, corrective actions will be identified by the Project Environmental Manager and Construction Contractor and will be implemented by the Construction Contractor within a defined time frame.

5.4.4 The Environmental Manager / EcoW will inform the PM of any work that they feel should be stopped in order to avoid an unacceptable impact on the environment, in particular a breach of environmental legislation.

5.5 Environmental Monitoring

5.5.1 Monitoring of specific environmental parameters will be carried out as necessary and requirements for environmental monitoring will be reviewed as further consents and licences are received and consultations completed.

5.5.2 **Table 3: Construction Environmental Monitoring Requirements** presents the key parameters that may require environmental monitoring and where further details will be provided post consent and on appointment of a Construction Contractor.

Table 3 Construction Environmental Monitoring Requirements

Environmental Monitoring	Phase	Purpose	Frequency	Responsibility	Where Further Details Will Be Provided
Daily Site Inspections	Pre-construction and Construction	Inspection and maintenance of routine activities including the appropriate storage of materials, litter picks and general housekeeping to ensure health and safety risks as well as environmental considerations are appropriately managed.	Daily	Construction Contractor	CEMP
Waste Monitoring	Pre-construction and Construction	Waste generated within the construction areas shall be monitored as part of its classification to ensure the appropriate treatment, handling, management and disposal measures are applied.	Daily	Construction Contractor	Waste Management Plan
Water quality monitoring programme[15]	Pre-construction, Construction & Operation	To ensure that mitigation measures are operating as planned and preventing pollution and in the case of a pollution event, facilitate quick identification and implementation of appropriate action in line with the Emergency Response Plan.	A combination of daily observations and monitoring and regular water quality sampling on a periodic basis or ad hoc depending on circumstances, with monitoring to continue during the initial years of operation. The exact programme is to be determined by the Construction Contractor in consultation with SEPA and other relevant stakeholders during the process of obtaining CAR licences.	Construction Contractor & Operator	Pollution Prevention Plan including a: Water Quality and Flow Monitoring Plan, Water Management Plan, Emergency Response Plan and Sediment Management Plan. Operators Management Plan
Traffic monitoring	Pre-construction and Construction	To ensure the CTMP is being followed and shall enable possible refinements or alterations to be made as appropriate	Regular – to be defined by the Construction Contractor in consultation with relevant consultees.	Construction Contractor	Construction Traffic Management Plan
Vibration Monitoring	Construction	To ensure compliance with the predicted limits identified in **Chapter 14: Noise and Vibration (Volume 2: EIA Main Report**) and to be agreed with THC.	At the start of piling and tunnelling activities	Construction Contractor	Construction Noise Management Plan

[15] Further details on water monitoring can be found within **Appendix 10.4: Outline Water Management Plan (Volume 5 Appendices).**

Environmental Monitoring	Phase	Purpose	Frequency	Responsibility	Where Further Details Will Be Provided
A Blast Monitoring Scheme – air overpressure and vibration	Construction	All blasts at the Proposed Development Site should be monitored and records maintained so that the historical peak particle velocity from blasts can be produced as required.	During Blasting	Construction Contractor	Construction Noise Management Plan
Noise Monitoring	Construction	To check that construction noise levels on NSRs are compliant with any imposed noise limits.	Regularly	Construction Contractor	Noise Monitoring Plan
Dust Monitoring	Pre-construction and Construction	To ensure that mitigation measures are appropriate and being applied rigorously and to provide early warning of increased dust emissions to inform the cessation or modification of activities prior to impacts occurring.	Adequate and appropriate measures to be determined by the construction contractor in consultation with THC. Likely to entail daily visual inspections and weekly recording.	Construction Contractor	Dust Management Plan
Aquatic and Terrestrial INNS Monitoring	Pre-construction and Construction	To ensure that INNS are not being spread or introduced as a result of construction activities.	Regularly Due to the potential for INNS to be transferred to the Headpond, it is recommended that the Headpond and these receptors are monitored for INNS for a period of five years.	ECoW	CEMP & Construction Biosecurity Management Plan
Protected Species Monitoring[16]	Pre-Construction and Construction	Any confirmed protected species presence will be monitored by an ECoW to mitigate the likelihood and extent of disturbance.	Monitoring will be implemented as and when required based on good practice guidance relevant to the species confirmed.	Construction Contractor & ECoW	EMP / SPP
Ornithological Species Monitoring[17]	Pre-Construction and Construction	To determine if and where sensitive bird species establish nest sites, and to therefore allow for appropriate avoidance and/or mitigation measures to be implemented.	In the breeding season prior to commencement of construction and in the breeding seasons throughout the construction phase.	Construction Contractor & ECoW	Ecology Management Plan / Bird Protection Plan
Aquatic Habitats - Loch Ness inlet/outlet monitoring	Post-construction / Operation	Monitoring and maintenance of the Inlet / Outlet on the shore of Loch Awe should be carried out to ensure the integrity of the screen and assess any potential impacts in relation to fish, in particular migratory salmon, and	Minimum once or twice weekly.	Operator	Operators Management Plan

[16] Further details on specific species and monitoring requirements can be found within **Chapter 7: Terrestrial Ecology (Volume 2: EIA Main Report)** and **Appendix 6.4: Landscape and Ecology Management Plan (Volume 5: Appendices)** and will be further developed within a Species Protection Plan to be submitted to THC and NS in advance of the commencement of construction.
[17] Further details on specific species and monitoring requirements can be found within **Chapter 9: Ornithology (Volume 2: EIA Main Report)**

Environmental Monitoring	Phase	Purpose	Frequency	Responsibility	Where Further Details Will Be Provided
		other species due to the potential for distraction and entrapment / impingement			
Permanent culvert monitoring	Post-construction / Operation	Where permanent culverts are installed in watercourse crossings, it is recommended that these are monitored to ensure that there are no lasting effects on fish passage, especially in the event that Atlantic salmon or brown trout or other protected / notable species are shown to be present in pre commencement fish surveys	Regularly, in agreement with SEPA	Operator	Operators Management Plan
Fish pass(es) installed on Dochfour Weir	Post-construction / Operation	To improve fish passage at the weir and confirm the effectiveness of mitigation and physical deterrents installed	Regularly, in agreement with SEPA	Operator	Operators Management Plan
Planting and Regeneration Zones	Post-construction / Operation	To ensure the effectiveness of regeneration zones in accordance with the oLEMP.	30 years minimum with more frequent monitoring within the initial years	Operator	LEMP & Operators Management Plan

Annex 3.1.1 Pollution Incident Response

It is proposed that the four-point risk scale of the Common Incident Reporting System is adopted to define the severity of a pollution incident or emergency. Under the Common Incident Reporting System an incident is defined as a specific event or occurrence, in a single location or multiple sites, that has had or has the potential to cause environmental harm, pollution of surface and groundwater, an impact on human health, or nuisance to the local community.

Table 4 Incident Reporting Categories presents the four incident categories with a description of the likely effects that may occur. The descriptions of each category are indicative and do not represent specific risks from the Proposed Development.

Table 5 Incident Reporting Actions sets out the triggers and proposed actions for each of the four classes of incident in the event that monitoring identifies anomalous or unusual results when compared to the baseline data and/or Environmental Quality Standards.

Table 4 Incident Reporting Categories

Incident Category	Indicative Incident Description
Category 1 – major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	1. Persistent impact on water quality lasting at least 7 days and affecting an extensive area over several kilometres of a watercourse or large area of a water body (e.g. 1 to 2 km's). 2. Pollution of a water body by levels of dangerous substance(s) exceeding Maximum Allowable Concentration, Environmental Quality Standards or other standards known to define conditions when serious harm/death to aquatic life or dissolved oxygen levels at critical levels may occur. 3. Necessary closure of a strategically important potable water supply to prevent contamination or further contamination. 4. Deterioration in ecological status or potential of a water body or prevention of reaching its objective (including physical impacts). 5. Damage to a statutorily protected site or species. This may include an impact on Site of Special Scientific Interest (SSSI) insofar that it may prevent them from reaching or maintaining their favourable conservation status; or damage to a European protected species or its habitat that has a significant adverse effect on reaching or maintaining its favourable conservation status. 6. Gross and extensive contamination or coverage of the bed of the watercourse, water column or surface by fungal / bacterial / algal growths, sewage debris or particulate matter. 7. Fatality or serious effect on human health from direct contact/exposure to pollutants in surface waters, or through the supply of contaminated potable water following an incident affecting surface water or groundwater. 8. Public exposed to concentration levels over a widespread area giving rise to serious and known health risks as a result of contamination of surface waters or groundwater following a pollution or algal incident. 9. Supply of contaminated drinking water with levels of pollutants/pathogens exceeding toxicological limits known to cause serious health problems. 10. Major adverse effect on an important recreational activity or national event such as the cancellation, partial or full suspension of recreational bathing, fishing activity or an organised water sports event. 11. Incidents that cause extensive damage to the physical habitat of a water body that would fall under the Environmental Damage Regulations. The destruction of a large or important area of fish habitat (particularly spawning areas), sustained damage to fish spawning, such as by actively digging or removing bed material used by spawning fish, and / or the illegal construction of an obstruction to fish migration.
Category 2 – significant impact or effect on the environment, people and/or property	1. Significant effect on the quality or use of that water but normally localised. 2. Typically include fine sediment (> 500 mg/l compared to background levels), low dissolved oxygen levels or high ammonia along hundreds of metres to potentially kilometres of a watercourse or area of a water body. 3. Precautionary closure of a strategically important potable water supply to prevent contamination of source. 4. Necessary closure of a minor un-licensed potable water supply. 5. Significant action / treatment by operator to address deterioration in water quality (e.g. blending with uncontaminated water). 6. Significant but localised or temporary deterioration in ecological status or potential of a Water Framework Directive (WFD) water body or delaying the water body reaching its ecological objectives (including physical impacts). 7. Damage to a statutorily protected site or species, but no significant effect on favourable conservation status. 8. Significant damage to Biodiversity Action Plan (BAP) species or habitats, which affects the viability of the species locally and / or extensive / significant damage to non-statutory protected site or BAP habitat that affects the nature conservation status of the site or habitat. 9. Gross but localised contamination or coverage of the bed of the watercourse, water column or surface by fungal/bacterial/algal growths, sewage debris or particulate matter. 10. Significant effect on human health from direct contact/exposure to pollutants in surface water or groundwater, or through the supply of contaminated potable water following an incident.

	11. Public exposed to concentration levels giving rise to minor health problems due to contamination of surface waters or groundwater following a pollution or algal incident. 12. Supply of contaminated drinking water with levels of pollutants or pathogens known to cause minor health problems. 13. Significant adverse effect on a recreational activity or event appropriate to the surface water body such as the cancellation of a local event or short-lived disruption (e.g. less than one week). Significant but localised destruction of fish habitats, interference with spawning fish by creating disturbance, such as by sustained paddling / moving through a spawning area, and / or incidents involving the illegal obstruction to fish migration, including illegal alteration to a fish pass.
Category 3 – minor or minimal impact or effect on the environment, people and/or property	14. Limited and localised effect (around point of discharge but could include lower magnitude effects over a few kilometres) on a water body which has a minimal impact on the quality or use of that water. 15. Precautionary closure of a minor un-licensed potable water supply. 16. Minor action / treatment by operator to address deterioration in water quality (e.g. blending with uncontaminated water). 17. Very limited or no significant effect on the status or objectives of a WFD water body. 18. Bed, column or surface of watercourse only marginally contaminated around point of discharge or in localised area. Such as a limited growth of sewage fungus around an outfall pipe. 19. Very limited impact upon nature conservation sites. 20. Reversible small-scale, short-term damage to non-statutorily protected sites or BAP habitats or species. 21. Minor effect on human health from direct contact to pollutants in surface waters or groundwater, or through the supply of contaminated potable water following an incident (e.g. a few individuals with temporary sore throats). Public exposed to concentration levels that present no known or minimal risk to health. 22. Minor impact on amenity value, recreational fishing activity and/or aesthetic quality (e.g. small amount of litter, thin oil film, non-harmful colour changes). Minor loss of fish habitat and / or interference with spawning fish resulting in localised, limited damage, such as by paddling / moving through a spawning area.
Category 4 – substantiated incident with no impact.	No measurable adverse impacts.

Table 5 Incident Reporting Actions

Incident Category	Monitoring Outcomes	Examples	Proposed Actions
Categories 1 & 2	Significant pollution incident evident by Visual Inspection and / or water quality monitoring.	Spillage of significant volumes of fuel, construction runoff containing high levels of fine sediment or powder cement into a watercourse.	Fully implement Incident and Emergency Response procedure. Immediately stop all relevant works (that may reasonably be the source of the pollution) until investigation completed and corrective actions agreed with SEPA / THC. Inform SEPA / THC immediately and seek advice regarding pollution containment and remediation. Notify any relevant third parties immediately (e.g. PWS). Prepare Incident and Lessons Learned Report and issue to SEPA/THC. Report should detail actual impacts, outcomes of actions taken, and proposals for additional monitoring of affected site and receptors.
Category 3	Visual Inspections and / or water quality monitoring results deviate from baseline or now exceed EQS	Moderate elevation in total suspended sediment levels, fine sediment deposits across river bed gravels or some minor evidence of oil sheen / odour on the surface of water.	Investigate likely causes and pause relevant construction works. Confirm Construction Method Statements are being implemented correctly and mitigation measures operating as required. If yes, review Construction Method Statements and adequacy of mitigation measures. Prepare Incident and Lessons Learned Report and issue to SEPA / THC to agree any remedial action if required. Consider making additional Visual Inspections and water quality sampling.
Category 4	Water quality monitoring results slightly deviate from baseline.	No obvious visual impacts.	No immediate actions. Continue to monitor in accordance with monitoring plan.

Glen Earrach AECOM