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Red John Pumped Storage Hydro Scheme

Appendix 3.1 Construction Environmental Management Plan (CEMP)

ILI (Highlands PSH) Ltd

November 2018

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
1	November 2018	Submission	CA	Catherine Anderson	Associate Director

Distribution List

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Abbreviations and Glossary

The Act	The Electricity Act 1989
BS	British Standard
CDM	Construction, Design and Management
CoPA	Control of Pollution Act 1974
COMAH	Control of Major Accident Hazard Regulations
COSHH	Control of Substances Hazardous to Health
CTMP	Construction Traffic Management Plan
ECoW	Environmental Clerk of Works
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report (formerly Environmental Statement)
EIA Regulations	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
ELG	Environmental Liaison Group
ELO	Environmental Liaison Officer
EMS	Environmental Management System
ERFRMP	Emergency Response and Flood Management Plan
HDD	Horizontal Directional Drill
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
HSG	Health and Safety Guidance
HSE	Health & Safety Executive
ILI	Intelligent Land Investments (Highlands PSH) Ltd. Also referred to as The Applicant
MWe	Mega Watts Electrical 0- measure of energy, one million watts
m3	Metres cubed
MPH	Miles per hour
PEF	Project Environment File
PM10	Extremely Small particulate or particulate matter (in the order of ~10micrometres or less)
POC	Point of Connection
PPP	Pollution Prevention Plan
PSH	Pumped Storage Hydro
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage
S36	Section 36 of the Electricity Act
TBT	Toolbox Talk
THC	The Highland Council

1 Introduction

1.1 Background

1.1.1 Intelligent Land Investments (ILI) (Highlands PSH) Ltd are currently seeking consent under Section 36 of the Electricity Act 1989 (the 'Act') to construct and operate a pumped storage hydro scheme (PSH) to be known as the Red John Pumped Storage Hydro (referred to throughout as the 'Development'). As the Development comprises an electricity generating station with a capacity of more than 50 MW, it is required to be determined by the Scottish Government in accordance with the provisions of Section 36 of the Electricity Act 1989, as amended. The Scottish Ministers will also be requested to give a direction for planning permission to be deemed granted under Section 57(2) of the Town and Country Planning (Scotland) Act 1997.

1.1.2 This outline Construction Environmental Management Plan (CEMP) is being produced to accompany the Section 36 application. The objective of this CEMP 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 Section 36 application, the accompanying environmental information and good practice guidance are complied with.

1.1.3 The CEMP will be updated and finalised post consent in line with any relevant planning condition and in agreement with The Highland Council (THC), Scottish Natural Heritage (SNH) and Scottish Environment Protection Agency (SEPA).

1.1.4 The CEMP 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 CEMP.

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

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

- Any conditions stipulated in the Section 36 Consent;
- To ensure it reflects good practice during construction;
- To ensure it incorporates the findings of any pre-construction site investigations and surveys; and
- To accommodate the working practices of the appointed Construction Contractor(s).

1.1.7 It is intended that this CEMP 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.

2 Construction Environmental Management Plan

2.1 Introduction

2.1.1 This document has been prepared to comply with the requirements of Section 36 of the Electricity Act 1989.

2.1.2 All mitigation measures which have been outlines in the Environmental Impact Assessment (EIA) Report, and additional measures proposed in other Management Plans, submitted as part of the Section 36 application, have been outlined in the Schedule of Mitigation.

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

2.1.4 The objective of this CEMP 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 CEMP will be updated, finalised and submitted to THC, SNH and SEPA, in addition any other relevant consultee, for their approval.

2.1.5 The CEMP is designed to ensure compliance with environmental legislation, committed construction stage mitigation as reported in the EIA Report, 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 Development will perform their duties in accordance with the requirements of the CEMP. The Environmental Manager will report regularly to the Project Manager on the status and effectiveness of its implementation.

2.1.8 The CEMP includes the following topic-specific environmental Management Plans:

Table 2.1.1 Table of Topic Specific Management Plans

Management Plan	Status	Reference
Health & Safety Plan	Outline in CEMP	Section 2.2
Materials Management Plan	Outline in CEMP	Section 2.8
Construction Noise Management Plan	Outline in CEMP	Section 4.2
Pollution Prevention Management Plan	Outline in CEMP	Section 4.3
Emergency Response & Flood Risk Management Plan	Outline in CEMP	Section 4.4
Waste Management Plan	Outline in CEMP	Section 4.5
Forestry Waste Management Plan	Outline in CEMP	Section 4.5

Management Plan	Status	Reference
Biosecurity Management Plan	Outline in CEMP	Section 4.6
Dust Management Plan	Outline in CEMP	Section 4.7
Outline Landscape & Ecology Management Plan	Draft	Appendix 3.2 (Volume 5)
Materials Management Appraisal	Draft	Appendix 5.2 (Volume 5)
Outline Peat Management Plan	Draft	Appendix 5.3 (Volume 5)
Outline Surface Water Management Plan	Draft	Appendix 10.5 (Volume 5)
Outline Access Management Plan	Draft	Appendix 14.3 (Volume 5)
Framework Construction Traffic Management Plan	Draft	Appendix 15.3 (Volume 5)

2.1.9 All the Management Plans, which are labelled as Draft, are provided as separate appendices to the EIA Report. All Management Plans which are "Outline in CEMP" have their minimum contents outlined in Section 4 of this document.

2.2 Safety

2.2.1 Site specific risk assessments and method statements will be undertaken 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 Health and Safety Plan (HASP) 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 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 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;
- 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 Contractor will comply with the requirements of the local fire authority;
- 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 necessary 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.
- All works, at all phases of development, will be undertaken in accordance with SEPA Pollution Prevention Guidelines (PPG) and Guidance on Pollution Prevention (GPP) (which will ultimately replace PPGs). Further detail can be found within the Outline Surface Water Management Plan (Appendix 10.5 Outline Surface Water Management Plan).

2.5 Pre-Construction 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 SEPAs *Supporting Guidance (WAT-SG-75) Sector Specific Guidance: Construction Sites* (February 2018), 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 practices which include but are not limited to:

- Compound design and layout will align with standards for distances from watercourses (at least 10 metres);
- Bunds will be used where required to meet the requirements of the SEPA pollution prevention guidelines 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
- If compound lighting is required it will be designed to minimise light pollution to the surrounding area.

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 of this document.

2.6.3 Temporary accommodation will be provided onsite during critical path activities. These will be located at an appropriate distance from sensitive receptors such 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 Development. The nature and scale of facilities required will be in proportion to the size and location of the Development. Facilities will include:

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

2.6.4 All foul waste will be disposed of by an appropriate contractor to a suitably licenced facility. There is no likely connection available to foul sewer. It is expected that a suitably sized storage tank will be provided that would be periodically pumped out by a specialist contractor so that the water could be disposed of at a suitably licenced waste facility.

2.6.5 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.

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

2.7 Crane Arcs

2.7.1 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.

2.8 Movement and Storage of Material

2.8.1 Approximately 6,797,000 m^3 of excavated material (bulked)will be generated by the Development, with a significant proportion of this to be reused within the Development. Details of anticipated material volumes can be found within the Materials Management Appraisal (Appendix 5.2, Volume 5). In order to demonstrate reuse and resourcing of the excavated material, a Materials Management Plan will be prepared to audit and record the movements of materials, as identified in the MMA.

2.8.2 Good practice measures for movement and storage of materials in relation to dust are provided in the Outline Dust Management Plan in Section 4.7 of this CEMP.

2.8.3 Movement and storage of materials is also covered with relation to protection of water from sediment laden run-off in the Outline Water Management Plan (Appendix 10.5, Volume 5).

2.9 Timing of Works

2.9.1 Works will be phased to minimise effects on the surrounding environment and local communities by:

- Avoiding any weekend events using recreational routes (and their diversions where relevant);
- Avoiding any noisy critical path activities such as blasting during the breeding bird season to minimise ecological effects, and piling in Loch Ness during the salmonid migration season;
- Scheduling construction activities to minimise the area and period of time that soil will be exposed, particularly during wetter periods;
- Timing soil handling and overburden stripping to suit weather conditions;
- Timing noise, vibration and dust producing activities to avoid key sensitive times most disturbing to the local residential and commercial properties such as the B&B, long term and holiday lets within the Development Site in addition to the aquaculture in Loch Ness;
- Timing of works to avoid negatively impacting upon proposed felling plans for the forestry. Further details of which are included in Chapter 12: Forestry (Volume 2);
- Scheduling works to minimise disruption to pastoral farming activities at Ashie, Kindrummond, Park, Balnafoich and Drummond areas; and
- Timing of noise, vibration and dust generating activities to reduce negative impact upon local recreational activities such as riding, walkers, cyclists, canoeing, and fishing club/angling activities.

2.9.2 Further details can be found within Chapter 14 Socio-economics and Tourism of the EIA Report (Volume 2).

2.10 Working Hours

2.10.1 Construction is expected to last up to 6 years including the pre-construction works. The construction work is anticipated to peak within the third year of construction (month 37) as the tunnelling construction and the Headpond construction are the two biggest operations and they are sequenced in parallel.

2.10.2 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 of the EIA Report (Volume 2).

2.10.3 Other than underground excavation and blasting works, construction activities will be limited to 07.00 – 19.00 Monday to Friday and 07.00 – 13.00 on Saturday, although this may be extended to 19.00 at critical path construction phases, and at no time on Sundays and Bank Holidays. Any deviation from these working hours will be agreed with THC in advance of the works being undertaken (where possible).

2.11 Lighting

2.11.1 At night and during periods of darkness, directional security lighting will be used. Lighting will be selected and sited so as to minimise visual intrusion to local communities, whilst maintaining the safe and efficient operation of the Development.

2.11.2 Site lighting will be positioned and directed to minimise nuisance to residents, walkers and vehicle drivers.

2.11.3 Where lighting is necessary, appropriate low glare lighting will be used to minimise the impact of lighting on ecological receptors, including nocturnal species. Lighting will be designed to minimise spillage into surrounding habitats to avoid disturbance to wildlife.

3 Environmental Policies, Roles and Communication

3.1 Environmental Policy and Management Systems

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 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.

3.2 Roles and Responsibilities

Project Manager

3.2.1 A Project Manager 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 / Environmental Clerk of Works (ECoW);
- Appointing the Environmental Liaison Officer (ELO); and
- Appointing any other environmental support staff such as clerk of works for specific ecological watching briefs or archaeological works.

3.2.2 The Project Manager will also programme any required pre-construction surveys into the construction schedule. These will then be the responsibility of the Environmental Manager / ECoW.

3.2.3 The Project Manager 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.

3.2.4 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

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

- Ensuring all required consents are in place before work starts and compliance with consents;
- Ensuring 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 potential for INNS and fish to be encountered during the works).and installation of temporary site drainage;
- Ensuring compliance with the topic-specific Management Plans by undertaking spot checks such as audits on the timing of Heavy Goods Vehicles (HGVs) and abnormal load 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 Environmental Clerk of Works (ECoW));
- Maintaining the consents register and also the schedule of mitigation with the ELO (see below);
- Undertake weekly audits / site checks and is responsible for supervising refuelling of tanks and bowsers;
- Ensuring environmental and waste requirements are included on requisitions and in subcontracts and orders;
- Ensuring oil, including diesel, is stored in properly bunded tanks / drip trays;
- Reporting incidents and non-conformances to the Project Manager and relevant stakeholders in line with the reporting procedure of this CEMP;
- Including environmental performance, review of contract objectives and targets (including environmental), review of Incidents and non-conformances at the contract review meetings;
- Ensuring employees and subcontractors implement the controls outlined in the finalised and approved CEMP and any other appropriate plans, mitigation measures or commitments;

- Ensuring employees and subcontractors receive induction training (including project environmental issues) and tool box talks, as appropriate;
- Ensuring 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; and
- Ensuring environmental training is provided.
- Ensuring all preconstruction checks and surveys are undertaken.

Environmental / Ecological Clerk of Works (ECoW)

3.2.6 The Environmental Manager will be assisted by Environmental / Ecological Clerk of Works for specific tasks where subject matter experts are required, such as archaeological watching briefs, management of invasive species, works in Loch Ness or where a specific skill set or license for a European Protected Species (EPS) is required, such as the disturbance of a bat roost.

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

3.2.8 The ECoWs will be led by the Environmental Manager.

Environmental Liaison Officer (ELO)

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

- Construction Contractor,
- the Applicant,
- Regulators such as THC, SEPA and SNH and others,
- Local communities;
- Local community councils such as Dores and Essich Community Council, Strathnairn Community Council and Stratherrick and Foyers Community Council; and
- The public and visitors to the area.

3.2.10 They will be the focal point for queries, comment and questions on project progress meetings, reporting and also communication on critical activities of the 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.

3.2.11 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;
- Periods when higher levels of noise may occur during specific operations including blasting;

- Temporary closures of recreational routes and roads such as C1064 which is proposed to be realigned;
- Delivery of plant or abnormal loads on both the A9, B851, B852, B862 and C1064, in addition to deliveries of larger items by water via the Caledonian Canal and Loch Ness utilising the Jetty.
- Progress / compliance with mitigation measures and reporting;
- Progress of any ordnance management;
- 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.

3.2.12 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 Project Liaison Group, which is outlined more in Section 3.4.

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

3.2.14 It is expected that the Environmental Manager / ECoW will work very closely with the ELO.

3.2.15 Working with the Environmental Manager / Clerk of Works, 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

3.2.16 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 Project Manager;
- Contacting the Environmental Manager / ECoW when waste needs collecting;
- Passing any queries or correspondence on environmental issues to the site manager;
- 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. These meetings shall include Health, Safety and Environmental 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.

3.3.2 The Environmental Manager / ECoW shall attend daily construction briefings alongside the Project Manager 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.

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

3.3.4 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 Development construction office.

External Meetings

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

Project Liaison Group

3.3.6 The ELO will be responsible for chairing a Project Liaison Group (PLG) and communicating information on the programme of construction activities. The Group will likely include representatives from the following parties:

- THC;
- SEPA;
- SNH;
- Dores and Essich Local Community Council;
- Strathnairn Community Council; and
- Stratherrick and Foyers Community Council.

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

3.3.8 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;
- Ecologically and Ornithological Sensitive Areas and Times;
- Incident and non-conformance Reporting;
- Consents and Licenses and compliance;
- Legislation; and
- Environmental Good Practice.

Toolbox Talks

3.4.2 Tool-box talks (TBT) on specialised topics shall supplement the induction course. Toolbox talks 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 TBT 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 rolling 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;
- Working at height;
- Water management;
- Waste Representatives;
- Working near and in water; 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 are therefore have not been included below. Details of all plans produced can be found within Table 2.1.

4.1.2 The Schedule of Mitigation provides a schedule of mitigation for all phases of the Development as reported in the EIA Report. 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 Development.

4.2 Construction Noise

4.2.1 A Construction Noise Management Plan will be prepared by the Construction Contractor to control noise generated throughout the construction period. The Construction Noise Management Plan will outline measures to achieve best practical means (BPM) of minimising construction noise in accordance with the Control of Pollution act 1974.

4.2.2 Measures to achieve BPM may include the following provisions:

- The Construction Contractor will ensure all processes are in place to minimise noise before works begin and should ensure BPM are being achieved throughout the construction programme;
- Where possible, the hours of noisy operations should be planned considering the effects of noise upon nearby noise sensitive receptors (NSR), taking into account the duration of work and the potential consequence of any lengthening of periods of noisy work. Further details are available in Section 2.9: Timing of Works and Section 3.3: Communication;
- Where possible, the items of plant should be located furthest from the nearby NSR buildings or in locations where acoustic screening is provided by site cabins, buildings, or barriers. Plant known to emit noise strongly in one direction should, when possible, should be orientated so that the noise is directed away from the nearest NSR;
- Materials should be lowered whenever practicable and not dropped. Any chutes and skips should be lined with sound attenuating material to reduce effect noise;
- Care should be taken when loading / unloading vehicles and dismantling scaffold;
- The appropriate use of plant with respect to minimising noise emissions and regular maintenance. All vehicles and mechanical plant used for the purpose of the works would be fitted with effective exhaust silencers and would be maintained in good efficient working order;
- Ensure that modern plant is used, complying with the latest European Commission noise emission requirements;
- Selection of inherently quiet plant where appropriate. Use of electrical items of plant instead of diesel plant; especially in sensitive locations. All major compressors should be 'sound-reduced' models fitted with properly lined and sealed acoustic covers which

would be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers;

- Machines in intermittent use would be shut down in the intervening periods between work or throttled down to a minimum;
- All ancillary plant such as generators, compressors and pumps would be positioned so as to cause minimum noise disturbance. If necessary, acoustic barriers or enclosures will be provided;
- Loading / unloading sites should be located away from residential properties and shielded from those properties where practicable;
- Arrange the site operations and vehicle routes to minimise the need for reversing movements, and to take advantage of rises in natural terrain to screen NSRs; and
- No employees, subcontractors and persons employed on the Development Site should 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 site should include information on minimising noise and reminding them to be considerate of the nearby residents.

4.2.3 The Construction Contractor will identify potential effects of works noise and vibration once precise working methods (including underground works) and required plant have been confirmed, and in turn appropriate mitigation measures will be implemented.

4.2.4 Mitigation and management measures specific to the Development will include the following:

- Acoustic bunds will be utilised as detailed in the finalised Construction Contractor's CEMP. This will include use of site or activity boundary acoustic barriers to screen neighbouring receptors along the proposed temporary access road between the Tailpond and Compound 1, and along the C1064 to the west of the proposed Headpond;
- No crushers or noisy activities to be undertaken within the Compounds will be located near residential dwellings or sensitive receptors;
- Working hours will be agreed between the Contractor and THC and restricted as outlined within Section 2.10;
- All works will be undertaken to comply with the recommendations in British Standard (BS) 5228 (Ref 1).
- The contractor will consider all possible piling methods when determining the most appropriate method for construction of the cofferdam, and select low noise and vibration methods where feasible. To minimise the effects of noise from piling at the Tailpond on fish, there should be a 'soft start' to piling works to deter fish from the immediate area where physical injury may occur.

4.3 Pollution Prevention Plan

4.3.1 The section provides an overview of what will be included within the Pollution Prevention Plan (PPP). Measures relating specifically to water pollution from particulates and sediments in run-off are addressed within the Outline Surface Water Management Plan (Appendix 10.5 (EIA Report Volume 5)).

4.3.2 Post-consent the PPP will be prepared by the Construction Contractor and agreed with THC, SEPA and SNH. This will include agreed emergency procedures in the event of a pollution incident. The PPP will take into consideration the Guidance contained within

SEPAs *Supporting Guidance (WAT-SG-75) Sector Specific Guidance: Construction Sites* (Ref 2), which provides guidance on the application of environmental standards and good management practice techniques in relation to large scale construction sites and pollution control.

4.3.3 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 Surface Water Management Plan (Appendix 10.5 Outline Surface Water Management Plan).

4.3.4 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, notably Loch Ashie SPA.

Plant and Machinery

4.3.5 All plant and machinery shall be regularly maintained to ensure good working order. 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.

4.3.6 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.

4.3.7 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.

4.3.8 Mobile plant to be in good working order, kept clean and fitted with plant 'nappies' at all times.

4.3.9 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 Development Site for appropriate disposal at a suitably licenced waste facility.

4.3.10 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.

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

4.3.12 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.

Storage and Handling

Fuel and Lubricants

4.3.13 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 (Ref 3).

4.3.14 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.

4.3.15 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.

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

4.3.17 Further details will be provided in the PPP.

Herbicides

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

4.3.19 All COSHH materials will be stored and handled in accordance with the COSHH Regulations 2002 (Ref 4). A secure COSHH store will be set up within one of the 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.

4.3.20 All site personnel and subcontractors will be made aware of the COSHH requirements through site inductions and specific tool box talks. Daily site inspections will used to review and monitor the storage and issue of materials.

Pollution Incident Response

4.3.21 As part of the PPP, the Construction Contractor will incorporate incident response measures. 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; and
- An emergency contact list and spill response flowchart shall be displayed on notice boards and on fuel bowsers.

4.3.22 Proposed incident response triggers and actions are provided in Annex 3.1.1 to this CEMP.

4.4 Emergency Response & Flood Risk Management Plan

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

4.4.2 The ERFRMP will detail the actions to be taken to prevent and manage a flood incident, and will follow guidance published by SEPA. Its objectives 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 Plan is triggered, by who and when;
- Define any areas of responsibility for those participating in the Plan;
- 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; and
- Establish procedures for implementing the Plan and the way it will be monitored.

4.4.3 In the incidence of a flood event, the ERFRMP will be implemented in conjunction with the PPP's incident and emergency response procedures.

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

4.4.5 All construction areas and associated accommodation and welfare facilities will have in place appropriate plans and management controls to prevent fires. The 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 Work (HSG 168).

4.4.6 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.

4.5 Waste Management Plan

4.5.1 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

4.5.2 The waste management plan will align with the Waste Hierarchy, 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 (Ref 5).

4.5.3 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 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 Site Inductions and toolbox talks with feedback welcomed.

4.5.4 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

4.5.5 The waste management plan will list all the 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 (Ref 7).

4.5.6 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

4.5.7 "Special waste" is any waste which contains properties that might make it harmful to human health or the environment[1].

4.5.8 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).

4.5.9 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.

[1] https://www.sepa.org.uk/regulations/waste/special-waste/ [24/09/18]

Organic Matter and Forestry Waste Management

4.5.10 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.

4.5.11 Site clearance will be conducted in line with the procedure outlined in Section 12.9 Forestry Waste and Section 10 Forestry Management (Crop Clearance) in Chapter 12: Forestry (Volume 2). This includes the production of a Forestry Waste Management Plan.

4.5.12 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 Development Site.

4.5.13 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 fire wood and biomass.

4.5.14 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 wood-chip. 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.

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

Storage of Waste

4.5.16 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 (see Paragraph 4.5.7);
- Skips will be monitored and action taken if waste levels are too high; and
- Burning of waste will be prohibited.

Documenting and Transporting Waste

4.5.17 The site waste management plan 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; and
- All waste leaving the 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).

4.6 Biosecurity Management Plan

4.6.1 A Biosecurity Management Plan (BMP) by the Construction Contractor to manage the risk posed by Invasive Non-Native Species (INNS) on the Development Site. Variegated yellow archangel (*Lamiastrum galeobdolon argentatum*) and *Rhododendron ponticum* are present on-site. The freshwater amphipod, *Crangonyx pseudogracilis*, is also known to be present within Loch Ness. As these species are outside of their native range, it is an offence to plant or allow their spread into the wild under the Wildlife and Natural Environment (Scotland) Act 2011.

4.6.2 It is anticipated that BMP will be implemented throughout the 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 Development Site and different construction sites;
- Disinfection of Plant, PPE and materials after works in aquatic habitats, especially in Loch Ness where INNS are known to be present;
- Ensuring where possible that materials are retained in the habitats where they originated, especially where INNS are known to be present, i.e. Loch Ness;
- Drying facilities should be provided for equipment and PPE – some INNS can live, or seeds remain viable, in moist conditions for long periods;
- Avoid the transfer of water between aquatic habitats on-site.

Biosecurity Pre-commencement Checks

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

- Areas of woodland affected by the Development;
- The areas for the Compounds and areas for material storage;
- Watercourse crossing points;
- The Tailpond work area; and
- The location identified for implementation of SUDs / drainage.

4.6.4 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.

Tailpond Works

4.6.5 Given the known presence of INNS within Loch Ness, the following measures should be adopted at the Tailpond Works:

- The pre-commencement check should survey the extent of the proposed cofferdam and temporary jetty works in Loch Ness for the presence of INNS, notably Nuttall's waterweed;
- Material excavated or dredged from Loch Ness must be retained in the immediate area, i.e. stockpiled on the loch shoreline;
- Monitoring of loch substrate should be conducted during the cofferdam dewater process to identify the presence of any INNS;
- Dredging of Loch Ness will be supervised by the ECoW.

Water Transport

4.6.6 The following management measures are proposed to minimise the risk of spreading INNS from deliveries by water to the Development Site:

- A local barge should be sourced to reduce the potential to introduce INNS from other waterbodies. This would preferably be a barge in existing usage on Loch Ness and the Caledonian Canal;
- Where possible, barges should be inspected prior to arrival on-site and between deployments for the presence of INNS;
- Biosecurity measures implemented as considered necessary, according to check, clean, dry principles.

Cross-catchment Transfer

4.6.7 As the Development Site straddles two water catchments, measures will be implemented to protect against transfer of species between catchments. These are likely to include:

- Plant and vehicle washing prior to movement between work areas on-site and prior to movement off-site;
- Storage of excavated materials in allocated areas inspected by the ECoW for presence of INNS prior to construction and monitored;
- Maintenance of effective buffer strip / distance and use of temporary silt fencing along water courses to prevent excavated material transfer in run-off.

Specific Species Plans

4.6.8 Specific plans for the INNS identified on-site will be developed by the Construction Contractor and informed by the pre-commencement checks. The BMP will set out detailed construction methods to be adopted to ensure that INNS are not spread by the Development.

Monitoring

4.6.9 Regular monitoring surveys for the presence of aquatic and terrestrial INNS will be conducted for a period of five years after the completion of construction.

4.7 Dust Management Plan

4.7.1 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 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, 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; and
    - 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.

4.7.2 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

4.7.3 Guidance to mitigate dust generation in a way to minimise nuisance dust is given in Table 4.5.1 below.

Table 4.5.2 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 are identified. Use static sprinklers, bowsers, hand held 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 site 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. 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.

Activity	Control Measure
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.
Cutting, grinding, drilling, sawing, trimming, planing, 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.
Biological materials	Accumulations of bird droppings and other biological material should be removed prior to demolition. Care must be taken that the material does not become airborne, but is sufficiently contained.
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.

Activity	Control Measure
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. 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 hose-pipes 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 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 Construction Traffic Management Plan
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 cleaning 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.

4.8 Ecological Management Plan

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

Ecological Pre-commencement Surveys

4.8.2 The following ecological pre-commencement surveys are proposed to be conducted at the Development Site:

- A pre-commencement survey for protected species within 100 m of the Development will be carried out, including all areas of woodland which are to be felled or thinned. This will be completed not more than six months prior to commencement of construction. The results of the pre-construction survey will be reported and communicated to the appointed construction contractor.
- Pre-commencement checks should be carried out near to the time of felling to search for the presence of red squirrel dreys.
- A pre-commencement survey for protected and notable bird species within the potential zone of influence of the Development will be carried out. The pre-commencement survey will use the same survey areas as adopted for the EIA and will be completed not more than six months prior to commencement of construction.
- Pre-commencement electric fishing surveys of the Glaic na Ceardaich watercourse (sites KS08, KS09 and KS10), Allt a' Chruineachd (KS03), Allt a' Chnuic Chonaisg (KS12) and Allt a’ Mhinisteir (KS05 and KS06) are recommended to inform mitigation for permanent and temporary watercourse crossings (as shown on Figure 7.1.4, Volume 3).

- An aquatic macroinvertebrate survey is recommended in the autumn sampling season prior to the commencement of construction (September to November).

Ecological Working Practice

4.8.3 The following working methods to be adopted during the construction phase to avoid or minimise effects on identified ecological features are described below. These will include:

- The Temporary Access Track to be constructed through the ancient woodland above Loch Ness and the unmanaged area north of Park Farm will be designed to allow water to percolate through and/or underneath the formation to maintain hydrological connectivity between each side and ensure that downslope groundwater dependent terrestrial ecosystems (GWDTE) are maintained;
- Micro-siting will be used during the construction of the Temporary Access Track to minimise, as far as possible, damage to flushed wet heath with grass-of-parnassus *Parnassia palustris*, which occurs in an unmanaged area of habitat north of Park Farm;
- Two recordings auto-identified by computer software as belonging to whiskered bats were made in two separate locations by the static bat detectors. The known range of this species does not extend beyond southern Scotland and so further survey to establish its potential presence will be conducted. This will involve a period of pre-construction bat trapping to identify individuals in the hand. Should any whiskered bats be caught, they would be fitted with a radio tag and tracked to try and establish the location of a roost site;
- To minimise the risk of mortality to protected species during construction, a 20 mph speed limit will be applied to all construction traffic on all roads within the Development Site Boundary and a 30 mph speed limit will be applied to all construction traffic using the highway;
- To further reduce the risk of collision mortality of red squirrel (several individuals were found dead on public roads during field survey), a rope bridge suitable for use by this species will be installed over the B852 road near the Inlet / Outlet on Loch Ness. This will provide an alternative means of crossing this road and will remove the risk of collision with moving vehicles;
- Blasting will not be permitted within the Headpond area between 15 August – 31 October each year to remove the potential for disturbance to Slavonian grebe on Loch Ashie;
- Blasting in the Headpond area during the period 01 April – 15 May each year will be restricted to the use of a charge size which is identified by pre-construction trials to result in a noise level at Loch Ashie of not more than 75 dB(A) in order to avoid effects to Slavonian grebe present on the waterbody;
- To complement mitigation measures to be implemented to avoid effects on Slavonian grebe on Loch Ashie, monitoring will be carried out between April – October each year for the presence of this species; and
- Construction-related traffic (not including a small number of abnormal loads) will be prevented from using the C1064 between the point where it will be diverted near to Ach-na-Sidhe B&B and the junction with the B862 during the red-throated diver breeding season, taken to be April – September, inclusive. This restriction may be lifted if it is confirmed by the Ecological Clerk of Works (ECoW) or other qualified ornithologist that no nest has been established on Loch na Curra by the end of July or

if it is otherwise confirmed that a breeding attempt has concluded (either through failure or successful fledging of young).

- Works within 500 m of Loch na Curra will be scheduled to take place outside of the breeding season for red-throated diver and Slavonian Grebe (April – September inclusive). Where this is not possible, the diversion will be programmed to ensure that works within 500 m of Loch na Curra take place as late in the breeding season as possible, to avoid the early period of incubation when birds are generally considered to be most susceptible to disturbance. Effort will be made to achieve this, for example by completing construction works on the road diversion outside of 500 m from the lochan first and leaving this area until last

4.8.4 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 SNH. It will be the responsibility of the Construction Contractor, in consultation with the ECoW, to ensure that the need for protected species licence(s) is identified and that licence(s) are in place.

Habitat Protection

4.8.5 The following measures will be implemented to minimise the disturbance of habitat within the 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 Site during the construction period will be recorded. If any evidence or sightings of protected or notable species occur within 30 m of works (or 500 m in respect of great crested newts), then works in that area will stop immediately and the ECoW will be contacted for further advice;
- Sightings of protected and / or notable bird species within the 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 within 1 km of works, then works in that area will stop immediately and the ECoW will be contacted for further advice.
- Wherever possible, tree felling and works which will directly impact upon areas of vegetation which could be used by nesting birds will be undertaken outside of the breeding season, this being between March and August, inclusive. Should felling occur in this time period, , a pre-works check for the presence of nesting birds will be conducted by the ECoW or other suitably experienced ornithologist.
- Each new construction / felling area should be checked for the presence of nesting birds not more than 72 hours prior to commencement of works as nests can be quickly established. Where any active nest sites are identified, suitable species-specific exclusion zones should be implemented and these must be maintained until the breeding attempt has concluded.
- Full details of the requirements in relation to the protection of breeding birds, including recommended sizes for works exclusion zones, will be included within the LEMP and CEMP post-consent.

- All Compounds, Access Tracks and other works areas will be of the minimum size required for the safe construction of the 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 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;
- Construction works will take place within a clearly demarcated works area.

Protected Species

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

- Sightings of protected or notable species within the Development Site during the construction period will be recorded. If any evidence or sightings of protected or notable species occur within 30 m of works (or 500 m in respect of great crested newts), then works in that area will stop immediately and the ECoW will be contacted for further advice;
- 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.
- Any pipes will be capped or otherwise blocked at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped.
- As far as possible, works will be carried out in daylight to minimise the risk of disturbing protected species outside the 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 Development Site.
- All watercourse crossings, both temporary and permanent, will be designed so as to be passable to otter.

Red Squirrel Specific Requirements

4.8.7 As red squirrel dreys were identified on-site as part of the baseline surveys for the EIA and tress containing dreys are planned to be removed as part of the construction of the Development, the following tree felling management measures are proposed to minimise effects on red squirrel:

- Wherever possible, tree felling within 50 m of dreys will take place outside of the red squirrel breeding season between October – January, inclusive. Prior to felling, all dreys will be monitored to confirm whether they are occupied and to establish their breeding status.

- If a drey is considered to be occupied but not being used for breeding, the tree would be climbed by a qualified ecologist and the drey carefully inspected for the presence of red squirrel. Any animals present will likely leave the drey on approach of the tree climber. Once the ecologist is satisfied that the drey is empty, the tree will be felled.
- Felling will not be permitted in any case where it is suspected that a drey is being used for breeding purposes. Such locations will be monitored until it is considered that breeding is over, at which point the tree will be climbed and the drey inspected to confirm this to be the case.
- All felling of trees containing red squirrel dreys will be done under licence issued by SNH. Similarly, any felling or construction works which are required within 50 m of a drey which will be retained must also be carried out under licence to permit the potential disturbance of that ecological feature.

4.9 Landscape Working Methods

4.9.1 The ECoW or Environmental Manager will be supported by a Landscape Architect to advise on the earth profiling of the landscape embankment and mitigation earth bunds.

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 (Ref 7).
- 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 (Ref 9);
- 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.

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 also 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 Inspections and Audits

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

5.3.2 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.

5.3.3 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.

5.3.4 The Environmental Manager / ECoW will inform the Project Manager 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.

5.4 Environmental Monitoring

5.4.1 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.

5.4.2 Table 5.4.1 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 5.4.3 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	Pre-construction and Construction	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. 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	Surface Water 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 16 of the EIA Report (Volume 2) and to be agreed with THC.	At the start of piling and tunnelling activities.	Construction Contractor	Construction Noise Management Plan

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 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
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
Protected Species Monitoring	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	Ecology Management Plan
Slavonian grebe presence monitoring	Construction	This will involve at observations of birds on Loch Ashie during blasting operations to ensure no signs of disturbance. In addition, although not expected, survey for breeding by Slavonian grebe on Loch Ashie will be conducted.	April – October Annually	ECoW	Ecology 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	ECoW	BMP

5.5 Environmental Incident and Corrective Action Reporting

5.5.1 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 Project Manger as soon as possible who shall inform the Applicant. Where relevant, the appropriate statutory authority (e.g. SNH 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.

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

5.5.3 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
- The Highland Council 01349 886603

5.6 References

Ref 1. British Standards Institute (BSI). (2014). BS 5228 -1: 2009+ A1:2014. Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise.

Ref 2. SEPA (February 2018) Supporting Guidance (WAT-SG-75) Sector Specific Guidance: Construction Sites.

Ref 3. SSI 2003 No. 531. Water Resources. The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003.

Ref 4. SI 2002 No. 2677. Health and Safety. The Control of Substances Hazardous to Health Regulations 2002.

Ref 5. Natural Resources Wales, SEPA and Northern Ireland Environment Agency. (2017). Pollution Incident Response Plans, GPP 21.

Ref 6. Scottish Government. (2017). Guidance on Applying the Waste Hierarchy. [Online]. Available: https://www.gov.scot/Resource/0052/00528402.pdf. [Accessed 24/09/18].

Ref 7. NRW, SEPA, NIEA and EA. (2015). Waste Classification. Guidance on the Classification and Assessment of Waste (1st Edition 2015). Technical Guidance WM3. [Online]. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/427077/LIT_10121.pdfThe Waste (England and Wales) Regulations 2011. S.I. 2011/988. Environmental Protection, England and Wales. [Accessed 24/09/18].

Ref 8. BSI. (2012). BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations.

Ref 9. BSI. (2010). BS 3998: 2010 Tree Work. Recommendations.

Annex 3.1.1 Pollution Incident Response

3.1.1 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.

3.1.2 Table 3.1 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 Development.

3.1.3 Table 3.2 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 3.1 Incident 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 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. 12. 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.

Incident Category	Indicative Incident Description
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 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 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). 14. 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.

Incident Category	Indicative Incident Description
Category 3 – minor or minimal impact or effect on the environment, people and/or property	1. 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. 2. Precautionary closure of a minor un-licensed potable water supply. 3. Minor action / treatment by operator to address deterioration in water quality (e.g. blending with uncontaminated water). 4. Very limited or no significant effect on the status or objectives of a WFD water body. 5. 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. 6. Very limited impact upon nature conservation sites. 7. Reversible small-scale, short-term damage to non-statutorily protected sites or BAP habitats or species. 8. 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. 9. 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). 10. 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 measureable adverse impacts.

Table 3.2 Incident Category, Monitoring Evidence and 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 EA / 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.

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