

Outline Construction Environment Management Plan (Revision 2)

Abergelli Power Project
Abergelli Power Limited

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Abbreviations

APL	Abergelli Power Limited, the Applicant
BPM	Best Practicable Means
CCS	City and County of Swansea
CEMP	Construction Environment Management Plan
CLG	Community Liaison Group
COSHH	Control of Substances Hazardous to Health
DEFRA	Department for Environment, Food and Rural Affairs
DCO	Development Consent Order
ECow	Ecological Clerk of Works
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMS	Environmental Management System
ES	Environmental Statement
HGV	Heavy Goods Vehicles
HSE	Health and Safety Executive
IAQM	Institute of Air Quality Management
M	Metre
MW	Megawatt
NETS	National Grid Electricity Transmission System
NRW	Natural Resource Wales
OGCT	Open Gas Cycle Turbine
PPE	Personal Protection Equipment
PRoW	Public Right of Way
RAMS	Risk Assessment / Method Statement
SINC	Site of Importance for Nature Conservation
SWCN	Special Waste Consignment Note
SWTRA	South Wales Trunk Road Agency
WFD	Waste Framework Directive
WTN	Waste Transfer Note

1. Introduction

1.1 Overview

- 1.1.1 This Outline Construction Environment Management Plan (CEMP) has been prepared as part of the Environmental Statement (ES) for Abergelli Power Station (hereafter referred to as the 'Project'). This Outline CEMP has been prepared by AECOM on behalf of the applicant, Abergelli Power Limited (APL).
- 1.1.2 The Project comprises of an Open Gas Cycle Turbine (OGCT) peaking power generating station and supporting infrastructure. The Project is described in detail in **Chapter 3: Project and Site Description** and its location provided in Figure 1.1 and Figure 1.2 of the ES.

1.2 Purpose of this Document

- 1.2.1 The purpose of this Outline CEMP is to set out the approach towards, and framework for, environmental management during the construction phase (including site preparation) and to provide mitigation against potentially adverse construction impacts on environmental resources, local residents and businesses. The Outline CEMP will provide assurance to the decision maker and stakeholders that appropriate measures for preventing and reducing environmental effects will be adopted during the construction of the Project and secured via this document. Both standard environmental good practice and project specific mitigation, as committed to within the ES are included within this Outline CEMP.
- 1.2.2 This Outline CEMP covers all elements of the Project as described in **Chapter 3: Project and Site Description** of the ES, although some measures will only be relevant to particular project elements or specific works, and this will be made clear in the text of the document. The principles of this Outline CEMP set out the standards, environmental management and good practice that will also be consistently applied to the construction of the Gas and Electrical Connections.
- 1.2.3 Post-consent, this CEMP will require updating in accordance with a Development Consent Order (DCO) Requirement and will be approved by CCS (in consultation with Natural Resources Wales) prior to any construction commencing on the Project Site. The approved CEMP will be used as an environmental management and monitoring tool for the duration of the construction phase. The CEMP will be kept on site as a live document, being updated as and when required (for example to recognise changes in regulations, good practice guidance, actions from on site audits or a change in situation onsite).
- 1.2.4 The approved CEMP will fall within the scope of the main contractor's externally certified environmental management systems, and as such will be subject to independent audits by the relevant certification bodies.
- 1.2.5 Measures set out in this document and the approved CEMP will have regard to the Welsh Government document '*Construction and Demolition Sector Plan*' (Ref. 1.1)

which seeks to move towards zero waste by detailing outcomes, policies and delivery actions for organisations, companies and individuals involved with the construction and demolition sector in Wales.

- 1.2.6 It is recognised that the Pollution Prevention Guidelines (PPGs) are currently being replaced with Guidance for Pollution Prevention (GPPs). Their primary aim is to provide environmental good practice guidance for the whole UK. Any relevant GPPs will be included in the finalised CEMP as appropriate.

a) Decommissioning

- 1.2.7 It is anticipated that the environmental effects of the decommissioning of the Project will be similar in size and nature to those associated with construction. A detailed decommissioning methodology cannot be finalised until immediately prior to decommissioning. However the measures and procedures are anticipated to be similar to those set out within this Outline CEMP and updated to align with industry good practice guidance at the time of writing.

1.3 Content and Structure

- 1.3.1 This Outline CEMP includes the following topics:

- Community liaison;
- Complaints procedures;
- Nuisance management including measures to avoid or minimise the impacts of construction activities (covering dust, noise, vibration and lighting);
- Dust management measures;
- Site waste and materials management measures;
- Pollution control measures;
- Security measures and use of artificial lighting;
- A protocol in the event that unexpected contaminated land is identified during ground investigation or construction; and
- Environmental training requirements.

- 1.3.2 In considering these environmental matters, information is provided on:

- A register of environmental aspects (Section 2.3);
- Roles and responsibilities (Section 2.1);
- Communication and co-ordination (Section 2.2);
- Training and awareness (Section 2.2);
- Checking, monitoring, auditing and corrective action (Sections 2.5 and 3);
- Good practice environmental control measures (Section 3); and
- Where embedded mitigation and additional mitigation has been incorporated and secured (Section 3).

- 1.3.3 This document should be read in conjunction to other mitigation places such at:

- ES Appendix 3.2: Surface Water Management Plan;

- ES Appendix 3.3a Contraction Traffic Management Plan;
- ES Appendix 3.3b Construction Staff Travel Plan; and
- ES Appendix 3.4: Landscape and Ecology Mitigation Strategy.

1.4 Construction Phase

1.4.1 The construction phase of the Project is anticipated to take approximately 22 months with an anticipated starting date in 2020. A detailed description of the site preparation and construction phase is available in **Chapter 3: Project and Site Description** of the ES.

1.4.2 Site preparation will entail:

- Creating temporary bridges over the Water Main and Oil Pipeline for the Access Road;
- Diverting watercourses and ditches around the Generating Equipment Site and Access Road;
- Creating attenuation ponds;
- Excavation of material of the new Access Road;
- Site clearance including vegetation clearance and topsoil stripping/ excavations;
- Establishing Laydown Area, site compounds and installing welfare facilities;
- Ecological mitigation works which may be required pre-construction; and
- Conducting geotechnical investigations and any other pre-construction surveys.

1.4.3 The main activities associated with the construction phase will be:

- Excavation and site levelling for new foundations and piling if required. The need for piling will be determined through pre-construction ground investigations;
- Access Road paving;
- Creation of drainage features (not including the attenuation pond);
- Heavy Goods Vehicles (HGVs) Deliveries of materials and equipment;
- Erection and fitting out of buildings;
- Installation of the generating plant on completed foundations including auxiliary equipment such as electrical switchgear and fuel handling equipment;
- Excavation and laying of the Electrical Connection, which will include going under the Oil Pipeline and Water Main and reinstating the excavated material once the Electrical Connection has been laid;
- Excavation and laying of the Gas Connection; and
- The construction of cable ducts alongside the Access Road.

1.5 References

- Ref. 1.1 Welsh Government. (2012). Construction and Demolition Sector Plan. Towards Zero Waste One Wales: One Planet. [Online]. Available: <http://gov.wales/docs/desh/publications/130301construction-demolition-waste-plan-en.pdf> [Accessed: 25/10/17].
- Ref. 1.2 Guidance for Pollution Prevention (GPP) [Online]. <https://www.gov.uk/guidance/pollution-prevention-for-businesses> [Accessed: 29/10/18].

2. Environmental Management Framework

2.1 Roles and Responsibilities

2.1.1 The following sections outline the responsibilities for those parties involved in the construction phase of the Project. These roles and responsibilities are indicative and may interchange between APL and the main contractor(s), and are not exhaustive.

a) APL

2.1.2 In terms of environmental management, APL is responsible for the overall delivery of the Project in compliance with relevant environmental legislation, the mitigation set out in this Outline CEMP and any Requirements to be implemented as part of the DCO.

2.1.3 APL will ensure that there is a dedicated Environmental Manager who will either be employed by APL or a nominated member of the main contractor's staff. The proposed role and responsibilities of the Environmental Manager are described below, starting in paragraph 2.1.8.

2.1.4 APL's role will include (but is not limited to):

- Ensuring the CEMP is finalised, implemented and monitored by the main contractor(s);
- Ensuring all the following factors are considered and appropriately actioned;
 - The most appropriate order and method of working;
 - Allocation of responsibilities between personnel, and other organisations on the Project Site; and
 - The approved CEMP is prepared and issued in a controlled way.
- Communications and Training (Section 2.2):
 - Ensuring that environmental meetings are held regularly and that environmental issues are covered as appropriate;
 - Regular liaison between all parties on the Project Site to ensure adequate precautions are taken to minimise the impact on the environment;
- Monitoring and Auditing (Section 2.5):
 - Ensuring that the main contractor(s) comply with the good practice, mitigation measures, set out in the CEMP and DCO Requirements through review of an Audit Close-Out Schedule;
 - Ensuring that all environmental incidents are reported and investigated where appropriate; and
 - Ensuring environmental inspections of the Project Site are performed and all issues raised are addressed promptly.

b) Main Contractor(s)

2.1.5 The main contractor(s) will be appointed by APL to undertake the construction of the Project. The main contractor(s) are required to comply with the mitigation and provisions within the Outline CEMP along with any Requirements imposed in the DCO and/or licences and secondary consents associated with the Project. This also

applies to any sub-contractors engaged on the Project. The main contractor(s) would also be a member of the Considerate Constructors Scheme.

2.1.6 If not already implemented by APL, the main contractor(s) will have a nominated environmental contact to perform the role of Environmental Manager, a description and list of responsibilities for the role are set out in the section below starting in paragraph 2.1.8.

2.1.7 The responsibilities of the main contractor(s) will also include (but are not limited to):

- Ensuring employees and sub-contractors implement the controls outlined in the finalised and approved CEMP;
- Communications and Training (Section 2.2):
 - Liaising with statutory authorities and APL as required and ensuring records of communication (including verbal communication) are kept;
 - Ensuring employees and sub-contractors receive Site Inductions (that include environmental issues) and toolbox talks, as appropriate;
 - Ensuring environmental management and emergency response training is provided and recorded.
- Monitoring and Auditing (Section 2.5):
 - Ensuring personnel needed for audits are available when required;
 - Verifying actions resulting from Corrective Action Requests (procedure used to originate a corrective action), Non-Conformance notices (notice issued to the main contractor(s) for conflicts with the contract documents) and Observations raised during audits are completed by the deadlines;
 - Verifying actions resulting from Corrective Action Requests, Non-Conformance notices and Observations raised during audits are completed by the deadlines and recorded appropriately.

c) Environmental Manager

2.1.8 APL or the main contractor(s) will appoint a suitably qualified Environmental Manager for the duration of the construction of the Project and during any restoration works. The purpose of this appointment is to ensure that the environmental interests of the Project Site are safeguarded. The Environmental Manager will have the authority to review method statements, oversee works and recommend action as appropriate. This includes having the authority to temporarily stop works if required, for example, where poor practices are being applied or mitigation is not being appropriately implemented or adhered to.

2.1.9 The Environmental Manager will work with the main contractor(s) to ensure the implementation of, and compliance with, the provisions of the approved CEMP and licences, consents or other conditions imposed on the Project.

2.1.10 A detailed description of the Environmental Manager's responsibilities will be included in the finalised version of the CEMP however, in summary the Environmental Manager will be responsible for:

- Ensuring any pre-construction environmental surveys are scheduled into the construction programme and conducted prior to works commencing;
- Inspections of works to ensure that environmental mitigation measures and other commitments have been and/or are being implemented;
- Implementation of additional mitigation other than those committed to where unforeseen circumstances arise that could result in a breach of environmental legislation;
- Monitoring and Auditing (Section 2.5):
 - Conducting weekly site inspections and record keeping of environmental sensitivities and requirements;
 - Conducting or coordinating monthly routine audits of the main contractor's compliance with the approved CEMP including construction activities and record keeping;
 - Coordinating and organising any regular monitoring requirement or commitment;
 - Regular reporting to CCS summarising the works undertaken on the Project; and
 - Monitoring or inspection of onsite activities in response to incidents, breaches of the approved CEMP or complaints received from a third party.

d) ECoW

2.1.11 The Environmental Manager may be assisted by an Environmental Clerk of Works (ECoW). The ECoW will perform specific specialist tasks that require expert knowledge, such as observations and watching briefs. The ECoW role may be performed by a suitably qualified individual or a team of individuals with differing expertise.

2.1.12 The responsibilities of the ECoW will be finalised in the approved CEMP, but may include:

- Any pre-construction surveys requiring specialised skills;
- Watching briefs or observations of specific construction activities i.e. vegetation clearance;
- Any auditing or monitoring requiring specialised skills; and
- Input into topic specific toolbox talks and training.

e) All Site Personnel

2.1.13 All site personnel have a responsibility to the environment, which includes, but is not limited to:

- In the case of an incident, stopping work, implementing control procedures and reporting it to the appropriate personnel as identified by the main contractor(s) in the finalised CEMP;
- Reporting when waste needs collecting;

- Passing any queries or correspondence on environmental issues to the appropriate personnel as identified by the main contractor(s) in the finalised CEMP; and
- Working in accordance with the finalised and approved CEMP and associated management plans. Protocol to support adherence is set out in the Communication and Training section (starting paragraph 2.2.2) of this Outline CEMP.

2.2 Communications and Training

a) Community Liaison

2.2.1 The following steps will be taken by APL/the main contractor to make the public aware of the activities onsite and the available lines of communication with the Project:

- Neighbouring residents and occupiers will be notified of the start of construction activities, the likely duration of the construction phase, of any changes to the working hours as agreed with CCS and of periods when higher levels of noise may be expected;
- There will be a community liaison group (CLG) established for facilitation two-way communication between the public and the Project, which will meet on a regular basis.
- A telephone number for environmental complaints will be published local to the Project Site. There will be a dedicated person responsible for dealing with any complaints, which could be the Environmental Manager. This person will have the appropriate authority to resolve complaints. An ‘out of hours’ telephone number will be made available if required. A Welsh speaker can be available at request;
- Liaison will be maintained with CCS’s Environmental Health Officer (EHO) for the duration of the construction phase;
- Should any complaints regarding dust or noise be received the details will be passed to the EHO for verification purposes; and
- Should any unforeseen event occur on the Project Site that has the potential to cause pollution then the relevant regulatory bodies will be notified immediately. As far as possible, notice will be issued to the EHO for dealing with an unforeseen activity that may give rise to a particular nuisance problem.

b) Environmental Site Meetings

2.2.2 To ensure dissemination of environmental information, environmental meetings will be held throughout the duration of the Project construction. The frequency of meetings will be determined by the main contractor(s), but will not be less than once per month. These meetings will be held for all site personnel and will be attended by the ECoW or similar environmental expert (if required).

2.2.3 Any environmental issues or lessons learnt will be reported at these meetings along with any updates or changes to environmental management plans. A “Look Ahead”

at relevant environmental management or special requirements linked to specific upcoming tasks or seasonality will also be provided.

c) Site Signage and Notice Boards

- 2.2.4 Working areas will be clearly marked with appropriate signage and warnings to ensure that they are avoided by members of the public.
- 2.2.5 Site notice boards for disseminating information to Site personnel will be positioned either within individual work stations or in a centralised location. Site notice boards will display method statements, emergency contacts, and relevant statutory and non-statutory advice and guidance.

d) Site Inductions

- 2.2.6 The main contractor(s) will ensure all employees, sub-contractors, suppliers, and other visitors to the Project Site receive induction training. The Site Induction will include a summary of environmental risks associated with the Project and the onsite environmental methods and standards. Any environmental methods and standards specifically relevant to the inductee's role or task will be highlighted.
- 2.2.7 Topics that will be covered in the Site Induction include, but are not limited to;
- Pertinent areas of environmental sensitivity, such as ecological, archaeological, hydrological or geological sensitive areas;
 - Pollution prevention and protection of the water environment (including concrete washout);
 - Waste management; and
 - Environmental incident and near miss reporting.

e) Training in Environmental Requirements

- 2.2.8 The main contractor(s) will ensure all personnel are suitably trained in general site good practice and environmental emergency response procedures, including the use of spill kits, silt mitigation and concrete washing out. Good practice and emergency response training will be provided by a suitably qualified person on a regular basis. The main contractor(s) will keep a record of this training.
- 2.2.9 Toolbox talks will be provided as part of briefings on specific tasks, based on method statements and environmental standards. They will provide on-going reinforcement and awareness of environmental sensitivities and issues on the Project Site. Toolbox talks will be task specific and will identify the sensitive receptors and provide advice on any specific procedures that need to be followed and the mitigation measures that should be implemented. For specialist topics, toolbox talks may be presented by an ECoW (or equivalent suitably trained specialist).
- 2.2.10 A programme of relevant toolbox talks will be drawn up by the Environmental Manager or main contractor(s) based on upcoming construction activities. Additional toolbox talks may be required outside of this based on circumstances such as

unforeseen risks, repeated observation of bad practices, perceived lack of awareness, or a pollution event. A record of all toolbox talks reporting highlights of the meeting and attendees will be maintained.

2.3 Register of Mitigation

2.3.1 A register of embedded and additional mitigation measures committed to within the ES has been attached in Appendix A: Mitigation Register to this Outline CEMP. The Register has been updated in response to consultee comments and updated EIA technical assessments. This Register will be used to inform the onsite environmental management and provide a tool for aiding the preparation of method statements or environmental standards. The register covers several environmental topic areas and will be regularly updated to reflect any additional risks resulting from the main contractors selected methods of working, changing site conditions etc. Mitigation measures have been identified under the following general headings:

- General;
- Air Quality;
- Noise and Vibration;
- Ecology;
- Water Quality and Resources;
- Geology, Ground Conditions and Hydrogeology;
- Landscape and Visual;
- Traffic, Transport and Access; and
- Historic Environment.

2.4 Method Statements and Site Environmental Standards

2.4.1 The main contractor(s) will prepare Method Statements for specific construction activities and Site Environmental Standards for day-to-day Project Site operations such as housekeeping, material storage and waste management. These will be based on standard good practice measures (as set out within relevant management plans in Section 3 of this Outline CEMP), statutory requirements, environmental sensitivities and any Requirements of the DCO.

2.4.2 Site Environmental Standards will be printed on A3 posters, placed on site notice boards and used as a briefing tool onsite. They will also form the basis of toolbox talks on the relevant Project Site operations.

2.4.3 The method statement will be communicated to all or task specific personnel ahead of the commencement of the relevant activities using an agreed instruction format (e.g. toolbox talks).

2.5 Monitoring and Auditing

a) Inspections

2.5.1 The Project Site will be inspected at regular intervals to ensure implementation of good practice and compliance with measures set out within the approved CEMP. The inspection and auditing schedule for the Project will be agreed by the main contractor(s) in consultation with the Environmental Manager and ECoW if required prior to commencement of construction. It is anticipated that there will be a programme of:

- Daily inspections;
- Weekly inspections;
- Monthly Audits;
- Monthly Complaint Reporting; and
- Ongoing Environmental Monitoring.

2.5.2 Particular notice will be taken during and following extreme weather events (high rainfall, high winds, snowfall etc.), when working in areas of known contamination, and when particularly hazardous activities are being carried out. Additional Method Statements or Site Environmental Standards will be produced where significant risk to the environment is identified.

2.5.3 An Audit Close-out Schedule will be maintained by the main contractor(s). This is a document to record any observations, corrective action requests or non-compliance notices identified through inspections. Progress against corrective and preventative actions logged in the Schedule will be reported to APL on a regular basis.

i. Daily Inspections

2.5.4 The nominated site personnel or the Environmental Manager will conduct daily checks against environmental requirements. This could be done against a pro forma or similar, based on the measures outlined within method statements and Environmental Standards relevant to activities being conducted on that day.

2.5.5 Daily inspections will include visual inspections of dust emissions as described in Section 4.3.

ii. Weekly Inspections

2.5.6 Weekly Project Site inspections will be carried out by the Environmental Manager, which will assess the effectiveness of the implemented mitigation on the Project Site.

iii. Monthly Audits

2.5.7 Compliance with the approved CEMP, environmental legislation and good practice will be audited on a monthly basis by the Environmental Manager or ECoW. The audit will include details on who is responsible for implementing any action required and the associated timescales.

iv. Monthly Complaints Reporting

- 2.5.8 The main contractor(s) will report to APL regarding any nuisance complaints from the general public and actions on how these have been addressed. The process for receiving and taking action on complaints is set out in the Community Liaison (paragraph 2.2.1).

v. Environmental Monitoring

- 2.5.9 Any requirements for specific monitoring programmes as determined through the DCO or pre-construction surveys (i.e. ground investigations) will be conducted at appropriate intervals by a suitably qualified individual.

b) Incidents and Near Misses

- 2.5.10 An indicative environmental Emergency Response Plan is detailed in Section 4.2.7 of this Outline CEMP. This will be finalised by the main contractor(s). The plan in the approved CEMP will follow the stop – contain – notify protocol and will detail responsible personnel and contacts for reporting. All personnel will be briefed on the notification protocol for alerting the main contractor(s) and Environmental Manager of an environmental emergency as part of their Site Induction. Environmental emergency response training and toolbox talks will also be conducted at regular intervals by a suitably qualified person.
- 2.5.11 The main contractor(s) will maintain a register of all environmental incidents, dangerous occurrences and/or near misses, each supported by an Environmental Incident Report Form. This will document the nature, date and time of the incident, corrective action(s) taken, and details of any contact with regulatory agencies. All incidents will be reported to the appropriate regulatory body and APL on the day that they occur or within 24 hours.
- 2.5.12 All environmental incidents, dangerous occurrences and near misses will be reviewed by the Environmental Manager and where necessary changes to working practices/procedures will be implemented. Lessons learnt, along with any updates to method statements, sections of the approved CEMP and toolbox talk will be communicated to all personnel at Environmental Site Meetings.

3. General Environmental Management Measures during Construction Phase

3.1 Safety

3.1.1 The main contractor(s) will have the day to day responsibility for maintaining Health and Safety throughout the construction phase. A risk assessment and method statement (RAMS) will be produced and detail how risk will be minimised through an approved procedure, which will:

- Identify the significant Health and Safety impacts that can be anticipated;
- Assess the risks from these impacts;
- Identify the control measures to be taken and re-calculate the risk; and
- Report where an inappropriate level of residual risk is identified so that action can be taken.

3.1.2 There will be no access to construction areas by the general public. The Project Site will be secured to avoid unauthorised access including where permissive routes cross the construction areas.

3.1.3 Traffic safety should be promoted by all project personnel to prevention and control traffic related injuries. Speed restrictions will be imposed onsite. This will also minimise disturbance of bare surfaces.

3.1.4 The following good practice measures will be implemented by the main contractor(s) to ensure the safety of site personnel:

- The provision of appropriate Personal Protective Equipment (PPE), including footwear, masks, protective clothing and goggles where required;
- Eating, drinking and smoking will be limited to a designated 'clean' area of the Project Site;
- Welfare facilities will be made available;
- All site personnel will be required to wash their hands and remove overalls/boots when moving from 'dirty' to 'clean' areas of the Project Site;
- Any soils excavated that are considered by the main contractor(s) to be potentially contaminated will be reported, left in situ and fenced off until their appropriate treatment (in line with Section 4.2.7: Emergency Response Plan); and
- Water inflows to excavated areas will be minimised by the use of lining materials, good housekeeping techniques and by the control of drainage and construction materials in order to prevent the contamination of ground water.

3.1.5 The main contractor(s) will ensure that qualified first-aid can be provided at all times. Appropriately equipped first-aid stations will be easily accessible throughout the Project Site.

3.2 Security

3.2.1 During site preparation the perimeter of the Generating Equipment Site will be cleared of undergrowth and a permanent or temporary security fence placed with

locked gates for main and emergency exits (capable of being opened in an emergency).

3.3 Construction Site Housekeeping

3.3.1 Good construction site housekeeping practice will be applied at all times. As far as reasonably practicable the construction working areas for the Project 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 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;
- Waste will be removed at frequent intervals; and
- Construction waste susceptible to spreading by wind or liable to cause litter will be stored in secure containers.

3.4 Storage of Fuels and Chemicals

3.4.1 The main contractor(s) will ensure that fuels and chemicals are stored appropriately and the measures are in place to prevent pollution of ground and water. Fuel will be stored:

- In areas where potential for contamination of water bodies is low i.e. outside 50 m of a spring, well or borehole and 10 m of an open watercourse;
- In areas that are low risk of flooding;
- In tanks that meet the manufacturing standards appropriate for the type of oil stored and comply with BS EN ISO 9001;
- With contents clearly marked on the storage containers;
- With secure and appropriately sized bunds being suitable to contain 110% of the contents (single tank). If there is more than one storage container, the bund will be capable of containing 110% of the largest tank, or 25% of the total aggregate capacity, whichever is the greatest;
- Tanks/ storage containers will be protected against vehicle collision; and
- All deliveries will be overseen by site personnel with emergency response training.

3.4.2 A Control of Substances Hazardous to Health (COSHH) store will be set up in the site compound. COSHH assessments and Material Safety Data Sheets will be held with the COSHH materials. A COSHH register will be created and maintained onsite.

3.4.3 All site personnel and sub-contractors will be made aware of the COSHH requirements through site inductions and specific toolbox talks. Daily site inspections will be used to review and monitor the storage and issue of COSHH materials.

3.5 Welfare Facilities

- 3.5.1 Welfare cabins, toilets and drying facilities, in line with The Construction (Design and Management) Regulations 2015 (Ref. 3.1) will be provided within the Project Site for the use of site personnel. Grey and foul water from welfare facilities will not be discharged directly into ditches or watercourse, but will be collected through a foul water drainage system that will either drain to a septic tank or a package treatment plant within the Project Site. It is likely that the latter will be the preferred option for ease of maintenance and environmental criteria. The processed water will then discharge onsite or to a nearby watercourse.
- 3.5.2 Where portable generators are used, industry good practice will be followed to minimise noise and pollution from such generators.
- 3.5.3 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.

3.6 Public Right of Ways

- 3.6.1 There are three Public Right of Ways (PRoW) that cross the Project Site. Specific mitigation measures for the management of these PRoWs is contained within the Outline Construction Traffic Management Plan, which will be finalised post-consent, in consultation with the PRoW officer at CCS.
- 3.6.2 It is not proposed to permanently divert any PRoWs although measures will be implemented during the construction phase to maintain safety to users from construction traffic and also from any excavations which may be present. Any temporary closures, required for public safety, will be advertised in advance and diversions or directions to alternate routes will be provided where practicable.
- 3.6.3 Appropriate signage will be placed prior to the construction area to ensure users are aware of the works prior to arriving. Should works be undertaken in the immediate location of the crossing, banksman will be employed to avoid any potential adverse effects from construction traffic. In addition, suitable fencing will be implemented to ensure users of the permissive routes are segregated from construction traffic appropriately and safely if required.

3.7 Timing of Works

- 3.7.1 Construction will be programmed in such a way as to ensure that construction activities are undertaken in a timely manner while minimising environmental risk as far as possible, e.g. seasonal sensitivities or inclement weather will be considered. Construction activities may be undertaken simultaneously at more than one area of the Project Site. The work programme will be agreed with CCS prior to construction commencing onsite. In the event that the programme changes significantly, the changes will be communicated to CCS.
- 3.7.2 Construction activities will be scheduled so that works that have the potential to impact upon ecological receptors are conducted outside key periods of seasonal

activity, for instance, vegetation clearance will be conducted outside of the breeding bird season.

3.7.3 Construction activities will also be scheduled, where possible to reduce the risk of pollution. Measures include:

- Minimising the periods for which soils are exposed and stockpiled thereby reducing the risk of generating silt laden runoff;
- Avoiding, where possible, undertaking specific activities such as earthworks during prolonged and heavy rainfall thereby reducing the risk of sediment or pollutants becoming entrained in excess runoff; and
- Avoiding, where possible, undertaking activities in closer proximity to watercourses when water levels are higher and adjacent land is at risk of flooding.

3.8 Working Hours

3.8.1 Construction activities will not take place outside the hours of 08:00-18:00 Monday to Friday and 08.00-13.00 on Saturday and public holidays, unless otherwise agreed with CCS. These limits will not apply during commissioning and completion of the Project, as defined in Chapter 3: Project and Site Description of the ES. Local residents will be notified, as detailed in Section 2.2 Community Liaison, of any agreed changes to the working hours.

3.9 Out of Hours Working

3.9.1 Approval from City and County of Swansea (CCS) is mandatory for all construction works being undertaken outside of the permitted hours as described in Section 3.8.1. The construction manager or principal contractor is responsible for discussing and agreeing the intended works with CCS.

3.9.2 The following activities may require construction works to continue outside the permitting working hours. This list is meant to be descriptive and provide context, and is not exhaustive or representative:

- Concrete deliveries or production of concrete during a continuous concrete pour;
- Delivery of abnormal loads;
- Delivery of other plant and equipment;
- Foundation Works;
- Crane Lifts;
- Weather events; and
- Unplanned events (Emergencies).

3.9.3 The procedure for out of hours work is as follows:

Step 1. Construction Manager/ Principal Contractor submits request to CCS by e-mail marked urgent to pollution@swansea.gov.uk **no later than 96 hours before the proposed works will take place**. This email shall be copied to Planning.Department@swansea.gov.uk. Late submissions are likely to mean the work will not be approved in time and cannot take place. The Construction manager/principal contractor will closely liaise with CCS

(by telephone number **01792 636595 (CCS Pollution Control)**) and keep them informed on current activities (i.e. weather, transportation issues etc.) to maintain communications and help ensure the all necessary parties are informed appropriately to assist decision making.

The request must include the following details:

- The proposed hours that are being requested;
- Detail of the activities that are taking place;
- What plant and machinery will be used for the task;
- How many personnel will be on site;
- Where on site the activities are taking place;
- The rationale for undertaking the construction related activities outside of permitted working hours;
- Comment on whether the activities will be expected to cause noise disturbance to our neighbours and how they will be notified; and,
- Contact details of the site supervisor for any out of hours working to CCS, so that in the event of any complaints being received, they can be managed quickly and effectively.

Step 2. Notification / agreement for commencement of works will be provided by CCS as soon as practically possible

Step 3. Following receipt of approval from CCS for commencement of out-of-hours working activities (Step 2) the Construction Manager / Principle Contractor will undertake community liaison by notifying those neighbouring landowners immediately adjacent to the site (or who may be affected) primarily via email, alternatively via a telephone call explaining the key points notified and approved by CCS (Step 1).

3.9.4 In the event of a weather-event (for example, bad weather) or other emergency-situation which was unplanned, and which has (or could) damaged/ negatively impact the construction site. The Construction manager/ Principal Contractor will take reasonable measures and actions to manage and maintain health & safety; environmental issues; and protect the site.

3.9.5 Where such event occurs the Construction Manager/Principal Contractor shall, after making good the construction site, will contact CCS by telephone and follow-up with appropriate email providing the information outlined in Step 1 bullet points (albeit retrospectively).

3.10 Lighting

3.10.1 The Project Site will require artificial lighting during construction to provide a safe working environment during hours of darkness. Artificial lighting can be a nuisance to any nearby residence and can disrupt nocturnal species.

3.10.2 All artificial lighting used at the Project Site will be in accordance with the Institute of Lighting Professionals (ILP) Guidelines (Ref. 3.2) and the Bat Conservation Trust's (BCT) interim guidance on artificial lighting and wildlife (Ref. 3.3).

3.10.3 In order to minimise light disturbance to ecological receptors:

- There will be no more than 1 lux beyond the boundary of the proposed Project Site, particularly within the Lletty-Morfil Site of Importance for Nature Conservation (SINC) to the north and east of the Generating Equipment Site, which is a habitat that supports bats.

3.10.4 The general design objectives that will be used to ensure that adverse effects of lighting (through adding light to a darker rural landscape) associated with construction of the Project are minimised are listed below:

- Luminaires will be appropriately designed for the required task;
- Louvres and shields will be used to prevent undesirable light break-out;
- Construction lighting will be directed away from all sensitive receptors;
- For the illumination of large areas, in order to limit light trespass, glare and sky glow from the plant, preference will be given to several, lower lighting units rather than tall, wide beam lighting units;
- Vehicle lights will be properly directed (conforming to MOT requirements) and lenses will be intact to prevent un-necessary glare and light intrusion;
- Lighting will be reduced or switched off when not required for safety purposes;
- Security lighting will be kept at the minimum level needed for visual and security protection;
- Dark corridors will be maintained along hedgerows and watercourses and any other linear features by avoiding light encroaching on these areas. This will avoid the fragmentation of habitat used by species such as bats and also otters that use these features to move at night-time; and
- If appropriate, the use of infra-red floodlighting and CCTV systems will be considered for security to reduce the need for visible lighting outside working hours.

3.11 References

- Ref. 3.1 The Construction (Design and Management) Regulations 2015. S.I. 2015/51.
- Ref. 3.2 ILP. (2011). Guidance Notes for the Reduction of Obtrusive Light. [Online]. Available: <https://www.theilp.org.uk/resources/free-resources/ilp-guidance-notes/> [Accessed: 30/11/17]
- Ref. 3.3 BCT. (2014). Artificial Lighting and Wildlife. Interim Guidance: Recommendations to Help Minimise the Impact Artificial Lighting. [Online]. Available: http://www.bats.org.uk/pages/bats_and_lighting.html [Accessed 07/12/17].

4. Environmental Management Plans

4.1 Overview

- 4.1.1 The following sections outline the likely contents of the topic specific Management Plans that will be developed to be submitted to discharge a DCO Requirement post-consent.
- 4.1.2 Other than the Emergency Response Plan which is integral to the CEMP, these plans will be subject to their own separate Requirement in the DCO and finalised as required via standalone documents.

4.2 Emergency Response Plan

- 4.2.1 This plan provides response measures for potential environmental emergencies that could arise during the construction of the Project. These include; discovery of unknown contaminated ‘hotspots’; spills of contaminants such as chemicals, fuels or waste materials; and entry of contaminants into watercourses during flood events.
- 4.2.2 This Emergency Response Plan will be reviewed by the main contractor(s) and finalised in the approved CEMP. The main contractor(s) will also supply emergency contact details for nominated site personnel, relevant regulatory bodies and emergency services. These details will be available on site notice boards (paragraph 2.2.5) and will be displayed along with a plan of the Project Site that displays safe storage areas and the location of response equipment, such as spill kits.
- 4.2.3 The emergency plan and contact details will be shown to all site personnel as part of the Site Induction. Nominated site personnel will be provided with emergency response training. There will be regular toolbox talks on emergency response procedures and all site personnel will be informed of the notification procedure in the event of discovering contamination or a spill as part of the Site Induction.
- 4.2.4 All incidents where the Emergency Response Plan is implemented will be reported in line with the Incident Response Procedure detailed in Section 2.5: Monitoring and Auditing (starting paragraph 2.5.10).

a) Contaminated Hotspots Plan

- 4.2.5 Ground investigations will be conducted to identify any potentially existing contaminated land within the Project Site. In the case where a contaminant is identified, a contaminant specific management plan will be produced.
- 4.2.6 As such, the procedure below is proposed to be followed in the eventuality that an unidentified contaminant “hotspot” showing visual or olfactory evidence of contamination is discovered during construction:
- Relevant construction activities will be stopped immediately;
 - The discovery will be reported to the Environmental Manager or appropriate personnel as identified by the main contractor(s);
 - The area will be sealed off in order to contain the spread of contaminants;

- The area will be cleared to ensure there is nothing that could cause fire or explosion;
- The relevant regulator and/or CCS will be contacted once it is confirmed that contamination has been found;
- Testing will be arranged; and
- Details of the incident will be recorded, including photos and relevant information on the Environmental Incident Report Form.

b) Emergency Spill Response Plan

4.2.7 Appropriate spill response materials for the chemicals, fuels and oils stored onsite will be provided throughout the Project Site. Spill kits will be made available at fuel storage and refuelling locations and in individual plant and vehicles. Use of plant and hazardous materials will be done in the presence of at least one operative trained in emergency response.

4.2.8 The main contractor(s) will produce an emergency response plan that will follow the STOP – CONTAIN – NOTIFY – CLEAN UP – REPORT procedure. An indicative procedure is set out below:

- STOP
 - Relevant Construction activities will be stopped immediately;
 - Spilt substance will be identified and any information available (i.e. COSHH material sheet) obtained along with the correct PPE;
 - If safe to do so, the spill will be stopped to prevent more material spilling, e.g. oil drums will be righted or valves closed; and
 - Sources of ignition will be switched off.
- CONTAIN
 - The spillage will be immediately contained using bunds of earth or sand, drip trays, boom and or spill materials;
 - Drains and watercourses will be checked to see if the spill has reached them. Where possible, spills will be diverted and drains will be banded to stop the spill entering the drainage network;
 - Spillage and runoff will not be washed into the drainage system.
- NOTIFY
 - The Environmental Manager will be notified;
 - The Environmental manager will then notify the relevant regulator, CCS and APL.
- CLEAN UP
 - The spill will be cleaned up using appropriate spill materials OR by an expert/ specialist clean-up contractor;
 - Contaminated soil, ground and water will be disposed of as hazardous waste (Section 4.5.11).
- REPORT
 - An Environmental Incident Report will be completed in line with the Incident Response Procedure (Section 2.5.10).

c) Flood Risk Management Plan

4.2.9 The following provides an outline of the measures to be implemented to minimise flood risk:

- The main contractor(s) will sign up to receive NRW flood warnings or flood alerts for the Afon Llan and Afon Lliw;
- The main contractor(s) will sign up to receive high rainfall alerts provided by the MET office as flood warning for the Project Site;
- Weather forecasts will be checked regularly;
- Plant, machinery and stockpiles will be stored away from watercourses, ditches and low lying areas that could flood;
- If flooding of the Project Site is expected, vehicles and plant machinery that pose a hazard will be moved to higher ground or off-site if appropriate;
- If flooding of the Project Site occurs, plant machinery and vehicles will be checked to ensure they are safe before use; and

4.2.10 Where possible, temporary works (including stockpiles and drains) will be set to direct overland flows away from the main Project Site and access routes.

4.3 Dust Management Plan

4.3.1 This plan contains a proposed dust monitoring plan and standard good practice measures for reducing dust and emissions from vehicles.

4.3.2 Guidance relevant to the implementation of air quality measures include;

- BS 6031: 2009: Code of Practice for Earth Works (Ref. 4.1);
- HSE Vehicle at Work Guidance (Ref. 4.2); and
- Institute of Air Quality Management (IAQM) Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites (Ref. 4.3).

a) Contents of Plan

4.3.3 In line with IAQM guidance (Ref. 4.3) on monitoring air quality at construction sites; daily visual inspections of dust emissions (and weekly recording) will be made in conjunction with dust emissions monitoring at locations to be agreed with NRW. This data will be used 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.

4.3.4 Monitoring will be undertaken in the vicinity of the Lletty-Morfil SINC. Since the risk for ecosystems relates to dust deposition, a real time monitor for total suspended particulate matter will be installed. Trigger levels for the instrument, which would suggest increasing risk/emissions, will be agreed with NRW prior to the commencement of construction. The monitoring stations will be mobile and will be moved around the Project Site as the principal activities move.

4.3.5 The following are general good practice measures that will be implemented onsite to control dust and vehicle emissions. If inspections and monitoring find that plumes of dust are visible, behind moving vehicles for example, or dust was visibly deposited on roads outside of the Project Site, more vigorous control measures may be required.

i. Site Management

- All personnel will be made aware of nuisance dust and will be trained in dust management; and
- Project Site plant will be maintained so as to reduce emissions.

ii. Earthworks

- Disturbance of the ground will be kept to a minimum wherever possible;
- Necessary vegetation/ topsoil removal will be carried out in discrete sections with progressive restoration of exposed areas to minimise wind erosion;
- Earthworks and excavation areas will be kept damp, and will be avoided during periods of exceptionally dry weather; and
- Earthworks will be undertaken following BS 6031:2009 (Ref. 4.1).

iii. Material Handling

- The number of handling operations will be kept to a minimum to ensure that dusty material isn't moved or handled unnecessarily;
- Soil handling will be restricted during adverse weather conditions such as high winds or exceptionally dry spells;
- Drop heights will be kept to a minimum and will be enclosed where possible;
- Transportation of aggregates and fine materials will be conducted in enclosed or sheeted vehicles;
- Dampening methods will be used where necessary; and
- Methods and equipment will be in place for immediate clean-up of spillages of dusty or potentially dusty materials.

iv. Stockpiles

- Stockpiles will be located away from sensitive receptors where dust nuisance is likely to result;
- During exceptionally dry and windy periods stockpiles will be kept damp;
- Soils will, where appropriate be landscaped into suitable shapes for secondary functions e.g. visual screening; and
- Appropriate shrouding/ wind shielding measures dependent on particulate size will be put in place to prevent dust generation from stockpiled materials. Long-term stockpiles may be capped or grassed over.

v. Traffic Measures

- Unsurfaced roads will be graded regularly to remove loose gravel and kept in a clean and compacted condition;
- A mechanical road sweeper will be made available if required for the cleaning of public roads (in agreement with CCS and South Wales Trunk Road Agent (SWTRA));
- Wheel/ vehicle wash facilities will be provided at Project Site entrance/exit; and

vi. Emissions Management

- Plant and equipment will be operated as far as possible away from residential areas or sensitive receptors near to the Project Site;
- An onsite speed limit will be implemented by the main contractor(s) that will be appropriate to the types of construction plant utilised and the Project Site hazards

in line with Vehicles at Work guidance from the Health and Safety Executive (HSE) (Ref. 4.2);

- Onsite vehicle movement will be kept to a minimum and restricted to adequately compacted internal roads;
- All plant utilised on Project Site should be regularly inspected. Monitoring of plant will include:
 - Ensuring no black smoke is emitted other than during ignition;
 - Ensuring exhaust emissions are maintained to comply with the appropriate limits;
- Vehicle exhausts will be directed away from the ground and other surfaces and preferably upwards to avoid road dust being re-suspended to the air; and
- Exhausts will be positioned at a sufficient height to ensure adequate dispersal of emissions.

4.4 Pollution Prevention Management Plan

4.4.1 This plan covers measures to minimise the risk of pollution to ground and water from the storage and use of potentially polluting materials onsite. The sections below detail the storage of fuels and oil, management of non-oil chemicals, potential pollution from construction vehicles, plant and machinery and the use of cement and concrete.

4.4.2 An Emergency Spill Response Plan is set out within Section 4.2.7.

4.4.3 All fuel storage will comply with the Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016 (Ref. 4.4).

4.4.4 Further water specific management measures can be found in ES Appendix 3.2: Surface Water Management Plan.

a) Contents of Plan

i. Movement, Parking and Re-fuelling of Vehicles and Plant

4.4.5 Vehicles and plant will comply with the following:

- In order to prevent compaction and erosion of undeveloped ground, movement of construction plant and vehicles will be limited to clearly defined access tracks and construction areas only.
- Where possible, all construction plant and vehicles will be parked/stored at least 50 m away from surface waterbodies and springs.
- All construction plant and vehicles will be checked daily for oil and fuel leaks and record of such checks kept by the Environmental Manager (or ECoW).
- Mobile plant will be in good working order, kept clean and fitted with drip trays where appropriate.
- Refuelling of construction plant and vehicles will be undertaken on an impermeable surface at a temporary construction compound only.
- All refuelling activities will be supervised by site personnel with emergency response training.

ii. Cement and Concrete

- 4.4.6 Concrete and cement are alkaline and corrosive, and can have a highly polluting impact in water and on land and are harmful to human flesh.
- 4.4.7 Due to the size of the Project Site it is likely that concrete batching will occur onsite. The equipment used for concrete batching should be operated in accordance with Process Guidance Note 3/01(12) (Ref. 4.5).
- 4.4.8 Mixing and washing of concrete will not take place within 10 m of any watercourse or swale and waste waters will not be discharged into the water environment. All site personnel will receive training on concrete washout as part of their Site Induction.

4.5 Waste and Material Management Plan

- 4.5.1 To ensure efficiency of resource use, prevention of litter nuisance and compliance with waste legislation, this sections sets out good practice waste and material management measures.
- 4.5.2 Construction activities associated with materials and/or waste generation include:
- Site clearance will remove vegetation and undergrowth in work areas generating organic materials and waste;
 - Excavation; it is estimated that the overall quantity of excavated material (solid) from the construction is to be approximately 19,000 m³m³. This figure is a measure of excavated material in the ground and bulk material. The worst case scenario assessed in **Chapter 12: Traffic, Transport and Access** of the ES assumes that none of this excavated material can be reused within the Project Site. However the worst case is not anticipated; and
 - General day-to-day construction operations such as use of welfare facilities and deliveries generating packaging, domestic waste and sewage.
- 4.5.3 Waste likely to be generated during construction includes:
- Topsoil and subsoil;
 - Excess concrete, mortar and grout;
 - Wood off cuts and used wood (crates and concrete formwork);
 - Bricks, pavers and concrete block off cuts;
 - Roofing materials;
 - Metal including steel reinforcement off cuts;
 - Plastic wrapping and packaging;
 - Paper;
 - Delivered material bags, wrappings and coverings; and
 - Miscellaneous materials
- 4.5.4 The EU Waste Framework Directive (WFD) (Ref. 4.6) provides the overarching legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste. The Project will operate in accordance with the WFD, together with the Environmental Permitting (England and Wales) Regulations 2016 (Ref.4.7) and the Hazardous Waste (England and Wales) Regulations 2005 (as amended by the Hazardous Waste (England and Wales) Amendment Regulations 2009 and 2016) (Ref. 4.8).

4.5.5 Other guidance referred to within the CEMP includes:

- The Waste Classification Technical Guidance WM3 (Ref. 4.9), which sets out a standardised classification of waste based on material properties;
- Welsh Government Guidance on Applying the Waste Hierarchy (Ref. 4.10); and
- The Department for Environment, Food and Rural Affairs (DEFRA) Waste Duty of Care Code of Practice (Ref. 4.11).

a) *Contents of Plan*

i. *Waste Hierarchy*

4.5.6 Onsite waste management 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. 4.11).

4.5.7 The priority order may be deviated from if a better overall environmental outcome is recognised for a particular resource or waste.

ii. *Waste Prevention*

4.5.8 The following preventative measures will be adopted:

- Building materials ordered will be the correct size so as not to be wasted due to being obsolete;
- The appropriate volume of material will be ordered to avoid excess;
- Ordering of new materials will be avoided if there are existing materials available or able to be adapted to the task within the Project 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 onsite 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.

iii. *Classification of Waste*

4.5.9 APL and/ or the main contractor(s) will identify and classify all Project Site waste streams in line with the categories and methods set out in the Waste Classification Technical Guidance WM3 (Ref. 4.9).

iv. *Storing Waste*

4.5.10 Where resources are earmarked for recycling, recovery or disposal the following method of storage will be implemented to minimise the risk of waste escaping, litter and/ or pollution:

- 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 hazardous waste (see Paragraph 4.5.11);
- Skips will be monitored and action taken if waste levels are too high; and
- Burning of waste is prohibited.

v. *Hazardous Waste*

4.5.11 “Hazardous waste” is any waste which contains properties that might make it harmful to human health or the environment (Ref. 4.8).

4.5.12 Hazardous waste could arise during construction from the following sources:

- Maintenance of plant and machinery;
- Oily water waste;
- Oily rags;
- Oil absorbent pads etc.; and
- Environmental Spill recovery (small amounts only; larger volumes taken away directly for disposal).

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

vi. Organic Matter

- 4.5.14 The waste wood and foliage material resulting from site clearance will be managed in-line with the Waste Hierarchy (as detailed within paragraph 4.5.6), thus helping to minimise potential environmental issues pertaining to this process.
- 4.5.15 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 Project Site.
- 4.5.16 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.
- 4.5.17 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.
- 4.5.18 Any topsoil or subsoil generated will remain onsite to be reused for any landscaping.

vii. Transporting Waste

- Waste contractors will be checked periodically (bi-annually) to ensure they have valid licences; and
- All waste leaving the Project 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 References

- Ref. 4.1 BSI. (2009). BS 6031:2009 Code of Practice for Earthworks.
- Ref. 4.2 HSE. (n.d.) Speed Limits. [Online]. Available:
<http://www.hse.gov.uk/workplacetransport/factsheets/speed.htm>
[Accessed 20/11/17].
- Ref. 4.3 IAQM. (2012). Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites. [Online].
Available: http://www.iaqm.co.uk/wp-content/uploads/guidance/monitoring_construction_sites_2012.pdf
[Accessed: 30/11/17]
- Ref. 4.4 Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulations 2016. W.S.I. 206/359/W112.
- Ref. 4.5 DEFRA. (2012). Process Guidance Note 3/01(12): Statutory Guidance for Blending, Packing, Loading, Unloading and Use of Cement. [Online].
Available:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/573004/blending-packing-loading-unloading-and-use-of-cement-process-guidance-note-3-01_12_.pdf
[Accessed 21/11/17].
- Ref. 4.6 Directive 2008/98/EC The Waste Framework Directive L312/3.
- Ref. 4.7 The Environmental Permitting (England and Wales) Regulations 2016. S.I. 2016/1154. Environmental Protection, England and Wales.
- Ref. 4.8 HSE. (n.d). Hazardous Waste. Available:
<http://www.hse.gov.uk/waste/hazardouswaste.htm>.
[Accessed 20/11/17]. BSI. (2012). BS 5837. Trees in Relation to Design, Demolition and Construction – Recommendations.
- Ref. 4.9 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.pdf The Waste (England and Wales) Regulations 2011. S.I. 2011/988. Environmental Protection, England and Wales. [Accessed 20/11/17].
- Ref. 4.10 Welsh Government. (2012). Guidance on Applying the Waste Hierarchy. [Online]. Available:
<http://gov.wales/docs/desh/publications/120119wastehierarchyguideen.pdf>
[Accessed 01/12/17].
- Ref. 4.11 DEFRA. (2016). Waste Duty of Care Code of Practice. [Online].
Available:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/506917/waste-duty-care-code-practice-2016.pdf
[Accessed 01/12/17].



Appendix A

3.1 Outline CEMP

