



XLCC CABLE FACTORY - HUNTERSTON

Appendix 2.1: Outline Code of Construction Practice



XLCC CABLE FACTORY - HUNTERSTON



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1 INTRODUCTION

Background

- 1.1 This document forms Appendix 2.1 of the Environmental Impact Assessment Report (EIAR) produced on behalf of XLCC Limited (XLCC), which accompanies the planning application for the construction and operation of the proposed High-Voltage Cable Manufacturing Facility at Hunterston Port (referred to as 'the Project'). XLCC aim to construct a state-of-the-art high-voltage cable manufacturing facility at Hunterston Port. The factory will manufacture High Voltage (HV) cables for use in distributing renewable energy from a variety of sources.
- 1.2 This document comprises the outline Code of Construction Practice (CoCP) and sets out the principles of good environmental management to be followed during construction of the Project in order to avoid or minimise environmental impacts. This includes principles for management of construction noise, dust, traffic, materials storage and waste management, drainage and ecological protection.

Purpose of the CoCP

- 1.3 This outline CoCP sets out the management measures that XLCC and its contractors will be required to implement for all construction activities associated with the Project. These measures have been identified during the design of the Project and as part of the EIA process. They include (in outline) strategies, control measures and monitoring procedures for managing the potential environmental impacts during the construction phase and limiting disturbance from construction activities as far as reasonably practicable. As such, this outline CoCP sets out the good practice measures that will be utilised during construction of the Project and provides site-specific measures applicable to the Project site, based on the findings of the EIA process.
- 1.4 The outline CoCP will form the basis of detailed Construction Environmental Management Plan (CEMP) to be developed and submitted for approval by the appointed contractors prior to the main construction works commencing.

Scope of the CoCP

- 1.5 The Project site is located on part of the former Hunterston Coal Yard within the wider Hunterston Port and Resource Centre, located on the coast of the West of Scotland, south of the settlement of Fairlie, and north of the EDF Hunterston Power Station.
- 1.6 The Project site is approximately 50.7 hectares in size, and the parameters sought for Planning Permission in Principle are set out in EIAR chapter 2 Project Description.
- 1.7 The scope of this outline CoCP applies to construction activities during all construction phases of the Project, including construction of the cable manufacturing facility, and use of the site access from the A78. In addition, it summarises measures set out within the Transport Assessment that accompanies the application to manage construction traffic numbers and routing.
- 1.8 The framework and measures set out in this outline CoCP are relevant to all contractors undertaking work on the Project.

Implementation of the CoCP

1.9 This outline CoCP will be developed into a more detailed CEMP by the appointed Principal Contractor, which will be agreed with North Ayrshire Council (NAC) prior to the commencement of



construction. The CEMP shall include the measures set out in this outline CoCP, together with any further detail available at that time.

- 1.10 The CEMP may be supported by detailed Construction Method Statements detailing how the requirements for the CEMP would be met for specific activities where appropriate. Implementation of the CEMP and any associated method statements will be the responsibility of the Principal Contractor (with methodologies passed on in turn to any subcontractors).
- 1.11 Such method statements would set out:
 - how the construction activities will be undertaken (including construction methods and the types of plant required);
 - appropriate risk assessments; and
 - a consideration of relevant environmental, and health and safety issues.
- 1.12 The method statements will set out environmental control measures relevant to the construction activity, which will build on the framework of measures set out in the outline CoCP. This will include an aspects and impacts register (prioritised for significance) for the relevant activities. The key environmental features and constraints (as updated where necessary after publication of the EIA Report and grant of permission) will be used to prioritise the managerial and engineering controls to be put in place to reduce environmental impacts. This will include environmental monitoring arrangements/measures specified in planning conditions.
- 1.13 For those activities that are not covered by specific method statements, the principles and measures set out within this outline CoCP will be implemented through general working practices to be adopted by the Principal Contractor (and any subcontractors).
- 1.14 All construction staff will be required to follow the outline CoCP and CEMP and implement the measures to control the environmental impacts during construction. The requirement to comply with the procedures set out within this outline CoCP will be included in the contract conditions for each element of the works, including the supply chain as appropriate.

Training

- 1.15 All construction staff will receive training on their responsibilities for minimising the risk to the environment and implementing the measures set out in this outline CoCP.
- 1.16 The Principal Contractor will ensure that sub-contractors employ an appropriately qualified and experienced workforce. The Principal Contractor will also be responsible for identifying the training needs of their own personnel to enable appropriate training to be provided. Training will include site briefings and toolbox talks to provide the necessary knowledge on health, safety and environmental topics, and the relevant environmental control measures pertinent to the construction activities to be carried out that day.

Safety

1.17 The Principal Contractor will be responsible for the production and implementation of a Construction Phase Health and Safety Plan to demonstrate compliance with the requirements of the outline CoCP and legislation in relation to health and safety. This will set out how health and safety risks are identified and managed in accordance with current best practice and legal requirements.

Considerate Constructors Scheme

1.18 In addition to meeting the principles of this outline CoCP, the Principal Contractor will be required to sign up to and implement the Considerate Constructors' Scheme (CCS). The CCS is a UK



initiative established to raise standards in the construction industry. Its Code of Considerate Practice sets out the scheme's expectations of all registered sites, companies and suppliers. These expectations are summarised below.

- Care about Appearance: constructors should ensure sites appear professional and wellmanaged.
- Respect the Community: constructors should consider their impact on neighbours and the public.
- Protect the Environment: constructors should protect and enhance the environment.
- Secure everyone's Safety: constructors should attain the highest levels of safety performance.
- Value their Workforce: constructors should provide a supportive and caring working environment.



2 CONSTRUCTION METHOD

2.1 The Project will be constructed in an environmentally sensitive manner and will comply with all relevant legislation and codes of practice to minimise adverse impacts on the local community and environment as far as reasonably practicable.

Environmental Management

- 2.2 The Principal Contractor is required (as a minimum) to have an environmental policy and ensure the following measures are in place:
 - procedures to be implemented to monitor compliance with environmental legislation and measures in this outline CoCP;
 - staff competence and training requirements; and
 - record-keeping arrangements.
- 2.3 The Principal Contractor will be required to plan their works in advance to ensure that principles set out in the outline CoCP are complied with. This will be documented in the method statements for the key construction activities.

Legal and Regulatory Requirements

- 2.4 A function of the CoCP is to make construction staff aware of their legal duties and environmental responsibilities during the construction of the Project. A framework of legislation has been compiled and is contained within Annex A. The list is not exhaustive and does not absolve construction staff from complying with other relevant legislation. The legislation register will be reviewed and updated during the construction process.
- 2.5 Specific construction-related activities may be subject to regulatory controls through the provision of consents, licenses or permits, including a protected species licence.

Best Practice Guidance

- 2.6 Construction activities will be undertaken in accordance with the following best practice guidelines:
 - Bat Conservation Trust (BCT) Interim Guidance 'Artificial Lighting & Wildlife' (2014).
 - Best Practicable Means under Section 72 Control of Pollution Act (1974) as amended.
 - British Standard BS 10175 (British Standards Institution (BSI), 2011 and amended 2017). Investigation of Potentially Contaminated Sites (BSI 10175:2011+A2:2017).
 - British Standard BS 5837: 2012 (Trees in Relation to design, demolition and construction Recommendations).
 - British Standard 5228: Code of practice for noise and vibration control on construction and open site. Part 1: Noise +A1:2014.
 - British Standard 5228: Code of practice for noise and vibration control on construction and open site. Part 2: Vibration.
 - British Standard for the 'Code of practice for ground investigations' (BS8485:2015+A1:2020) (BSI, 2020).
 - British Standard requirements for the 'Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings' (BS8485:2015+A1:2019) (BSI, 20119).



- CIRIA C741 Environmental Good Practice on Site.
- CIRIA Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors.
- CIRIA Guidance on the Construction of SuDS.
- Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (Department for Environment, Food and Rural Affairs (Defra), 2012).
- Groundwater Protection Position Statements (Environment Agency, 2017 and amended 2018).
- Guidance for Pollution Prevention (GPP) 1: A general guide to preventing pollution (SEPA et al 2020).
- Institute of Air Quality Management (2014) Assessment of dust from demolition and construction.
- Land Contamination Risk Management (LCRM) (Environment Agency, 2020).

Roles and Responsibilities

2.7 Whilst the key roles for the construction team have not been assigned at the time of writing, the environmental roles required to implement this outline CoCP are set out below. The list of responsibilities and roles is not exhaustive. XLCC and the Principal Contractor will agree the appointment of these roles.

XLCC

2.8 XLCC will retain overall responsibility for the Project site at all times and will require that all construction activities are in compliance with the CoCP and with statutory and consent obligations. This outline CoCP sets out overarching requirements for all construction activities.

Principal Contractor

2.9 The Principal Contractor will be responsible for following the principles of the CoCP throughout construction of the Hunterston Cable Manufacturing Facility and for managing their sub-contractors and for ensuring they understand and comply with the environmental obligations of this outline CoCP.

Construction Programme and Phasing

- 2.10 Subject to being granted planning permission and subsequent Final Investment Decision, the earliest date that construction could start work would be quarter 3 2022. Advance enabling works that do not require consents or licences are required to establish the prevailing site conditions. Such works will be undertaken before the main construction phase.
- 2.11 The factory will be constructed in one phase. However, some of the buildings and 3 extrusion lines will be brought to an operational state to achieve test cable production, whilst the remainder of the construction will continue until completion.
- 2.12 The duration of the construction phase is anticipated to be approximately 24 months and will include all works required for access and cable loading infrastructure out to the jetty.



Construction Environmental Management

- 2.13 Construction of the Project will be managed through the CEMP and associated detailed method statements. This outline CoCP will be developed into a CEMP, which will be agreed with NAC prior to the commencement of construction. The CEMP shall include the measures set out in this outline CoCP, together with any further detail available at that time.
- 2.14 The CEMP will be supported by detailed Construction Method Statements, which will provide method statements for construction activities detailing how the requirements for the CoCP are met. Implementation of the outline CoCP and method statements will be the responsibility of the Principal Contractor (with methodologies passed on in turn to any subcontractors).
- 2.15 An Outline Construction Traffic Management Plan (CTMP) will be produced prior to the commencement of construction.

Construction Activities and Plant

- 2.16 Construction activities at the Project site will comprise:
 - pre-construction work to provide a suitable development platform;
 - construction of access and temporary laydown area(s);
 - site clearance and provision of temporary/permanent drainage;
 - establishment of site compound and concrete batching plant;
 - earthworks and construction of foundations including excavation of the tower basement;
 - construction of the extrusion tower and steel portal frame buildings;
 - erection and mechanical and electrical fit-out of buildings and enclosures;
 - installation of pre-manufactured equipment / components; and
 - commissioning.
- 2.17 Typical construction plant to be used will include excavators, drilling rigs, graders and haulage vehicles, mobile and tower cranes, heavy and light goods vehicles.
- 2.18 Piling will be required for foundations of structures on the Project site. The chosen piling method across the majority of the site is auger piling with the exception of the extrusion tower basement which might require sheet piling as part of its excavation.

Construction Working Hours

- 2.19 During the construction period, the main construction site with the exception of the tower (see below) will adhere to normal working hours i.e. 07:00 to 19:00 Monday to Friday and 08:00 to 13:00 on Saturdays. No working will be undertaken on Sundays or Bank Holidays, except where programme demands necessitate an extension to working hours. Again, the tower is the exception (see below) Any planned changes to the working hours will be agreed with North Ayrshire Council prior to the activities being undertaken.
- 2.20 The extrusion tower is to be constructed in a continuous process known as 'slip forming' which is the fastest method of construction for vertical reinforced concrete structures. Continuously moving formwork is raised vertically at a speed which allows the concrete to harden before it is free from the formwork at the bottom (but that a wetted edge is always maintained at the top). The concrete is fed from the top with a continuous supply of concrete from a nearby concrete batching plant which needs to be supplied with raw materials sufficient for the task.



- 2.21 The slip forming process requires a continuous supply of concrete from the on-site concrete batching plant that cannot be interrupted. The slip-forming operation would commence at 07:00 and run till midnight each day Monday to Saturday with cleaning of equipment and preparation occurring Saturday and Sunday in readiness for the continuation of the rise on the following Monday.
- 2.22 The approximate duration of this exceptional activity is 43-50 weeks
- 2.23 Up to an hour before and after the normal construction working hours, the following activities may be undertaken:
 - arrival and departure of the workforce at the site and movement around the Project site that does not require the use of plant;
 - site inspections and safety checks; and
 - site housekeeping that does not require the use of plant.
- 2.24 Non-noisy activities such as fit-out within buildings may be undertaken outside of those hours where these will not cause disturbance off-site.
- 2.25 It is possible that in addition to the slip-formed tower, a continuous concrete pour may be required for the foundation slabs of other buildings. If this requirement is identified, prior agreement will be obtained from North Ayrshire Council.

Construction Working Areas and Laydown

2.26 The main construction working, and laydown areas will be contained adjacent to the project site within the existing curtilage of Clydeport's landholding.

Construction Workforce and Access

- 2.27 Construction traffic will use the primary access route via the port access road off the A78. Access to the project site will be required for HGVs for certain items for construction workforce traffic.
- 2.28 Maps and directions will be issued to all Sub-Contractors, Suppliers and Delivery Companies.

General Site Layout and Good Housekeeping

- 2.29 A good housekeeping policy will be applied to the construction site at all times. As far as reasonably practicable, the following principles will be applied.
 - All working areas will be kept in a clean and tidy condition. Contractors shall not bring waste onto site and waste will be removed at frequent intervals. Burning of materials on site will be prohibited.
 - Hoardings and security fences will be inspected frequently, and repaired and re-painted as necessary.
 - Reinstatement/good upkeep of street surfaces, even where temporary.
 - Street cleaning (avoidance of mud on the road).
 - Adequate welfare facilities will be provided for construction staff.
 - Designated smoking areas will be provided at the site compound and will be equipped with containers for smoking wastes. These smoking areas will be located away from the site boundary.



- Wheel washing facilities will be provided at key exit points from the construction site and cleaning of the underside of the vehicle will also be required. Where practical, vehicles will only stand on hard surfaces rather than soil.
- Site entrances/gates will be positioned to minimise impact from traffic congestion and noise transmitted from construction site activities and deliveries on both the standard XLCC operations and the locality.
- Open fires on site will be prohibited at all times.
- All necessary measures will be taken to minimise the risk of fire and the Principal Contractor will comply with the requirements of the local fire authority.
- Waste from the construction site will be stored securely to prevent wind blow.
- Waste (particularly food waste) will be removed from the welfare facilities on a daily basis.

Site Security and Fencing

2.30 Site security is of the utmost importance throughout any construction programme. The site will be securely managed and coordinated with existing XLCC site security operations.

Construction Waste

- 2.31 The Project will largely be assembled from components that have been pre-manufactured off-site, such as the steel portal frame building components, extrusion and winding machines and carousels. Construction waste from assembling and installing these components on-site will be minimal.
- 2.32 All waste generated will be disposed of by a suitably licensed waste contractor.
- 2.33 The development of the Project site is expected to include the excavation of spoil, depending on the final site arrangement and foundation design. The excavated material is expected, in part, to be accommodated on site, as part of the site cut/fill balance. In the event that excavated material from the site is not being suitable for use on site or cannot be accommodated within the Project site, surplus material will be transported away from the site to a suitably licensed site.
- 2.34 All contractors will be required to investigate potential opportunities to minimise and reduce waste generation.

General Requirements

- 2.35 Prior to the commencement of any construction works, a Site Waste Management Plan (SWMP) will be produced. This will assess all waste streams that may be produced including volumes likely to be generated and also identify the waste management action proposed for each different waste type in line with the waste hierarchy. No building demolition is proposed as part of the Project.
- 2.36 Contractors will ensure that all waste types will be subject to controlled collection and storage onsite, to keep the construction site tidy, avoid unsightly accumulations of waste and minimise dust, pest infestation, odour and litter. Waste skips will be covered where there is likelihood of windblown wastes and dusts. If skips contain potentially contaminated materials, they will be covered to prevent rainwater ingress. Storage areas will be secured to prevent unauthorised deposition of waste. Wastes, including waste skips, will not be stored in areas of the site adjacent to watercourse or ditches.
- 2.37 Waste transfer notes and consignment notes will be held by the XLCC responsible officer and will describe fully the waste in terms of type, quantity and containment in accordance with the relevant regulations. Waste will only be transferred to sites approved by XLCC to satisfy the duty of care.



Re-use of Excavation Materials

- 2.38 Material will only be re-used on site in accordance with the Environmental Permitting Regulations or appropriate approved Code of Practice e.g. Contaminated Land: Application in Real Environments (CL:AIRE) or Waste Resource Action Plan (WRAP).
- 2.39 In common with storage of all waste, controls will be used to prevent release of airborne dust from spoil heaps and roads such as the use of covers or by damping down.
- 2.40 Contractor(s) will liaise with suppliers to enable packaging material to be sent back for reuse.

Segregation and Recycling

- 2.41 Opportunities will be investigated to maximise the recycling potential of construction materials e.g. plasterboard off-cuts will be recycled where practicable.
- 2.42 Recyclable materials such as metals, timber, cardboard, cans and glass will be segregated and recycled where possible.

Radioactive or Hazardous Waste

2.43 No radioactive or hazardous waste is known to be present on the Project site therefore, no specific measures are required.

Use of Natural Resources

- 2.44 The storage and use of resources throughout the construction phase will follow industry good practice and will include the following as below.
- 2.45 The contractor will identify the main types and quantities of materials required for construction of new buildings in order to assess potential for sourcing materials in an environmentally responsible way. The construction specification will place preference, when options are available, on the use of materials with a high recycled content.
- 2.46 All timbers used as primary structural elements will be required to be Forest Stewardship Council (FSC) certified.
- 2.47 The following measures will be adopted.
 - Where practicable, use recycled materials from a sustainable source.
 - Where possible the Contractor will re-use existing materials or procure materials with a recycled content or from a sustainable source.
 - Procurement orders should be 'timely' and 'just enough' to minimise storage time and wastage.
 - Construction materials (e.g. dry cement and plasterboard) shall be protected from the rain and wind to prevent damage.
 - Concrete / cement materials shall be stored at least 5 metres away from surface water drains wherever practicable to minimise risk of pollution.
 - Materials where practicable will be ready cut to size to limit off cut waste.
 - Stockpiles will be fenced off in a designated place on site and covered or damped down (if likely to generate dust).
 - Where opportunity arises the return of unused materials to the supplier will be encouraged.



• Where practicable, all plant and equipment will be turned off when not required and at the end of each working day.

Lighting

2.48 External lighting will be designed to allow for night-time safety and security when required, incorporating XLCC's operational requirements. The exterior lighting scheme design will aim to minimise lighting spillage into surrounding areas and discourage trespass, to comply with the Dark Skies Campaign and recommendations in the Society of Light and Lighting (SLL) Lighting Handbook (Chartered Institution of Building Services Engineers (CIBSE), 2018).

Drainage

- 2.49 The construction phase will incorporate pollution prevention and flood response measures to ensure that the potential for any temporary effects on water quality or flood risk are reduced as far as practicable.
- 2.50 An outline drainage scheme will be developed for the project site that will incorporate all necessary flood alleviation and resilience measures required to protect key infrastructure on site and to avoid increased downstream flood risk.
- 2.51 Further control measures with regard to water quality are set out in Section 5.

Pest Control

- 2.52 The risk of pest/vermin infestation will be reduced by ensuring that food waste (from the welfare facilities) or other putrescible waste is stored appropriately and is regularly collected (i.e. weekly), and effective preventative pest control measures are implemented.
- 2.53 The following measures will be adopted:
 - removal or stopping and sealing of drains and sewers brought into disuse;
 - prompt treatment of any pest infestation and arrangements for effective preventative pest control; and
 - appropriate storage and regular collection of putrescible waste.
- 2.54 Any pest infestation will be dealt with promptly and notified to the relevant local authority as soon as practicable.

Communications

2.55 XLCC and the Principal Contractor will adopt a proactive approach to communications. They will provide a dedicated point of contact to manage communications with local residents, businesses, emergency services and the local authority. The approach will be coordinated through XLCC's communications team.

Vulnerability to Accidents and Disasters

2.56 During construction, normal construction good practice will be followed to ensure on site safety of the workforce in accordance with the Construction (Design and Management) Regulations 2015. Independent health and safety advisors will be employed by the Principal Contractor during construction to report on the site's safety. It will be required that these reports take place monthly with the reports being provided to XLCC.



2.57 Overall, the Project is not of a type to give rise to potential for any unusual accidents or disasters during its construction phase. Therefore, construction legislation and good practice will be sufficient to control risks to an acceptable level.



3 ENVIRONMENTAL CONTROL PLANS

Ecology and Nature Conservation

- 3.1 It is anticipated that the habitats around the perimeter will form part of the enhancement for the overarching Hunterston Parc ecology and landscaping strategy so will not be directly affected by the development. Where possible the existing habitat would be retained and enhanced in specific ecological mitigation areas using native species. Where ground works impact the existing habitats within the ecological mitigation areas, seeding and planting of native species would be undertaken.
- 3.2 External lighting would be designed to allow for night-time safety and security when required, incorporating the development's operational requirements. The exterior lighting scheme design would aim to minimise lighting spillage into surrounding areas and discourage trespass to comply with the Dark Skies Campaign and recommendations in the Society of Light and Lighting (SLL) Lighting Handbook (Chartered Institution of Building Services Engineers (CIBSE), 2018). Lighting would be designed to be activated only when required. This would also reduce the risk of bats being disturbed while foraging and commuting along the woodland edges adjacent to the site.

Pre-Construction Surveys

- 3.3 Prior to commencement of works on site, pre-construction surveys for protected species will be carried out to check for changes in baseline conditions. This will enable any refinements to be made (if necessary) through adjustments to the construction programme to take into account any up-dated distributions or presence of species.
- 3.4 Surveys will be undertaken within three months prior to commencement of the works in order to obtain as accurate a representation of the baseline conditions as possible. Should this period of time elapse between pre-construction surveys and the commencement of works then the need to repeat surveys will be assessed by an appropriately qualified ecologist.
- 3.5 Once the updated surveys are completed, species-specific protection plans to be included in the CEMP and associated method statements will be prepared detailing any constraints, mitigation and/or compensation requirements and emergency procedures in the unlikely event that a protected species is encountered. These surveys will also inform the requirement for any licencing requirements for disturbance, damage or destruction of a resting site of a protected species.
- 3.6 Further surveys for INNPS are to be completed prior to construction to ensure that relevant guidance and legislation is adhered to, and to minimise the spread of invasive species.

Habitats and Species

- 3.7 The following measures will be agreed with NAC, SEPA and NatureScot:
 - application of SEPA Pollution Prevention Guidance (PPGs) and the delimitation of working areas to minimise damage to habitats;
 - a minimum 50 metre buffer to be maintained, where possible, between working areas/machinery and watercourses and ditches;
 - pollution prevention measures will be installed and maintained as appropriate, including sediment and dust mitigation measures;
 - chemicals, oils and hazardous materials to be stored in designated areas securely at a minimum distance of 50 metres from watercourses;



- spillage contingency kits will be provided in all site vehicles and there will be daily checks for oil and fuel leaks;
- application of best practice in relation to the removal and storage of vegetation turfs and soils to ensure effective reinstatement of vegetation wherever possible; timing of works to avoid periods of heavy rain when the risk of fine sediment being transported from earth works is significantly increased.
- 3.8 Pollution incident response and drainage management measures will be prepared as a part of the CEMP to minimise potential pollution effects.
- 3.9 An Ecological Clerk of Works (ECoW) will be available to oversee key elements of enabling works and construction. They will be a suitably experienced individual, whose role will ensure works are carried out in accordance with the outline CoCP to ensure compliance with international and national legislation and planning conditions. The ECoW will also review results of protected species surveys prior to commencement of works in different areas within the Project site. Once works are underway, the ECoW will work on site providing ecological and pollution control advice and supervision for all relevant mitigation measures and monitoring. The ECoW will complete checks for all protected species during the construction phase of the development.
- 3.10 Best practice measures for minimising the potential for disturbance and injury to protected species will be employed. These will include:
 - directional lighting when required;
 - covering all trenches, trial pits, excavation and pipelines to prevent animals entering these holes;
 - provision of a method of escape (e.g. a plank) where such excavations cannot be closed or filled on a nightly basis; and
 - vehicle speeds to be restricted across site in order to minimise the risk of collision with animals.
- 3.11 Prior to any de-vegetation works the area should be checked by an ecologist to ensure no harm comes to reptiles as a result of the construction activities, this includes:
 - Vegetation being cleared in a two-phase cut undertaken during the reptile active season (April
 - October) in temperatures between 9 18°C.
 - Any potential refugia and/or hibernacula features identified for reptiles in the works area should be dismantled under the supervision of a suitably experienced ecologist, relocated and recreated in an appropriate area in the vicinity of suitable habitat following the guidance provided in Edgar *et al.* (2010). Removal of the most suitable terrestrial habitats for reptiles to be affected by construction activities will be planned to take place outside of the hibernation periods for these species. The probable low density of reptiles within the construction areas does not merit specific searches in advance of construction. Removal of these habitats will be supervised by the ECoW who will halt works where necessary to allow reptiles to be translocated away from the construction area during the works.
 - Appropriate speed limits will be adopted on site by all vehicles to reduce any collision with reptiles and allow displacement.

Dust Control

3.12 Any potentially detrimental effects of dust contamination will be mitigated through the standard industry best practice measures (see Air Quality section below).



Heritage

3.13 No mitigation measures are considered necessary in respect of the historic environment.

Landscape and Visual Resources

- 3.14 The following measures will be implemented during construction to avoid or reduce potential landscape, seascape and visual effects include the following:
 - The design will retain the existing native scrub and grassland located along the western site boundary, adjacent to the coastline. This vegetation, together with the mature tree and scrub planting on the earth bund east of the Project site will be protected during the construction works. Remedial works will be carried out as necessary to promote the health and longevity of on site woody vegetation.
 - Landscape planting proposals will be focused within the Entrance Zone around offices and car parking and the Staff Zone around welfare facilities, facilities maintenance and car parking. Trees, shrubs, groundcover and grassland will be established to integrate with the smaller scale built form and open areas of the Project to provide an environment that relates to the human scale of employees and visitors to the site.
 - These planted zones will also link with road access planting.
 - Areas of ecological wildflower planting will be incorporated in open areas of the site to promote species diversity.
 - Locally native species will be selected and specified to incorporate target species, promote biodiversity and integration.
 - Colour pallet recomendations will be made for the buildings elevations and roofs in consultation with the local planning authority. Suitable colours that would reflect those found in the local landscape/seascape will be used.
 - A landscape and ecology management plan will be agreed with the local planning authority in order to maintain the proposed landscape and ecological planting and maintain the peat resource.
- 3.15 The details of the proposed building design, materials and landscape proposals will ultimately be controlled via further planning applications such as the determination of matters specified in conditions.

Hydrology and Flood Risk

Construction Drainage Systems

- 3.16 During the construction phase of the Project, temporary drainage mitigation techniques will be used, including, but not limited to, the following.
 - Runoff interceptor channels installed prior to the construction of the operational drainage design to ensure that discharge from the site is controlled in quality and volume during construction.
 - The construction drainage system will be designed to ensure that any runoff produced will be treated before being discharged to the surrounding environment. This may include the use of settling tanks and/or ponds to remove sediment, temporary interceptors, and hydraulic brakes.



• Any drainage service runs will be surrounded by appropriate granular bedding material to reduce any potential leaks from infiltrating into the below groundwater body. Monitoring will be undertaken and any damage to the temporary drainage network will be repaired/replaced.

Construction Techniques and Processes

- 3.17 The following techniques and processes will be adopted during construction of the Project:
 - Dust suppression equipment will be used to reduce the spread of sediment within the site, so that any dust created during construction is diverted into specific drainage systems equipped with sediment interceptors.
 - Construction material and / or spoil within construction compounds will be positioned away from surface waterbodies and no hazardous substances will be stored within close proximity of the drainage network.
 - Any area at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of hazardous substances entering the drainage systems, the local watercourses, surface water bodies and significant ecological areas. Additionally, the bunded areas will have impermeable bases to limit the potential for migration of contaminants into surrounding watercourses, surface water bodies and significant ecological areas and significant ecological habitats following any potential leakage/spillage event.
 - In line with standard building practices and as a precautionary measure, the ground floor threshold levels of buildings will be raised a minimum of 150 mm above external ground levels, where feasible. This will provide a degree of mitigation should groundwater emergence, fluvial flooding or surface water flooding occur.

Excavation and Piling

- 3.18 During any piling and / or foundation excavation, the area will be isolated from surface water until completed. Should any groundwater be encountered during excavation, appropriate dewatering methods will be considered. Any water arising from excavations will be disposed through the temporary drainage system (if uncontaminated) and following removal of silt. Should contamination be encountered during excavation, work will be stopped until appropriate measures are in place to prevent mobilisation.
- 3.19 Best practice construction techniques and design will be used for any excavation and piling undertaken during the installation of foundations.

Pollution Prevention

- 3.20 Refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. Machinery will be routinely checked to ensure it is in good working condition.
- 3.21 Any tanks and associated pipe work containing hazardous substances included in List 1 of the Groundwater Directive (2006/118/EC) will be double skinned and be provided with intermediate leak detection equipment.
- 3.22 The following specific mitigation measures for the protection of surface water during construction activities will be implemented:
 - Management of construction works to comply with the necessary standards and consent conditions as identified by SEPA and North Ayrshire Council.
 - A briefing for all staff highlighting the importance of water quality, the location of watercourses and pollution prevention included within the site induction.



- Areas with prevalent runoff to be identified and drainage actively managed, e.g. through bunding and / or temporary drainage.
- Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) to be bunded and carefully sited to minimise the risk of hazardous substances entering the drainage system or the local watercourses and waterbodies. Additionally the bunded areas will have impermeable bases to limit the potential for migration of contaminants into groundwater following any leakage / spillage. Bunds used to store fuel, oil etc. will have a 110% capacity of the volume of fuel, oil etc. to be stored
- Disturbance in areas close to watercourses and other waterbodies reduced to the minimum necessary for the work.
- Excavated material to be placed in such a way as to avoid any disturbance of areas near to the banks of watercourses and other water bodies and any spillage into the waterbodies.
- Construction materials to be managed in such a way as to effectively minimise the risk posed to the aquatic environment.
- Plant machinery and vehicles to be maintained in a good condition to reduce the risk of fuel leaks.
- Drainage works to be constructed to relevant statutory guidance and approved by SEPA and North Ayrshire prior to the commencement of construction.
- Consultation with SEPA during the construction period to promote best practice and to implement proposed mitigation measures.

Water Quality

3.23 Water quality monitoring will be carried out throughout the construction phase to ensure no discharge of pollutants or increase in suspended sediment occurs. A water quality monitoring methodology and schedule will be agreed with consultees.

Best Practice Measures

- 3.24 The following measures have been determined as best practice measures based on local and national guidance. Construction work will be undertaken in accordance with the outline CoCP, and relevant guidance, where appropriate. This guidance includes, but is not limited to, the following.
 - Control of Water Pollution from Construction Sites Guidance for Consultants and Contractors CIRIA (C532; 2001).
 - CIRIA SuDS Manual (C753; 2015a).
 - CIRIA (C741; 2015b) Environmental good practice on site guide.
 - Prevent surface water being affected during earthwork operations. No discharge to surface watercourses or other waterbodies will occur without permission from SEPA (SuDS Manual).
 - Wheel washers and dust suppression measures to be used as appropriate to prevent the migration of pollutants (SuDS Manual).
 - Regular cleaning of roads of any construction waste and dirt to be carried out (SuDS Manual).
 - A construction method statement to be submitted for approval by the responsible planning authority (SuDS Manual).
- 3.25 SEPA's Guidance for Pollution Prevention will also be enforced during the construction of the Project.



Hydrogeology, Geology and Ground Conditions

- 3.26 A Phase 2 intrusive investigation will be undertaken prior to the construction phase to verify the risk levels identified within the conceptual site model (CSM). The scope of the investigation will be agreed with SEPA / North Ayrshire Council prior to its implementation. Should the results of the Phase 2 intrusive investigation determine remediation is required to ensure the site is suitable for its proposed use, a Remediation Strategy will be prepared. The strategy will comprise of the following:
 - implementation plan setting out the objectives and requirements of the remediation;
 - validation sampling to confirm that remediation objectives are met; and
 - verification report.
- 3.27 The scope of the Remediation Strategy will be agreed with SEPA / North Ayrshire Council prior to its implementation. The verification report will also be sent to SEPA / North Ayrshire Council for approval. Subject to the scope and results of the Remediation Strategy, the following will be undertaken where appropriate to inform construction activities and the detailed design of buildings:
 - piling risk assessment (in accordance with the Environment Agency guidance) including control measures (where appropriate) to mitigate risk to the water environment during piling installation;
 - dewatering risk assessment to mitigate risk to the water environment (specifically the Largs Channel and Southannan Sands) during deep excavation;
 - detailed ground gas risk assessment and gas control measures to be incorporated into building design (where appropriate); and
 - groundwater and/or surface water monitoring.
- 3.28 Should any previously unidentified contamination be detected at the site during the construction phase, work in the area will cease. A suitability qualified environmental consultant will attend site to advise on an appropriate course of action. Details of the conditions encountered will be reported to SEPA / North Ayrshire Council, and a suitable risk assessment and management strategy for dealing with the contamination will be submitted to these authorities for approval.
- 3.29 The following measures will be adopted during construction of the Project:
 - Implementation of measures to prevent and control spillage of oil, chemicals and other potentially harmful liquids. This will ensure appropriate storage and handling of materials and products in accordance with the Guidance for Pollution Prevention (GPP)₂ 2017, for example:
 - avoidance of oil storage within 50 metres of a spring, well or borehole;
 - within 10 metres of a watercourse;
 - where oil could run over hard ground into a watercourse;
 - secondary containment system that can hold at least 110% of the oil volume stored; and
 - avoidance of storage of oil in areas at risk of flooding.
 - Refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. Machinery will be routinely checked to ensure it is in good working condition; and any tanks and associated pipe work containing oils and fuels will be double skinned and be provided with intermediate leak detection equipment.
 - Implementation of measures to protect groundwater during construction, including good environmental practices based on legal responsibilities and guidance on good environmental management in: CIRIA C532 Control of Water Pollution from Construction Sites - Guidance for Consultants and Contractors (CIRIA, 2001).



- Stockpiling of contaminated materials on site will be avoided where practicable: soils will be placed within suitably constructed bunded areas and covered to prevent migration of contaminants via rainwater run-off.
- Industry standard dust suppression measures will be implemented during construction to minimise nuisance dust during the works.
- Implementation of control measures, including the use of appropriate personal protective equipment and welfare facilities. Health and Safety risk assessments will be completed prior to construction works in line with the Construction (Design and Management) Regulations 2015.
- 3.30 A CL:AIRE Materials Management Plan (or Scottish equivalent based on SEPA guidance) will be prepared to document the management of soils on site, and include a risk assessment procedure to demonstrate that the soils do not present a risk to human health or the environment. Excavation works will be carried out in such a way to enable effective segregation of clean materials for reuse on site wherever practicable.

Socio-economics

- 3.31 In order to maximise the impacts associated with the construction of the Project, the Applicant will engage proactively with local suppliers and representative bodies (such as Chambers of Commerce) to make sure that the local supply chain is aware of opportunities. This may include Meet the Buyer events, where the Applicant meets with local suppliers and discusses the commercial requirements of constructing the Project.
- 3.32 It is acknowledged that the time period between the application and the start of the construction period is quite short and as a result it is unlikely that there shall be the opportunity to develop supply chain in this time to meet the more specialist needs of the construction.
- 3.33 However, the Applicant will encourage Tier 1 contractors and more specialist contractors to procure goods and services locally when these are available. It shall do this by,
 - working with local suppliers and representative bodies to compile a supplier database of companies that could be in a position to support the construction process;
 - share this supplier database with Tier 1 and specialist contractors;
 - provide a single website, or page, that will list all the current tendering opportunities linked to the construction of the project; and
 - require Tier 1 and specialist contractors to report on the level of expenditure within North Ayrshire and Scotland as part of their obligations.

Traffic and Transport

- 3.34 Site access will be achieved via a single point of access from existing port access road via Irvine Road A78(T).
- 3.35 An Outline Construction Traffic Management Plan (CTMP) will be produced prior to the commencement of construction. The CTMP will include policies for the planning and management of construction traffic in terms of routeing, loads and general good practice. The CTMP seeks to minimise the effects of construction traffic upon sensitive receptors along the affected road network.



Noise

- 3.36 Construction works will be undertaken in accordance with best practicable means (BPM) as defined in Section 72 of the Control of Pollution Act 1974 (CoPA) and in the Environmental Protection Act 1990 (EPA), which will be applied during construction activities to minimise noise (including vibration) for sensitive receptors.
- 3.37 The following measures will be implemented, following the guidance contained in BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014:
 - **Communication:** Occupiers of residential and business properties that are likely to be affected by the works will be notified in advance of the works. A Construction Liaison Officer will be appointed to take primary responsibility for the day-to-day implementation of the outline CoCP during the construction phase and to act as the first point of contact on environmental matters for North Ayrshire Council, other external bodies and the general public. Information regarding the nature and duration of the works and named contact details for key members of staff will be displayed on a noticeboard near to the site.
 - Standard Construction Hours: Normal working hours would be as specified in the Construction and Environmental Management Plan i.e. 07:00 to 19:00 hours Monday to Friday, and 08:00 to 13:00 hours on Saturday and at no time on Sundays or on public or bank holidays. There are some works required outside of these hours, including the construction of the VCV Tower and works inside the building. Any works likely to generate noise that would be perceptible at the nearest NSRs that is required outside of these hours to permit construction activities, would be agreed with North Ayrshire Council prior to commencement of the activity. In such instances, the contractor would apply to North Ayrshire Council for written consent prior to work commencing by submitting a Section 61 application in line with the Control of Pollution Act.
 - Access Routes: Access to the site would be from the existing public highway via the unnamed access road (which in turn connects to the A78) on the western boundary of the Project site. A Construction Traffic Management Plan (CTMP) will be agreed with North Ayrshire Council prior to the commencement of any construction works. Full details of construction access routes are provided in Chapter 10 Traffic and Transport.
 - **Equipment:** Quieter alternative methods, plant and equipment will be used, where reasonably practicable.
 - **Worksite:** Plant, equipment, site offices, storage areas and worksites will be positioned away from existing noise sensitive receptors, where reasonably practicable.
 - **Maintenance:** All vehicles, plant and equipment will be maintained and operated in an appropriate manner, to ensure that extraneous noise from mechanical vibration, creaking and squeaking is kept to a minimum.
 - **Piling:** If piling is required, the piling types and methods will be determined by design and will be confirmed by the Contractor and agreed in consultation with North Ayrshire Council prior to work commencing.

Climate Change

- 3.38 Measures will aim to ensure that, where possible, construction activities generating greenhouse gas (GHG) emissions are undertaken efficiently in order to minimise emissions in the following ways.
 - Where practicable, pre-fabricated elements will be delivered to the site ready for assembly, which will reduce on-site construction waste and reduce vehicle movements as part of the construction process.



- Construction materials will be sourced locally where practicable, to minimise the impact of transportation.
- Vehicles used in road deliveries of materials, equipment and waste arisings on- and off-site will be loaded to full capacity to minimise the number of journeys associated with the transport of these items.
- All machinery and plant will be procured to adhere with emissions standards prevailing at the time and should be maintained in good repair to remain fuel efficient.
- When not in use, vehicles and plant machinery involved in site operations will be switched off to further reduce fuel consumption.
- Where possible, local waste management facilities will be used to dispose of all waste arisings, to reduce distant travelled and associated emissions.
- The volume of waste generated will be minimised, and resource efficiency maximised, by applying the principles of the waste hierarchy throughout the construction period. Segregated waste storage should be employed to maximise recycling potential for materials.
- Equipment and machinery requiring electricity will only be switched on when required for use. Procedures should be implemented to ensure that staff adhere to good energy management practices, e.g. through turning off lights, computers and heating/air conditioning units when leaving buildings.

Air Quality

Construction Dust

3.39 The following mitigation measures and controls will be implemented during the construction and demolition works.

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
- Display the head or regional office contact number.

Dust Management

 Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real-time PM₁₀ continuous monitoring and/or visual inspections.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.



• Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook.

Monitoring

- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Agree dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.

Preparing and Maintaining the Site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extended period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating Vehicle/Machinery and Sustainable Travel

- Ensure all vehicles switch off engines when stationary no idling vehicles.
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Produce a Construction Logistics Plan to manage delivery of goods and materials.

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extractions, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.



• Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

• Avoid bonfires and burring of waste materials

Low Risk Measures Specific to Demolition

- Ensure effective water suppression is used during demolition operations. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such materials before demolition.

Medium Risk Measures Specific to Construction

• Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

Medium Risk Measures Specific to Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material trackout out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook.
- Install hard surfaced hall routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaces roads between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10 m from receptors where possible.



4 **REFERENCES**

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Scottish Environment Protection Agency et al (2020a) Guidance for Pollution Prevention (GPP) 1: A general guide to preventing pollution

Scottish Environment Protection Agency et al (2020b) Pollution Prevention Guidelines (PPG18): Managing Fire Water and Major Spillages



Annex A Legislation Framework



Ecology and Nature Conservation

Conservation of Habitats and Species (Amendment) (EU Exit) regulations 2019 Nature Conservation (Scotland) Act 2004 (as amended) Protection of Badgers Act 1992 UK Biodiversity Action Plan (UKBAP) 1994 Wildlife and Countryside Act (1981, as amended) Wildlife and Natural Environment (Scotland) Act 2011

Historic Environment

Historic Environment Scotland Act 2014

Landscape and Visual Resources

European Landscape Convention, 2000 Countryside and Rights of Way Act, 2000

Hydrology and Flood Risk

Environment Act 1995; Environmental Protection Act (EPA) 1990 (as amended); Flood Risk Management (Scotland) Act 2009: Delivering Sustainable Flood Risk Management Flood Risk Management (Scotland) Act 2009: Surface Water Management Planning Guidance Flood Risk Management (Scotland) Act 2009 Water Act 2014; Water Environment and Water Services (Scotland) Act 2003; Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) A Practical Guide; Water Environment (Miscellaneous) (Scotland) Regulations 2017. Water Resources (Scotland) Act 2013; Water Supply (Water Quality) Regulations 2016 (as amended 2018); **Hydrogeology, Geology and Ground Conditions**

Contaminated Land (Scotland) Regulations 2005; Environment Act 1995; Environmental Authorisations (Scotland) Regulations 2018; Environmental Protection Act (EPA) 1990 (as amended); Landfill (Scotland) Amendment Regulations 2013; Special Waste Amendment (Scotland) Regulations 2004; Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended); Water Environment (Miscellaneous) (Scotland) Regulations 2017;



Traffic and Transport

Transport (Scotland) Act 2019

Noise

Environmental Protection Act 1990 (EPA); Part III of the Control of Pollution Act 1974 (CoPA);

Climate Change

Carbon Budget Orders 2016 Climate Change (Scotland) Act 2009, as amended (2019) Paris Agreement 2020

Air Quality

Air Quality Standards (Scotland) Regulations 2010 Ambient Air Quality Directive (2008/50/EC)