I OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT DOCUMENT

Scapa Deep Water Quay
Outline Construction Environmental Management Document

May 2025

CONTROL SHEET

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1 CHANGE CONTROL

It should be noted that this is a working draft, live, document, for use by bidders and for consenting purposes. Note this document will develop as the project progresses and more information on construction methods and mitigation emerge.

Any changes to working methods not identified within the method statement (i.e., construction technique, quantity of material to be imported or other significant change to methodology or circumstances) will involve cessation of the works until a full risk assessment has been conducted on these changes and the method statement has been altered accordingly to reflect these changes. Any changes will be accepted by all parties (including consenting bodies if required). A record of the change(s) will be issued to all parties concerned.

Recording of change(s) will identify areas where change(s) have occurred throughout the document.

Table 1-1: Document Change Record

Date	Version	Author	Change Details

2 OVERVIEW

2.1 Introduction

This document represents the outline Construction Environmental Management (CEM) Document which will form the main document outlining construction environmental protocols relating to the construction of Scapa Deep Water Quay (SDWQ). Although this document has been produced by EnviroCentre, EnviroCentre do not accept any responsibility for the contents of assessments, plans or construction procedures that are carried out or added by other parties. This document is considered to be 'Live' and will be populated by the Contractor as the works progress.

The purpose of this outline CEM Document is to guide Orkney Islands Council Harbour Authority (OICHA) and their contractors during the construction phase of the SDWQ project, to ensure that the commitments to mitigation, management and monitoring that are presented in the Environmental Impact Assessment Report (EIAR) and subsequent Supplementary Environmental Information requested are applied. It would not be practical or achievable to produce a fully detailed CEM Document at this stage. The aim of the document, therefore, is to provide a framework that can be followed to develop a detailed CEM Document once a contractor has been appointed and the specific project design elements are known.

During the construction process the contractor will liaise with Scottish Sea Farms (and other stakeholders as required) to advise when potentially sensitive works that may affect them are programmed to be undertaken.

During the construction works the contractor will ensure unearthed archaeological artefacts are recorded and reported to the appropriate regulatory body.

A specialist blasting contractor will be employed to undertake terrestrial blasting as required. The specialist blasting contractor will operates under a highly regulated process and will be responsible for all aspects of Health & Safety and environmental considerations. A suitably qualified Ecological Clerk of Works (ECoW) will be present and will observe from the shore to a distance of 500m, in advance of blasting during specific periods when qualifying features of the SPA are potentially present.

Ahead of blasting a warning siren (or other) will be sounded to warn individuals to vacate the area, and this will also act as a mechanism to remove fauna from both the working and adjoining areas.

2.2 Construction Environmental Management Document

The CEM Document has been produced in accordance with The Highland Council Guidance Note on Construction Environmental Management Process for Large Scale Projects (August 2010). This Guidance Note sets out a robust Project Environmental Management Process (PEMP) for large scale projects. It describes the CEM Document as one of the key management tools for highlighting site sensitivities along with appropriate mitigation measures identified through various environmental studies as well as incorporating other requirements from consents and licences. It also provides a clear roadmap of the key roles and responsibilities of OICHA and the Contractor during construction works.

2.3 Schedule of Mitigation

A Schedule of Mitigation (SM) brings together all the identified mitigation measures to avoid or minimise the environmental effects of the development. It sets out in broad terms how mitigation can be appropriately managed and implemented during construction. The SM is based on general good management practises along with the measures identified through site specific environmental studies.

The measures identified in the SM are not exhaustive and appropriate mitigation shall be identified as required by the Contractor to ensure the environment is protected.

The SDWQ SM is provided within Section 6 of this document.

2.4 Construction Environmental Management Plans

As noted above, the CEM Document is the overarching document which highlights the arrangements for environmental management at a high level.

The information and procedures provided in this CEM Document shall be used to develop detailed CEM Plans for each specific construction phase. These CEM Plans shall provide focused mitigation and control measures relevant to the specific construction activity in order to ensure the environment is protected during the construction works. The CEM Plans shall incorporate, but not be limited to, the identified mitigation measures detailed within the SM. If the proposed construction works are within or have a significant likelihood of impacting on sensitive areas, the CEM Plans shall be submitted to the relevant Regulatory Authority (i.e. Orkney Islands Council (OIC) and / or Marine Directorate-Licensing Operations Team (MD-LOT) for approval prior to works commencing.

The CEM Plans are working documents which shall be regularly reviewed and updated throughout the lifetime of the individual construction projects in accordance with the procedures detailed in this document and the relevant consents.

As an outline CEM Document, it is considered that the following CEM Plans will be prepared once a contractor has been appointed and working methods established (note, this is not an exhaustive list). Indicative plans have been attached, however, these will invariably change once detailed working methods are known:

- Marine MammalProtection Plan
- Indicative Dredging and Dredge Disposal Plan
- Indicative Water Quality Management Plan
- Indicative Site Clearance Works Plan
- Indicative Nesting Birds Protection Plan
- Indicative Hen Harrier Management Plan
- Indicative Protected Species Protection Plan
- Pollution Prevention Equipment Inventory (on and off Site Resources)
- Chemical, Product and Waste Inventory
- Indicative Archaeology and Cultural Heritage Plan
- Indicative Soil management Plan
- Indicative Site Waste Management Plan
- Indicative Construction Traffic Management Plan
- Indicative Construction Noise Management Plan

3 PROJECT OVERVIEW

3.1 Site Description

The proposed site for Scapa Deep Water Quay is located on the Orkney mainland coast circa 4km south from Scapa Pier – within the parish of Holm, round about the Bay of Deepdale. It is currently undeveloped coastline comprising a gravelly and in places exposed rock bordered on the landside by a rock face circa 3m in height. The land above the rock face comprises rough grazing which slopes upwards to the east and the A961. The Burn of Deepdale is to the north with a rocky promontory forming a natural barrier to the south. There is currently a rough track from the A961 to the coastline (Refer to Drawing No 673702-014, Appendix A).

This part of the mainland island is a rural area which is largely pastureland. Isolated residential dwellings and farmsteads are located along the extent of the A961. Gaitnip Hill Local Nature Conservation Site (LNCS) is located immediately to the north of the Burn of Deepdale. The Royal Oak designated war grave, and consequent Military Wreck exclusion zone is located ~1,200m to the northwest and Westerbister fish farm is situated ~835m to the south.

3.2 Environmental Setting

The surrounding area contains several designations within a 5 km radius, as illustrated within Drawing No 674795-GIS086, Appendix A. These include the following:

Scapa Flow Special Protection Area (SPA)
This SPA comprises a total area of 31,819 ha which comprises the majority of Scapa Flow. The SPA supports the following species:

- The third largest population of wintering Great Northern Diver;
- Wintering Black-throated Diver;
- Wintering Slavonian Grebe;
- The second largest population of wintering European shag in Scotland;
- Wintering Common Eider;
- Wintering Red-breasted Merganser;
- Wintering Long-tailed Duck; and
- Red-throated Diver breeding within fresh water lochans within 10km of the SPA.

Orkney Mainland Moors SPA / West Mainland Moors Site of Special Scientific Interest (SSSI)
The SPA comprises three separate areas which are also designated as three different SSSIs. Based on the SSSI designations, Red-throated diver are primarily located within the West Mainland Moorlands area, located within the north of the Orkney Mainland, to the north west of Kirkwall. It consists of a large area of blanket bog, wet and dry heath with several lochans which support Red-throated diver.

Sanday Special Area of Conservation (SAC) and SSSI
This site comprises the north and east cost of Sanday from Holms of Ire in the north to Kettletoft bay in the south. The SAC also includes the surrounding waters, including the North Ronaldsay Firth, Otters Wick and Bay of Lopness. Harbour seal make use of the rocky shores for breeding and moulting. It is thought to be the biggest colony of harbour seals in Orkney.

Other aspects of the environment with the potential to be affected by the project include:

- Otters;
- Marine Mammals;
- Marine Fish
- Nesting Birds; and
- Groundwater Dependant Terrestrial Ecosystems (GWDTE).

3.3 Proposed Construction Works

The development is designed to be built in three phases although the timing of Phases 2 and 3 will be dependent on the economic need for these facilities. The works associated with this initial phase of the development are summarised below:

Phase 1

- Installation of an access road from the A961 to the site;
- Excavation of current landform along with reclamation of shore to form ~12Ha of laydown area bounded by bunds on the north and eastern edges;
- Creation of 450m of berthing by formation of a quay ~320m x ~46m wide; and
- Dredging adjacent to the newly formed Phase 1 quay and proposed Phase 2 quay (i.e. one dredge campaign) to provide -15m CD water depth.

Phase 2

- Excavation of current landform along with reclamation of shore to form an additional 6Ha of laydown area to the south of Phase 1 laydown area. The bund on the eastern edge will be extended along the length of the new laydown area and partially along the southern edge; and
- Extension of the Phase 1 quay area by ~297m x ~46m to the south.

Phase 3

- Dredging on the southern side of the newly formed quay extension to provide a berthing pocket with -20m CD water depth.

Phase 3 dredging works will form a separate application once more site data is available.

3.4 Hours of Working

With the exception of environmental management activity, in cases of emergency or unless agreed in writing with the Planning Authority, construction operations shall take place within the following hours;

- Monday to Saturday: TBC; and
- Sunday: TBC.
- Dredging would be carried out 24 hours a day, 7 days a week.

3.5 Security

The Principal Contractor shall establish a temporary construction compound which shall be segregated from the surrounding area. This temporary compound shall be managed / controlled by the Principal Contractor under the Construction, Design and Management Regulations 2015 (CDM).

The location of the temporary construction compound, the means of segregation and access routes are to be agreed with OICHA Project Team and detailed within the project specific CEM Plan. Suitable

signage to direct construction workers and deliveries shall be installed prior to commencement of site works.

4 APPROACH TO ENVIRONMENTAL MANAGEMENT

4.1 CEM Plan Implementation

The project is being tendered as a design and build contract. This outline CEM Document shall therefore be issued to potential contractors during the tender stage to allow environmental sensitivities and mitigation measures to be built into the plans at the design stage where possible.

Once the contract is awarded, a detailed CEM Plan shall be developed by appropriate personnel within the Principal Contractor's team taking into account the information provided within the Outline CEM Document to ensure that construction works are undertaken in such a way as to minimise environmental impacts and ensure compliance with legislation and licenses.

As noted in Section 1.5, the CEM Plan is a live working document which shall be regularly reviewed and updated throughout the lifetime of the associated construction project.

4.2 Legislative Requirements

Considerable environmental legislation applies to the works to be undertaken. Prior to commencement of construction works, all relevant legislation, including requirements for licences, permits and / or consents, shall be identified and the appointed Contractor will be required to provide details of how compliance is to be achieved, as part of delivering the CEM Plan.

The appointed contractor will also adhere to best practice guidance including the following Guidance for Pollution Prevention (GPPs):

- GPP 1: Understanding your environmental responsibilities - good environmental practices;
- GPP2: Above ground oil storage tanks;
- GPP3: Use and design of oil separators in surface water drainage systems;
- GPP5: Works and maintenance in or near water;
- GPP6: Working at construction and demolition sites;
- GPP 8: Safe storage and disposal of used oils;
- GPP13 Vehicle washing and cleaning;
- GPP21: Pollution incident response planning; and
- GPP22: Dealing with spills.

4.3 Roles & Responsibilities

4.3.1 Philosophy

The CEM Document identifies the management structure, roles and responsibilities with regard to managing and reporting on environmental impacts during the construction phase. The overall objectives are as follows:

- All practicable steps shall be taken to minimise the environmental effects of construction works.
- All activities shall be conducted in accordance with the CEM Document and supporting CEM Plans, relevant legislation/ regulation, Standards, Codes of Practices, Guidelines, and any local environmental procedures.

- Any applicable environmental licences, permits, and consents and other statutory requirements are to be obtained prior to works commencing, and fully complied with.
- All staff (including sub-contractors) shall be aware of the environmental issues relevant to the Project through the provision of site-specific information on the environmental impacts of construction and the mitigation measures to be applied during inductions, briefings and Toolbox Talks.
- Regular reviewing of the environmental requirements of the project and ensuring that environmental controls remain adequate throughout the duration of the project.

By defining responsibilities across all levels of the project management team a common goal can be sought, with individuals named to deliver all aspects of the CEM Document. Compliance with the CEM Document and supporting CEM Plans is mandatory and shall be adhered to by all personnel employed on the project to achieve a common approach to environmental control.

4.3.2 Management Structure

The overall management structure for environmental management on-site includes following members

Table 4-1: Management Structure

Position	Name of Representative
Principal Contractor	**TBC**
Environmental Manager	**TBC**
Contract / Project Manager	**TBC**
HSEQ Manager (or Similar) Responsibilities	**TBC**
Staff & Subcontractors	**TBC**
Ecological Clerks of Work (ECoW)	**TBC**
Ornithological Clerk of Works (OCoW)	**TBC**
Environmental Clerk of Works (EnvCoW)	**TBC**
Archaeological Clerk of Works (ACoW) (as required)	**TBC**
Marine Mammal Observer (MMO)	**TBC**

4.3.3 OICHA Client Team

During construction, as the named license holder, OICHA has responsibility for complying with the conditions which include delivering the commitments defined in the CEM Document.

OICHA shall act as the primary contact with all statutory bodies during construction.

The Principal Contractor shall regularly monitor works on-site and ensure that all conditions, committed mitigation and identified best practice are delivered in accordance with the CEM Document and project-specific CEM Plan.

The Principal Contractor and OICHA has the authority to halt any activity where environmental commitments are not being successfully delivered, where legal requirements are being breached or where there is a significant risk to the environment. OICHA will be kept fully informed of the aforementioned, and the planned actions to be taken to resolve the situation.

The Principal Contractor shall report any environmental incidences to the relevant consenting body within 24 hours of being notified. All instances of suspected environmental crime shall be reported immediately to the Police.

OICHA, as the client, shall provide the name of a key person within their organisation, who shall liaise directly with the contractor and relay relevant information to OICHA's Client Team.

OICHA's key person shall be supported by OICHA's consultant engineer and environmental consultant who shall act as third-party reviewers for OICHA with other parties inputting as required. This support shall include an Environmental Clerk of Works (EnvCoW) who shall audit the contractor's environmental compliance and report to the OICHA's Client Team.

4.3.4 The Principal Contractor

The Principal Contractor will report on environmental activities and will be responsible for the following:

- The Principal Contractor must appoint an Environmental Manager to oversee the environmental management on-site.
- The Principal Contractor is responsible for ensuring the CEM Document and project-specific CEM Plans are put into action and followed throughout the duration of the project.
- The Principal Contractor is responsible for providing sufficient and timely resources to enable the CEM Document manager to undertake his responsibilities;
- The Principal Contractor is responsible for appointment of advisory experts such as Ecological Clerks of Works (ECoW), Environmental Clerks of Works (EnvCoW) and Archaeological Clerk of Works (ACoW) (if required).
- Ensuring compliance with all relevant legislation and consents;
- The Principal Contractor ensures communication with regulatory authorities whenever necessary, whether for routine inspections, responding to environmental incidents, or ensuring compliance with legal obligations.
- Ensuring best working practice and guidance for working including those contained in industry Code of Practice documents;
- Application of the environmental controls and mitigation measures contained in the CEM Plan and EIAR;
- Maintaining environmental controls on site which are fit for purpose;
- Prompt attendance and remediation of any negative environmental incident that may occur on site;
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to OICHA and the EnvCOW; and
- Administer an environmental log, with a periodic (i.e., weekly) summary report to document compliance and required actions.

The Principal Contractor shall provide reports as required to the OICHA Project Team confirming the status of the project, implementation of environmental requirements, environmental audits, monitoring and any environmental incidents on a regular basis to be determined between the relevant parties.

The Principal Contractor shall develop a project specific CEM Plan which, if required, shall be submitted to the Regulatory Authorities for approval prior to works commencing on site. In this instance, site works shall not commence until the CEM Plan has been approved.

The Principal Contractor shall be responsible for all site staff (at all levels) adhering to any environmental policies or sensitivities and the requirements of the CEM Plan. The CEM Plan should therefore include details of how the contractor intends to ensure all staff employed in the execution of the works fully understand all environmental requirements and are properly equipped to implement these requirements.

The CEM Plan should also include the details of key individuals working on site, their job roles and contact details. The communication channels that should be followed by all site staff, including who has

responsibility for informing other parties on site, and how to respond in the event of an environmental incident shall also be clarified in the document.

The contractor shall manage a mitigation, commitments and conditions tracking register to demonstrate environmental compliance during the construction project. This shall form an item during regular OICHA client team meetings.

4.3.5 Environmental Manager

- The Environmental Manager is responsible for coordinating and ensuring that the CEM Document and project-specific CEM Plans are effectively implemented on-site throughout the project, making sure all site personnel understand and follow the plan.
- The Environmental Manager ensures that all site personnel receive environmental training during their induction and regular briefings, emphasizing key environmental risks and controls relevant to the project.
- Make sure all site personnel, subcontractors, and suppliers are informed of environmental risks and properly trained to manage them.
- Ensure that each work method statement includes an environmental risk assessment, identifying potential impacts and the mitigation measures in place.
- Ensure that all risk assessments are regularly updated, with appropriate mitigation measures in place to minimise environmental harm.
- Regularly monitor, record, and review environmental controls on-site, including waste management, pollution prevention, and ecological protection measures, ensuring their effectiveness.
- Regularly review the CEM Document and project-specific CEM Plans, updating as needed when project changes occur or new regulations and best practices emerge.
- Ensure all site personnel, subcontractors, and suppliers comply with the CEM Document and project-specific CEM Plans, adhering to environmental regulations and best practices.
- Review the project's adherence to local, national, and international environmental regulations, providing an objective evaluation of its legal compliance.
- Identify any discrepancies, non-compliance issues, or areas of concern where environmental risks may not be sufficiently mitigated.
- Offer objective recommendations for improving environmental management practices, suggesting how non-compliance or shortcomings can be addressed.
- Present audit results in an objective, transparent manner, reporting to stakeholders. This includes recommendations for improvement or corrective actions.
- After corrective actions are taken in response to audit findings, the auditor verifies that these actions have been properly implemented and are achieving the desired outcomes.
- Review the findings from the Auditor and Advisors i.e. ECoW, EnvCoW and ACoW and take appropriate actions to address any recommendations for improvement, ensuring ongoing compliance with environmental standards.
- Ensure accurate, up-to-date environmental records are maintained, including monitoring environmental performance and documenting incidents and compliance activities.
- Ensure that any environmental incidents, such as spills or ecological harm, are reported and addressed promptly, following the required incident reporting protocols.
- Act quickly to investigate and resolve any environmental incidents or breaches, taking corrective actions to prevent future occurrences.

Contract / Project Manager

The contractor shall identify a Contract / Project Manager within the CEM Plan who shall liaise / report directly to the OICHA client team. The Contract/Project Manager's specific environmental responsibilities include (but are not limited to):

- Demonstrate positive environmental leadership and commitment through actively supporting the initial set-up and sustaining effective environmental management and monitoring measures;
- Ensure adequate provision of competent resources, including the appointment of a suitable person (i.e. HSEQ Manager or similar) who shall be responsible for auditing the construction works on a daily basis, to ensure the requirements of the CEM Plan are met;
- Ensure all consents and licenses are in place prior to work commencing; and
- Report any environmental incidents or crime immediately to OICHA within 24 hours of the occurrence. All instances of suspected environmental crime will be reported immediately to OICHA.

HSEQ Manager (or Similar) Responsibilities
The specific environmental responsibilities of the HSEQ Manager (or similar) are (but not limited to):

- Oversee the implementation and organisation of the CEM Document and project-specific CEM Plans on a day-to-day basis;
- Ensure general environmental good practice is followed across the entire project construction site at all times, by all personnel and have the authority to halt works if necessary;
- Report any environmental non-compliances to the Site Manager / Supervisor and provide advice as required;
- Provide reports to the contractors team on the environmental status of the construction works including compliance;
- Delivery of toolbox talks, posters, information leaflets, video, digital or online applications for the education of construction personnel;
- To liaise with the Marine Mammal Observer (MMO) in the implementation of the Marine Mammal Protection Plan (MMPP) (Appendix D during any construction works in the marine environment;
- Attendance of all relevant Contractor meetings;
- The contractor's emergency contact for any environmental or ecological issues that arise on the construction site; and
- Report any emergencies or suspected environmental crime immediately to the Contract / Project Manager.

4.3.6 Staff & Subcontractors

- All site personnel must complete environmental inductions and specific training relevant to their tasks. This ensures they understand the environmental requirements, risks, and controls associated with the project.
- Site personnel must carry out their tasks in accordance with the environmental procedures outlined in the CEM Document and project-specific CEM Plans, as well as any specific training and safety briefings provided.
- Follow all site-specific environmental procedures to prevent pollution, protect wildlife, and comply with regulations. This includes correct waste management, pollution control, and minimising disturbances to ecosystems.
- If any activity deviates from the established environmental methods or causes environmental harm, personnel are responsible for halting work immediately and reporting the issue to Environmental Manager.
- Any incidents, such as spills, contamination, or damage to ecological features, must be promptly reported to the Environmental Manager in accordance with the incident reporting procedures.
- Site personnel must understand and follow the formal procedures for reporting environmental incidents to ensure timely, accurate, and complete documentation.
- Site personnel must ensure that any environmental controls in place (such as pollution barriers, waste management systems, or ecological protection measures) are used correctly and are properly maintained to avoid environmental harm.

- Personnel must work together with the Environmental Manager, Environmental Clerks of Works (EnvCoW), and Ecological Clerks of Works (ECoW) to ensure that environmental requirements are understood and followed throughout the construction process.
- Follow guidelines for sustainable practices, such as using materials efficiently, reducing waste, recycling, and ensuring that any hazardous substances are handled properly to prevent environmental harm.
- Site personnel should remain aware of any potential environmental risks related to their work activities, including the impact on air quality, water resources, wildlife habitats, and natural landscapes.

4.3.7 Ecological Clerks of Works (ECoW)

- Provide guidance on how to avoid or minimise impacts on ***wildlife, habitats, and ecological features***, recommending methods like habitat restoration, relocation, or careful planning around sensitive areas.
- Ensure that appropriate mitigation strategies to protect ecological resources (e.g., habitats, protected species) are implemented and maintained throughout the construction process.
- Regularly check that measures designed to protect the environment (such as wildlife corridors, tree protection, or soil preservation) are being properly maintained and adhered to.
- Keep all project records, including the Constraints Register, up to date with information on ecological sensitivities and constraints, ensuring proper management.
- Carry out on-site inspections to monitor wildlife, plants, and habitats to identify any issues that could affect the project or require adjustments to the mitigation measures.
- Participate in site inductions to ensure that all site personnel are aware of ecological concerns, risks, and their responsibilities in protecting the environment.
- If any issues arise (such as accidental damage to habitats or sightings of protected species), the ECoW is responsible for promptly reporting these to the Environmental Manager.
- Work closely with environmental regulators, conservation organisations, and other stakeholders to ensure that the project meets all necessary ecological protection standards and regulations.
- Make sure that the project complies with all relevant environmental and wildlife protection laws, including national and international regulations regarding endangered species and habitats.
- Encourage sustainable and ecologically sensitive construction practices, such as reducing habitat disturbance, replanting vegetation, or using wildlife-friendly construction methods.
- Evaluate the success of implemented ecological mitigation strategies and recommend changes or updates to ensure they are working effectively throughout the construction phase.
- Ensure implementation of the Biodiversity Protection and Enhancement Plan.

4.3.8 Ornithological Clerk of Works (OCoW) (depending on experience this role could fall within the remit of the ECoW)

- Undertake ornithological disturbance monitoring during the construction phase, particularly during potentially sensitive activities and report any problems should they arise to relevant parties.
- Offer expert advice on minimising bird impacts during construction, such as timing of work, noise levels, etc.
- Responsible for implementing measures to protect birds during construction.
- Ensure that development activities minimise negative impacts on bird populations and their habitats.
- The OCoW will have the authority to temporarily suspend construction if they deem the impact on bird populations is unacceptable.
- Act as a liaison between the development team, the relevant planning authority and NatureScot.

- Act as a point of contact, ensuring that all parties are kept informed and that any issues are addressed promptly.

4.3.9 Environmental Clerks of Works (EnvCoW)

- Provide guidance on how to design the project and implement measures to protect the environment, such as ***minimising waste, controlling pollution, surface water management etc***.
- Monitor the project to ensure that all activities comply with local, national, and international environmental laws and regulations.
- Ensure that measures designed to protect the environment (such as pollution controls, waste management, or erosion protection) are implemented, checked, and maintained throughout the construction process.
- Keep the environmental sections of the project documents, such as the Constraints Register, up to date with any new environmental risks or changes.
- Regularly inspect the site to ensure that environmental controls are being followed, identifying any potential risks or areas for improvement.
- Make sure that all site personnel understand their environmental responsibilities by participating in site inductions and briefings.
- Track the project's environmental performance and provide reports to the Environmental Manager, highlighting any incidents or issues and suggesting corrective actions.
- Ensure that any environmental incidents, such as pollution, waste management issues, or accidental damage to natural habitats, are reported promptly to Environmental Manager.
- Encourage sustainable construction practices, such as reducing energy use, recycling materials, and managing resources efficiently.
- As new environmental risks or issues arise, help update the CEM Document and project-specific CEM Plans to reflect evolving best practices and regulatory requirements**.**

4.3.10 Archaeological Clerks of Works (ACoW) (as required)

- This includes recommending ways to avoid, relocate, or protect archaeological sites, such as micro-siting, design changes, or preserving through excavation and recording.
- Recommends measures such as fencing off or marking known sites to prevent disturbance during construction.
- Ensures that all site personnel are made aware of archaeological constraints and requirements.
- Educates and informs site personnel about the importance of protecting archaeological sites and how to handle any discoveries on-site.
- Works together with key stakeholders to resolve any issues related to archaeological findings or impacts.
- Offers expert advice on how to prevent damage to any archaeological features that may be found during the project.
- Oversees protective measures to maintain the integrity of archaeological resources throughout the construction phase.
- Keeps the Constraints Register and other relevant documents up to date with information on archaeological constraints to ensure proper management.
- Ensures that the project follows all legal requirements regarding the protection of heritage sites and artifacts.
- In case of discoveries or issues, promptly reports to the Environmental Manager.

4.3.11 Marine Mammal Observer (MMO)

A MMO will be present on board the vessel or on land as required for specific activities e.g. terrestrial blasting etc, and shall follow the Marine Mammal Protection Plan provided in Appendix D of this CEM Document.

The Marine Mammal Observer Association (MMOA) describes the role of the MMO as:-

> *"to be present during offshore operations and to act immediately to protect species of concern should they enter an exclusion zone prior to and sometimes during operations. MMOs will advise personnel onboard to delay or shutdown operations until the animals are at a safe distance and also to record behaviour and sightings at other times. Monitoring and management measures may be set out by a regulatory authority or follow industry best practice. The MMO will work with the client and contractor to ensure requirements are adhered to and provide clarification advice".*

The main role of the MMO is to work closely with the contractor to ensure that dredging and any works within the marine environment do not disturb marine mammal activity within Scapa Flow. The MMO shall undertake visual monitoring from the highest available platform on the dredging vessel, or on land. They shall use binoculars and scan for cetacean activity during the construction phase. Should a cetacean be observed within the mitigation zone, communication between the MMO and the contractor shall occur, and suitable mitigation measures shall be implemented to ensure safe passage through the mitigation zone for the cetaceans, in accordance with the Marine Mammal Protection Plan.

In addition to the observation tasks, the MMO shall also be responsible for the following:

- Delivery of toolbox talks for the education of all relevant site staff and dredger crew;
- Along with the HSEQ Manager (or similar), be the first emergency contact for any environmental or ecological issues (only those relating to marine mammals) that arise during dredging or works in the marine environment;
- Organisation of all MMO programmes listed within the MMPP, including being active through all marine works;
- Having the authority to halt marine works when necessary; and
- Daily reporting to the HSEQ Manager (or similar) using a standard form and a traffic light prioritisation system. The reports shall document the advice given, the actions taken and the ultimate outcome in relation to the planning condition, the mitigation or the legislative requirements.

All Site Personnel

All personnel working on the project are responsible for the environmental control of their own work and shall perform their duties in accordance with the requirements of the CEM Document and project specific CEM Plans. No deviations are permitted without the written authority of the Contract / Project Manager.

All site personnel shall (but not limited to):

- Implement control measures described within the CEM Plan; and
- 'Stop the job / activity' if there is potential for environmental harm or pollution occurring and notify the Site Manager / Supervisor.

4.4 Training & Awareness

All contractors and subcontractors shall be selected with due consideration of qualifications and experience.

Environmental training shall be undertaken to ensure all site personnel have the appropriate knowledge to successfully implement the Construction Method Statement (CMS), the CEM Plan and the environmental requirements of the project.

The training programme shall be developed by the contractor and form part of the construction project specific CEM Plan. As a minimum it is anticipated to include the following:

- All site personnel to attend a site induction prior to commencing work at the site. Key environmental considerations include waste management, working in or near watercourses, surface water pollution and control, ecology, dust management and noise management, emergency preparedness and responses should be included;
- Weekly sessions to cover specific relevant issues appropriate to the work being undertaken at the time;
- Any specific training requirements for key identified roles;
- Records of all training required and provided to all employees should be maintained and made available to OICHA for inspection;
- The use of Information posters and leaflets, video and digital or online applications should also be considered; and
- Commitment to undertake a toolbox talk in the event of an environmental incident or complaint.

4.5 Complaints & Enquiries

The formal procedure for handling project complaints/concerns shall be agreed between the Principal Contractor and OICHA Client Team prior to works commencing. The contractor's CEM Plan shall detail the agreed procedure in the event a complaint is received.

4.6 Monitoring, Continual Improvement & Review

The Contractor shall ensure that the CEM Plan is reviewed regularly (and no less frequently than monthly) to:

- Ensure that the objectives and requirements of the CEM Plan are still valid and are being met;
- Identify any negative impacts from construction activities;
- Assess the effectiveness of control measures;
- Identify if further controls/corrective action is required; and
- Ensure that forthcoming activities are reviewed and any necessary amendments to the CEM Plan are put in place before the relevant work begins.

4.7 Inspection & Audit

OICHA representatives shall conduct site inspections on a regular basis to confirm that processes are being carried out effectively. A written report of these inspections shall be disseminated to the relevant contractor management levels for review and action.

4.8 Non-conformance & Corrective Action

If criteria within the CEM Plan are not fulfilled and appropriate corrective action(s) is/are not taken a non-conformance may be raised by the Contractor or Client representatives. Examples of circumstances where this may arise include:

- Receipt of a complaint regarding pollution or other environmental impacts caused by the project;
- Departure from approved or agreed procedures; and
- Non-conformance identified as a consequence of any self-assessment, formal audit or other environmental survey or inspection.

The non-compliance will be notified to the Client representative as soon as practicably possible. Should it be identified that there is potential for mitigation measures or legislation to be breached the work or activity shall stop immediately. Work shall only recommence once measures are implemented to ensure the situation is remedied.

Following notification, a non-conformance/corrective action report shall be issued to the Contractor by the Client representative. It is the responsibility of the Contractor to immediately initiate corrective actions (if not already done so) and, once completed, provide details of the actions undertaken on the non-conformance/corrective action report and return it signed to the Client's representative within an agreed timeframe. If the non-conformance is considered to breach legislative requirements, the breach should be reported to the appropriate public body.

Corrective action may include changes to work instructions, alterations to the CMS, further staff training etc. Non-conformances should be reviewed by the appropriate Client representative and form part of construction meeting agendas.

4.9 Significant Incident Reporting Procedures

In the event of a potential harmful or polluting incident, spillage or discharge, the actions listed below shall be followed to notify the appropriate organisations of the occurrence:

- Should an incident occur, the Contract / Project Manager shall inform the Client representative of the occurrence of an incident at the site as soon as practicably possible following awareness of the incident;
- The Contract / Project Manager shall notify the Client representative in writing the next working day after the incident, detailing the time and nature of the incident; and
- The Contract / Project Manager shall investigate the incident and notify the Client representative of the outcome of the investigation and any mitigation measures required as soon as practicably possible. The outcome of the investigation shall be reported to the client representative within 3 days of reporting the incident.
- The Contract / Project Manager will notify the Regulator(s) in writing the next working day after the incident, detailing the time nature of the incident; and
- The Contract / Project Manager will investigate the incident and notify the Regulator(s) of the outcome within 14 days of the incident.

4.10 Control of Records

Environmental records, including waste management records, shall be maintained in accordance with the respective company procedures and legal requirements. The records shall be maintained, in either hard copy or electronic format, as required by the individual procedure that the records relate to, in such a way that they are readily identifiable, retrievable and protected against damage, deterioration or loss. The individual procedure that the records relate to also specifies the retention time for the records and who has the authority to dispose of them.

4.11 Change Control Processes

Where any amendments and variations to the project-specific CEM Plan are required, either as a result of changes to construction methods, design or mitigation the method of recording the change shall be agreed between the Contractor and OICHA and documented in the Contractor's CEM Plan. Significant changes with be agreed with the relevant consenting body.

5 POLLUTION PREVENTION AND EMERGENCY RESPONSE

5.1 General Arrangements

The main priority is to avoid spillages and emergencies. This will be achieved by minimising the risk of spillage at source by avoiding the use of polluting materials where possible. Where the use of polluting materials is unavoidable, then suitable containment in a sensible location is essential.

5.1.1 Responsibilities

All persons working for or on behalf of OICHA have responsibilities to ensure they are aware or have been made aware of the processes and equipment in place to deal with emergency incidents.

Environmental factors will be taken into account at all stages of the project and personnel will be experienced and trained in the installation of environmental mitigation and the proper use of spill kits. By providing site-specific induction, toolbox talks, onsite training, and running spill drills the risk of an emergency on site will be minimised (controlled) as far as reasonably practical.

In the event of an environmental incident, the project team will be guided to “stop what you are doing, contain, notify / and report it to your supervisor”.

5.2 General Incidents

5.2.1 Emergency Procedures

Emergency procedures in the event of fire, accident, contact with live services, dangerous occurrence or a significant environmental incident will be displayed throughout the site facilities.

Where an environmental incident occurs, competent personnel should firstly assess and where appropriate, deal with the incident. Where the nature or scale of the environmental incident is outside the capability of the competent person/s they shall notify without delay, OICHA who will contact an appropriate environmental incident containment organisation to deal with the incident and mitigate any impact to the environment.

All persons working for or on behalf of OICHA have a responsibility to report the occurrence of any environmental incident regardless of magnitude to their superior.

The Contractor has the responsibility to ensure environmental incidents are reported through the appropriate incident review process and where applicable oversee the implementation of improvement actions, both immediate and preventative.

The Contractor has the responsibility to, where appropriate, notify the relevant agency or organisation of the occurrence of an environmental incident should this be required.

The Contractor / Project Manager is responsible for reviewing environmental incidents and ensuring the appropriate correction and corrective actions have been conducted and relevant preventative actions have been implemented.

A site-specific Emergency Response Plan will be developed by the contractor and will detail the response to any environmental incidents on site. The Emergency Response Plan shall, as a minimum, include:

- A Site Plan showing:
  - layout and access details;
  - access routes and meeting points for emergency services;
  - areas used to store raw materials, products and wastes; and
  - location of hydrants, 'fireboxes' and pollution prevention equipment and materials.

5.2.2 Planning & Prevention

Risk assessments are to contain an assessment of the potential of an activity, process or substance to cause an environmental incident.

Where the risk is considered small or insignificant actions are identified within the assessment.

Where the potential for a medium, large or significant risk is identified the appropriate operational controls may be implemented to ensure risks are minimised or eliminated and if and when an incident occurs, response actions are known and effective.

5.2.3 Routine Testing

Where practicable the Contractor shall conduct periodic testing of applicable emergency preparedness and response procedures. Where testing is conducted the results of the test and any improvement actions will be recorded.

5.2.4 Response Equipment

The most likely source of environmental incident is spillage of liquids and substances either accidentally or during handling or transfer.

Prior to attempting to tackle any environmental incident personal safety is paramount. The use of correct Personal Protective Equipment (PPE) may prevent an incident becoming even more serious with response personnel sustaining injury. When considering whether to tackle an environmental incident even with the use of PPE if exposure is likely to cause injury the job is best left to the experts. PPE used for this purpose should be located near to spill and containment equipment and should be confirmed as being suitable for the hazard.

Suggested PPE includes:

1. Coverall overalls or aprons
2. Wellington boots or safety shoes
3. Rubber or nitrile gauntlets or gloves
4. Respiratory protective equipment (note that this must be face fit tested)
5. Head protection (may be required if working in a restricted space)

For small liquid spillages of substance releases containment can be effective by the placement of spill or release containment equipment local to the potential sources of an incident which can effectively cleaned up preventing any environmental risk.

For larger spills or releases, containment equipment should be sufficient to prevent spills or releases contaminating the environment and provide an additional time break to conduct an effective clean-up operation, with or without the help of specialists.

The provision of spill or release containment equipment should be appropriate to the potential hazard.

The template Pollution Prevention Equipment Inventory will be completed before construction works commence

5.2.5 Control Measures

Control measures with respect to managing Emergency Response will include only trained and competent personnel to undertake tasks associated with the Scope of Work. Work activity will follow RAMS. Plant and equipment will be fit for purpose, properly maintained and only operated by trained experienced personnel.

5.2.6 Planning & Prevention

Risk assessments are routinely conducted for all activities and contain an assessment of the potential of an activity, process or substance to cause an incident.

Where the risk is considered small or insignificant actions are identified within the assessment.

Where the potential for a medium, large or significant risk is identified the appropriate operational controls may be implemented to ensure risks are minimised or eliminated and if and when an incident occurs, response actions are known and effective.

5.2.7 Emergency Response Process

For plant/equipment leaks:

- STOP the source of the spill or leak if practicable.
- CONTAIN the spill using spill kits.
- DIVERT the spill from drains and watercourses.
- CLEAN THE SPILL. Place all used spill kits and contaminated material in a waste bag, securely store and dispose of them as special waste.
- REPORT the spill to the EnvCOW/ OICHA (and Regulators if appropriate).

5.3 Rapid Response Plan

A Rapid Response Plan for pollution incidents has been developed which provides clear and concise instructions on how to respond to specific pollution scenarios.

Note: Always ensure personal safety and use appropriate PPE and refer to the COSHH assessment and/or Safety Data Sheet (SDS).

A Chemical, Product and Waste Inventory will be prepared.

Table 5-1: Rapid Response Plan

Incident	Actions
Moderate Likelihood	
Heavy Rain – runoff	• Divert run-off (from the stripped ground) from entering the water environment by using sand or earth to create soakaway areas; • Deploy drain covers if appropriate; • Commence monitoring of contaminated water environment, and photograph regularly to record changing conditions; • Report it to EnvCOW/ OICHA; and • Report it to Regulator if discolouration or pollution of the water environment is observed.
Diesel - spillage while refuelling plant	• Stop refuelling operation then deploy and use spill kit; • Use sand/earth to divert from drains and water environment; • Cover with sand/earth to halt flow and absorb; • Report it to EnvCOW/ OICHA; and • Report it to HSEQ and Regulator, if appropriate
Dust –from vehicular activity	• Stop work or change method of work to reduce dust creation; and • Use a water bowser to damp down haul routes and work areas affected, if appropriate.
SUDS – flooding leading to contaminated discharge	• Close the outflow valve if appropriate; • Fit temporary additional filtration; • Use portable pump(s) to reduce the volume in SUDS i.e., pump to open ground; • Divert overspill from SUDS pond to open ground using sand/earth bunds; • Prevent overspill from entering drains and water environment; • Report it to EnvCOW/ OICHA; and • Report it to HSEQ and Regulator, if appropriate.
Low Likelihood	
Cement slurry – escape	• Stop the escape (where safe to do so); • Deploy drain covers if appropriate; • Deploy spill kits (if large absorbent ‘oil socks/booms’ are available); • Divert away from drains or water environment (e.g., earth bund); • Cover with sand/earth to halt flow and absorb; and • Report it to EnvCOW/ OICHA (and HSEQ if a significant escape)
Containers/Drums – leak or spill	• Reposition to stop leak e.g., turn so the cap is at the uppermost position; • Secure drums from moving further (chock them); • Deploy drain covers, if appropriate; • Deploy spill kits (depending on the scale of spill deploy large absorbent ‘oil socks/booms’ where available); • Prevent from entering drains or water environment: • Cover with sand/earth to halt flow and absorb; • Follow the guidance outlined in SDS; • Report it to EnvCOW/ OICHA; and • Report it to HSEQ and Regulator, if appropriate.
Contaminants – entering surface water drainage system/ water environment	• Stop further contamination/pollution e.g., stop the leak and divert flow; • Check the product SDS i.e., to determine if the substance is harmful to the environment; • Follow the guidance in the SDS; • Report it to EnvCOW/ OICHA; and • Report it to HSEQ and Regulator, if appropriate.
Contaminated land – an unexpected discovery	• Stop work; • Cordon off area; • Seek specialist advice, as necessary; • Report it to EnvCOW/ OICHA; and • Report it to HSEQ and Regulator, if appropriate.

Incident	Actions
Diesel – spillage/ leak from a storage tank	• Try to stop the leak (e.g., close the valve or plug hole etc); • If spillage is during the refilling operation – work with 3rd Party Contractor i.e., help them apply their emergency spill procedure; • Ensure the hose and dispenser nozzle is inside the bund; • Deploy and use spill kit (depending on the scale of spill deploy large absorbent 'oil socks/booms' where available); • Fit drain covers, if appropriate; • Use sand/earth to construct retaining bund and divert spill away from drains and water environment; • Cover with sand/earth to halt flow and absorb; • Report it to EnvCOW/ OICHA; and • Report it to HSEQ and Regulator, if appropriate.
Hydraulic oil – leak/spill from mobile plant	• Cease use of plant; • Deploy spill kit; • Try to stop the leak; • Fit drip tray under leaking hose or joint; and • Report it to EnvCOW/ OICHA; and • Report it to HSEQ and Regulator, if appropriate.
Waste (other) – unintentional escape/release	• Stop further waste from escaping; • Contain waste that has escaped; • Prevent any liquid waste from entering drains/water environment – deploy drain covers and spill kits as appropriate; and • Collect and return waste to segregated and secure storage areas.

5.3.1 Dealing with Spills

A site drainage plan will be kept at the site office showing the water interests in the vicinity of the application site. This plan will include the location of both foul water drains and surface water drains.

Spill kits will be kept on each of the worksites. The precise contents and capacity of the spill kits will depend on the detailed inventory of products that will be stored and handled on-site; however, they are likely to contain:

- Absorbent mats;
- Drain covers;
- Gloves;
- Floating "booms" or "sausages";
- Knives;
- Oil-absorbent granules;
- Polythene sheeting and bags;
- Shovels; and
- String.

The spill kits will be clearly marked, sign-posted and held close to the area where materials are stored and handled.

5.3.2 Spill Management

In the event a spill occurs the following actions will be taken:

- When a spill occurs the EnvCOW/ OICHA will be informed immediately;

- In dealing with the spillage the personal safety of the site-workers and the general public will not be compromised;
- Where required to stop or contain the spillage, work will be halted;
- The cause of the spillage will be stopped;
- The spill will be contained. Particularly pathways to any drains and water courses will be blocked as soon as possible; and
- The spilled materials will be removed and disposed of following the relevant waste regulations.

In the event of major or complicated spills, the following additional actions will be taken:

- The EnvCOW/ OICHA will assess the incident and if appropriate request a specialist spill contractor to attend the site.

After an incident all waste generated by clean-up activities will be disposed of following current legislative requirements and the site waste management plan and copies of all transfer notes retained.

5.3.3 General Spill Response

The following steps are recommended and each is discussed in more detail in subsequent sections:

1. Before acting assess the safety risks of the spilt product;
2. Organise required safety actions such as switching off electrical equipment in the area if there is a risk of explosion;
3. Conduct practical actions to stop the spill at the source;
4. Contain the spill;
5. Clean up the spill noting the location of spill kits;
6. Keep unrequired personnel out of the spill area; and
7. Complete any statutory reporting to regulators.

5.3.4 Assessment of Health and Safety Risks of the Spilt Material

In the event of a spill, it is the responsibility of all personnel to protect their own safety and that of others by assessing the HSE risks of the spilt material including.

Key actions that are necessary for response to the spill of volatile produce include:

- Removal of ignition sources;
- Notification and evacuation of personnel at risk;
- Completion of an observation-based assessment, to determine if it is safe to commence any spill counter-measure operations; if unsafe, do not commence these measures;
- If the material has strong odours or vapours, work upwind of the spill site. It may be necessary to use respiratory protection and have first aid resources at hand and is mandatory when toxic vapours may be present. Only when all hazards have been assessed as safe, proceed; and
- Be aware of where you are placing your feet and try not to step on slippery surfaces.

5.3.5 Stop the leak at Source

Consider actions required to control the source of the spill this will include:

a. Plugging the hole or shutting the valve/tap;
b. Turning a container i.e. the damaged part is to the top and the material is no longer spilling from it;

c. Put a leaking container into another secure container;
d. Identify any other reasonable actions that may control the source including repositioning the container.

5.3.6 Spills to Watercourses and Drains

(Primarily for hydrocarbons but also applicable for chemicals and uncontrolled discharges).

Where operations are in proximity to watercourses and drains, absorbent booms shall be stored adjacent to the works, before the commencement of any work (refer to GPP 22: Dealing with spills[1]). Clean-up materials and equipment will also be available at these locations.

In the unlikely event that a watercourse is affected, the following procedure shall be followed:

- Stop the source of the leak/spill.
- Secure a boom from bank to bank downstream of the spill, with wooden stakes or steel pins. The boom should be deployed at an angle to direct the pollutant to one side of the bank to aid recovery. Booms should only be deployed and secured by suitably trained people.
- The pollutant shall be removed using floating absorbents and if necessary, skimmers.
- All contaminated material and absorbents shall be 'double- bagged' and disposed of following the Waste Management Plan.
- All spillages into watercourses presenting a pollution risk shall be reported to the Regulator(s) as soon as possible – this shall be the responsibility of the Contractor.

All incidents occurring within the Site must be immediately reported to the EnvCOW/ OICHA for them to notify the nominated clean-up contractor (if required). The incident will be recorded, and the Contractor will investigate the cause and effect of the incident, recommending an appropriate change in procedures where necessary.

5.3.7 Contain the Spill

- Identify the proximity of sensitive receptors including the workforce, the surrounding environment. Also, consider the location of ignition sources or incompatible chemicals that may increase the risks presented by the spill.
- Use drain mats to cover surface drain openings and manhole cover.
- Contain the spill using absorbent material from the appropriate spill kit – oil and fuel spill kits or chemical spills kit.
- Oil and Fuel Spill Kits – are to be used for diesel, fuel, unleaded petrol, hydraulic oils, grease and other petroleum-based lubricant spills. They include oil-absorbent booms, pillows and pads, kitty litter or peat. The absorbent materials in oil and fuel spill kits DO NOT ABSORB WATER (hydrophobic i.e. they absorb hydrocarbons and repel water).
- Chemical Spill Kits – are to be used for acids, bases (alkalis), paints, solvents, thinners, coolants, degreasers, herbicides and pesticide spills.

5.3.8 Clean-up the Spill

Once the source of the spill has been controlled and the spill contained (immediate threat to the environment has been minimised) the rest of the spill will need to be cleaned up.

[1] https://www.netregs.org.uk/media/1643/gpp-22-dealing-with-spills.pdf

- Oil/fuel spills, continue to use absorbent materials from oil spill kits around the site. Used and contaminated absorbent materials should be collected in either 220L drums or in lined skip bins (depending on the size of the clean-up. This applies to spills on sealed and gravel areas.
- Spills on gravel areas – clean-up will include the absorbent materials used AND any contaminated soil in the area will need to be scraped up and stockpiled. When stockpiling, ALL contaminated soil from an oil/fuel spill (hydrocarbon contaminated) MUST be placed on a tarpaulin, and also be covered in a tarpaulin to prevent further contamination.
- For mineral, concentrate spills scrape up the spillage, use a contractor to suck up the product or wash down the affected area. Do not let wash waters enter stormwater drains and contact the EnvCOW to request the most applicable disposal method. Where possible, the material shall be recovered and recycled.
- If the material cannot be recycled, advice should be sought on appropriate disposal methods to ensure compliance with legislation and regulatory requirements.

5.3.9 Waste management and duty of care

Waste material from an incident will come under the Duty of Care from the Environmental Protection Act 1990 (as amended). This means OICHA have a legal duty to make sure that any waste the incident produces:

- Does not escape OICHA's control;
- Is transferred only to a registered waste carrier, someone registered as exempt or to an authorised site operator if you transport your waste (you can check the SEPA website for listings; exempt waste carriers may not be listed and, if you need to confirm your carrier has an exemption, you should contact us);
- Is covered by a waste transfer note, with a full description of what it is, when you transfer it to someone else;
- Is disposed of lawfully.

5.3.10 Fire

Health and Safety procedures and processes shall be established to minimise the risk of, and the appropriate management of a fire emergency. Consideration shall be given to the appropriate management of any subsequent fire water (the run-off generated from firefighting activities), such as temporary storage on-site.

This water should be considered contaminated, and it has the potential to cause pollution. In developing strategies for dealing with a fire emergency, consideration shall be given to minimising the risk to the environment associated with fire water. The guidance on the control of fire water detailed in SEPA's PPG18: Managing Fire Water and Major Spillages shall be followed as appropriate.

5.4 Incident Reporting

If during site staff duties an Environmental / Health and Safety incident, no matter how minor, is noted, then the incident will be reported, immediately to the Contractor.

The Contractor and EnvCOW shall co-ordinate any actions that are required to make the area safe or limit environmental impacts resulting from the incident.

In the event of a potentially harmful or polluting incident, spillage or discharge, the actions listed below will be followed to notify the Regulator(s) of the occurrence:

- Should a significant incident occur, the Contractor shall inform OICHA and the Regulator(s) of the occurrence of an Environmental incident at the site as soon as practicably possible following notification of the incident.
- OICHA shall Scottish Sea Farms of the occurrence of an environmental incident at the site as soon as practicably possible detailing the nature of the incident;
- The Contract / Project Manager will notify the Regulator(s) in writing the next working day after the incident, detailing the time nature of the incident; and
- The Contract / Project Manager will investigate the incident and notify the Regulator(s) of the outcome within 14 days of the incident.

6 SCHEDULE OF MITIGATION

Table 2: Schedule of Mitigation
(Includes New Mitigation from SEI Report)

Feature / Topic	Mitigation	Timing
General		
Construction Environmental Management Document	A Detailed Construction Environmental Management Document (CEMD) containing individual specific Construction Environmental Management Plans (CEMP) will be developed to ensure that the mitigation measures outlined in the EIAR and project consents are followed during the proposed construction works. The CEMD will include surface water management and pollution prevention measures (e.g. Pollution Prevention Plan), and will be in place during construction and operation. The CEMD will remain a live document and will be continually updated as the work progresses. The CEMD will be developed as a practical tool to facilitate the management of environmental mitigation measures and to provide a clear roadmap of the key roles and responsibilities during construction. All mitigation measures will be incorporated into the CEMD, which will include detailed Construction Method Statements (CMS). An Environmental Clerk of Works (EnvCoW) will monitor the construction works to ensure that the CEMP and associated mitigation measures are being implemented effectively.	Construction
Best Practice	Best practice will be adopted throughout all phases of development, following current guidance as listed in Chapter 5 of the EIAR. The programme of works, including timings and methods, will be planned, monitored and managed to minimise the potential negative environmental impacts.	Construction
Pollution Incident Response Plan	A Pollution Incident Response Plan will be set out in the CEMD relating to the construction of the proposed development, statutory requirements and identification of areas of highest sensitivity. This will provide site spill response procedures, emergency contact details and equipment inventories and their location. All staff will be made aware of this document and its content during site induction. A copy will be available in the site office at all times.	Construction
Vessel Movements and Navigational	All of the risks to navigation should be kept under review by OICHA as the development progresses	Construction

Feature / Topic	Mitigation	Timing
Chapter 4: Water Environment		
Construction Environmental Management Document	The following is in addition to the above CEMD mitigation, All activities above Mean High Water Springs (MHWS) with potential to affect the water environment require to be authorised under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR). The level of authorisation required is dependent on the anticipated environmental risk posed by the activity to be carried out. These activities could include construction drainage. Construction activities below MHWS with potential to affect the water environment require to be authorised under a Marine Licence.	Construction
Dredged Material	Mitigation measures will be delivered by the principal contractor through detailed Construction Environment Management Plans (CEMPs) that will be produced following appointment. The contractor will be responsible for producing a site specific Pollution Prevention Plan (PPP) that will apply the principles of the agreed mitigation to show how the mitigation is implemented effectively down to the specific site.	Construction
Turbidity Monitoring	As a precautionary measure, OICHA proposes to undertake turbidity monitoring to protect water quality and ensure minimal environmental impact. OICHA propose to monitor sediment re-suspension levels to prevent damage to the local ecosystem and aquaculture as high sediment concentrations can contribute to suboptimal conditions and may harm aquaculture fish since it affects the overall ecological balance and the fish have restricted movement. By monitoring turbidity, OICHA can determine potential impacts on the environment and implement corrective actions.	Dredging and Construction
Surface Water Management	The surface water drainage will be designed to ensure that there are no untreated surface water discharges directly to surrounding coastal waters. It is proposed to replicate natural drainage around construction areas and to use source control to deal with rainwater in proximity to where it hits the ground in line with current Sustainable Drainage Systems (SuDS) guidance. Suitable prevention measures will be in place at all times to prevent the release of pollutants to the water environment, including adjacent coastal waters. These will be regularly inspected and maintained to ensure optimal performance.	Construction
Site Compounds	Run-off from compounds will be captured and passed through construction drainage features prior to discharge. Foul drainage will either be contained in a closed system and disposed of at a suitable off-	Construction

Feature / Topic	Mitigation	Timing
	site facility with private treatment and discharge or, where possible, directed via a connection to the local drainage network.	
Concrete	In the case that concrete batching is to be undertaken on-site the following mitigation measures would be implemented to minimise the potential impact of concrete batching on the water environment in line with PPG6: • Concrete batching will take place on an impermeable designated area and at least 10m from any waterbody. • Equipment and vehicles will be washed out in a designated area that has been specifically designed to contain wet concrete/ wash water. • A closed loop system will be used for wash waters. Wash waters will be stored in a contained lined pond for settlement before being reused (e.g. for mixing and washing). • No discharge of wash waters will occur on-site. All excess wash water that cannot be reused will be disposed of off-site. The following mitigation is proposed for concrete handling and placement: - Pouring of concrete will take place within well shuttered pours to prevent egress of concrete from the pour area. - Pouring of concrete during adverse weather conditions (i.e. high rainfall etc) will be avoided. - The CEMP will include a Pollution Incident Response Plan, and drivers of vehicles carrying concrete will be informed so as to raise awareness of potential effects of concrete and of the procedures for clean-up of any accidental spills. Concrete acidity (pH) will be as close to neutral (or site-specific pH) as practicable as a further precaution against spills or leakage.	Construction
Oil, Fuel, Site Vehicle Use and Storage	The risk of oil contamination will be minimised by good site working practice (further described below) but should a higher risk of oil contamination be identified then installation of an oil separator will be considered. The storage of oil is considered a Controlled Activity which will be deemed to be authorised if it complies with the Regulations. The mitigation measures to minimise any risk of contaminant release are in line with SEPA GPP and PPG documents and include the following: • Storage: o Storage for oil and fuels on site will be designed to be compliant with GPP2 and GPP8. o The storage and use of loose drums of fuel on site will not be permitted.	Construction

Feature / Topic	Mitigation	Timing
	○ Bunded tanks will provide storage of at least 110% of the tank's maximum capacity. • Refuelling and maintenance: ○ Fuelling and maintenance of vehicles and machinery, and cleaning of tools, will be carried out in a designated area where possible in line with PPG7. ○ Multiple spill kits will be kept on site. ○ Drip trays will be used while refuelling. ○ Regular inspection and maintenance of vehicles, tanks and bunds will be undertaken. Emergency procedure: The Pollution Incident Response Plan will include measures to deal with accidental spillages.	
Monitoring and Enhancement	The Developer shall undertake a planned programme of compliance monitoring to verify the effectiveness of the project's environmental management. Monitoring plans will be established and implemented with the agreement of SEPA, NatureScot and Marine Directorate. Specific auditing and monitoring plans will be developed by the contractor and will cover the following: • The contractor's own Environmental Management System; • The CEMD, schedule of mitigation register, relevant legislation and industry good practice; • All project activity; • Roles and responsibilities for those undertaking audits and monitoring; • Frequency of inspection activities (i.e. daily, weekly, monthly); • Process to deal with corrective actions/non-compliance; and • Reporting procedures (including non-compliance).	Construction
Chapter 5: Biodiversity		
CEMD	Adherence to measures set out in the Construction Environmental Management Document (CEMD), Biodiversity Action Plan (BAP) and Biodiversity Net Gain (BNG) document.	Construction
Ornithological monitoring	Ornithological monitoring to be undertaken during the construction phase and during years 1, 2, 3, 5 and 10 of operation to assess whether the populations of SPA species has been maintained. This will focus on the area around the proposed development (where the new/novel vessel route is situated and around Scapa Pier and surrounding areas where there will be a significant reduction in port	Construction and Operation

Feature / Topic	Mitigation	Timing
	services vessels). The monitoring methods and reporting outcomes will be discussed and agreed with NatureScot, along with any required mitigation measures depending on survey results;	
Vessel Management Plan	Production of a Vessel Management Plan for the Construction phases which will detail vessel routes, speeds etc to minimise, and where possible, avoid any disturbance impacts;	Construction
Vessel Management Plan	All construction vessels must comply with the Scottish Marine Wildlife Watching Code	Dredging and Construction
Ornithologist / marine mammal observer	Deployment of an Ornithologist and marine mammal observer to monitor for the presence of qualifying species of the Scapa Flow SPA, and cetaceans and pinnipeds (in particular harbour seal) in the vicinity of the Proposed Development during terrestrial blasting and dredging works;	Construction
Seal Protection Plan	Production and adherence to detailed Seal Protection Plan (SPP);	Construction
Pollution Prevention Plan	Production and adherence to a detailed Pollution Prevention Plan;	Construction
Silt boom	A silt boom to contain fine sediments will be used whilst reclamation work activities are undertaken.	Construction
Marine Mammal Observation Protocol (MMOP)/ Seal Observation Protocol	The seal mitigation will comprise a standard Marine Mammal Observation Protocol (MMOP) as per JNCC guidance will be implemented during dredging operations in sea states less than 4 and during times of optimal visibility.	Dredging
Marine Mammal Mitigation Zone	A mitigation zone (a pre-agreed radius) around dredging site prior to any works is implemented. The radius of the mitigation zone should be 500m for each activity to cover the PTS and TTS ranges of the activities.	Dredging
Terrestrial Blasting	A blasting strategy will be developed once a contractor has been commissioned.	Construction
Terrestrial Blasting	The MMO protocol implemented for dredging will also be undertaken for terrestrial blasting and (as stated above) a 6m high bund will be formed at the seaward boundary of the site by retaining the existing land and excavating behind, creating a natural noise screen from terrestrial blasting (and other works) and will only be removed once the site is excavated to the final profile. This would reduce the effects of noise on seals on land. Additional mitigation methods for terrestrial blasting that should also be considered to be implemented for terrestrial blasting include:	

Feature / Topic	Mitigation	Timing
	○ During terrestrial blasting, minimising air overpressure at the source, such that, even under unfavourable weather conditions, all such energy is within acceptable criteria at distance, remains the best practicable approach. It is an approach that all surface mineral sites are obliged to follow under the provisions of The Quarries Regulations 1999. ○ Detonating cord should be used as sparingly as possible, and any exposed lengths covered with as much material as possible. Just a few feet of exposed cord can lead to significant amounts of audible energy and, hence, high air overpressure levels. Stemming release can be controlled by detonation technique, together with an adequate amount of good stemming material. It should be noted however that detonation cord and stemming release have been virtually eliminated with the use of in hole initiation techniques. ○ If the use of exposed detonating cord is avoided the characteristic noise of a blast is no longer a sharp crack but rather a dull thump. This is partly due to the detonating sequence and partly due to natural energy dissipation and reduction. Whilst some of the noise perceived by a neighbouring resident would be directly from the blast itself, the lower frequency components of the air overpressure might well induce secondary rattling of windows and ornaments within a property which could augment the overall effect. ○ Thus, in terms of noise control or reduction in the care and attention to blast design and subsequent implementation, including initiation, necessary for the control of air overpressure is equally applicable to noise.	
GWDTE / Tufa	Re-establishing natural vegetation, including mosses and other aquatic plants, to help stabilise the tufa deposits and improve habitat quality;	Construction and post construction
GWDTE / Tufa	Reducing nutrient runoff from agriculture and other sources to help improve water quality and protect the sensitive ecosystems in tufa springs;	Construction
GWDTE / Tufa	Protecting areas around tufa springs from development and other destructive activities for long-term conservation;	Construction and post construction
Tufa monitoring	Regular monitoring of water flow, water quality, and the health of tufa structures is essential for evaluating the effectiveness of restoration efforts and making adjustments as needed.	Construction and post construction

Feature / Topic	Mitigation	Timing
Terrestrial Habitats	Terrestrial habitats outwith the footprint of the development should be retained and clearly delimited from the works area in order to reduce the risk of damage. Compensation for lost habitats should be provided through on and offsite habitat enhancement and creation. A detailed Biodiversity Net Gain Assessment and Biodiversity Action Plan containing a baseline survey of the proposed compensatory habitat area, clear management objectives and actions to meet those objectives, and a monitoring plan will be produced prior to construction commencing.	Construction
Sub-tidal habitats	A silt boom to contain fine sediments will be used whilst land reclamation activities are undertaken. Inert stone material free from fine clays or organic materials will be utilised to form the outer bunds for land reclamation. The principal contractor will produce and implement a biosecurity plan throughout the duration of works. This will include the cleaning of equipment and plant machinery prior to deployment and at regular intervals throughout to reduce risk of transmitting non-native and invasive species. The plan will be submitted to the planning authority and other relevant consultees for approval prior to works commencing and implementation would be audited by the EnvCoW. Implementation of Ballast Water Management Plan and industry standard ballast water management practices. Continuation of OICHA's biosecurity monitoring programme as detailed in the existing Ballast Water Management Policy.	Construction
Otter	All personal on the site should be made aware of the presence of protected species including otter via the site induction and additional task specific toolbox talks as required. A pre-works check for otter will be conducted prior to works commencing on the site and regularly throughout works. If otter are observed on site at any point during construction, works should be halted and advice sought from the EnvCOW. If a resting site is identified either during the pre-works check or during works, a species protection plan will be required and the need for a disturbance licence will be assessed. Where possible construction activities will be confined to daylight hours to reduce disturbance to commuting and foraging otter within the locale (if identified).	Prior to and during construction

Feature / Topic	Mitigation	Timing
	A strict speed limit for both onshore and marine traffic will be implemented to reduce risk of collision with protected species (15mph on shore and 4 knots on the water within the harbour area, outwith the harbour area vessels shall be controlled by vessel speeds set out by the Statutory Harbour Authority and appropriate to the construction vessel type). Permanent lighting design will be kept to the minimum required for health and safety and security purposes. All lighting will be fitted with shades and directed at the required areas. The shoreline and surrounding waters will be avoided as far as possible to reduce disturbance to wildlife.	
Marine Mammals	All personnel on the site should be made aware of the presence of protected species including marine mammals via the site induction and additional task specific toolbox talks as required. A Marine Mammal Protection Plan will be implemented by the contractor to reduce the risk of underwater noise causing injury to marine mammals. This will involve the use of a trained Marine Mammal Observer (MMO). The MMPP also details protocols to be implemented to reduce collision risk. Implementation of a vessel management plan including agreed routes and speed limits. Safe vessel operation to minimise risk of collision with marine mammals and basking shark to be promoted to users. Training courses such as those provided by the WiSe scheme could be offered at regular intervals.	Construction
Fish	All personnel on the site should be made aware of the presence of protected species including fish via the site induction and additional task specific toolbox talks as required. Any artificial light required during construction will be fitted with shades and directed at the required work area only. A Basking Shark Protection Plan will be implemented to reduce the risk of underwater noise causing injury. This will involve the use of a trained Marine Mammal Observer (MMO). The ECoW, EnvCoW or MMO should monitor any fish deaths as a result of construction activities and report these to NatureScot and Marine Directorate (number of fish and species). Consideration should be given to mitigation strategies to reduce fish mortality if it becomes an issue. This can be difficult to do however some strategies such as the use of netting or bubble curtains sometimes have the effect of preventing fish from moving away from noisy activities.	Construction

Feature / Topic	Mitigation	Timing
	Implementation of a vessel management plan including agreed routes and speed limits. Safe vessel operation to minimise risk of collision with marine mammals and basking shark to be promoted to users. Training courses such as those provided by the WiSe scheme could be offered at regular intervals. Permanent lighting design will be kept to the minimum required for health and safety and security purposes. All lighting will be fitted with shades and directed and the required areas. The shoreline and surrounding waters will be avoided as far as possible to reduce disturbance to wildlife.	
Chapter 6: Archaeology and Cultural Heritage		
Archaeological Investigations	Further archaeological investigation in the vicinity of Site 2 , potentially comprising geophysical survey and/or archaeological trial trenching, will be agreed with OIC in advance of the construction phase of the project. This may lead to further requirements for mitigation, either before or during the construction.	Prior to Construction/Construction
WSI/PAD	A Written Scheme of Investigation (WSI) and Protocol for Archaeological Discoveries (PAD) to avoid or mitigate accidental impacts and manage any accidental discoveries of archaeological interest will be compiled and submitted for approval to OIC and fully implemented during the construction phase of the project	Construction
Chapter 7: Seascape, Landscape and Visual Impact		
Excess unsuitable material	Excess unsuitable material (including topsoil) that cannot be used to form the quayside extending out into the sea will be deposited on land immediately above and to the north east of the proposed cut slope. This material will be deposited to a relatively thin depth and graded out into/integrated with surrounding pastoral farmland. The material would not be deposited in the form of visually obtrusive bunds or mounds. It would visually assimilate with surrounding sloping grazed farmland.	Construction
Chapter 8: Socio-Economics		
Employment opportunities	Requirements upon the contractor to provide local job creation and local training either directly or through supply chain for the construction and operational phases of the development to provide greater and longer lasting benefit to communities.	Construction
Local Businesses	Continue to consult with local businesses, including local tourist groups throughout the proposed development design and construction programme to manage significant inflow of workers during peak tourist season and large scale events on the island.	Construction

Feature / Topic	Mitigation	Timing
Local Businesses	Engage with local businesses, including marine users, to understand their access and operational requirements. Contractor and design team should ensure that current operations at the harbour can reasonably continue during construction of the proposed development and effectively communicate when there are any changes to access (including short term changes).	Construction
Local Community Capacity	Engage with local authority to ensure there is sufficient capacity in council services and infrastructure to accommodate influx in workers.	Construction
Community Benefits	Community benefits and social value should be maximised during the construction period, such as the provision of apprenticeships, training and work experience opportunities. The baseline indicates that the age group 18 – 24 has the highest proportion on the island of being unemployed; targeting this group would maximise benefits and this would represent a significant opportunity to provide long term employment and development of key green skills locally.	Construction
Chapter 9: Airborne Noise		
Construction General	Develop a construction noise management plan to ensure surrounding residents are not impacted by site development activities.	Construction
Blast Strategy	A blast strategy to be prepared once a blasting contractor is commissioned.	Construction
Chapter 10.1: Accidents and Natural Disasters		
Marine Safety	OICHA existing Safety Management System should be updated periodically as harbour operations change or new legislation arises.	Construction
Chapter 10.2: Air Quality		
Construction Dust Risk	<u>Communications</u> • 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 information. • Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The DMP should include, as a minimum, the measures outlined in this section. <u>Site Management</u>	Construction

Feature / Topic	Mitigation	Timing
	• Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book. • 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. <u>Monitoring</u> • 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. <u>Site Maintenance</u> • 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. • Avoid site runoff of water or mud. <u>Operations and Waste Management</u> • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. • Ensure an adequate water supply on the 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. <u>Vehicle and Plant Operation</u> • Ensure all vehicles switch off engines when stationary – no idling vehicles.	

Feature / Topic	Mitigation	Timing
	• Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable. These measures will be included within the CEMP or similar which will be produced by the contractor prior to construction and signed off by Orkney Islands Council.	
Chapter 10.3: Carbon, Climate Change and Greenhouse Gas Emissions		
Construction	Opportunities of carbon reduction in the construction phase can be achieved through consideration of alternative/recycled materials, design optimisation, construction site management (e.g. sourcing energy efficient plant) and construction waste management.	Construction
Chapter 10.5: Transport Roads		
Access road	The creation of an access road which locals can use by car or active travel modes will provide added community benefit, making this section of the coastline accessible.	
Travel Plan	A site Travel Plan (in accordance with NPF4 Policy 13 f) will be developed once details of the workforce are known. This will also include provision for low or zero emission vehicles and cycle charging points within safe locations.	Construction/Operation
Construction Traffic Management Plan	A Construction Traffic Management Plan (CTMP) will be prepared for agreement with Orkney Islands Council prior to construction commencing. This will be a “live” document, and as such, the contractor will update and improve the CTMP as required	Construction
Seal Risk Assessment		
Dredging Protocol	Dredging will not commence during poor visibility (such as fog) or during periods when the sea state is not conducive to visual mitigation as there is a greater risk of failing to detect the presence of seals. An elevated platform for the MMO to monitor from would be beneficial when the during rougher periods, the dredging works could also be scheduled on a day where the sea is expected to be calmer.	Dredging
	The MMO(s) should be situated in a location that provides the best viewing platform and is likely to be closest to the dredging activities. For example, an elevated area of the coast or a vessels bridge that allows 360 degree cover (depending upon the size of the mitigation zone more than one MMO viewing platform (and therefore more than one vessel) may be required to ensure that the entire mitigation zone can be observed).	Dredging

Feature / Topic	Mitigation	Timing
	At least 30 minutes before any dredging, a visual watch, known as the 'pre-works search', should be carried out in the mitigation zone. The pre-works search should continue until the MMO advises that the mitigation zone is clear of seals, and the dredging works can start.	Dredging
	The MMO will scan the waters using binoculars or a spotting scope and by making visual observations. Sightings of seals will be appropriately recorded in terms of date, time, position, weather conditions, sea state, species, number, adult/juvenile, behaviour, range etc. on the JNCC standard forms. Communication between the MMO and the contractor and the start/end times of the activities will also be recorded on the forms.	Dredging
	Dredging should not be undertaken within 10 minutes of a seal being detected within the mitigation zone.	Dredging
	If a seal is observed, within the mitigation zone, it should be monitored and tracked until it moves out of range. The MMO should notify the relevant chain of command of the detection and advise that the operation should be delayed. If the seal is not detected again within 20 minutes, it can be assumed that it has left the area and the works may commence.	Dredging
	If an MMO is uncertain whether seals are present within the mitigation zone, they should advise that the activity should be delayed as a precaution until they are certain that no animals are present.	Dredging
Vessel Movement	OICHA implement speed restrictions on vessels within Orkney waters, additionally, leaflets can be created to provide additional advice to port users to avoid disturbance to and/or collision with seals during construction which should include, but is not limited to the following: • A strict speed limit for marine traffic will be implemented to reduce risk of collision with seals (4 knots within the water). • Implementation of a Vessel Management Plan including agreed routes, speed limits and incorporation of the Scottish Marine Wildlife Watching Code. • Safe vessel operation to minimise risk of collision with seals to be promoted to users. Training courses such as those provided by the WiSe scheme could be offered at regular intervals.	Construction
	Additionally (where possible) leaflets can be created to provide additional advice to quay users to avoid disturbance to and/or collision with seals which should include, but is not limited to the following:	Construction

Feature / Topic	Mitigation	Timing
	• Keep a safe distance from seals. Never get closer than 100m (200m if another boat is present), but if within 100m, switch the engine to neutral; • Never drive head on to, or move between, scatter or separate seals. If unsure of their movements, simply stop and put the engine into neutral; • Spend no longer than 15 minutes near the animals; • Special care must be taken with mothers and young; • Maintain a steady direction and a slow 'no wake' speed; and • Avoid sudden changes in speed.	

Appendices

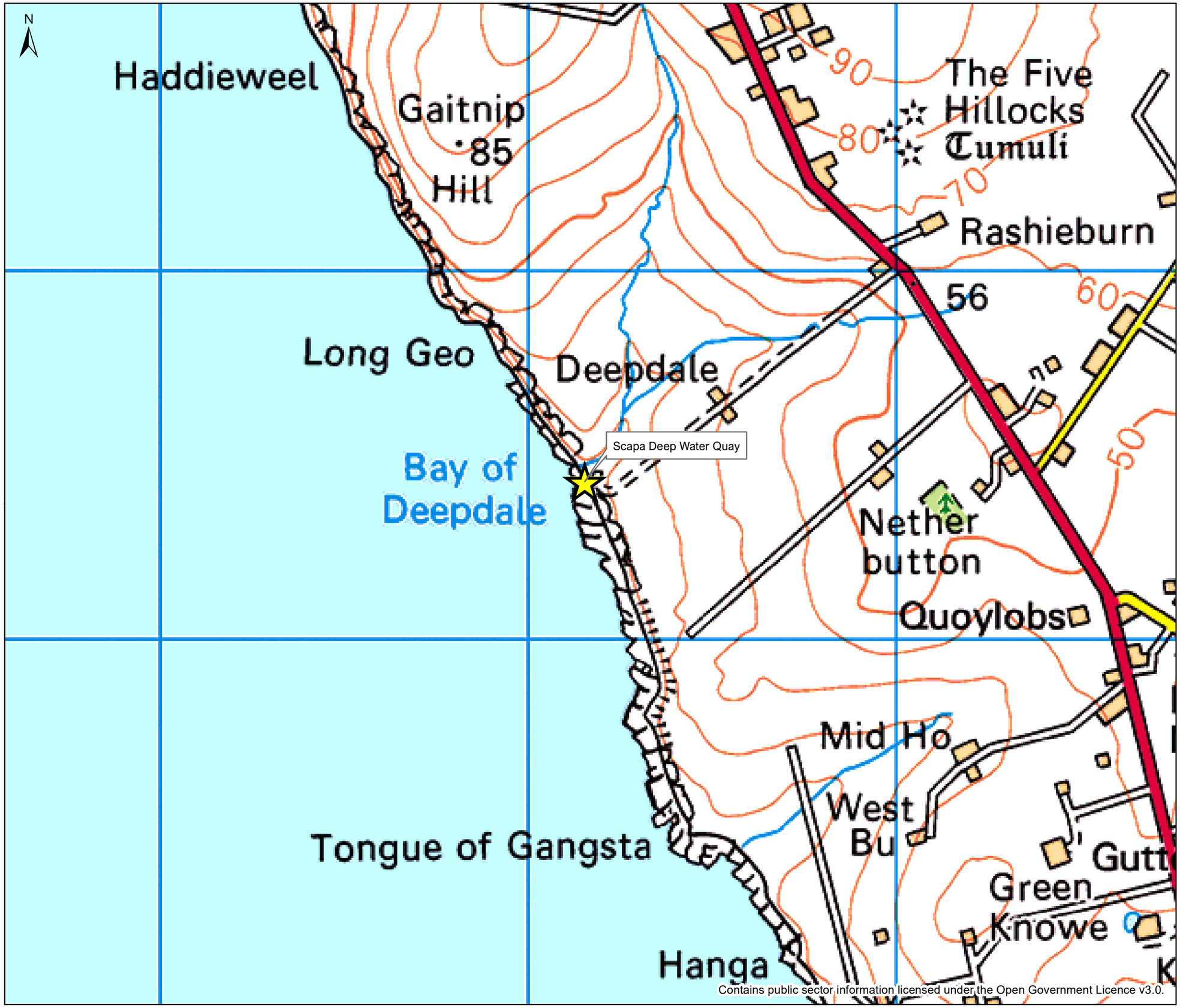
Note: Environmental Management Plans are indicative and will be subject to change once detailed working methods are established in consultation with the applicable Regulator(s).

The following is also not intended to be an exhaustive list of CEM Plans at the early Outline CEM Document stage

A DRAWINGS

673702-002

RevA Scapa Deep Water



Legend

Approximate Capital Project Location

Do not scale this map

Client
Orkney Islands Council Harbour Authority

Project
OICHA Capital Projects Screening Exercise

Title
Capital Project Locations:
Scapa Deep Water Quay

Status
FINAL

Drawing No.	Revision	Date
673702-002	-	28 May 2020
Drawn	**Checked**	**Approved**
JP	CF	CF

Scale
1:10,000 @A3
0 50 100 200 300 Metres

Rev	Date	Amendment	Initials
A	01/12/20	Approximate Capital Project Location moved	AH

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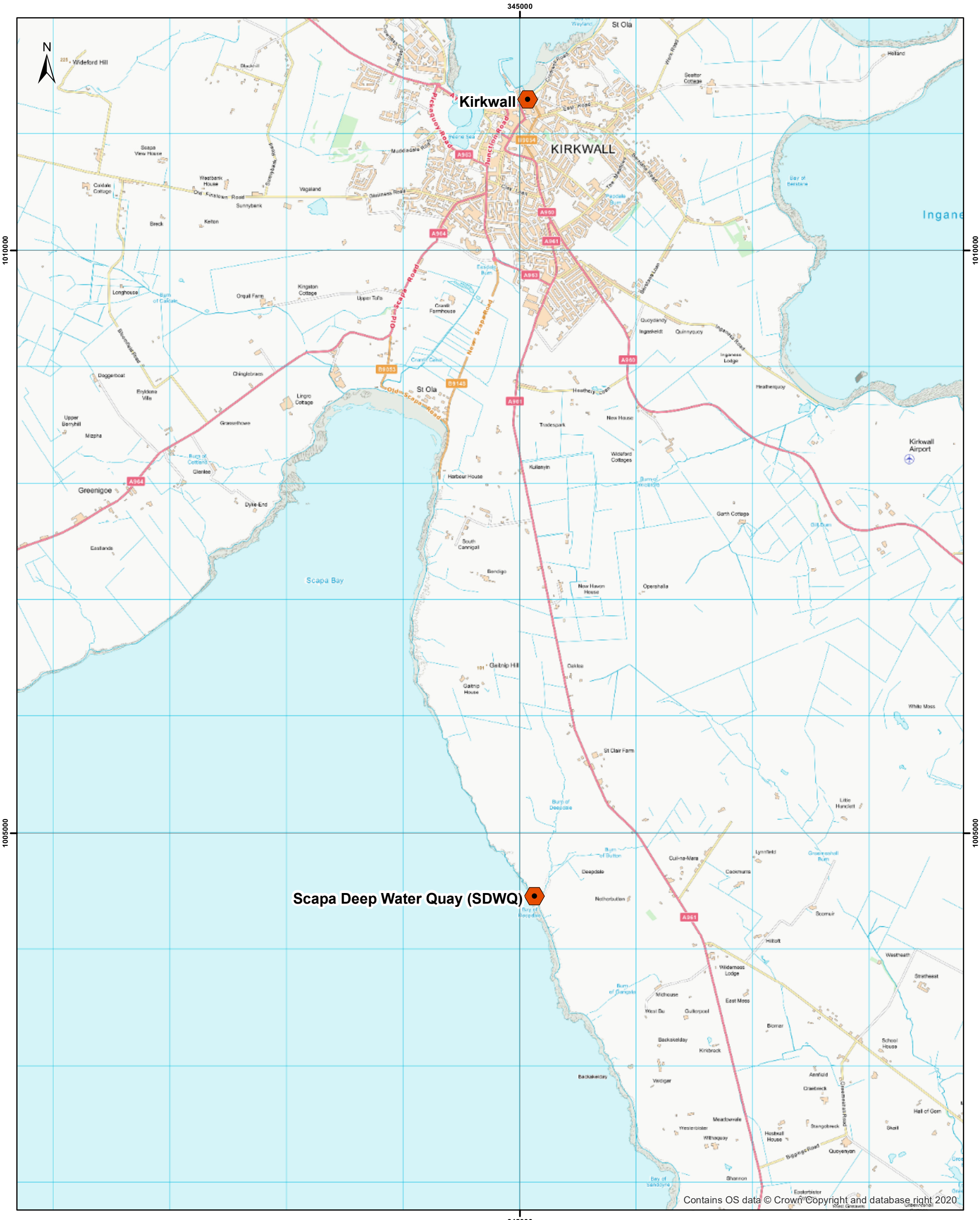
Craighall Business Park, Eagle Street, Glasgow, G4 9XA
T: 0141 341 5040 E: info@envirocentre.co.uk W: www.envirocentre.co.uk

673702-014

SDWQ Location Plan



Do not scale this map

Client
Orkney Island Council Harbour Authority (OICHA)

Project
Scapa Deep Water Quay Development (SDWQ)

Title
Location Plan - Scapa Deep Water Quay (SDWQ)

Scale
1:30,000 @A3 (0 150 300 600 900 Metres)

Status
FINAL

Drawing No.	Revision	Date
673702-014	-	10 Feb 2021
Drawn	**Checked**	**Approved**
EQ	EC	EC

Rev	Date	Amendment	Initials
-	-	-	-

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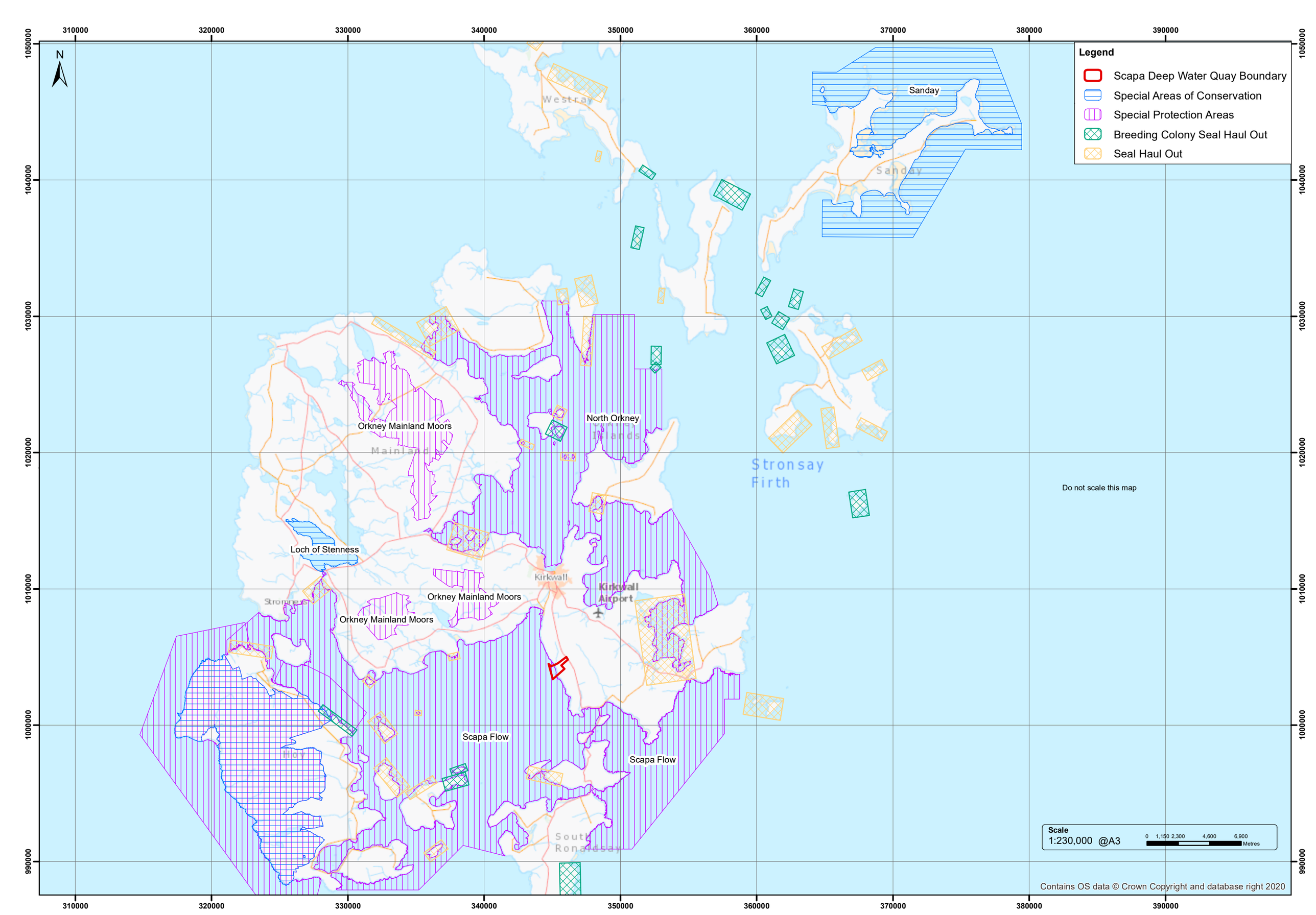
674795-GIS086

Designated Sites and Seal Haul Out Orkney SDWQ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Scapa Deep Water Quay Boundary
Special Areas of Conservation
Special Protection Areas
Breeding Colony Seal Haul Out
Seal Haul Out
Westray
Sanday
Sanday
Orkney Mainland Moors
Mainland
North Orkney
Islands
Stronsay
Firth
Loch of Stenness
Kirkwall
Kirkwall
Airport
Stromness
Orkney Mainland Moors
Orkney Mainland Moors
Scapa Flow
Scapa Flow
South
Ronaldsay
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Scale
1:230,000 @A3
0 1,150 2,300 4,600 6,900
Metres
Contains OS data © Crown Copyright and database right 2020

B POLLUTION PREVENTION EQUIPMENT INVENTORY (ON AND OFF SITE RESOURCES)

Chemical, Product and Waste Inventory			
Type	**Location**	**Amount**	**Staff Contact**

C CHEMICAL, PRODUCT AND WASTE INVENTORY

Chemical, Product and Waste Inventory						
Trade Name Substance	**Solid/ Liquid gas or powder**	**UN Number**	**Maximum Amount**	**Location Marked on Map**	**Type of Containment**	**Health and Environmental Properties**

D MARINE MAMMAL PROTECTION PLAN

The marine mammal mitigation will comprise a standard Marine Mammal Observation Protocol (MMOP) as per JNCC guidance will be implemented during dredging operations in sea states less than 4 and during times of optimal visibility This may be supplemented by use of Passive Acoustic Monitoring devices (PAMs).

Marine Mammal Observation Protocol

The Marine Mammal Observation Protocol (MMOP) will be implemented so that the construction and dredging works do not cause injury or unnecessary disturbance to marine mammals. Note, no piling is required as a result of the caisson design.

Marine Mammal Observer

A suitably qualified Marine Mammal Observer (MMO), competent in the identification of marine mammals at sea, will be present during the dredging. The MMO will undertake observation for marine mammals within the mitigation zone before and during dredging and will be dedicated to that one task for the duration of any watch. The MMO will advise the contractors and crews on the implementation of the procedures set out in the agreed protocol, to ensure compliance with those procedures.

The JNCC guidance provides the following definitions of an MMO:

MMO: Individual responsible for conducting visual watches for marine mammals. It may be requested that observers are trained, dedicated and/or experienced.

Trained MMO: Has been on a JNCC recognised course.

Dedicated MMO: Trained observer whose role on board a vessel is to conduct visual watches for marine mammals.

Experienced MMO: Trained observer with three years of field experience observing for marine mammals, and practical experience of implementing the JNCC guidelines.

The MMO will be, positioned appropriately to cover the full mitigation zone and will be trained. The identity and credentials of the MMO will be agreed with Marine Directorate.

MMO Equipment

The MMO will be equipped with binoculars (10X42 or similar) and/or a spotting scope (20-60 zoom or equivalent), a copy of the agreed protocol and the Marine Mammal Recording Form (MMRF), which is a Microsoft Excel spreadsheet containing embedded worksheets named Cover Page, Operations, Effort and Sightings. A Microsoft Word document named Deck forms is also available, and the MMO may prefer to use this when observing before transferring the details to the Excel spreadsheets. Although these forms were developed for seismic surveys, they can be used for dredging operations, although many columns will not be applicable. The ability to determine the range of marine mammals is a key skill for MMOs, therefore a hand-held rangefinder will be used to verify the range.

All MMO forms, including a guide to completing the forms; and instructions on how to make a rangefinder are available on the JNCC website: http://jncc.defra.gov.uk/marine/seismic_survey.

Communication

The contractor will be responsible for the communication channels between those providing the mitigation service and the crews working on the dredging. A formal chain of communication from the MMO to the contractor, who will start/stop dredging, will be established. In order to confirm the chain of communication and command the MMO will attend any relevant pre-mobilisation meetings.

Mitigation Zone

Following appointment of contractor / Ecological Clerk of Works (ECoW), logistical information will be available/ updated to provide more detailed mitigation zones for the MMO. This may change throughout the construction period due to ground levels changing and depending on the area of works which need to be viewed.

The JNCC guidance defines the mitigation zone as a pre-agreed radius around the dredging site prior to any activity. This is the area where a MMO keeps watch for marine mammals (and delays the start of activity should any marine mammals be detected). The MMO should be located on the most appropriate viewing platform to ensure effective coverage of the mitigation zone (land or vessel based).

Passive Acoustic Monitoring (PAM)

Following appointment of contractor logistical information will be available/ updated to provide more detail regarding the use of PAMs.

In addition to MMOs, PAMs should be provided throughout the operation to supplement visual checks.

PAM are software systems that utilises hydrophones to detect the vocalisations of marine mammals. This will help aid in the detection of species which are less easily detected at the surface via MMOs or during unfavourable conditions.

Visual observation is an ineffective mitigation measure during periods of darkness or poor visibility (such as fog), or during periods when the sea state is not conducive to visual mitigation, as marine mammals in the vicinity of dredging will not be detected. JNCC views PAM as the only available mitigation technique that can be used under these conditions, and that it can also be used to enhance the detection of certain marine mammal species[2].

Specialist PAM operatives are needed to set up and deploy the equipment and interpret the detected sounds. The PAM hydrophones should be situated as close as possible to the site of dredging, and sacrificial hydrophones may therefore be required.

Hydrophones deployed from standby vessels can be used for acoustic monitoring, but a disadvantage of these systems (in regard to dredging) is that they will move away from the site of dredging when the vessel moves and may then be too far away to detect any marine mammal vocalisations within the mitigation zone. Remotely operated static PAM systems, which can be left at the initial dredging site, may be an option, but they may not always be commercially available, or best suited for operations in shallow coastal environments.

PAM can provide a useful supplement to visual observations undertaken by MMOs. However, in many cases it is not as accurate as visual observation for determining range, and this will mean that the mitigation zone will reflect the range accuracy of the system. Some PAM systems do not have a

[2] JNCC Guidelines for minimising the risk of injury to marine mammals from using explosives (2010), available at: https://data.jncc.gov.uk/data/24cc180d-4030-49dd-8977-a04ebe0d7aca/JNCC-Guidelines-Explosives-Guidelines-201008-Web.pdf (Accessed 07/06/2024)

reliable range determination facility or can only calculate the range for some species. In such cases, the detection of a confirmed cetacean vocalisation should still be used to initiate postponement of the dredging if the PAM operator is able to make a judgement about the range of the marine mammal (dependent on species) from the works, because of experience gained in differentiating between distant and close vocalisations. In the absence of PAM systems capable of range determination, this expert judgement will constitute the basis for deciding whether an area is free from marine mammals prior to dredging commencing.

PAM operators will submit a method statement and details of the equipment to be used to MD-LOT for approval before the equipment is deployed. Note PAM is not suitable for seals.

E SEAL MITIGATION PLAN

The seal mitigation will comprise a standard Marine Mammal Observation Protocol (MMOP) as per JNCC guidance will be implemented during dredging operations in sea states less than 4 and during times of optimal visibility

Seal Observation Protocol

The Seal Observation Protocol (SOP) will be implemented so that the construction and dredging works do not cause injury or unnecessary disturbance to seals. This section has been designed with reference to current JNCC guidance 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise' (August 2010) [3] [4]. Note, no piling is required as a result of the caisson design.

Marine Mammal Observer

A suitably qualified Marine Mammal Observer (MMO), competent in the identification of seals at sea, will be present during the dredging. The MMO will undertake observation for seals within the mitigation zone before and during the dredging and will be dedicated to that one task for the duration of any watch. The MMO will advise the contractors and crews on the implementation of the procedures set out in the agreed protocol, to ensure compliance with those procedures.

The JNCC guidance provides the following definitions of an MMO:

MMO: Individual responsible for conducting visual watches for seals. It may be requested that observers are trained, dedicated and/or experienced.

Trained MMO: Has been on a JNCC recognised course.

Dedicated MMO: Trained observer whose role on board a vessel is to conduct visual watches for seals.

Experienced MMO: Trained observer with three years of field experience observing for seals, and practical experience of implementing the JNCC guidelines.

The MMO will be, positioned appropriately to cover the full mitigation zone and will be trained. The identity and credentials of the MMO will be agreed with Marine Directorate.

MMO Equipment

The MMO will be equipped with binoculars (10X42 or similar) and/or a spotting scope (20-60 zoom or equivalent), a copy of the agreed protocol and the Marine Mammal Recording Form (MMRF), which is a Microsoft Excel spreadsheet containing embedded worksheets named Cover Page, Operations, Effort and Sightings. A Microsoft Word document named Deck forms is also available, and the MMO may prefer to use this when observing before transferring the details to the Excel spreadsheets. Although these forms were developed for seismic surveys, they can be used for dredging operations, although many columns will not be applicable. The ability to determine the range of seals is a key skill for MMOs, therefore a hand-held rangefinder will be used to verify the range.

[3] https://data.jncc.gov.uk/data/31662b6a-19ed-4918-9fab-8fbcff752046/JNCC-CNCB-Piling-protocol-August2010-Web.pdf

[4] It should be noted that these protocols do not document measures to mitigate disturbance effects but have been developed to reduce to negligible levels of risk of injury or death to marine mammals in close proximity to piling operations or explosives.

All MMO forms, including a guide to completing the forms; and instructions on how to make a rangefinder are available on the JNCC website: http://jncc.defra.gov.uk/marine/seismic_survey

Communication

The contractor will be responsible for the communication channels between those providing the mitigation service and the crews working on the dredging. A formal chain of communication from the MMO to the contractor, who will start/stop dredging, will be established. In order to confirm the chain of communication and command the MMO will attend any relevant pre-mobilisation meetings.

Mitigation Zone

Following appointment of contractor / Ecological Clerk of Works (ECoW), logistical information will be available/ updated to provide more detailed mitigation zones for the MMO. This may change throughout the construction period due to ground levels changing and depending on the area of works which need to be viewed.

The JNCC guidance defines the mitigation zone as a pre-agreed radius around dredging site prior to any works. This is the area where a MMO keeps watch for seals (and delays the start of activity should any seals be detected). The extent of this zone represents the area in which a seal could be exposed to sound/ disturbance that could cause injury. The MMO should be located on the most appropriate viewing platform to ensure effective coverage of the mitigation zone. The radius of the mitigation zone should be 500m for each activity to cover the PTS and TTS ranges of the activities.

Dredging Protocol

Following appointment of contractor / Ecological Clerk of Works (ECoW), logistical information will be available/ updated to provide more detail regarding dredging protocols.

The standard JNCC protocol is outlined below:

1. Dredging will not commence during poor visibility (such as fog) or during periods when the sea state is not conducive to visual mitigation (above sea state 3 is considered not conducive[5]) as there is a greater risk of failing to detect the presence of seals. An elevated platform for the MMO to monitor from would be beneficial when the sea state is 3 or above, the dredging works could also be scheduled on a day where the sea is expected to be calm.

2. The MMO(s) should be situated in a location that provides the best viewing platform and is likely to be closest to the dredging activities. For example, an elevated area of the coast or a vessels bridge that allows 360 degree cover (depending upon the size of the mitigation zone more than one MMO viewing platform (and therefore more than one vessel) may be required to ensure that the entire mitigation zone can be observed).

3. At least 30 minutes before any dredging, a visual watch, known as the ‘pre-works search’, should be carried out in the mitigation zone. The pre-works search should continue until the MMO advises that the mitigation zone is clear of seals, and the dredging works can start.

4. The MMO will scan the waters using binoculars or a spotting scope and by making visual observations. Sightings of seals will be appropriately recorded in terms of date, time, position, weather conditions, sea state, species, number, adult/juvenile, behavior, range etc. on the JNCC standard

[5] Detection of marine mammals decreases as sea state increases. According to the JNCC guidance ideally sea states of 2 or less are required for optimal visual detection.

forms. Communication between the MMO and the contractor and the start/end times of the activities will also be recorded on the forms.

5. Dredging should not be undertaken within 20 minutes of a seal being detected within the mitigation zone.

6. If a seal is observed, within the mitigation zone, it should be monitored and tracked until it moves out of range. The MMO should notify the relevant chain of command of the detection and advise that the operation should be delayed. If the seal is not detected again within 20 minutes, it can be assumed that it has left the area and the works may commence.

7. If an MMO is uncertain whether seals are present within the mitigation zone, they should advise that the activity should be delayed as a precaution until they are certain that no animals are present.

8.The MMO or ECoW should periodically check the silt boom to ensure that no seals have been enclosed or interacted with the boom during works.

Reporting

As per the JNCC guidance, reports detailing the dredging activity and seal mitigation (the MMO reports) will be sent to Marine Directorate at the conclusion of these activities. Reports will include:

- Completed MMRFs;
- Date and location of the dredging activities;
- A record of all occasions when dredging occurred, including details of the duration of the pre-dredging search and soft-start procedures, and any occasions when dredging activity was delayed or stopped due to presence of seals;
- Details of watches made for seals, including details of any sightings, and details of the dredging activity during the watches;
- Details of any problems encountered during the dredging activities including instances of non-compliance with the agreed dredging protocols; and
- Any recommendations for amendment of the protocols.

Indicative Terrestrial Noise Considerations - Blasting

Following appointment of contractor logistical information will be available/ updated to provide more detail regarding terrestrial blasting protocols and blasting methods will be determined by the contractor once commissioned.

The MMO protocol implemented for dredging will also be undertaken for terrestrial blasting. However, a 10-minute pre-work search would be required rather than a 30-minute pre-works search.

In addition, the following mitigation methods should be considered to be implemented for terrestrial blasting:

During terrestrial blasting, minimising air overpressure at the source, such that, even under unfavourable weather conditions, all such energy is within acceptable criteria at distance, remains the best practicable approach. It is an approach that all surface mineral sites are obliged to follow under the provisions of The Quarries Regulations 1999.

Detonating cord should be used as sparingly as possible, and any exposed lengths covered with as much material as possible. Just a few feet of exposed cord can lead to significant amounts of audible energy and, hence, high air overpressure levels. Stemming release can be controlled by detonation technique, together with an adequate amount of good stemming material. It should be noted however

that detonation cord and stemming release have been virtually eliminated with the use of in hole initiation techniques.

If the use of exposed detonating cord is avoided the characteristic noise of a blast is no longer a sharp crack but rather a dull thump. This is partly due to the detonating sequence and partly due to natural energy dissipation and reduction. Whilst some of the noise perceived by a neighbouring resident would be directly from the blast itself, the lower frequency components of the air overpressure might well induce secondary rattling of windows and ornaments within a property which could augment the overall effect.

Thus, in terms of noise control or reduction in the care and attention to blast design and subsequent implementation, including initiation, necessary for the control of air overpressure is equally applicable to noise.

BS 6472-2:2008 states that “The highest [air overpressure] levels normally measured in the United Kingdom are generally less than 1% of the levels known to cause structural damage.” Therefore, by implementation of the best practice measures, effects due to air overpressure generation by the Proposed Development are anticipated to have a negligible effect on seals in terrestrial environments.

F INDICATIVE WATER QUALITY MANAGEMENT

The objective for water quality is to maintain the quality of water so that existing and potential environmental values are protected.

The generation of a turbid plume is one of the most likely adverse environmental effects associated with dredging operations. The generation of dredge induced turbid plumes generally results from the resuspension of existing fine sedimentary material from the seabed during dredging and mobilisation during disposal.

Turbidity is usually caused by suspended silt particles, dispersed organics and micro-organisms. A lower water temperature increases the amount of sediment that can be transported in suspension due to the viscosity change.

Minimise Effects on Water Quality

The two main effects of dredging on water quality are toxic effects due to release of contaminants and effects on turbidity that may impact light-requiring species. Control of turbidity is usually also the most practical means of limiting the release of contaminants, as most contaminants are adsorbed on particles rather than dissolved.

Potential impacts to water quality include:

- Increased turbidity (NTU) levels-caused by suspended sediments released into the water column during dredging; and
- Mobilisation of potential contaminants through the disturbance of sediments during dredging.

The plumes generated by the Project are expected to be very limited in temporal and spatial extent. This is due to the type of dredging equipment proposed, the short duration, the volume of material to be dredged, and the composition of the sediments.

The water quality objectives for the Project are to:

- Maintain marine water quality so that existing and potential environmental values are protected;
- Cause no increase in turbidity that creates persistent plumes outsides the immediate zone of dredging; and
- Cause no deterioration in water quality from any potential return water discharge.

Management Measures

The Project would not coincide either temporally or spatially with other dredging activities.

The following management measures will also be in place:

- Trained operators will be used to ensure minimal loss of turbid water from the backhoe dredge;
- Dredging is to be undertaken from well maintained and inspected vessels which are free from structural defects and potential sources of leakages;
- Well-maintained barges will be used for transport of dredged material;
- The dredger should be fitted with a suitably accurate positioning system, that ensures reasonable accuracy of dredging both horizontally and vertically;
- Material placed on shore should be suitably bunded and managed to prevent the direct discharge of turbid return water and/or run-off back into the harbour or Scapa Flow.

Turbidity Monitoring

Because of the nature and duration of the dredging proposed direct monitoring of water quality has been recommended for the dredging programme. The dredge plume should be monitored on a daily basis to confirm that the turbidity levels are in line with the plume dispersion modelling.

These observations will inform the plume extent (e.g. estimated distance in metres from dredging site), plume direction and prevailing conditions (e.g. wind, tide, swell) and any other notable visual characteristics of the plume or dredging activity.

If turbidity is more extensive or persistent than anticipated, additional monitoring will be undertaken to determine the plume extent. If exceedance of turbidity levels is attributable to the dredging, OICHA would liaise directly with the dredging contractor to determine:

(1) Which part of the process is likely responsible for the exceedance, and;
(2) What can be done in the context of the operating environment on the day to change this factor.

The hierarchy of controls would be:

a) Modify dredging operations;
b) Modify loading operations;
c) Modify dredging cycle;

G INDICATIVE SITE CLEARANCE WORKS

The ECoW should be informed if any clearance of vegetation or watercourses is planned, to determine presence of potential ecological constraints.

Clearance of vegetation should ideally occur outside of the main breeding bird season (March to August, inclusive). If this is not possible, the ECoW should undertake a nesting bird check within 48 hours prior to any works commencing. As nesting may occur at other times, vigilance should be applied during clearance works at any time of the year. If any nesting birds are identified, an exclusion zone (typically of at least 10m radius, to be determined by the ECoW) will be established, with no access permitted until the young have fledged.

H INDICATIVE NESTING BIRDS

Description

ALL wild birds are protected by the law in Scotland. Protection relates to their nests as well as the birds themselves and there is no differentiation in the law between harm resulting from reckless acts and that caused deliberately.

A wide range of wild bird species have been recorded on the site, including known or potential breeding species. As soon as birds start to settle and scrape out a depression in the ground or to bring in, move or arrange nesting materials, they are considered as nesting and therefore destruction or removal of that structure could only be carried out under licence from NatureScot. This applies to **ALL** wild bird species, as does protection of the birds themselves.

Potential impacts on nesting birds include the following:

- Destruction of nests as a result of plant movement or vegetation removal;
- Abandonment of nests if birds are disturbed as a result of plant and personnel.

Mitigation Measures

Site clearance works should be undertaken in accordance with Appendix G.

Bird deterrent measures are to be deployed to discourage nesting birds within the works area. Advice on deployment of deterrents can be provided by the ECoW. Discouragement of nesting should be limited to areas where presence of nesting birds will disrupt ongoing or planned works and should not extend beyond the site boundary or into protected areas.

Plant operators and site personnel should be vigilant of nesting birds. Birds may nest in vegetation, in or on buildings and structures, or on the ground (*e.g.* Oystercatcher, Herring Gull and Curlew). Birds such as Pied Wagtails may also nest in materials or machinery.

All stockpiled sand should be graded so that the slope angle is less than 45°. As well as increasing stability, this will also make the piles less suitable for nesting Sand Martins.

Securely cover stored materials which may provide nest sites, *e.g.* pipes.

If any nesting birds are identified within areas in which work may occur, the ECoW should be informed and works in the immediate vicinity suspended. An exclusion zone (typically of at least 10m radius, to be determined by the ECoW in consultation with an experienced ornithologist) will be established, with no access permitted until the young have fledged. The only exception to this is where a relevant licence for nest removal, egg removal or other management measures has been issued by NatureScot.

I INDICATIVE HEN HARRIER MANAGEMENT PLAN

Gaitnip Hill LNCS is located within approximately 35 metres of the closest part of the proposed development. It is important for a range of upland, freshwater, maritime, fen and bog habitats and a range of birds including hen harrier. As such suitable an indicative hen harrier management plan to minimise the risk of disturbance to breeding hen harrier and committing an offense has been prepared.

All measures assume provision of an Ecological Clerk of Works (ECoW) by the contractor to oversee good practice during the construction phase and an Ornithological Clerk of Works (OCoW) to monitor and record hen harrier activity and behaviour throughout the construction phase. The OCoW would hold a Schedule 1 Licence and would have previous experience monitoring and documenting Hen Harrier activity.

During Construction

With noise and visual disturbance potentially occurring during construction works to hen harrier, mitigation measures will be required to minimise disturbance.

In Scotland, the hen harrier breeding season typically starts in late April or early May with site occupation and territorial displays. Egg laying occurs between late April and mid-May, followed by incubation for about 29 to 31 days. The chicks hatch between late May and mid-June, and remain in the nest for 28 to 39 days. Fledging, or the young birds leaving the nest, occurs from late June to mid-July.

If a hen harrier pair nest at the SDWQ site the OCoW and ECoW will monitor the situation and will assess whether mitigation measures are required.

Buffer Zone & Traffic Management

Should a nest be identified a buffer zone of 300-750 m is recommended around nesting areas during both breeding and non-breeding seasons. Disturbance within this zone can negatively impact the birds, especially during nest building, egg laying, and incubation. Where access tracks or construction activity occurs within 300-750m of the nest, it is recommended that vehicles are subject to traffic management measures, including:

- A no-stopping policy which must be strictly obeyed by all vehicles, where practical and in discussion with the Ornithological Clerk of Works (ECoW); and
- A 15mph speed limit on the site, which must be strictly adhered to by all vehicles.

Monitoring & Reporting

The employment of a qualified and experienced ornithologist (the OCoW) to monitor any hen harrier activity and log any disturbance events to better understand potential hen harrier behaviour with regards the construction activity. This role would continue throughout the construction period to monitor the behaviour of the birds. This will be particularly important during the early stages of construction when the birds (if present) will not be used to any un-natural noise or visual stimuli, during periods of intensive construction activity, and critical times of the hen harriers' breeding cycle.

The OCoW role would be in addition to a standard ECoW role, which would oversee the general construction activity across the site. The suitably qualified and experienced ECoW, or equivalent, for the construction project with specific responsibility for environmental management and the authority to

take action when required, including stopping operations and implementing mitigation measures. All monitoring work will be undertaken with the approval of, and subsequently reported to NatureScot.

The following measures are only required if hen harrier are observed in the area during or pre construction (in addition, there could be landowner issues outwith the red line boundary)

In addition to mitigation measures that will be effective during the construction period within the construction area, there are also several further mitigation measures which may be beneficial to hen harriers within the wider landscape area, which will allow the overall hen harrier population to expand further, or allow hen harriers to move their nest site away from the construction zone for a limited time, allowing construction to continue with minimised disturbance to the birds.

In Scotland, hen harrier mitigation can involve using diversionary feeding stations to reduce the risk of harriers being tempted to encroach into the SDWQ construction area. This strategy involves providing alternative food sources to the harriers, such as poultry chicks or white rats, on strategically placed feeding perches.

Supplementary feeding locations should be agreed at the earliest opportunity, and carcasses should be positioned on the agreed locations. This will enable the birds to become accustomed to feeding (and potentially spending more time) in another area of their territory, with the objective of a nest site being formed away from the construction activity.

Operational Measures

Once operational, it is recommended that monitoring of hen harriers continues for a period to be determined in discussion with NatureScot.

Monitoring

It should be stated that in addition to the specific monitoring of hen harriers during the construction and operational phases (as stated above), monitoring activity should include work within the agreed supplementary feeding area, the construction area, and within the wider, presumed territory to ascertain as full a picture as possible of the hen harriers' behaviour. This information on their behaviour, along with observations made by the OCoW, will be used to tailor further mitigations (i.e. installation of screens etc) where this is necessary.

J INDICATIVE PROTECTED SPECIES

Description

A number of species are specially protected in Scotland. Protection may relate to their breeding site or resting place as well as to the individual animal. There is generally no differentiation in the law between harm resulting from reckless acts and that caused deliberately.

Protected mammal species include **otter**, which have been recorded in the vicinity of the site, which are expected to be present in the site surrounds. Species are most likely to be active and encountered outside of daylight hours. .

Potential impacts on protected species include the following:

- Disturbance to commuting or foraging animals as a result of increased noise or visual disturbance from plant and personnel;
- Disturbance to commuting or foraging animals if artificial lighting is required to facilitate works outside of daylight hours;
- Death or injury as a result of vehicle collision or becoming trapped in excavations;
- Death or injury as a result of a pollution incident; and
- Damage or disturbance to a breeding site or resting place of an animal.

Mitigation Measures

Toolbox talks are recommended to address the relevant species on site, how to recognise them, the potential presence of animals in the early/ late hours of the day, and relevant mitigation measures.

Site speed limits should be adhered to, to reduce collision risk with protected species (and other species).

If a protected species (*e.g.* otter) is found within the works area, works should cease until the animal has moved on in its own time. If in doubt, contact the ECoW for advice.

Unless surrounded by secure, animal-proof fencing, any excavations created during the works should not be left open overnight for mammals to become trapped. If possible, appropriate covers should be fitted at the end of every working day. At the very least, a shallow sloping edge or some form of ramp should be placed in the excavations to allow any animals to climb out. All open and accessible excavations should be checked at the beginning of each day for potential entrapments.

K INDICATIVE ARCHAEOLOGY AND CULTURAL HERITAGE

Pre-construction Indicative measures

- A professionally qualified Archaeological Contractor to be appointed as an Archaeological Clerk of Works (ACoW) and consulted as required.
- ACoW to advise the Principal Contractor regarding archaeological matters as they arise and to undertake archaeological monitoring in areas that may be required by the Council's Archaeological Advisors
- Orkney Research Centre for Archaeology are undertaking field work at Site Two (May 2025) and the findings will be reported on (with mitigation measures) in due course and incorporated into the CEM Plan.
- Further unrecorded remains may survive within site a Written Scheme of Investigation (WSI) may be require. This work will allow for any features to be investigated and recorded to an appropriate standard, with follow-on set-piece excavation of any vulnerable remains and reporting to an acceptable standard undertaken as appropriate.

Indicative Control Measures

- Implementation of any scope of works will be outlined in the WSI.
- The Council's Archaeological Advisors, will be the final judge of the significance of any archaeological remains identified.
- If substantial remains are revealed, further work may be required, and in these cases additional time and resources will be required. Should substantial remains be discovered the archaeological contractor will make recommendations for mitigation to be discussed between the client and Council's Archaeological Advisors.
- Any unforeseen archaeological discoveries made by construction contractors to be assessed by the ACoW and dealt with appropriately.
- The design and installation of interpretative panels would seek to revitalise the monument as a place of local heritage interest.

L INDICATIVE SOIL MANAGEMENT

Soil handling and management should be carried out following best practice including:

- BS 6031:2009 Code of practice for earthworks
- BS 3882:2015 Specification for topsoil
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites
- Promoting the sustainable reuse of Greenfield soils in construction

Soil Management incorporates where re-usable reserves of topsoil and/or subsoil have been identified and should be factored into the site waste management plan (SWMP) if surplus soils will be generated for disposal off-site. Soil Management shall include:

1. Areas of soil to be protected from earthworks and construction activities;
2. The areas and types of topsoil and subsoil to be stripped, haul routes, stockpile locations; and
3. The methods for stripping, stockpiling, re-spreading and ameliorating landscape soils.

It shall include the following:

- Methods for stripping, stockpiling, re-spreading and ameliorating the soils;
- Location of soil stockpiles and content (e.g., Topsoil type A, subsoil type B);
- Schedules of volumes for each material;
- Expected after-use for each soil whether topsoil to be used on-site, or subsoil to be retained for landscape areas or used as structural fill etc.; and
- Identification of the person responsible for supervising soil management.

Measures to protect soils will include, but not be restricted to, the following measures:

a) Construction traffic will be restricted to operating on the designated access roads and not on unprotected soils;
b) Topsoil stripping will be restricted to the width of the permanent and temporary elements of the Proposed Development, thereby minimising disturbance to the integrity of the biomass;
c) Appropriate geotextile membranes, wooden matting or aluminium trackways will be used over particularly sensitive areas;
d) In peaty and soft saturated soils, where the use of geotextile membranes is not appropriate, wheeled vehicles may be fitted with low ground pressure bearing pneumatic tyres to allow a greater distribution of weight;
e) Soil loosening techniques such as deep-tine cultivation will be used where required to break up any compaction which has occurred;
f) Subsoil and different superficial deposits will be stored separately to prevent mixing and will be reinstated in reverse order of excavation;
g) Topsoil and subsoil movements will only be undertaken in suitable conditions, for example, when it is not too wet;
h) If required, soil stabilising methods will be undertaken to reduce the risk of erosion, the creation of leachate and potential water quality issues;
i) Early re-seeding of the reinstated ground will be undertaken to help re-establish and stabilise the structure of the topsoil; and
j) Soils will not be stockpiled close to surface water features. Stockpiled soils will be stored on appropriate impermeable surface material and covered to reduce the risk of windblown dust, surface water run-off and to reduce the risk of overland migration of silt and sediment to surface

waters. Stockpiled soils will be protected by appropriate measures, for example, membranes, spraying or seeding.

Soil Stripping

Any topsoil removed will be appropriately stored and sealed avoiding over-compaction and re-used within the scheme where appropriate. Care should be taken to avoid compaction of areas to be landscaped.

Where possible a 2.5m strip of soil should be left in place as this will form a natural barrier to any surface water run-off that by passes the other control measures that are to be put in place and will therefore remain contained within the confines of the site.

Soil Stockpiling

Soils that are stripped for later re-use will be temporarily stockpiled on site. If stockpiling is done incorrectly the physical condition of the soil can be damaged irreversibly, resulting in a loss of a valuable resource. If soil and waste become mixed by mismanagement the soil resource will become unusable.[6]

Soil stockpiling will be required during construction activities to enable the reuse of the soil resource, limit soil damage from weather and other construction activities and soil loss.

Stockpiled soil must not be vulnerable to compaction or erosion; must not cause pollution to surrounding watercourses; and must not increase flood risk to the surrounding area.

Stockpiles must be appropriately marked out and signed to ensure that they are easily identifiable for reinstatement.

Soil should be stored in an area of the site where it can be left undisturbed and will not interfere with site operations. The ground to be used for storing the topsoil should be cleared of vegetation and any waste arising from the development (e.g., building rubble and fill materials).

Site personnel will:

- Remove vegetation and waste materials from stockpiled areas before forming stockpiles;
- Stockpile soil in the driest condition possible;
- Keep exposed soil storage periods as short as possible;
- Use tracked equipment wherever possible;
- Protect stockpiles from erosion by seeding or covering them;
- Use clear signs to identify stockpiled areas;
- Stockpile soils in shallow gradients to avoid harmful pollution, and H&S fall risks;
- Stockpiles will not be positioned within the root or crown spread of trees or adjacent to
- ditches, watercourses, drains or existing or future excavations;
- Topsoil and subsoil stockpiles should be maintained as stable, likely 1:1 and 1:2 respectively and max 5m high. Topsoil will be allowed to self-seed;
- Keep stockpiles of different soil types in separate piles; and
- The area around stockpiles will be cordoned off with silt fencing

Site personnel should not:

- Stockpile soils of different quality and composition together;
- Locate stockpiles close to retained trees, drains, watercourses and excavations;

[6] www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites

- Stockpile subsoil or waste on top of sub soil;
- Steepen stockpile sides beyond a slope of 1 in 1.75 to reduce the risk of erosion; and
- Allow vehicles to run over stockpiles except during construction of them.

M INDICATIVE SITE WASTE MANAGEMENT

The purpose of Site Waste Management is to ensure that waste generated during the construction phases of the development will be managed and disposed of in a manner that ensures the provisions of environmental and waste legislation are complied with.

Site Waste Management includes, as a minimum:

a) The anticipated nature and volumes of waste;
b) measures to ensure the maximisation of the reuse of waste;
c) measures to ensure effective segregation of waste at source including waste sorting, storage, recovery and recycling facilities to ensure the maximisation of waste materials both for use within and outside the site;
d) any other steps to ensure the minimisation of waste during construction;
e) proposed monitoring and timing of submission of monitoring reports; and,
f) the proposed timing of submission of a completion summary statement to demonstrate the effective implementation, management and monitoring of construction waste during the construction of the development.

Objectives

The objectives of waste management are:

- To take all reasonable steps to ensure that waste management controls are observed including Duty of Care;
- To minimise the amount of waste generated and maximise the amount of waste reused and recycled;
- To reuse as much waste as possible on-site. Where reuse on-site is not possible to identify the most appropriate waste management option in line with the waste hierarchy;
- To manage waste as close as possible to the site location; and
- To provide training to improve awareness of waste management issues for all employees and contractors and to ensure correct waste management practices are followed on-site.

Site personnel will consider the effects of waste generation and provide details of how waste will be managed during the construction of the residential development. OICHA is committed to delivering a genuinely sustainable scheme.

Waste Transfer Notes

Waste shall only be transferred to licensed waste disposal contractors.

A Waste Transfer Note (WTN) must be completed and signed by both the person handing over the waste and the person receiving it. The WTN must contain enough information about the waste for it to be handled safely and either recovered or disposed of legally. The WTN must include:

- A description of the waste.
- Any processes the waste has been through.
- How the waste is contained or packaged.
- The quantity of the waste.
- The place, date and time of transfer.
- The name and address of both parties.
- Details of the permit, licence or exemption of the person receiving the waste.

- The appropriate European waste catalogue (EWC) code (SEPA: consolidated version of the EWC).
- The standard industry code (SIC) of the business.

Special Waste Consignment Notes

All movements of special waste must be accompanied by a Special Waste Consignment Note (SWCN) rather than a transfer note. This is required to comply with the Special Waste (Scotland) Regulations 1996 (as amended).

- Before the removal of special waste, a Special Waste Consignment Note and a special waste code are to be obtained from SEPA (this is usually done by the waste contractor).
- The SWCN must accompany the transport of special waste and replaces the need for a waste transfer note.
- Ensure the special waste has been described using the EWC 6-digit code.
- Parts A and B of the SWCN must be completed for each load of special waste to be removed unless second/subsequent loads in a succession are dispatched (can be set up for a maximum of a year).
- The pre-notification copy of the consignment note is to be received by SEPA at least three days (no more than a month) before removal (usually arranged by the waste contractor). If the Agency has not responded, then the transfer can continue.
- When collected ensure the Carrier checks the load against the SWCN and any discrepancies are noted in Part C. Site Management must complete Part D and retain the Consignor (producer's) copy.
- At the disposal facility, the waste disposer completes Part E. The completed SWCN is sent to the local SEPA office.
- All special (hazardous) waste produced in Scotland must be consigned using a SEPA-issued consignment note or code regardless of its final destination within the UK. Pre-notification to SEPA is required when removing waste from Scotland.

For further information refer to the SEPA Document 'Consigning Special Waste Guidance'.[7] It covers the types of consignments (i.e., single, succession, carrier's round), multiple carriers, rejected loads and pre-notification charges.

Professional Waste Collectors or Transporters

The Waste Management Licensing (Scotland) Regulations 2011 (as amended) introduced the need for all waste transporters (e.g., a waste contractor, scrap metal merchants, recyclers, local council or skip hire company) to be on the SEPA Register of Professional Collectors and Transporters of Waste[8]. It is therefore important that Environmental Manager reviews registrations to ensure the waste recipient is suitably authorised to receive and manage the waste. This includes confirmation of the correct permits and licenses, as well as registrations.

Construction Materials

The Contractor will import materials onto the site in quantities and volumes required to carry out the construction and will keep this quantity and volume under review at all times. The Contractor will identify the quantity and type of materials required at the outset and keep a record of them. The Contractor will also minimise the amount of waste created by good on-site management of the trades at each stage of

[7] www.sepa.org.uk/media/519925/consigning_special_waste_guidance.pdf (Accessed 23/05/2025
[8] https://www.sepa.org.uk/media/28977/guide-to-waste-management-licensing.pdf (accessed 23/05/2025)

the development and by creating specific storage facilities for waste products which can be monitored and checked for their re-use or recycling.

Waste Identification, Storage and Handling

A dedicated area shall be laid out and labelled to facilitate the separation of materials for potential recycling, salvage, reuse and return. Recycling and waste receptacles are to be kept clean and clearly marked to avoid contamination of materials.

The basic principles for storing waste properly are:

- Store waste in areas isolated from surface drains, watercourses and settlement facilities.
- Segregating different types of waste as they are generated. It is illegal to mix special and non-hazardous waste.
- Mark waste containers clearly with their intended contents. Consider using colour coding.
- Use containers suitable for their contents. Check that containers are not corroded or worn out.
- Minimise the risk of accidental spillages or leaks.
- Special waste should be kept separate when mixing is likely to occur.

Recycling and waste receptacles are to be kept clean and clearly identifiable to avoid contamination of materials. The labelling system shall be the Waste Awareness Colour Coding Scheme

All waste shall be separated into distinct waste streams for re-use, recycling and disposal. Suitable, secure, clearly labelled containers indicating the type of waste to be disposed of shall be provided in a designated waste compound area, to be established before construction. Waste on site will be collected using skips and segregated into distinct waste streams using colour-coded containers.

Inert & Non-Hazardous Materials – Storage & Segregation

Inert construction materials and waste (sand, gravel, composted root zone materials, polyethylene piping, pathway materials, etc.) will be stored within the construction compound with the provision for small temporary storage of materials across the wider development site dependent on working needs.

The materials storage area within the main construction compound will be split into two main designated areas; for the delivery and storage of new materials; and the storage and collection of waste materials. Further segregation of materials within both designated areas will be carried out to prevent cross-contamination.

Hazardous Materials & Special Waste – Oil Storage

All oil, fuel and chemical storage, chemical mixing, fuel deliveries, re-fuelling operations and machinery maintenance tasks will be confined to the main construction compound.

Any diesel, petrol and lubricating oils required during this phase shall be stored in double-bunded tanks (bunded to 110% capacity) within the construction compound. Waste oils and oily rags will be stored in appropriate sealed containers in a secure bunded area and will be collected by an authorised contractor for recovery and/or disposal.

Hazardous Materials & Special Waste – Liquid Waste

Any run-off from the bunded storage area within the construction compound, and wastewater from machinery wash down will drain to foul sewer or an appropriate water treatment and recycling system, either a combination of an oil/water separate and a dedicated reed bed or a mechanised cleansing unit.

Fires

No burning of materials shall be permitted on site.

Waste Management Documentation and Monitoring

The Site Management Team must ensure that legislatively required waste management documentation is either reviewed and/or verified to assure regulatory compliance by:

- Confirming that the waste carrier and broker are registered to remove the waste via accessing the Scottish Environment Protection Agency's public register database9. This list of carriers registered with SEPA is NOT meant to provide the public register of carriers of controlled waste as required by regulation 3 of the 1991 regulations. It is placed on the site to enable interested parties to carry out simple checks at any time to establish whether a company/partnership or individual is registered. To confirm whether a registration is in place for a Professional Collector and Transporter of Waste contact the SCC on 03000 99 66 99.
- Checking with the waste carrier where the waste is to be taken and making sure that the destination is authorised to receive it i.e., obtaining a full copy of the waste management licence or exemption.
- Ensuring discharge consents are obtained to manage the discharge of waste waters (e.g., from wash down or dewatering activities) to surface waters or the foul sewerage system.

[9] (http://apps.sepa.org.uk/rocas/)

N INDICATIVE BIOSECURITY MEASURES

Construction Works Including Dredging and Vessel Movements

- Gather biosecurity information on all vessels and equipment proposed to be used in marine environment. Request anti-fouling maintenance history, sites/ regions visited since last anti-fouling applied.
- Where review indicates high risk request contractor to address risk prior to mobilising plant to site
- Rodenticide poison and/or kill traps should be in place on all vessels which pose a significant risk of transporting rodents.
- Ships should use line guards on ship-to-shore lines to stop rodents using mooring lines to get on and off the ship.
- Make contractor aware of existing potential for mINNS at site and confirm biosecurity measures to be carried out during works/at completion of works to ensure no potential for spread from site to other areas.
- Staff to be trained on biosecurity.
- Develop a monitoring strategy to allow for routine assessment of areas where potential biofouling could occur.
- Promote a culture of reporting mINNS if observed.
- Store waste securely in rodent proof waste receptacles and dispose of regularly.

O INDICATIVE CONSTRUCTION TRAFFIC MANAGEMENT

Having good access and egress to the site and the plant and equipment operating on the site is a health and safety requirement. Addressing the fundamental issues associated with access and egress can help reduce accidents, incidents and near hits on, and within the vicinity of, the site.

Site Access and Egress

For the enabling works and construction works all site traffic will access/ egress the site as noted on the Traffic Management Plan+ Route of Build. This will provide total segregation between construction traffic and existing public access.

The Contractor will check the roads and footpaths on a daily basis to ensure that there are no debris or potential hazards as a direct result of the ongoing construction activities.

Site working hours: **TBC**.

Signage

Site Signage/Directional Signage will be erected at both site access points. Safety Signage will also be displayed on the site perimeter. Information will be notified/displayed on signs to inform other road users of traffic associated with the site access/egress.

All site roads where possible will be wide enough to enable vehicles to pass. Where this is not possible suitable signage will be provided regarding priority.

Vehicles requiring parking on site will do so in a designated parking area.

Delivery vehicles and other site traffic will proceed around the site via the access road to the designated storage areas.

The speed limit for unmade roads is 5mph and 10mph for surfaced roads.

Where conditions dictate that provision of a turning point is not practical then a banksman must be used to assist the vehicle/plant when reversing.

Pedestrian Routes

For the duration of the work the safe access and egress route for pedestrians in and out of the construction site will be as existing roads and paths. For the construction phase, pedestrian access to the site will be via a gate from our site compound which will be situated adjacent the existing footpath and pedestrian crossing.

Security

All vehicles, staff, personnel and visitors will report to the site office prior to entry into the site. This will be clearly indicated on site.

Parking

There will be strictly no on-street parking/manoeuvring by site traffic. All vehicles will be parked/unloaded within the site perimeter (i.e., car park/material storage), to ensure emergency

accesses are maintained at all times. All site parking for site personnel will be restricted to dedicated parking areas on site.

Vehicles may park temporarily on-site to unload fill material. By using a dedicated car park for site personnel parking is kept away from operational areas.

Visitor parking will be provided at the site office.

Banksmen will be utilised as and when required.

Refuelling Points (Plant and Machinery)

Individual double-bunded fuel storage tanks will be used by site personnel who will be operating heavy plant on site. All refuelling points will have spill kits available and maintained for use in the unlikely event of a spillage.

Wheel Washing and Road Cleaning

A wheel washing station will be introduced if/as deemed necessary. Road conditions both within and out-with the site will be regularly monitored by the Environmental Manager. Provision will be made for the road to be cleaned by telehandler road brush if/where deemed necessary, and likewise for the requirement of an approved road sweeping/cleaning contractor.

P INDICATIVE CONSTRUCTION NOISE MANAGEMENT

General Principles

Noise is 'unwanted sound', and noise emissions can negatively impact local residents and may give rise to noise pollution, nuisance and result in complaints.

This section defines potential measures to control and limit noise emissions for potential sensitive receptors in the vicinity of the proposed site. The best practicable means of noise control will be applied during site works to minimise noise towards neighbouring properties and other sensitive receptors such as wildlife. Whilst specific measures are described in the EIAR, SEIR & HRA to address effects of noise on environmental receptors (e.g. birds and seals), the general principles of noise management are given below.

Control at Source:

- Noise emissions limits shall be set for equipment used at the site;
- Equipment-specific methodologies will be agreed to directly controlling noise (e.g. by retrofitting controls to plant and machinery).

Control across Site:

Many of the activities which generate noise can be mitigated to some degree by careful planning, operation of machinery and correct use of tools. Controls across the site may include the following:

- Control of working hours.
- Control of delivery areas and times.
- Careful choice of compound location.
- Control of noise via contract specification of limits.
- Increase awareness and training of staff through toolbox talks and onsite inductions.

Lines of Communication

The Principal Contractor and Environmental Manager is responsible for ensuring the requirements of the CNMP is explained to all staff and contractors working on the site. The aim is to ensure they are fully aware of the environmental sensitivities and the control/mitigation measures in place to protect against adverse noise effects. If required, specific training will be provided for site personnel.

Public Engagement

A site contact for the public for the duration of the works will be appointed. The site contact will communicate with the local community on the following construction noise issues:

- Individual notification will be provided, and meetings offered to residential neighbours in close proximity to construction works;
- Further information will be regularly provided to all residential neighbours with an update on the progress of the works, and the specific activities (including locations) due to be undertaken next. Updates will be provided every two or three months; and
- Prior to any particularly noisy processes identified in a construction noise management schedule is undertaken, the nearest affected residential neighbours will be contacted individually. Neighbours will be informed of the proposed timing of the specific works and where practicable any times which are particularly sensitive for neighbours will be avoided.

Complaints

Any noise complaints that are received or issues relating to noise resulting from abnormal operations will be directed to the Principal Contractor.

The Principal Contractor / Environmental will investigate the source of the complaint / abnormal activity and implement mitigation measures (if required) as soon as practicably possible.

The source and nature of the complaint including the mitigation measures implemented (if undertaken) will be documented in an incident register.

Blasting

The excavation of soft soils on land will be excavated by mechanical means, and the rock will be excavated by drilling and terrestrial blasting consisting of approximately one blast per week over 35 weeks (no marine blasting is proposed). Initially, the contractor will install pre-earthworks drainage to control surface water run-off. After installing perimeter cut off V ditches and ahead of main land excavation and land blasting, a 6m high bund will be formed at the seaward boundary of the site by retaining the existing land and excavating behind. This will create a natural noise screen and sediment runoff retention barrier. This natural bund will be removed once the remainder of the site is excavated to create the final profile.

Ornithology and Marine Mammal Observer

An Ornithologist and Marine Mammal Observer will be deployed to monitor for the presence of qualifying species of the Scapa Flow SPA, and cetaceans and pinnipeds (in particular harbour seal) in the vicinity of the Proposed Development during terrestrial blasting works.

A blasting plan (terrestrial only) will be prepared by the blasting contractor once commissioned, and will be submitted to the Regulator prior to the commencement of blasting works and this will allow the observer role and monitoring strategy to be developed.

Q INDICATIVE DUST AND AIR EMISSIONS

Introduction and Background

Elevated levels of dust can be caused by site operation activities. These activities and associated air quality risks will exist, but the level of risk can be mitigated to the benefit of the local environment, site personnel and others at or in proximity to the site.

The Dust Management Plan (DMP) has been developed to inform how dust will be managed during site operations. This DMP has been compiled using the principles outlined in 'Guidance on the assessment of construction dust from demolition and construction' (IAQM, 2024).

The objective of the plan is to provide a framework for dust management to ensure that dust levels at sensitive receptors remain within reasonable limits throughout the works. It is the responsibility of the individual contractor to ensure that dust control measures are implemented. The DMP is a live document which will be reviewed regularly and updated as required.

The main sources of air pollution that may lead to environmental, health and safety incidents are considered to be dust, generated through terrestrial earth works, blasting and emissions from vehicles. Dust emissions are subject to significant variation from day to day and across the seasons. There is potential for dust nuisance to be a problem on dry and windy days.

Management and Mitigation

Dust has the potential to migrate from the site and cause a nuisance to surrounding areas. During dry and windy weather conditions, the potential for dust to migrate from the site increases. Dust may also be carried out from the site on the wheels of vehicles exiting the site.

Activities that can impact air quality and generate dust need to be identified and control measures implemented to reduce their impact. Best practice will ensure this dust and emissions (vehicles and plant) avoid nuisance to the local area. It is understood that poorly controlled emissions from plant or site operational activities may give rise to valid complaints and could cause personnel health risks.

All site works will be undertaken in such a way that best practice is followed at all times to minimise dust emissions, and all necessary measures will be implemented as far as reasonably possible to reduce airborne dust levels and to prevent damage, loss, injury, or nuisance caused by dust at all times during site operations. For each mitigation measure the performance target is no visible dust passing the site boundary.

To mitigate dust nuisance the following measures will be considered when site operation methods are being assessed:

- All access routes will be monitored for risk of dust pollution in dry weather, where road cleaning and/or dust suppression techniques will be implemented if required.
- Mud should not be deposited on roads. Where applicable, use a wheel cleaning pressure washer before vehicles leave the site.
- Limit vehicle speeds across the site to reduce dust generation.
- Follow up on any complaints immediately and take action to avoid a repeat complaint.
- Vehicle engines and equipment will be switched off when not in use and not left idling unnecessarily.
- Plant, vehicles and equipment will be maintained in accordance with the manufacturer's specifications.

- Local haul routes and where practicable operating equipment will be kept away from potentially sensitive receptors.
- Mains or battery-powered equipment will be used where practically possible and available.

Monitoring and Review

The Environmental Manager shall ensure that the DMP is reviewed regularly to ensure that the objectives and requirements of the DMP are still valid and are being met as well as forthcoming activities are reviewed and any necessary amendments to the DMP are put in place before the relevant work begins.

Control of Records

A dust log shall be maintained in accordance with the respective company procedure and contract requirements. The log shall be maintained in such a way that it is readily identifiable, retrievable and protected against damage, deterioration or loss.

Complaints

Any dust complaints that are received or issues relating to dust resulting from abnormal operations will be directed to the Environmental Manager.

The Environmental Manager will investigate the source of the complaint and implement mitigation measures (if required) as soon as practicably possible.

The source and nature of the complaint including the mitigation measures implemented (if undertaken) will be documented in dust complaint record sheets and these records kept on-site. Dust complaint records must be made available to the Council if requested to do so.