



# Grutness Harbour Improvement Works

**EIA Screening Request**

On behalf of



**Shetland  
Islands  
Council**

Project Ref: | Rev:B | Date: April 2022

Registered Office: Buckingham Court Kingsmead Business Park, London Road, High Wycombe, Buckinghamshire, HP11 1JU  
Office Address: 5th Floor, Lomond House, 9 George Square, Glasgow G2 1DYG  
T: +44 (0)141 352 2360 E: info.Glasgow@stantec.com

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	Name	Position	Signature	Date
<b>Prepared by:</b>	Various Authors	Various	-	Nov 2021
<b>Reviewed by:</b>	Janet Burns	Associate	JB	Dec 2021
<b>Approved by:</b>	Andy Saunders	Director	AS	Dec 2021
<b>For and on behalf of Stantec UK Limited</b>				

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# 1 Introduction

## 1.1 Overview

- 1.1.1 Shetland Islands Council (SIC) are currently developing design options for the redevelopment of the Grutness to Fair Isle ferry route, which will include a new vessel and upgrading the landside infrastructure at both harbours. This redevelopment will provide improved transport links between Fair Isle and Shetland mainland by increasing the resilience of both the vessel and the ferry terminal infrastructure.
- 1.1.2 SIC now wishes to proceed with an application for planning permission and a marine consent for this purpose at Grutness Harbour to upgrade/extend the existing pier to provide shelter for a new linkspan structure that will be used for the new Ro-Ro Vessel, as shown on Figure 1.
- 1.1.3 This Environmental Impact Assessment (EIA) Screening Request seeks an opinion from both the SIC, as the relevant Local Planning Authority, and Marine Scotland (in relation to works below the mean high water springs mark) as to whether the proposal constitutes an EIA development. The request is submitted in accordance with Regulation 8 of the Town and Country Planning (Scotland) (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for works on land and to the mean low water springs mark, and The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended), for the Marine Scotland Act 2010 (Marine Licenses) to be consented by Marine Scotland for the deposit or removal of a substance or object below the mean high water springs mark.

## 1.2 EIA Screening Request Structure

- 1.2.1 In accordance with the EIA Regulations, this screening request provides the information listed in Table 1-1.

Table 1-1 – Screening Request Schedule of Information

EIA Information Request	Section Reference(s)
Confirmation that the proposed development work constitutes a Schedule 2 Development (category 13) under the EIA Regulations.	Section 1.3 Consideration of EIA Screening Requirements Section 5: Summary and Conclusions
A description of the location of the development, including a plan sufficient to identify the land.	Section 2: The Site and Surrounding Area Appendix A: Site Location Plan
A description of the location of the proposed development, with particular regard to the environmental sensitivity of the geographical area likely to be affected.	
A description of the proposed development including its locations, physical and operational characteristics.	Section 3: The Proposed Development
A description of any features of the proposed development, or proposed measures, envisaged to avoid or prevent significant adverse effects on the environment.	
A description of the aspects of the environment likely to be significantly affected by the proposed development.	Table 2-1 - Assessment of Locational Sensitivity Table 3-1 - Assessment of Development Characteristics
A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment	Section 4: Potential and Likely Significant Environmental Effects
Consideration of the selection criteria set out in Schedule 3 of the EIA Regulations and the available results of any "relevant assessment", as defined by the EIA Regulations.	Sections 2 to 4 as appropriate

### 1.3 Consideration of EIA Screening Requirements

- 1.3.1 Under the EIA Regulations, certain developments should be screened to determine whether a statutory EIA should be carried out. Criteria and guidance thresholds are provided. Schedule 1 developments are mandatory EIA developments, whilst Schedule 2 developments require the discretion of the consenting authority.
- 1.3.2 The proposed development does not fall within the developments identified as Schedule 1 development in the EIA Regulations that automatically requires an EIA.
- 1.3.3 The proposed development is classified as an 'Infrastructure Projects' under Schedule 2 of the EIA Regulations. The proposed development falls under Section 10 in the first column of Schedule 2 as it is considered to be:

*“(g) Construction of harbours and port installations including fishing harbours (unless included in Schedule 1);”*

and

*“(m) Coastal work to combat erosion and maritime works capable of altering the coast through the construction, for example, of dykes, moles, jetties and other sea defence works, excluding the maintenance and reconstruction of such works”*

- 1.3.4 A Schedule 2 development is an EIA Development only if it is likely to have significant effects on the environment by virtue of factors such as its size, characteristics or location. Scottish Government *Planning Circular 1 2017: Environmental Impact Assessment Regulations 2017* confirms that the critical question to be addressed in EIA screening is therefore:

*“Would this particular development be likely to have significant effects on the environment?”.*

- 1.3.5 To answer this question, it is necessary to provide the information detailed in Regulation 8 and screen the development against the criteria contained in Schedule 3 of the EIA Regulations.
- 1.3.6 The necessary information is provided below to solicit a formal EIA Screening Opinion from SIC and Marine Scotland / Scottish Ministers. Section 4 of this report provides an appraisal of the proposed development in the context of the existing Site and surrounding area, considering criteria provided in Schedule 3 of the EIA Regulations. Schedule 3 of the EIA Regulations lists the selection criteria for the screening of a Schedule 2 development, based on the characteristics and location of the development and the types and characteristics of the potential impacts that could occur. The appraisal considers the characteristics of the proposed development, the environmental sensitivity of areas likely to be affected and the potential for significant effects.

## 2 The Site and Surrounding Area

### 2.1 Site Location, Context and Access

- 2.1.1 The site (Grutness ferry terminal) is located near Sumburgh Head on the southern tip of the Shetland Mainland, opposite Sumburgh Airport<sup>1</sup>. The harbour is generally sheltered from the south and west by land and open to the north and east. The harbour is very exposed from the east through to the north-east. An aerial photograph is shown below to identify the site in relation to neighbouring land.
- 2.1.2 Existing harbour facilities at the site include:
- 30m long berthage;
  - 2.1m water depth shown on Admiralty Chart - however it is known that the berth has been dredged to remove the tidal restriction, although it is not known when or to what extent the berth was dredged;
  - single track access road with limited space for parking / marshalling and a bus pickup; and
  - heated waiting room (portacabin), stores block, toilet block and waste disposal skips.
- 2.1.3 The Quayside storage unit has capacity for about a week's worth of deliveries for almost all goods, including retail, coal, timber etc. The store is always locked but suppliers are able to access the key when required. For larger loads that cannot be held in the storage unit, hauliers keep in contact with the ferry operator and coordinate the delivery of these loads to meet the ferry when she operates.

Image 2.1 Aerial Photograph showing Grutness Ferry Terminal and Sumburgh Airport.



- 2.1.4 The area of intended works within the existing harbour for the purpose of this EIA Screening request, has been set at a maximum of 1.65 ha as outlined in red in **Appendix A, Figure 2.1**.

#### Relevant Environmental Characteristics and Designations

- 2.1.5 The site is situated within an area with the following nearby or overlapping designations as shown in **Appendix A, Figure 2.2**:

<sup>1</sup> Grid reference 59 52' N 01 17' W and Admiralty Chart 3283

- Sumburgh Head Special Protection Area (SPA) – designated for breeding Arctic Tern, Kittiwake, Fulmar and Guillemot (boundary overlaps with proposal site);
  - Sumburgh Head Site of Special Scientific Interest (SSSI) – notified for its geological interest and breeding colonies of Puffin, Shag, Guillemot, Kittiwake, Fulmar and Arctic Terns (approx. 30m from the proposal site); and
  - Grutness lighthouse store, including boundary wall, gate and gate piers (LB44543) is a listed building category C, which is approx. 200m from the existing pier.
- 2.1.6 There are no other statutory designations covering any part of the site or the immediate surrounding area.
- 2.1.7 Further afield from the proposal area are:
- Pool of Virkie SSSI – notified for its intertidal mudflats (approx. 1km outside of the bay and along the coastline to the north)
  - Moussa to Boddam MPA – designated for sandeel (approx. 4km to the northwest of the proposal site)
- 2.1.8 In relation to planning policy, the site is covered by the Shetland Local Development Plan (LDP) 2014 which was adopted by the SIC on 26th September 2014 and is the established planning policy for Shetland. SIC are currently preparing an updated LDP (Local Development Plan 2<sup>2</sup>, which has recently been out for consultation (consultation ended 18<sup>th</sup> March) and SIC are currently reviewing consultation responses received.

## 2.2 The Surrounding Area

### Context

- 2.2.1 Grutness is a small settlement and headland at the southern tip of the main island of the Shetland Islands. The settlement is within the parish of Dunrossness. It is located close to Sumburgh Head and is the terminus of the ferry service between the Shetland Mainland and the Fair Isle.
- 2.2.2 Sumburgh Airport is the main airport serving Shetland and is located to the North West of the harbour, there are approximately 7 scheduled passenger flights per day arriving at the airport, with the same number departing, plus helicopter traffic (servicing the Oil and Gas industry, over 100 flights each month) and cargo flights each day.
- 2.2.3 The geography of the area is an extremely complex series of deeply indented bays, cliffs, beaches and settlements. Adjacent to the site is a stony beach.

### Application of Schedule 3 Locational Sensitivity Screening Criteria

- 2.2.4 Schedule 3 to the EIA Regulations screening criteria relates to environmental sensitivity of the geographical area likely to be affected by a proposed development. The site and the surrounding area are considered against these criteria in Table 2-1 below.

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<sup>2</sup> <https://www.shetland.gov.uk/planshetland>



Table 2-1 - Assessment of Locational Sensitivity

Screening Criteria	Assessment
Existing and approved land use	<p>Land use at the site consists of the existing pier and approach road, and bay. The land use is not considered to be sensitive in this respect as the works will just be extending the existing pier and introducing a small linkspan to accommodate the new vessel.</p> <p>The proposed development is compatible with existing and approved land uses on site. The land use is therefore not considered sensitive in this respect.</p>
The relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity)	<p>The proposed development will use imported stone and other materials, such that it will not be a major user of natural resources within the site area itself and it is not considered likely to affect their relative abundance or availability.</p> <p>The precise location of a material store and pier will have due regard to soil, sea bed, land and water resources in order to minimise potential adverse environmental effects where possible, including in relation to soil degradation and pollution prevention. Appropriate construction and operational phase drainage arrangements with regard to water quality, environmental impact and flood risk mitigation measures are being embedded within the design of the proposed development from the outset such that no residual likely significant adverse effects on water resources would arise.</p> <p>There are the following Biodiversity designations: Sumburgh Head Special Protection Area (SPA) and Sumburgh Head Site of Special Scientific Interest (SSSI). Further details are included within Section 4.2-4.4 in this report regarding ecological sensitivity.</p> <p>The site does not contain any core paths and recognised recreational routes; however, it is crossed by a footpath and track to the headland. There are no other recreational assets or tourist routes within the site however it is of note that in functioning as a harbour it allows tourists and the local population to access Grutness and for onwards travel to Fair Isle.</p> <p>The proximity of identified environmental sensitivities to the site and potential areas of works therein means that the characteristics of the proposed works and any associated likely environmental effects must be considered further in this screening request (see Sections 3 and 4).</p>
<p>The absorption capacity of the natural environment, paying particular attention to the following areas:</p> <ul style="list-style-type: none"> <li>wetlands, riparian areas, river mouths;</li> <li>coastal zones and the marine environment;</li> <li>mountain and forest areas;</li> </ul>	<p>Grutness lighthouse store, including boundary wall, gate and gate piers (LB44543) is a listed building category C, which is adjacent to the existing pier on the edge of the red line boundary.</p> <p>With regards to absorption capacity within the surrounding area, it is acknowledged that designated ecological features and protected species may be susceptible to adverse effects from potential construction and operational phase impacts (in particular disturbance effects). Key mitigation parameters identified in</p>



Screening Criteria	Assessment
<ul style="list-style-type: none"> <li>• nature reserves and parks;</li> <li>• European sites and other areas classified or protected under national legislation;</li> <li>• Areas in which there has already been a failure to meet the environmental quality standards...or in which it is considered that there is such a failure;</li> <li>• Densely populated areas;</li> <li>• Landscapes and sites of historical, cultural or archaeological significance.</li> </ul>	<p>Section 3 will be deployed to minimise potential ecological impacts during the construction of the proposed development.</p>

## 3 The Proposed Development

### 3.1 Key Elements

- 3.1.1 Whilst the precise characteristics of the proposed development still require to be confirmed, in overall terms the proposed scope of works comprises:
- An extension to the existing pier (sheet piled structure) and rock armour protection in a 'dog-leg' shape to provide shelter for a new linkspan structure (steel deck with concrete supports and bankseat) that will be used by the new Ro-Ro vessel;
  - An increase to the height of the existing rock armour to the north of the pier to reduce the frequency and severity of swell overtopping during storm events;
  - Dredging to provide a sufficient water depth for new vessel around the proposed pier extension and linkspan; and
  - Improved marshalling facilities.
- 3.1.2 The new vessel will be a maximum of 24 m in length and the draught is likely to be similar to the existing (GSIV service draught 2.7m) with the aim of limiting dredging through vessel design.
- 3.1.3 Note that dredging may also be required to provide a sufficient water depth for the new vessel. If this is required, a separate consent will be obtained from Marine Scotland. The size of the area that would be dredged at Grutness is approximately 12,000 m<sup>2</sup> (this includes transition slopes between the dredge pocket and the existing seabed). This area is only an estimate based on indicative drawings and is subject to change once the designs and position of the pier extension is finalised. The final dredged depth will also be based on the vessel draught but it is likely to be approximately 4/4.5 m below chart datum (BCD). The vessel design will look to minimise an increase in draught to avoid dredging where possible.
- 3.1.4 Image 3.1 shows land based and water-based boundaries, Area 1 Water based boundary (shown in green) measures 14,356m<sup>2</sup> (1.44ha), Area 2 Land based boundary (red) measures 2,091m<sup>2</sup> (0.21 ha).

Image 3.1 Land based and water based boundaries



- 3.1.5 It is expected that 300 sheet piles will be required to construct the extension to the pier, and the volume of infill for the pier, 5,090 m<sup>3</sup>. Detailed working as shown below:

#### Sheet pile length

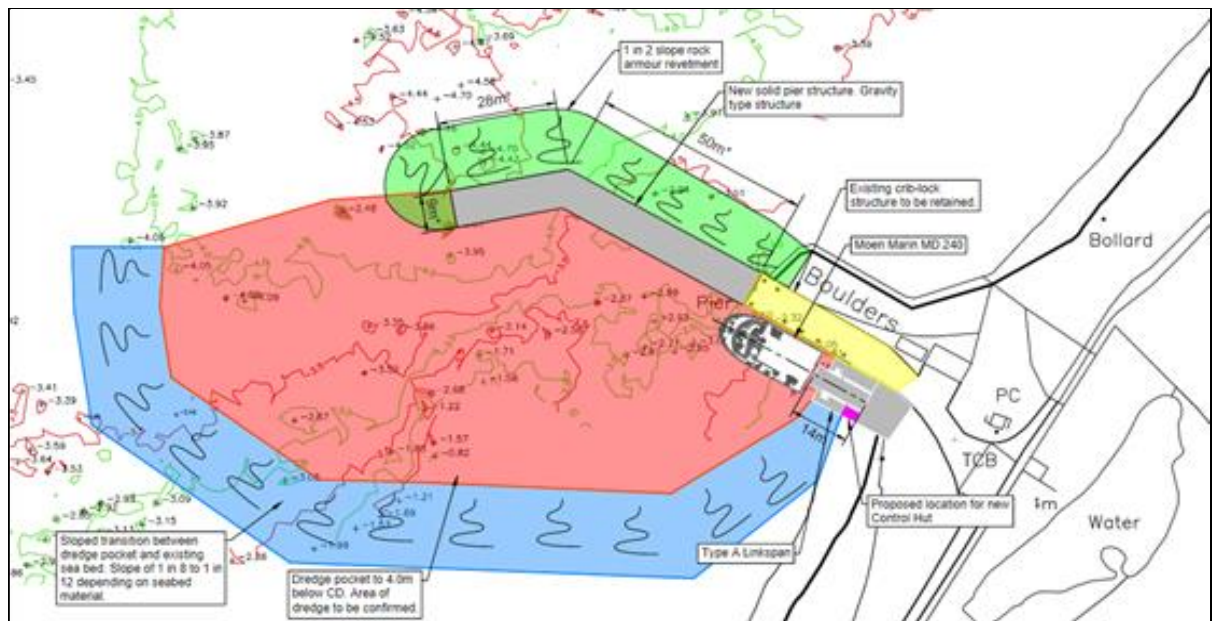
- Each AZ 40-700 sheet pile = 0.7m width
- Pier 78m long x 9m wide therefore perimeter = 174m

- Allow for a line of piles creating a sheet pile cell every 15m linearly =  $78\text{m} / 15\text{m} = 5$  cells  
= 4 lines of sheet piles =  $4 \times 9\text{m} = 36\text{m}$  of pile
- Total length of piles =  $174\text{m} + 36\text{m} = 210\text{m}$
- $210\text{m} / 0.7\text{m} = 300$  piles

#### Fill volume

- Seabed generally varies  $-4.5\text{mCD}$  to  $-2\text{mCD}$ . Average  $-3.25\text{mCD}$
- Cope level may be around  $+4\text{mCD}$  (this has not been confirmed as currently no tidal data available, therefore this is an estimate only)
- Average height of fill =  $4\text{m} + 3.25\text{m} = 7.25\text{m}$
- Area of pier =  $78\text{m} \times 9\text{m} = 702\text{m}^2$
- Volume of pier infill –  $702\text{m}^2 \times 7.25\text{m} = 5,090\text{m}^3$

Image 3.2 Showing Construction details



## 3.2 Project Timescales

3.2.1 The project timescales will be based on funding decisions and also the scale of the pier extension required which will be determined on completion of the wave modelling and more detailed design work. The current indicative programme proposed is:

- Contractor mobilising - February / March 2024;
- Construction Phase 1 (pier extension) April to October 2024; and
- Construction Phase 2 (linkspan installation) April to September 2025.

## 3.3 Embedded Mitigation Measures

3.3.1 As detailed in Section 2, the site and surrounding area contain a number of environmental sensitivities which have the potential to interact with the proposed development. However, the proposed development will be sited and designed to respond to its environmental context to allow protection to the vessel when moored and to minimise the potential for adverse effects on sensitive receptors. The proposed site is large enough to provide flexibility in design to incorporate mitigation. In accordance with Regulation 8(3) of the EIA Regulations, a framework

of design principles and environmental mitigation measures is being applied to guide the detailed design and construction of the proposed development in order to avoid or prevent any likely significant environmental effects. The design principles adopted for the proposed development are:

- **Avoidance** of the loss of sensitive environmental (including but not limited to ecological) features and assets through careful siting decisions and options appraisals;
- **Minimisation** through siting and design of likely direct and indirect adverse environmental effects where these cannot be avoided;
- **Mitigation** through the incorporation of appropriate measures into the construction and operation of the proposed development to address likely direct and indirect adverse environmental effects where these cannot be reduced to an acceptable level through siting or design;
- **Effectiveness** in satisfying the requirements to provide and manage the extent of the pier extension.

3.3.2 The implementation of all embedded mitigation measures requires to be confirmed through the content of the planning application and marine license and any subsequent permissions granted for the proposed development.

3.3.3 Standard environmental mitigation measures could include:

- Soft start for piling / underwater works;
- Use of MMO with agreed timings for last sighting before works can commence;
- Use of biodegradable fuel / oil for plant and equipment;
- Use of silt curtains;
- Provision of spill kits and training on how to use;
- Limits on working hours;
- Dampening down any stockpiled materials;
- Refuelling over bunded areas;
- Wheel washing;
- Hooded lighting;
- Well maintained and serviced plant and equipment;
- Designated waste management procedures / segregation of waste; and
- Adherence with relevant SEPA GPPs (guidance for pollution prevention) [Guidance for Pollution Prevention \(GPPs\) - Full list | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland](#).

3.3.4 Following detailed design, a Construction Environmental Management Plan will be prepared and agreed with Marine Scotland and SIC prior to any construction works commencing.

3.3.5 In accordance with Regulation 8(3) of the 2017 EIA Regulations, any measures proposed at this stage to avoid or prevent significant adverse effects on the environment must be taken account of when determining this EIA screening request.

### 3.4 Application of Schedule 3 Characteristics of Development Screening Criteria

3.4.1 Schedule 3 to the EIA Regulations identifies screening criteria relating specifically to the characteristics of a development proposal. The proposed development is considered against these criteria in Table 3-1 below. Of note, this screening table relates only to development characteristics; separate criteria regarding the site and likely interactions between the proposed development and the site are addressed in other sections of this report.

Table 3-1 - Assessment of Development Characteristics

Screening Criteria	Assessment
The size and design of the development.	The proposed development involves extending the length and height of the existing pier and would therefore require only relatively limited land-take. On this basis, the scale of the proposed development is not itself considered likely to result in significant environmental effects as the design will be undertaken sympathetic to the surrounding environment.
Accumulation with other existing development and/or approved development.	<p>All elements of the proposed development requiring authorisation from the local planning authority / Marine Scotland will be contained within the site. No development further to that listed above is required or proposed as part of the proposed development.</p> <p>The site area is not known to benefit from any relevant and extant planning permissions and there are also no known approved developments within the vicinity of the site which would interact with the proposed development.</p> <p>Following adoption of appropriate mitigation measures, no significant effects are considered likely in relation to the cumulative impact with other development.</p>
The use of natural resources, in particular land, soil, water and biodiversity.	Marine licences under the Marine (Scotland) Act 2010 will be required and sought for several activities including the dredging activities (including the disposal of dredged materials) and the construction of the new pier. These activities are strictly regulated through marine licence conditions. Based on the absence of sources of potential contamination, sensitive human health receptors, and that a Construction Environmental Management Plan (CEMP) will be prepared to accompany the applications and will set out the above to protect the water environment, it is considered that there will be no potentially significant effects from ground conditions, including instability, and contamination. Biodiversity effects are considered in more detail within section 4.2-4.4.
The production of waste.	<p>The construction phase of the proposed development will result in the generation of construction waste (e.g., construction materials packaging). All waste management practices during construction will comply with appropriate regulations.</p> <p>Any unsuitable or contaminated materials encountered during the construction process would be extracted and subject to offsite disposal in accordance with all regulatory requirements, including through obtaining appropriate SEPA licenses, if required.</p> <p>No significant environmental effects related to waste production are considered likely.</p>
Pollution and nuisances.	<p>Machinery/plant used in the construction of the proposed development would adhere to best practice techniques to ensure that air based pollutants are minimised and appropriately mitigated where possible.</p> <p>Exhaust gas emissions and adverse noise effects on sensitive receptors from machinery/plant are likely to be</p>

Screening Criteria	Assessment
	<p>minimal given the nature and scale of the proposed development and the rural location of the site. Notwithstanding this, any likely adverse effects on air quality, soundscapes and vibration will be controlled to an acceptable level through standard site management and construction practices. During construction, materials and plant would be stored in dedicated construction compounds within the site area. Appropriate mitigation measures and construction management best practice techniques would be utilised to minimise the risk of any environmental effects occurring, e.g., as a result of localised fuel spillages. The use of machinery and plant, including mechanical excavators, generators and pumps will adhere to best practice techniques and will be undertaken within standard construction hours to reduce risks associated with noise and air based pollutants.</p> <p>Standard ecological and pollution control mitigation measures and procedures will be deployed during the construction phase of the proposed development, in particular to avoid accidental pollution of the water environment. These measures will be defined through undertaking relevant baseline ecological surveys and the preparation of an Ecological Appraisal to be submitted in support of the applications. Thereafter, subject to any conditions attached to any planning permission granted by SIC as planning authority and Marine Scotland, it is expected that appropriate environmental mitigation measures will be specified in and implemented through a Construction Environmental Management Plan (CEMP).</p> <p>No significant environmental effects are therefore considered likely in relation to pollution and nuisances on account of the characteristics of the design and construction characteristics of the proposed development.</p>
The risk of major accident and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge.	<p>If not properly managed, potential construction and operational phase risks could result in amenity disturbance, injuries and/or fatalities to construction workers, road users and members of the public within and surrounding the site, as well as pollution migration to ground and watercourses resulting in potential adverse effects on soil, land, water and biodiversity resources. However, with the implementation of the CEMP which will include standard construction mitigation measures, construction management best practice techniques and adherence of all applicable regulations, no significant environmental effects are considered likely.</p> <p>As with any construction project, there are potential risks in relation to the use of plant and machinery, movement and placement of construction materials (including earthworks) working at height, accidental spillage of hazardous substances, fires and explosions. Given the nature of the proposed development significant effects on human health are considered unlikely.</p>
The risk to human health (for examples, due to water contamination or air pollution).	<p>There is a slight risk to human health during the construction of the project with respect to water contamination at the existing site, however the likelihood is considered to be very low (with mitigation).</p> <p>The primary potential impact on air quality from the establishment of the jetty is the risk of deterioration in local air quality because of windblown dust. However, the site is not in proximity to any Air Quality Management Area (AQMA) designated by SIC under the Local Air Quality Management (LAQM) regime. The implementation of standard construction mitigation measures, construction management best practice techniques and adherence of all applicable regulations will mean that no significant environmental effects are considered likely</p>



## **4 Potential and Likely Significant Environmental Effects**

### **4.1 Introduction**

- 4.1.1 The over-riding issue in determining whether EIA is required is whether a development is likely to result in significant effects on the environment, taking account of any mitigation measures proposed at this stage. Sections 2 and 3 above considered the potential for environmental impacts to occur as a result of either the environmental sensitivity of the site or the characteristics of the proposed development.
- 4.1.2 To confirm the presence or absence of likely significant environmental effects and thus confirm that the proposed development does or does not require a formal EIA, Table 4-1 below provides a high-level assessment of environmental effects anticipated to occur due to the interaction of the proposed development with identified environmental sensitivities of the site and surrounding area, taking account of all mitigation measures identified at this stage. Due to the ecological sensitivities at the site, Section 4.2 – 4.4 discuss ecological impacts in additional detail. This assessment is made with reference to the environmental factors prescribed in Regulation 4(3) of the EIA Regulations and identifies the proposed approach to appropriately managing potential environmental effects.

### **4.2 Nature Conservation Protected Areas and Species**

- 4.2.1 Given the overlap of the proposed works with a Natura 2000 site, Sumburgh Head SPA, a Habitats Regulations Assessment (HRA) will be required.
- 4.2.2 The legal process that needs to be followed for an HRA is very clearly laid out. In simple terms, this will be pursued in two key stages. The first 'screening' stage will involve determining whether there will be a Likely Significant Effect (LSE) on any designated/proposed sites. Should the first phase conclude that there is potential for LSE then the second 'assessment' phase referred to as an Appropriate Assessment will be undertaken.
- 4.2.3 This will include providing the necessary information to enable the competent authority to undertake an Appropriate Assessment in accordance with the Habitats Regulations, assessing the effects of the proposed development on the features for which the sites are designated. The necessary information to allow the competent authority to undertake an Appropriate Assessment will be provided in support of the marine licence/planning application.
- 4.2.4 Recently, a Report to Inform Appropriate Assessment was carried out for investigative works (GI works) necessary to inform the detailed design of the proposal at Grutness.
- 4.2.5 The proposed works are adjacent to a nationally designated site, the Sumburgh Head SSSI, which is notified for its geological interest and breeding colonies of Puffin, Shag, Guillemot, Kittiwake, Fulmar and Arctic Terns. Of these seabird species, only the Arctic Terns have a breeding colony close to the proposed works. The proposal activities (construction and operation) are not likely to damage the natural features of the SSSI as the works are not undertaken within the SSSI.
- 4.2.6 Further afield, approx. 1 km to the north of the proposal outside of the bay and around the coastline, is the Pool of Virkie SSSI which is notified for its intertidal mudflats. Any effect on coastal processes from the proposal will be highly localised with no realistic impact pathway to the mudflats (see below). Similarly, at approx. 4km from the proposal, there is no realistic impact pathway to the Mousa to Boddam Marine Protected Area, designated for sandeel.
- 4.2.7 At the location of the proposed works, the water depth is <5m BCD with few sightings of cetaceans recorded within the bay. However, harbour seal are frequently recorded. Outside the bay and around Sumburgh Head, a range of marine mammals, including bottlenose dolphin, harbour porpoise and Orca whales, are frequently recorded. Despite the piling works being limited in nature and the commitment to follow JNCC standard piling protocol (2010) (see below), it is considered that an EPS licence for potential disturbance from underwater noise on individual bottlenose dolphin and harbour porpoise which may use the bay will be required. NatureScot will be contacted to confirm the requirements for this EPS licence.



- 4.2.8 An otter survey was carried out in late November 2021 by the Shetland Biological Records Centre (Appendix B). [REDACTED]
- 4.2.9 [REDACTED]
- 4.2.10 Two to four weeks prior to construction commencing, the otter survey will be repeated to further inform current otter activity and holt occupancy. While it is assumed that an EPS licence will only be required if breeding (or active holts) are confirmed within 250m of the construction works, Nature Scot will be contacted to confirm.

### 4.3 Terrestrial Environment

- 4.3.1 The majority of the proposed works will be carried out within the marine environment or from the existing pier. A small area of the rocky upper intertidal and supralittoral will be lost to accommodate the linkspan. A very small area of scrub adjacent to the existing road and parking area will be lost.
- 4.3.2 It is anticipated that lay down areas will be secured on the existing parking areas available around the pier.
- 4.3.3 The otter surveys (see above) will determine if otter are likely to be present in the area.
- 4.3.4 Given the nature of the works and the existing environment, no significant impacts are anticipated on terrestrial features.

### 4.4 Marine Environment

- 4.4.1 The intertidal areas around the pier are dominated by rocky habitat overlaying gravelly sands. Large boulders (rock armour) are present along the north face of the pier and to the north east. Seaweed communities are poorly developed as are lichens in the supralittoral.
- 4.4.2 The subtidal environment around the pier is dominated by sand and gravel habitats with small boulders present. Several hundred metres north of the pier is the only record of a Priority Marine Feature (PMF) within the bay (kelp beds). Further to the east and north are occasional bedrock areas which become more dominant around the headlands.
- 4.4.3 A marine ecological survey will be carried out in 2022 to better understand the potential ecological value of the marine habitats in the vicinity of the proposed works. The benthic survey programme will incorporate an intertidal and subtidal survey. The intertidal work will be carried out at low water and involve identifying any characterising epifaunal assemblages and notable species (such as non-native species, PMFs etc.) in the vicinity of the works.
- 4.4.4 A subtidal survey incorporating several grab samples and drop-down video will be carried out around the jetty to determine the broad habitats and identify the presence of any PMFs in the vicinity. The outputs from these benthic surveys will be supplemented by a desktop study using a range of data sources, such as the Marine Scotland NMPi database, Marine Recorder snapshots, National Biodiversity Network (NBN) records and GeMS datasets (PMFs), and incorporated into an Environmental Appraisal to support the Marine Licence application.
- 4.4.5 The footprint of the works will cover approximately 1.44 ha resulting in loss of gravelly sand habitats. However, the extension of the jetty will provide suitable substrata for epibiont colonisation and shelter for juvenile inshore fish.
- 4.4.6 The proposed works will extend the existing ferry terminal jetty to the northwest, implement additional rock armour along the extended jetty and dredge the newly created berth at Grutness. It is assumed (as a worst-case approach for the marine environment) that the dredged material will subsequently be disposed of at a licensed marine disposal site. The proposed works will result in changes to the flow regime and the wave climate, as a result of the new infrastructure and the increased depths within the dredged berth. However, given the scale of the proposed works (in relation to the existing baseline and the physical characteristics of the wider Grutness

embayment, which already includes a shorter ferry terminal jetty and a slipway further along the coast to the southwest) these changes are considered likely to be generally small in both magnitude and extent. The seabed across the study area (as noted above) is comprised of generally coarse material, ranging from sands up to boulders and rock armour. Consequently, the resultant changes in hydrodynamics and waves are unlikely to result in associated changes to local sediment transport pathways across the wider embayment. This includes changes to the intertidal immediately to the northeast and southwest of the jetty, along with the sandy beach along the southwestern edge of the bay. The likely changes in physical processes (and, by association, on water and sediment quality) brought about by the extended pier structure and additional rock armouring are anticipated to be negligible and not of a scale that will result in any significant effects. In addition, associated impacts on marine ecology features, including benthic habitats and species, fish, marine mammals or birds, are also considered to be negligible. Any potential risks to the environment during construction will be managed through best practice pollution prevention guidelines.

- 4.4.7 Given the relatively small area identified for dredging (12,000 m<sup>2</sup>), and the anticipated nature of the bed, any changes to physical processes (resulting from increased suspended sediment concentration within dredge plumes) are anticipated to be negligible and not of a scale that will result in any associated significant effects on marine ecology features (including benthic habitats and species, fish, marine mammals or birds). During the highly temporary dredging activity required sediment will be dispersed. However, the seabed is dominated by sands and gravels (with relatively fast settling rates), rather than fine material, and the water depth is typically shallow (<5 mCD). Consequently, settling out of mobilised sediment within the dredge plume will occur within a short timeframe (a matter of seconds to minutes), meaning material in the plume will settle back to the bed within (or immediately adjacent to) the dredge site. Given the nature of the seabed and the fair degree of exposure experienced by the bay, it is considered unlikely that the dispersion of the dredge plume will result in any significant impacts on marine features from smothering. Furthermore, an assumed marine disposal of dredged material is anticipated to take place within a licensed disposal site, with an associated understanding of the fate of that material. Once further details of disposal are known, a more detailed assessment can be included within the Environmental Appraisal during subsequent project phases.
- 4.4.8 Surface feeding seabirds, such as the Arctic Terns from the colony close to the pier, may temporarily be unable to forage in the waters that overlap and surround the dredged area during dredging operations. However, settling out of material will occur rapidly and there are extensive foraging grounds throughout the wider bay and around the headlands. Airborne noise and vibration effects from the piling are considered against the background baseline of regular intermittent aircraft movements and also the very small scale and highly temporary nature of the works. Birds that are likely to be present in this area, such as Arctic Terns from the nearby breeding colony, will be habituated to intermittent loud noise. Therefore, no significant impacts from the proposal would result on waders or seabirds (including Arctic Tern). Piling operations will not take place during the early breeding season (April and May) to allow nest establishment. In each working day, piling activity will adopt a soft-start approach, slowly ramping up operations.
- 4.4.9 Rock armouring is present in the intertidal area around the pier, particularly to the north. The very rocky nature of the intertidal area in the vicinity of the pier provides poor foraging habitat for waders and seabirds. Operation of the ferry at the pier and, to the west, the frequent movement of aircraft, means birds present in this area are habituated to visual presence of humans, ferry movements, buses, and loud noise from aircraft. Therefore, no significant impacts from the proposal would result on waders or seabirds (including Arctic Tern).
- 4.4.10 As part of best practice management measures, marine and land-based plant (if appropriate) will be thoroughly cleaned down to remove biofouling before being delivered to the site to commence the works, and will again be thoroughly cleaned before leaving the site for their next location, in order to minimise the export of Invasive Non Native Species (INNS) to the next location.
- 4.4.11 The proposed piling works are minimal in scale with a small number of sheet piles proposed. Installation of the sheet piles will be through a combination of vibratory and impact hammers. The propagation of low frequency noise (piling) is reduced in very shallow water. At high frequencies (>10 kHz), increasing absorption also prevents high frequency sound propagating over great distances in shallow water. The shallow depth of water around the pier (<5 m BCD)

and within the bay, along with the presence of gravelly sands, will therefore limit the propagation of underwater noise and lead to a relatively rapid attenuation of sound pressure levels with distance from the source.

- 4.4.12 In line with good practice, the successful contractor will follow the JNCC “*Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals during piling*” (JNCC, 2010) during percussive piling.
- 4.4.13 Acknowledging the small scale and highly temporary nature of the piling works, the surrounding environment and the commitment to follow JNCC standard piling protocol (2010) including a gradual ‘ramping-up’ of piling activities, no significant adverse impacts are anticipated from underwater noise on marine mammals or fish.
- 4.4.14 A more detailed desk-based review of the potential effects on marine ecology features will be provided within the Environmental Appraisal to support the marine licence application.
- 4.4.15 Table 4-1 below provides a high-level assessment of environmental effects anticipated to occur due to the interaction of the proposed development with identified environmental sensitivities of the site and surrounding area, taking account of all mitigation measures identified at this stage, with the exception of Ecology which is detailed above.

Table 4-1 - Assessment of Potential Effects

Environmental Aspects (Regulation 4(3))	Relevant Environmental Topic	Potential Construction and Operation Effect	Proposed Approach and Mitigation	Significance of Likely Effects
Air and Climate	Air Quality, Noise, Vibration and Climate Change	Noise from piling operations and plant activities. Once operational noise is not expected to be an issue as it will be similar to existing noise levels.	An assessment of airborne noise from construction works at the proposed development will be undertaken, in particular in relation to the ecological designated sites.  Strategies to minimise noise impacts on nearby sensitive receptors will be considered, including the phasing of works and delivery of rock to specific areas for the proposed development, and the working hours of the site.	Not significant with appropriate mitigation incorporated within Ecological Appraisal.
		Dust Emissions from construction of the pier. There will be no additional dust emissions during operation.	During construction, dust from on-site activities and off-site trackout by construction vehicles has the potential to impact on sensitive human and ecological receptors within the study area; the main potential impacts are loss of amenity (as a result of dust soiling) and deterioration of human health (as a result of concentrations of PM <sub>10</sub> (Particulate matter 10 micrometers or less in diameter)), however with appropriate dust mitigation measures in place and the fact that there are no receptors in close proximity to the site, the effects of construction dust will not be significant (IAQM 2014).	Not Significant
Biodiversity, flora, fauna, land and soil	Ground Conditions, Land Use	Disturbance to ground conditions / land use during construction or operation.	There is no likelihood of significant effects arising in relation to land use, ground conditions and geology as a result of the works, as a CEMP will be prepared to provide construction mitigation measures during construction and operation phase of the project.	Not Significant
	Ecology	Detailed within Section 4.2-4.4	As described in Section 4.2-4.4	Not Significant

Environmental Aspects (Regulation 4(3))	Relevant Environmental Topic	Potential Construction and Operation Effect	Proposed Approach and Mitigation	Significance of Likely Effects
Water	Hydrology and Flood Risk	Additional flood risk as a result of the scheme or pollution to water quality	The design and construction methodology to be adopted for the proposed development will incorporate appropriate physical mitigation measures and procedures to protect against flood risk or pollution release into the sea.	Not Significant
Population, human health and material assets	Socio-economics, Tourism and Recreation	<p><b>Employment:</b> The construction phase is likely to generate direct employment, and gross value added, however the scale of the employment and economic activity generated by the proposed development would be temporary and not materially affect the wider likely socioeconomic effects.</p> <p><b>Land Use:</b> As there is an existing pier that is being extended and no other works proposed the other land would remain unaffected and this land change would not itself generate a likely significant socio-economic effect.</p> <p><b>Tourism and Recreation:</b> The works are unlikely to generate a likely significant effect in relation to tourism and recreation.</p>	<p>No mitigation or enhancement measures are considered to be necessary in relation to economic, employment or land use effects.</p> <p>In relation to effects on tourism and recreation, an Access Mitigation Plan will be prepared to manage public access to affected recreational routes during the construction phase.</p>	Not Significant
	Traffic, Transport and Material Assets	All materials are likely to be consolidated at an appropriate port or ports (which will be determined by the mobilisation plan of the winning bidder). Any land based traffic impacts associated with construction are also expected to be negligible.	No mitigation measures are considered to be necessary in relation to traffic and transport.	Not Significant
	Human Health	Potential health effects are expected to be minimal in terms of noise effects arising from the pier construction.	As noted above, noise and ground conditions assessments will be carried out to identify assess and mitigate potential effects associated with construction activities. These assessments	Not Significant

Environmental Aspects (Regulation 4(3))	Relevant Environmental Topic	Potential Construction and Operation Effect	Proposed Approach and Mitigation	Significance of Likely Effects
			will identify any required mitigation to safeguard human health.	
Cultural heritage and landscape	Cultural Heritage	Adjacent to the pier the Grutness lighthouse store, including boundary wall, gate and gate piers (LB44543) is a listed building category C. No works are proposed to the heritage assets and during the operation phase it is unlikely to result in any adverse effects on the setting of these assets.	The design and construction methodology to be adopted will incorporate appropriate mitigation measures to ensure that the Category C listed building or setting is not affected during the works. This will avoid any adverse effects on the integrity of the heritage asset and its setting such that no significant effects are likely to occur.	Not Significant
	Landscape and Visual	It is anticipated that the Proposed Development would not result in any significant landscape / seascape or visual effects during construction or operation. This conclusion is reached due to the context of the existing landscape and site and the nature of the Proposed Development, this being small scale, of limited geographical extent. Whilst the Proposed Development is considered to be permanent this is located within a working ferry terminal in which the elements comprising the Proposed Development are present.	The design and construction methodology to be adopted for the proposed development will incorporate appropriate mitigation measures to minimise landscape and visual impacts, such as maintaining an orderly, tidy site, no residual significant effects on landscape or visual amenity are considered likely to occur.	Not Significant

- 4.4.16 Table 4-1 above indicates that, taking account of all proposed mitigation measures, the interaction of the proposed development with the identified environmental sensitivities of the site and surrounding area, any potential adverse environmental effects will be 'designed out' or otherwise minimised during the design process.
- 4.4.17 Where relevant and required by SIC as the applicable local planning authority, and Marine Scotland technical studies (non-EIA) and other supporting documentation will be submitted in support of the planning application to:
- Explain how relevant design principles and mitigation measures have been applied to ensure the avoidance of any likely significant adverse effects; and,
  - Demonstrate the accordance of the proposed development with the applicable statutory Development Plan and other relevant material considerations.



## 5 Summary and Conclusion

- 5.1.1 This report provides the information necessary to solicit a formal EIA Screening Opinion from the SIC and Marine Scotland in accordance with Regulation 8 of the EIA Regulations.
- 5.1.2 The environmental information provided within this EIA screening request demonstrates that whilst the proposed development constitutes a Schedule 2 Development under the EIA Regulations, taking account of proposed mitigation measures, it is not likely to result in any significant environmental effects. It is therefore respectfully submitted that the proposed development does not constitute an EIA Development under the EIA Regulations and in consequence, any planning application submitted for the proposed development should not require a formal EIA to be undertaken.
- 5.1.3 In responding to this EIA screening request, SIC and Marine Scotland are invited to consider all relevant environmental information and adopt the conclusion of this report as their own for the purposes of issuing an EIA Screening Opinion.
- 5.1.4 Where relevant and required by SIC and Marine Scotland as the applicable local planning authority, technical studies (non-EIA) and other supporting documents will be submitted in support of the planning application to explain how relevant design principles and mitigation measures have been applied to ensure the avoidance of any likely significant adverse effects.
- 5.1.5 Subject to any views expressed by SIC and Marine Scotland, the prospective applicant intends to submit the following studies and supporting documents:
- Ecological Appraisal Report (incorporating Baseline Ecological Surveys);
  - Habitats regulation Assessment (HRA);
  - Construction Environmental Management Plan (CEMP);
  - Access Mitigation Plan;
  - Planning Statement;
  - Planning Application Drawings; and
  - Completed Planning Application Forms and Landownership Certificate.
- 5.1.6 In responding to this EIA screening request, SIC and Marine Scotland is invited to confirm that the above list of documents will be sufficient to address environmental and planning issues associated with the proposed development.

## **Appendix A    Site Location Plan**



Notes

1. This drawing is indicative only and is subject to design development

Key to symbols

New Pier and Linkspan Structures

Red Line Boundary

Reference drawings

P01	27.10.21	RK	For Information	MC	MR
Rev	Date	Drawn	Description	Ch'k'd	App'd

M

MOTT  
MACDONALD

Greenhead  
Lerwick  
Shetland  
ZE1 0PY  
United Kingdom  
T +44 (0)1595 695049  
F www.mottmac.com

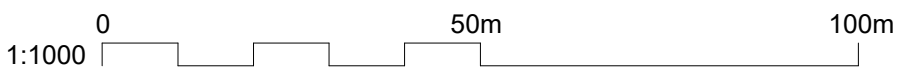
Client

Shetland Islands Council  
8 North Ness Business Park  
Lerwick  
Shetland  
ZE1 0LZ

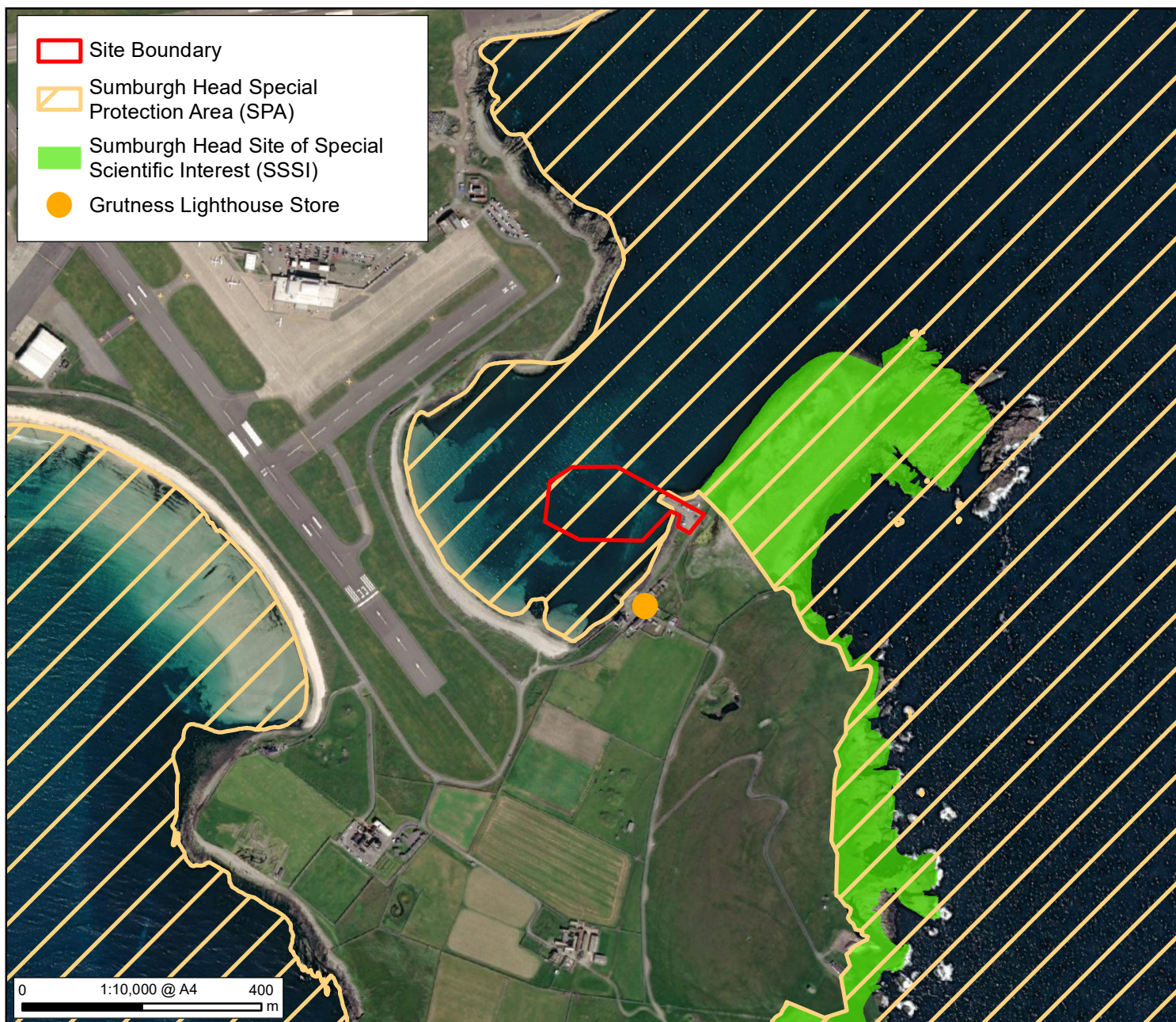
Title

Shetland Inter Island  
Transport BC Support  
Grutness Ferry Terminal  
Layout - General Arrangement

Designed	M Kirkpatrick	MK	Eng check	M Kirkpatrick	MK
Drawn	R Kilgour	RK	Coordination	M Kirkpatrick	MK
Dwg check	M Kirkpatrick	MK	Approved	M Ross	MR
Scale at A1	Status	Rev	Security		
As Shown	PRE	P01	STD		
Drawing Number					
Figure 2.1					







## **Appendix B    Otter Survey Report**



# **An Otter survey at Grutness, Shetland**

**A report to Matt Macdonald from Shetland Biological Records  
Centre, November 2021**

**Paul Harvey, Shetland Amenity Trust**

## Background

Shetland Biological Records Centre was contracted to undertake a survey of Otter activity in the vicinity of Grutness Pier to inform a potential development at the site.

## Methodology

The area surveyed was that requested in a pdf received from Mott Macdonald. In essence it covered the whole of the [REDACTED]

This area was surveyed by Paul Harvey on 28<sup>th</sup> November 2021. The whole area was covered and any signs of Otter activity were recorded on a GPS app loaded on an Iphone. A number of photographs were taken to inform this brief report. These are included in an Appendix.

## Results

[REDACTED]

- [REDACTED]

[REDACTED]

## Discussion

Most of the survey area is unsuitable for Otter holts. The laaward itself (photo 4) comprises a storm beach – the lack of sizeable spaces among the boulders, the mobility of the beach in big storms and the inundation of much of the coastal area in winter storms render it unsuitable for holts.

The Grutness beach itself (photo 5) is also unsuitable for holts. The sand dunes are too mobile and any hole excavated would soon infill. The sea regularly reaches the foredunes during the winter months.



The area between the Laaward and the Grutness beach comprises fixed dune grassland, [REDACTED] There were no signs of any Otter runs or holts in any of the dune grassland. [REDACTED]  
[REDACTED]

### Summary

The south mainland has a lower density of Otters than much of the Shetland coastline. Sighting data indicates that the [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

This survey should be repeated 2-4 weeks prior to construction commencing as Otter activity and holt occupancy can be quite dynamic, sometimes changing markedly over a few weeks/months. In the meantime, I would suggest that the developer contacts NatureScot to seek advice on whether a licence to disturb Otters would be required [REDACTED] A camera trap could be set up at this location to try and establish whether there is a pattern of use.

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

## Appendix – Photographs

Photo 1 –

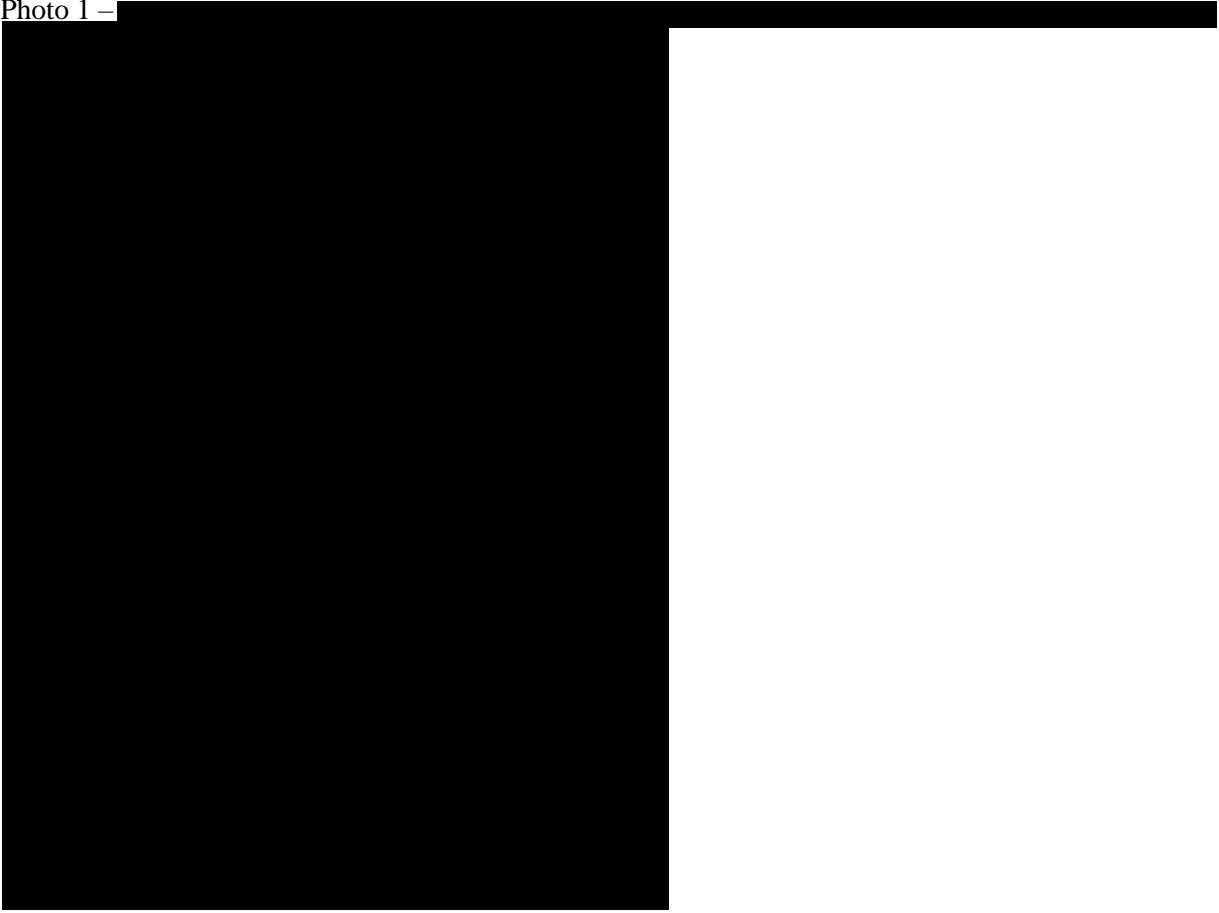


Photo 2 –



Photo 3 –



Photo 4 – showing the Laaward (looking east), illustrating the unsuitability of the habitat for Otter holts



Photo 5 – showing Grutness beach (looking north), illustrating its unsuitability for Otter holts



Photo 6 –

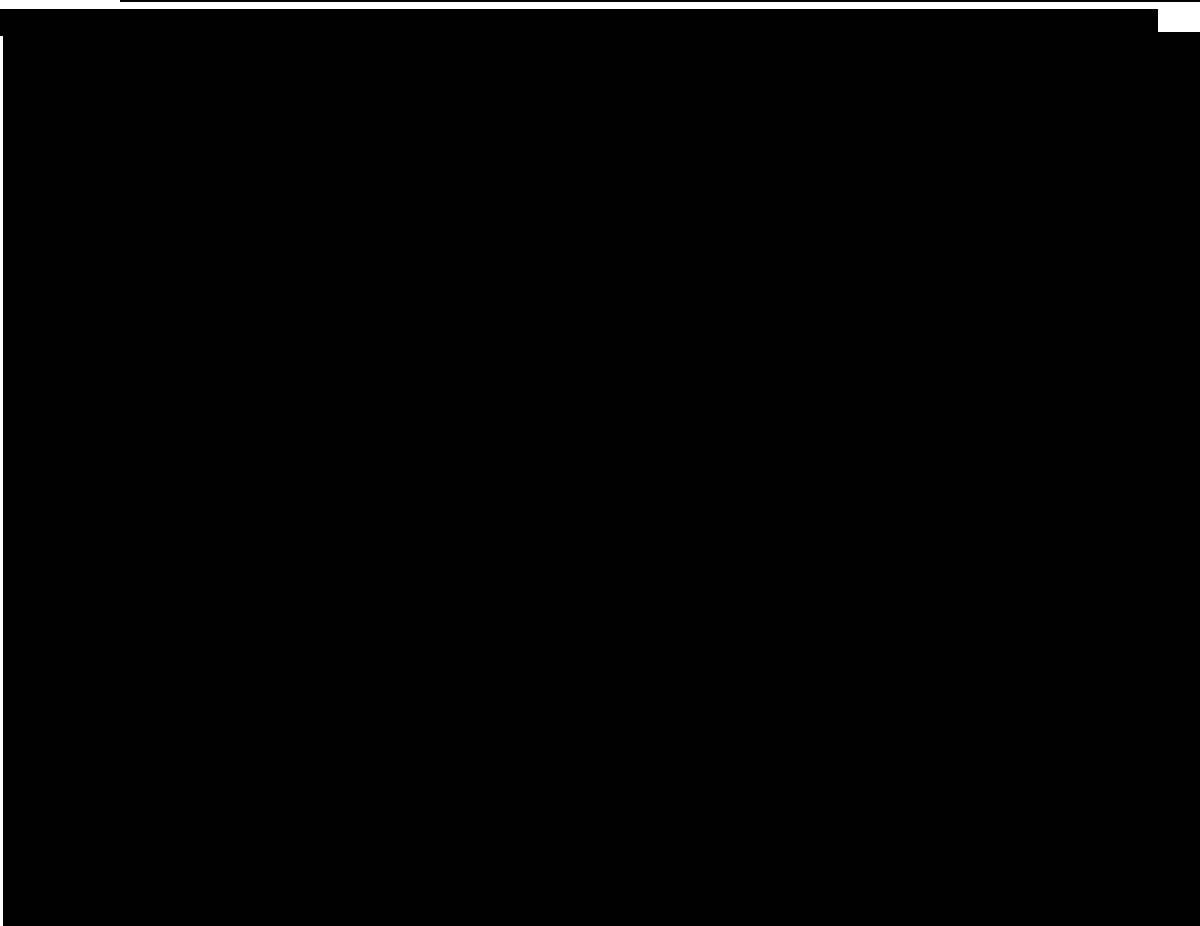


Photo 7 – [REDACTED]  
[REDACTED]  
[REDACTED]

