



VATERSAY SHELTERED BERTHING FACILITY

# PRELIMINARY ECOLOGICAL APPRAISAL REPORT

|                      |                                 |
|----------------------|---------------------------------|
| Client               | Vatersay Pier Users Association |
| Project/Proposal No; | 87 Vatersay Causeway            |
| Version              | 1                               |
| Date                 | 26 March 2026                   |

# Document information

|                                   |                                              |
|-----------------------------------|----------------------------------------------|
| <b>Project Name:</b>              | Vatersay sheltered berthing facility         |
| <b>Document Title:</b>            | Preliminary Ecological Appraisal Report      |
| <b>Client Name:</b>               | Vatersay Pier Users Association              |
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| <b>Date:</b>                      | 26/03/2026                                   |
| <b>Version:</b>                   | 1                                            |
| <b>Project / Proposal Number:</b> | 87                                           |

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# Abbreviations

| Term      | Expanded Term                                                  |
|-----------|----------------------------------------------------------------|
| BoCC      | Birds of Conservation Concern                                  |
| CEMP      | Construction Environmental Management Plan                     |
| CIEEM     | Chartered Institute of Environmental and Ecological Management |
| CNeS      | Comhairle nan Eilean Siar                                      |
| DBW       | Daytime Bat Walkover                                           |
| ECoW      | Ecological Clerk of Works                                      |
| GeMS      | Geodatabase of Marine Features Adjacent to Scotland            |
| GPP       | Guidance for Pollution Prevention                              |
| INNS      | Invasive Non-Native Species                                    |
| JNCC      | Joint Nature Conservancy Council                               |
| MHWS      | Mean High Water Spring                                         |
| MLWS      | Mean Low Water Spring                                          |
| MPA       | Marine Protection Area                                         |
| NBN Atlas | National Biodiversity Network Atlas                            |
| NPF4      | National Planning Framework 4                                  |
| OHLDP     | Outer Hebrides Local Development Plan                          |
| PEA       | Preliminary Ecological Appraisal                               |
| PEAR      | Preliminary Ecological Appraisal Report                        |
| PMF       | Priority Marine Features                                       |
| SAC       | Special Area of Conservation                                   |
| SBL       | Scottish Biodiversity List                                     |
| SEPA      | Scottish Environment Protection Agency                         |
| SPA       | Special Protection Area                                        |
| SSSI      | Site of Special Scientific Interest                            |
| UKBAP     | UK Biodiversity Action Plan                                    |
| UKHab     | UK Habitat Classification                                      |
| VPUA      | Vatersay Pier Users Association                                |

# 1 Introduction

- 1.1.1.1 Atlantic58 was appointed by the Vatersay Pier Users Association (VPUA) to provide ecological consultancy services in support of a proposed berthing facility located in the Sound of Vatersay, to the east of the causeway connecting Vatersay and Barra in the Outer Hebrides.
- 1.1.1.2 This Preliminary Ecological Appraisal (PEA) Report presents the key findings from surveys undertaken to establish baseline terrestrial ecological conditions and to assess the potential presence of protected and notable habitats and species. The assessment is informed by an Extended Phase 1 Habitat Survey (cross-referenced to the UK Habitat Classification), a daytime bat walkover (DBW), and targeted surveys for protected and notable fauna. The survey also includes the identification of Invasive Non-Native Species (INNS). The survey area comprises the proposed development footprint and appropriate surrounding buffers, applied in accordance with relevant guidance, to provide ecological context. The PEA is limited to the area up to mean low water springs (MLWS) and does not consider in detail the marine environment.
- 1.1.1.3 Based on the survey data, this report evaluates the ecological baseline, identifies key sensitivities and constraints associated with the Proposed Development, and provides proportionate, evidence-based recommendations to avoid or minimise potential impacts. In accordance with National Planning Framework 4 (NPF4), the assessment also considers opportunities for biodiversity enhancement, proportionate to the nature and scale of the development.
- 1.1.1.4 This report is supported by the following appendices:
- Appendix 1 - Figures
  - Appendix 2 – Phase 1 Habitat Survey Target notes
  - Appendix 3 - Image gallery
  - Appendix 4 – Bat Habitat Suitability Tables
  - Appendix 5 – Confidential Appendix

## 1.2 Scope

This report presents the findings of the PEA and aims to:

- Establish the baseline conditions and determine the importance of ecological features present (or those that may be present but were not identified);
- To identify potential ecological constraints and sensitivities related to the proposed development and to provide recommendations on how to avoid significant effects on any associated important ecological features; and
- To establish whether there are any requirements for further surveys.

## 1.3 Personnel

- 1.3.1.1 Survey personnel are experienced in coordinating and conducting a wide range of ecological surveys across the Hebrides for a variety of developments. Further details on personnel are provided in Table 1-1.

Table 1-1 Personnel

| Name            | Role                         | Qualifications and experience                                                                                                                                                                                                                                                            | Contribution                                                                  |
|-----------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Dr Ruth Jeavons | Senior Ecological Consultant | Senior Ecologist with 15 years of expertise in Ecology and Ornithology, including a PhD in seabird behavioural and movement ecology and a MSc Biodiversity and Conservation. Schedule 1 licence holder.                                                                                  | Project Manager, Protected Species survey, report writing and mapping.        |
| Angus Maclean   | Ecological consultant        | Angus Maclean is an ecological consultant with expertise in ornithology and otter ecology. Angus has a BSc in Environmental Resource Management and has 4 years of experience as an ecologist, working with a wide range of species and habitats. Angus is a qualifying member of CIEEM. | Report writing and Mapping. Technical review.                                 |
| Vicky Jamieson  | Graduate Ecologist           | Vicky Jamieson is a Graduate Ecologist who specialises in peatlands and vegetation. She has a MRes in Biosciences with research on peatland restoration. Vicky is a qualifying member of CIEEM.                                                                                          | Phase 1 Survey, report writing and mapping.                                   |
| Laura Carse     | Director                     | Laura has an MSc. In Marine Resource Development and Protection, member of the Marine Biological Association and Chartered Environmentalist. She is experienced in benthic impact assessment for aquaculture and intertidal surveys.                                                     | Intertidal Desk Assessment<br><br>Photographic evaluation of intertidal area. |

## 1.4 Site Description

- 1.4.1.1 The site is located within the Sound of Vatersay, situated between the Isles of Barra and Vatersay in the Outer Hebrides (Appendix 1 - Figure 1). A causeway carrying a single-track road connects the two islands and forms a key piece of infrastructure within the study area. The Proposed Development is located on the Vatersay side of the causeway, to the east of this structure.
- 1.4.1.2 The survey area encompasses both terrestrial and coastal environments on either side of the causeway. On the Barra side (north of the causeway), the land rises to an area of common grazing dominated by wet and dry heathland, underlain by Lewisian gneiss bedrock. A disused quarry (borrow pit), located immediately adjacent to the causeway, is present within this area and is currently occupied by an industrial facility (Modular West). On the Vatersay side (south of the causeway), the land is lower-lying and more developed, comprising residential properties and associated crofts located close to the shoreline, with areas of common grazing extending inland. Orasaigh, a small uninhabited island, lies immediately offshore to the east and forms part of the wider survey area.
- 1.4.1.3 Habitats within the survey area are varied and reflect both natural coastal processes and long-standing land use. Terrestrial habitats are dominated by wet and dry dwarf shrub heath, acid grassland (semi-improved), marshy grassland and areas of flush and swamp. These habitats are subject to grazing pressure, particularly on the Vatersay side, where cattle are prevalent, resulting in localised trampling and modification of vegetation structure. Coastal and intertidal habitats include areas of sand and mudflats, shingle and rocky shoreline, with smaller features such as saltmarsh patches also present.
- 1.4.1.4 The site and its surroundings are characterised by a high degree of existing human influence and activity. Land use reflects a combination of crofting, common grazing and residential occupation, alongside industrial and marine-related activities. The causeway is well used, with frequent vehicle movements

observed throughout the day. During the site visit, a range of ongoing activities were recorded, including construction and maintenance works, utility works, and activity associated with nearby residential development. The industrial facility at the former quarry generates regular traffic movements and noise, and the surrounding area contains evidence of marine and land-based use, including stored equipment, vessels and associated materials.

- 1.4.1.5 Public access is present in the wider area, with the Hebridean Way passing to the north of the site and connecting to the local road network, although it does not directly traverse the Proposed Development footprint.
- 1.4.1.6 Overall, the site comprises an active and modified coastal environment, where natural habitats coexist with established land use, infrastructure and ongoing human activity. These baseline conditions are an important consideration in the assessment of potential environmental effects associated with the Proposed Development.

## 1.5 Proposed Development

- 1.5.1.1 The client intends to bring forward the construction of a small berthing facility located on the Vatersay side of the causeway within the Sound of Vatersay (Appendix 1 - Figure 1).
- 1.5.1.2 The Proposed Development comprises the following components, which extend across both the onshore and offshore environment:
- a rock armour breakwater to provide shelter for the berthing facility;
  - a pontoon system comprising 14 finger berths, accommodating:
    - up to 13 vessels of up to 12 m in length;
    - one larger vessel of up to 18 m; and
    - approximately 8–10 smaller boats along the inner face of the pontoon;
  - a 24 m long access bridge connecting the shore to the pontoon;
  - a reclaimed area of approximately 0.24 hectares (ha), incorporating the breakwater and associated infrastructure; and
  - four drilled (bored) and grouted rock-socketed piles to secure the pontoon.
- 1.5.1.3 Other related works include the use of a borrow pit located on the Barra side of the causeway. The Vatersay Causeway was constructed between 1989 and 1991 using rock sourced from this hillside location. The borrow pit is currently redundant and unlicensed.
- 1.5.1.4 The Proposed Development will require rock for fill and armourstone, which is intended to be sourced locally from this borrow pit. The borrow pit is located on privately owned land, and agreements in principle have been reached with the landowner to secure both access to the material and the associated mineral rights. The borrow pit will be temporarily reopened for construction purposes and reinstated following completion of the works.

## 1.6 Legislation, Policy and Guidance

- 1.6.1.1 This report is founded upon requirements derived from the following legislation, policy and guidance.

### 1.6.2 Legislation

- Wildlife and Countryside Act 1981 (as amended)

- Nature Conservation (Scotland) Act 2004 (as amended)
- Conservation (Natural Habitats &c. Regulations 1994
- The Wildlife and Natural Environment Act (Scotland) 2011 (as amended)

## 1.6.3 Policy and Strategies

### National Planning Framework 4 (NPF4)

- 1.6.3.1 The National Planning Framework 4 (NPF4 hereafter) 'Policy 3 – Biodiversity' aims to protect biodiversity, reverse biodiversity loss where possible and deliver nature positive effects from development. The policy sets out to promote biodiversity enhancement as a regular consideration for development plans. Part (c) of the policy relates to local developments: 'Proposals for local development will include appropriate measures to conserve, restore and enhance biodiversity, in accordance with national and local guidance. Measures should be proportionate to the nature and scale of development.'

### The Scottish Biodiversity Strategy to 2045

- 1.6.3.2 The Scottish Biodiversity Strategy to 2045 is a high-level national policy document setting Scotland's direction to become Nature Positive by 2030 and to have biodiversity restored and regenerated by 2045, with an expectation that public bodies, businesses and communities help reverse biodiversity loss. For small developments, it provides policy context to ensure all scales of development avoid unnecessary ecological harm and, where possible, contribute to protecting or enhancing habitats and species in line with wider planning and biodiversity duties.

### Outer Hebrides Local Development Plan (OHLDP)

- 1.6.3.3 The Outer Hebrides Local Development Plan (OHLDP hereafter) (OHLDP; CnES 2018) was published prior to publication of NPF4, however policies within the OHLDP encourage development proposals to avoid having a significant adverse effect on, and where possible, enhance biodiversity and ecological interests of the proposed development site. The OHLDP is currently under review.

## 1.6.4 Guidance

- Guidelines for Preliminary Ecological Appraisal (CIEEM 2017)
- Biodiversity Net Gain: Good Principles for Development (Baker, Hoskin & Butterworth 2019)
- Developing with Nature Guidance (NatureScot 2023)
- Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit (JNCC 2010)
- The UK Habitat Classification, Version 2.0 (UKHab 2023)
- Planning and Development: Standing Advice and Guidance Documents: Protected Species (bats, birds, mountain hare, otter, reptiles) (NatureScot 2024a,b,c,d,e)

# 2 Methodology

## 2.1 General Approach

- 2.1.1.1 The PEA was undertaken in accordance with good practice guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM 2017). The assessment followed the principles of an Extended Phase 1 Habitat Survey, incorporating both habitat mapping and a targeted appraisal of the potential for protected and notable species.



- 2.1.1.2 The approach combined a desk-based review of available ecological information with a field survey to establish baseline conditions and identify ecological sensitivities associated with the Proposed Development. The survey also included a search for INNS and an assessment of habitat suitability for protected species, informed by relevant NatureScot guidance (2024a,b,c,d,e).
- 2.1.1.3 To ensure a proportionate and robust assessment, two survey buffers were applied (Appendix 1 - Figure 1):
- a 250 m buffer for the habitat survey, including identification of INNS, in accordance with the JNCC Handbook for Phase 1 Habitat Survey (2010); and
  - a 200 m buffer for the assessment of protected and notable species, based on NatureScot (2024d) guidance for other surveys, and applied to other species where appropriate for consistency.
- 2.1.1.4 This approach ensures that the assessment captures both the immediate footprint of the Proposed Development and the surrounding ecological context, enabling the identification of potential constraints, impact pathways and appropriate mitigation measures.

## 2.2 Desk Study

- 2.2.1.1 A desk study was undertaken to inform the ecological baseline and identify potential ecological constraints associated with the Proposed Development. The purpose of the desk study was to collate existing information on statutory designated sites, protected and notable species, habitat distribution and the wider ecological context within the zone of influence.
- 2.2.1.2 A search for statutory designated sites (including SACs, SPAs and SSSIs) was undertaken using NatureScot's SiteLink resource, applying a 10 km search radius from the Proposed Development. This search was used to identify designated sites with potential connectivity to the development.
- 2.2.1.3 Records of protected and notable species were obtained from publicly available datasets, including the National Biodiversity Network (NBN) Atlas, using a 5 km search radius from the site boundary. These records were used to inform an understanding of species presence and distribution within the local area.
- 2.2.1.4 In addition, open-source aerial imagery was reviewed to identify habitat types, site features and land use patterns within and surrounding the site. Habitats were provisionally mapped based on visual interpretation of colour, texture and landform, providing a baseline for subsequent field verification and refinement during the walkover survey.
- 2.2.1.5 The results of the desk study are presented in Section 4.1 and illustrated in Appendix 1 Figure 2.

## 2.3 Field Survey

### 2.3.1 Vegetation Assessment

- 2.3.1.1 The field survey for the habitat assessment was completed on the 10 February 2026, covering the site footprint and a 250 buffer (Appendix 1 - Figure 3). Following the JNCC (2010) methodology, each desk-based defined habitat in the survey area was systematically assessed via a walkover. Where needed, a peat probe was used to determine peat depth across the survey area to accurately differentiate between heathland and peatland communities.
- 2.3.1.2 Linear features, including fences, watercourses and access tracks were identified, verified and mapped (Appendix - Figure 4). Target notes were recorded to provide supplementary information on notable species, vegetation communities and habitat management or land use features (Appendix 1 - Figure 5).

The survey area included the intertidal area, and broad habitat classifications in line with the Phase 1 system were assigned.

- 2.3.1.3 During the walkover, the presence of invasive non-native species INNS present was recorded, with particular attention to those listed on the NatureScot's (2025) invasive non-native species list, and those listed within Schedule 9 of the Wildlife and Countryside Act 1981. During the walkover, the presence of invasive non-native species INNS present was recorded, with particular attention to those listed on the NatureScot's (2025) invasive non-native species list, and those listed within Schedule 9 of the Wildlife and Countryside Act 1981. This approach ensures that all species considered invasive and ecologically significant in Scotland are recorded.

## 2.3.2 Protected and notable species

### Otter

- 2.3.2.1 A search for otter (*Lutra lutra*) signs was conducted with the survey area covering all suitable habitat within a 200 m buffer of the site boundary, as per NatureScot standing advice (NatureScot 2024d). A systematic search for otter field signs (e.g. holts, couches, prey remains, pawprints, spraint/castings, paths, slides) was carried out along all watercourses and waterbodies, using established methodology (Chanin 2003). The habitat was evaluated based upon four key features for otter: prey availability, disturbance levels, freshwater sources, and cover opportunities.

### Bats

- 2.3.2.2 A daytime bat walkover (DBW) was conducted wherein habitats on site were assessed for their suitability for foraging and commuting bats (*Chiroptera spp.*, Appendix 4 – Bat Suitability Table) in line with good practice guidelines (Collins 2023). Areas of interest include but are not limited to sheltered areas of woodland, scrub, freshwater features, species-rich or rough grassland which support high numbers of prey (e.g. invertebrates such as moths and midges).
- 2.3.2.3 As part of the DBW, structures (trees and man-made structures) throughout the site are assessed for their suitability for providing Potential Roost Features (PRFs). Man-made structures can be assessed from the outside, without entering the building, using binoculars where necessary.
- 2.3.2.4 In this instance, structures belonging to private properties or within crofts, were not inspected. Any trees present were observed with binoculars from a distance. Any trees present on private land were not surveyed.

### Mountain hare

- 2.3.2.5 The site was assessed for its potential to support mountain hare (*Lepus timidus*). During the walkover field signs such as faecal pellets, predation remains or live sightings were searched for, however, and a general habitat suitability assessment was made.

### Slow worm

- 2.3.2.6 The site was assessed for its potential to support slow worm (*Anguis fragilis*). During the months October - March, slow worm are in a state of brumation (a form of hibernation) and therefore field signs (e.g. droppings, shed skin fragments, burrows/hides and predation remains) are not likely to be found. However, certain habitat features can provide cover, shelter or basking spots for slow worm (e.g. rocks, logs and other artificial features). Therefore, the habitat was evaluated based upon two key features: potential prey availability and cover opportunities (for resting and brumation period).

## Freshwater Ecology

- 2.3.2.7 Freshwater systems in the Hebrides have the potential to support a range of species of conservation value including Atlantic salmon (*Salmo salar*), brown / Sea trout (*Salmo trutta*), European eel (*Anguilla anguilla*) and freshwater pearl mussel (*Margaritifera margaritifera*). The survey area does not have suitable hydrological connectivity to a river system; however, a basic habitat suitability assessment was undertaken.

## Breeding birds

- 2.3.2.8 The survey area was assessed for its suitability to support breeding and non-breeding birds, with a particular focus on those featured within the Schedule 1 and 1A of the Wildlife & Countryside Act 1981 (as amended), the red list of the British Trust for Ornithology's Birds of Conservation Concern (Stanbury *et al.*, 2021) and those that are qualifying features of nearby designated sites. Habitat of potential importance to birds, as well as the sites' potential connectivity to other habitat types in the wider surrounding landscape was also considered when evaluating the potential for disturbance to birds.

# 3 Limitations

## 3.1 Desk Study

- 3.1.1.1 The availability of mammal records within the Western Isles is more limited than the mainland, reflecting lower levels of citizen science activity associated with sparsely populated and geographically remote locations. Current guidance recognises that such locations are often under-represented in biological recording datasets, including platforms such as the NBN Atlas (CIEEM 2020, NatureScot 2024, and Collins 2023).
- 3.1.1.2 The absence of records for protected species within desk-based sources should not be interpreted as confirmation of their absence from the study area. Desk study information represents known records at the time of review and may not fully reflect current site usage.
- 3.1.1.3 In recognition of these limitations, a precautionary approach has been taken. This ensures that the potential presence of protected species is appropriately considered, informed by available desk study data, site characteristics, and professional judgement, in accordance with relevant guidance (CIEEM 2020).

## 3.2 Field Survey

- 3.2.1.1 A field survey was undertaken to inform the Preliminary Ecological Appraisal, comprising an Extended Phase 1 Habitat Survey and a targeted assessment of the potential for protected and notable species. The survey covered the Proposed Development footprint and the surrounding buffers described in Section 2.1 General Approach.
- 3.2.1.2 The survey was completed in February 2026 and involved a systematic walkover of accessible areas to identify and map habitat types in accordance with standard Phase 1 Habitat Survey methodology (JNCC 2010), with cross-referencing to the UK Habitat Classification. Target notes were recorded to provide supplementary information on habitat condition, land use, and any notable ecological features observed.
- 3.2.1.3 A search for protected species field signs was undertaken concurrently with the habitat survey. This included, where appropriate, consideration of species such as otter, breeding birds, bats and other

notable fauna, based on habitat suitability and available evidence. Habitats were also assessed for their potential to support protected species in accordance with relevant NatureScot standing advice.

- 3.2.1.4 Limitations to the field survey are summarised below in Table 3-1. The main limitations were related to restricted access to parts of the survey area.

*Table 3-1 Limitations and associated mitigation measures associated with the PEA field survey*

| Type of Limitation             | Description                                                                                                                                                                                                                                                                                                                                                                                    | Mitigation                                                                                                                                                                                                                                                                             |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weather conditions             | The survey was undertaken during cold and very wet weather conditions, which may have reduced the visibility of field signs (e.g. tracks, spraint, faecal evidence) and the detectability of some species.                                                                                                                                                                                     | Habitat identification was not significantly affected. A precautionary approach has been applied, with habitat suitability and professional judgement used to inform likely species presence where field evidence may have been obscured.                                              |
| Seasonal constraints           | The survey was undertaken outside of the main growing season, when some plant species are less readily identifiable. In addition, certain species (e.g. reptiles) are less detectable during colder months.                                                                                                                                                                                    | Habitats were classified based on dominant species and structural characteristics. Habitat suitability assessments were used to inform the potential presence of protected species, with a precautionary approach applied where necessary.                                             |
| Access restrictions            | Access to some areas within the wider survey buffer, including parts of private land and croft areas, was restricted, limiting direct survey effort in these locations.                                                                                                                                                                                                                        | Where access was not possible, areas were assessed using a combination of observations from accessible viewpoints and interpretation of aerial imagery. These areas are largely outwith the Proposed Development footprint and are not considered to materially affect the assessment. |
| Detection of protected species | As with all walkover surveys, the absence of field signs does not confirm absence of protected species. Survey conditions and timing may influence detectability.                                                                                                                                                                                                                              | The level of survey effort is appropriate for a PEA. The assessment is informed by habitat suitability, desk study data and professional judgement, in accordance with CIEEM guidance, and the precautionary principle has been applied.                                               |
| Intertidal survey coverage     | The field survey was limited to terrestrial and intertidal habitats accessible at the time of survey. A specialist intertidal habitat survey was not undertaken and instead a broad analysis of coastal habitat was completed in line with Phase 1 criteria. The Phase 1 criteria does not align with the key classification for features of conservation interest (Priority Marine Features). | Intertidal habitat was assessed by a remote surveyor using photographs taken by field surveyors, to assess broad level conservation value and requirement for further survey.                                                                                                          |

| Type of Limitation                         | Description                                                                                                                                                                                                                                                                              | Mitigation                                                                                                                         |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Phase 1 habitat survey conversion to UKHab | The habitat survey was conducted as a Phase 1 survey and results were additionally converted to give each habitat an equivalent UKHab classification code. However, Phase 1 and UKHab do not directly link, so there is some difference in some of the classifications for habitat type. | The UKHab classification should be seen as supplementary information, whilst the Phase 1 results are the main focus of the survey. |

## 4 Results

### 4.1 Desk Study Results

#### 4.1.1 Designated Sites

4.1.1.1 A search for all internationally and nationally statutorily designated sites was made using NatureScot's SiteLink website (NatureScot 2026). Designated sites within 10 km of the proposed development are listed below in Table 4-1.

Table 4-1. Statutory designated sites and their protected features, within 10 km of the proposed development.

| Site name                        | Designation   | Proximity to survey area | Qualifying Features / Conservation Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------|---------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| West Coast of the Outer Hebrides | SPA           | Within (0 km)            | <ul style="list-style-type: none"> <li>Black-throated diver (<i>Gavia arctica</i>), non-breeding</li> <li>Eider (<i>Somateria mollissima</i>), non-breeding</li> <li>Great northern diver (<i>Gavia immer</i>), non-breeding</li> <li>Long-tailed duck (<i>Clangula hyemalis</i>), non-breeding</li> <li>Red-breasted merganser (<i>Mergus serrator</i>), non-breeding</li> <li>Slavonian grebe (<i>Podiceps auritus</i>), non-breeding</li> <li>Red-throated diver (<i>Gavia stellata</i>), breeding</li> </ul> |
| Sandray                          | Seal Haul-Out | 4.5 km south             | Breeding Colony Seal Haul Out <ul style="list-style-type: none"> <li>Grey seal (<i>Halichoerus grypus</i>)</li> </ul> Protects all seal species, year-round.                                                                                                                                                                                                                                                                                                                                                     |

|                                 |               |                  |                                                                                                                                                                                                                                 |
|---------------------------------|---------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 'Small Seal Islands' (Flodaigh) | SSSI          | 5.2 km southwest | Breeding Colony / Pupping Site <ul style="list-style-type: none"> <li>Grey seal (<i>Halichoerus grypus</i>)</li> </ul>                                                                                                          |
| Aird Ghrein & Sgeir Liath       | Seal Haul-Out | 5.0 km north     | Seal Haul Out <ul style="list-style-type: none"> <li>Harbour seal (<i>Phoca vitulina</i>)</li> <li>Grey seal (<i>Halichoerus grypus</i>)</li> </ul> Protects all seal species, year-round.                                      |
| Sea of the Hebrides             | MPA (NC)      | 6.4 km east      | <ul style="list-style-type: none"> <li>Basking shark (<i>Cetorhinus maximus</i>)</li> <li>Minke whale (<i>Balaenoptera acutorostrata</i>)</li> <li>Fronts</li> <li>Marine Geomorphology of the Scottish Shelf Seabed</li> </ul> |
| Sound of Barra                  | SAC           | 8.6 km northeast | <ul style="list-style-type: none"> <li>Harbour seal (<i>Phoca vitulina</i>)</li> <li>Reefs</li> <li>Subtidal sandbanks</li> </ul>                                                                                               |
| Eoligarry                       | SSSI          | 9.5 km north     | <ul style="list-style-type: none"> <li>Coastal Geomorphology of Scotland</li> <li>Machair</li> <li>Sand dunes</li> </ul>                                                                                                        |
| Pabbay                          | Seal haul-out | 9.6 km south     | Breeding Colony / Pupping Site <ul style="list-style-type: none"> <li>Grey seal (<i>Halichoerus grypus</i>)</li> </ul> Protects all seal species, year-round.                                                                   |

## 4.1.2 Protected Species

### Terrestrial

4.1.2.1 NBN Atlas returned records of several species listed on the Scottish Biodiversity List that were recorded within a 5 km search radius of the development footprint (Table 4-2).

Table 4-2. Species of fauna and flora listed on the Scottish Biodiversity List within a 5 km radius of the site boundary (only avian fauna which feature on SBL as well as feature in West Coast of Outer Hebrides SPA).

| Common name          | Scientific name       | Records within 5 km |
|----------------------|-----------------------|---------------------|
| <b>Fauna</b>         |                       |                     |
| Otter                | <i>Lutra lutra</i>    | 20                  |
| Black-throated diver | <i>Gavia arctica</i>  | 44                  |
| Red-throated diver   | <i>Gavia stellata</i> | 35                  |

|                              |                                 |     |
|------------------------------|---------------------------------|-----|
| Great northern diver         | <i>Gavia immer</i>              | 66  |
| Slavonian grebe              | <i>Podiceps auritus</i>         | 1   |
| Great yellow bumblebee       | <i>Bombus distinguendus</i>     | 56  |
| Moss carder bee              | <i>Bombus muscorum</i>          | 219 |
| Northern colletes mining bee | <i>Colletes floralis</i>        | 42  |
| Fox moth                     | <i>Macrothylacia rubi</i>       | 3   |
| Oak eggar moth               | <i>Lasiocampa quercus</i>       | 1   |
| <b>Flora</b>                 |                                 |     |
| Irish Lady's-tresses Orchid  | <i>Spiranthes romanzoffiana</i> | 30  |

## 4.2 Phase 1 Habitat Survey Results

### 4.2.1 Habitats

Table 4-3. The key Phase 1 habitat classifications identified during the habitat survey, alongside the equivalent UKHab classifications and their conservation importance.

| Phase 1 classification & code      | UKHab classification (level 4)                                                     | Importance                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| B1.2 Acid grassland semi-improved  | g1 101<br>Acid grassland, cattle grazed                                            | <ul style="list-style-type: none"> <li>UK BAP habitat</li> <li>SBL</li> </ul>                                   |
| B4 Improved grassland              | g4 14 101<br>Modified grassland, cattle grazed, scattered rushes                   | n/a                                                                                                             |
| B5 Marshy grassland                | f2b 14 101<br>Purple moor-grass and rush pastures, scattered rushes, cattle grazed | <ul style="list-style-type: none"> <li>UK BAP habitat</li> </ul>                                                |
| D1 Dry dwarf shrub heath           | h1a 801<br>Lowland Heathland, road verge or island                                 | <ul style="list-style-type: none"> <li>UK BAP habitat</li> </ul>                                                |
| D2 Wet dwarf shrub heath           | h1a7 100 503<br>Wet heathland with cross-leaved heath – lowland, grazed, wet       | <ul style="list-style-type: none"> <li>UK BAP habitat</li> <li>Annex I (EU HD) habitats</li> <li>SBL</li> </ul> |
| D6 Wet heath/acid grassland mosaic | h1a7 wet heathland and g1 acid grassland                                           | <ul style="list-style-type: none"> <li>UK BAP habitat</li> <li>Annex I (EU HD) habitats</li> </ul>              |



| Phase 1 classification & code          | UKHab classification (level 4)                                           | Importance                                                                     |
|----------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------|
|                                        |                                                                          | <ul style="list-style-type: none"> <li>SBL</li> </ul>                          |
| E2.1 Acid/neutral flush                | f2c 57 409<br>Upland flushes, fens and swamps, peat, bryophyte-dominated | <ul style="list-style-type: none"> <li>UK BAP habitat</li> </ul>               |
| F1 Swamp                               | f2<br>Fen marsh and swamp                                                | <ul style="list-style-type: none"> <li>UK BAP habitat</li> </ul>               |
| H1.1 Intertidal – mud/sand             | t2e<br>Sheltered muddy gravels                                           | <ul style="list-style-type: none"> <li>UKBAP</li> <li>PMF / Annex I</li> </ul> |
| H3 Shingle/gravel above high-tide mark | s3b<br>Coastal vegetated shingle                                         | n/a <sup>1</sup>                                                               |
| H4 Boulders/rocks above high-tide mark | t1e 701<br>Splash zone with lichens, sea wall                            | n/a                                                                            |
| I2.1 Quarry                            | s1 836 838<br>Inland rock, quarry – hard rock, disused quarry            | n/a                                                                            |
| J3.6 Buildings                         | u1b5 817 818<br>Buildings - industrial building, residential building    | n/a                                                                            |
| J4 Bare Ground                         | u1c 800 839<br>Artificial unvegetated – unsealed surface, road, track    | n/a                                                                            |
| J5 Other habitat - garden              | g 827<br>Grassland, garden                                               | n/a                                                                            |
| <b>Linear features</b>                 |                                                                          |                                                                                |
| G1 Standing water                      | r1g<br>Other standing water                                              | <ul style="list-style-type: none"> <li>UKBAP</li> </ul>                        |
| G2 Running water                       | r2b<br>Other rivers and streams                                          | <ul style="list-style-type: none"> <li>SBL</li> <li>UKBAP</li> </ul>           |
| H2.6 Dry ditch                         | h1a7 50<br>Wet heathland with cross-leaved heath, ditch                  | n/a                                                                            |
| J Miscellaneous                        | u1e<br>Built linear features                                             | n/a                                                                            |
| J2.3.4 Fence                           | u1e 612<br>Built linear features, fence                                  | n/a                                                                            |
| J4 Bare ground                         | u1e 800                                                                  | n/a                                                                            |

<sup>1</sup> Only of conservation value when recognised shingle / drift line communities present

| Phase 1 classification & code | UKHab classification (level 4)                                                                   | Importance |
|-------------------------------|--------------------------------------------------------------------------------------------------|------------|
|                               | Built linear features, road                                                                      |            |
| J5 Other habitat              | h1a7 528 839<br>Wet heathland with cross-leaved heath – lowland, walking or cycling route, track | n/a        |

## 4.2.2 Habitat Descriptions

4.2.2.1 Habitat descriptions, of all the key habitats identified within the 250 m buffer (Table 4-3), are provided below using standard Phase 1 Habitat Survey nomenclature with reference to the UKHab classification coding. These also have habitat descriptions of all the key habitats identified within the 250 m buffer (Table 4-3), are provided below using standard Phase 1 Habitat Survey nomenclature with reference to the UKHab classification coding. These have also been visualised in Figure 3 (Appendix 1).

### B1.2 Acid grassland semi-improved

4.2.2.2 This habitat is common in the southern side of the survey area, within an area of common grazing, as well as on roadside verges grassland classed as semi-improved is generally species poor due to modification and found in open areas on acid soils (Appendix 3 - Image gallery, Image 1).

4.2.2.3 Sources consulted in the desk-study such as the Sand Dune Vegetation Survey categorised this area as machair. Machair is a coastal grassland characterised by a fixed sand-dune substrate with a diverse vegetation assemblage of species which favour calcareous to neutral sandy grassland conditions. However, this area was found to have a more organic soil profile with no evidence of a sandy substrate, as well as being heavily grazed and trampled by cattle. The grassland has a very short sward and low plant species diversity and has frequent muddy patches which have been churned up. Therefore, the habitat resembles acid grassland rather than machair.

4.2.2.4 Plant species include Yorkshire fog (*Holcus lanatus*), silverweed (*Potentilla anserina*), clover (*Trifolium* sp.) species and yellow flag iris (*Iris pseudacorus*).

4.2.2.5 The equivalent UKHab classification is (g1) acid grassland.

### B4 Improved grassland

4.2.2.6 Improved grassland is limited to a small area surrounding the scheduled monument (VE06) in the northeast of the survey area (Appendix 3 - Image gallery, Image 2). Improved grassland is typically species poor and dominated by grasses which give it a characteristic bright green colour. This habitat type is formed through intensive modification, favouring plant species which prefer nutrient rich conditions and are tolerant of high grazing pressure.

4.2.2.7 A very short sward of Yorkshire fog, maintained by cattle grazing is present alongside springy turf moss (*Rhytidiadelphus squarrosus*) and occasional patches of soft rush (*Juncus effusus*). The area forms a pocket within the landscape otherwise dominated by wet dwarf shrub heath.

4.2.2.8 The correspondent UKHab code is (g4) modified grassland.

### B5 Marshy grassland

4.2.2.9 Marshy grassland is limited to three patches, in the south of the survey area, surrounded by wet heath and acid grassland mosaic. (Appendix 3 - Image gallery, Image 3) The habitat is distinguished

from wet heath by a cover of a less than 25% common heather. The ground is relatively wet and impacted by grazing and trampling by cattle.

4.2.2.10 Purple moor grass (*Molinia caerulea*) is dominant forming tussocks, alongside patches of sharp-flowered rush (*Juncus acutiflorus*). Other species present include Yorkshire fog and sheep's sorrel (*Rumex acetosella*).

4.2.2.11 This is classed within UKHab as (f2b) purple moor grass and rush pastures.

## D1 Dry dwarf shrub heath

4.2.2.12 Dry dwarf shrub heath is restricted to verges and steep banks above the road in the north of the survey area (Appendix 3 - Image gallery, Image 4). This habitat is characterised by a cover of over 25% ericoid species.

4.2.2.13 In this case, the vegetation is growing upon mineral soils. Common heather (*Calluna vulgaris*) is dominant, with almost 100% cover and is at least 20cm tall. Alongside this, bell heather (*Erica cinerea*) is frequent and cross-leaved heath (*Erica tetralix*) and Yorkshire fog are also present infrequently. The bryophyte understory is composed of feather mosses including heath plait-moss (*Hypnum jutlandicum*).

4.2.2.14 The equivalent UKHab category is (h1a) lowland heathland.

## D2 Wet dwarf shrub heath

4.2.2.15 This is the most abundant habitat type within this survey area, covering most of the hillside in the north, and a smaller area in the south. Wet dwarf shrub heath differs from dry heath by the presence of *Sphagnum* moss species and abundant purple moor grass and is distinguished from bog by existing upon peat which is less than 50cm deep.

4.2.2.16 The hillside in the north has peaty soils with no more than 30cm depth, sitting upon the Lewisian Complex – Gneiss bedrock, which frequently protrudes above the surface (Appendix 3 - Image gallery, Image 5). The ground was found to be wet during the fieldwork, with small patches of standing water, not large enough to be considered pools. Grazing influences the vegetation here, with evidence of rabbits and sheep found.

4.2.2.17 The dominant species were common heather, deergrass (*Trichophorum germanicum*) and purple moor grass, and common cotton grass (*Eriophorum angustifolium*), cross-leaved heath and *Sphagnum capillifolium* were frequently encountered. In the south of the survey area there was frequent bog asphodel (*Narcissus ossifragum*) and infrequent *Cladonia* species.

4.2.2.18 The UKHab equivalent is (h1a7) wet heathland with cross-leaved heath.

## D6 Wet heath/acid grassland mosaic

4.2.2.19 This habitat is limited to three patches, one by the roadside in the north of the survey area and the remainder in the south.

4.2.2.20 The dominant plant species are common heather, mat-grass (*Nardus stricta*) and purple moor grass. In the north of the survey area purple moor grass forms tussocks between dense patches of heather, but in contrast, this habitat has a shorter sward due to higher grazing pressure in the south of the survey area. Hummocks of the bryophyte big-shaggy moss (*Rhytidiadelphus loreus*) are frequently encountered.

4.2.2.21 The corresponding UKHab codes are (h1a7) wet heathland and (g1) acid grassland.

## E2.1 Acid/neutral flush

- 4.2.2.22 Acidic flushes are found running through wet heath in three locations in the north of the survey area and one in the south of the survey area.
- 4.2.2.23 The Phase 1 habitat survey classification describes flushes as being associated with water movement and forming peat up to 0.5m deep. On this site, small streams of water run through a vegetation assemblage characteristic of an acidic flush; low plant species diversity with a carpet of *Sphagnum* mosses coexisting with rush or sedge species. The peat depth within the flushes was generally around 50-60cm, with outliers of depths up to 1m, challenging whether these areas should be classified as pockets of bog or acidic flushes. Ultimately, their hydrology, occurrence on sloping ground and linear/triangular form is most consistent with the category selected (E2.1 acid/neutral flush), rather than E.1.6.1 blanket bog. It should be noted that during the survey, it was not determined whether the small streams running through flushes were solely overland flow generated by precipitation or fed by groundwater.
- 4.2.2.24 *Sphagnum fallax*, is most dominant species, forming lawns and *Sphagnum cuspidatum* is frequent where there are small pools of water. (Appendix 3 - Image gallery, Image 5) Other bryophyte species present include *Sphagnum subnitens*, *Sphagnum rubellum*, *Sphagnum papillosum* and *Sphagnum palustre*. Vascular plants which coexist with these mosses include deergrass, cross-leaved heath, common heather, bog asphodel, common cotton grass and hare's tail cotton grass (*Eriophorum vaginatum*). In some cases, flushes were dominated by tussocks of purple moor grass instead of *Sphagnum* mosses.
- 4.2.2.25 The equivalent UKHab classification is (f2c) upland flushes, fens and swamps.

## F1 Swamp

- 4.2.2.26 Swamps are classified by tall emergent vegetation, in standing water for most of the year.
- 4.2.2.27 On the western site boundary, south of the road, there is a seasonally inundated pool (Appendix 3 - Image gallery, Image 6). At the time of fieldwork (February), the area was waterlogged, but satellite imagery indicates that this area is not waterlogged in the summer. However, the proportion of the year that the area is inundated is unknown.
- 4.2.2.28 *Equisetum fluviatile* (water horsetail) is dominant and *Potamogeton polygonifolius* (bog pondweed) is also present.
- 4.2.2.29 This feature is categorised as (f2) fen marsh and swamp within the UKHab classification.

## H1.1 Intertidal – mud / sand

- 4.2.2.30 This habitat occurs along the shoreline and is most extensive on the eastern side of the survey area at Vatersay.
- 4.2.2.31 The intertidal zone lies between Mean High-Water Springs (MHWS) and (MLWS). The causeway has created a more sheltered environment on its eastern flank, facilitating the accumulation of sand and fine sediment and differentiating this area from the more exposed western shore.
- 4.2.2.32 On the eastern shore, the upper intertidal comprises stones and rocks, grading downslope into sand and then mud towards the lower shore (Appendix 3 - Image gallery, Image 7). Within the more transitional upper-shore areas towards the causeway, rocks and shingle are dominated by egg wrack (*Ascophyllum nodosum*). Empty shells of common cockle (*Cerastoderma edule*), common periwinkle (*Littorina littorea*), common limpet (*Patella vulgata*) and dog whelk (*Nucella lapillus*) were also recorded frequently. Individual fronds of seagrass (likely to be *Zostera* sp.) were noted as beach-cast material. Beyond the

immediate sheltered environment of the causeway, seaweed communities are dominated by fucoids including bladder wrack (*Fucus vesiculosus*) and spiral wrack (*Fucus spiralis*).

- 4.2.2.33 The habitat shows evidence of local disturbance associated with the causeway, coastal protection, surface water outfalls and use of the shoreline for onshore boat berthing. The shoreline lies immediately adjacent to the existing harbour boundary.
- 4.2.2.34 This corresponds to the UKHab category (t2e) sheltered muddy gravels (UKHab code: t2e Sheltered muddy gravels).

### H3 Shingle/gravel above high-tide mark

- 4.2.2.35 Shingle above the high-tide mark is restricted to two locations in the southern half of the survey area at Vatersay. The shingle is relatively uniform in size, with occasional larger rocks present (Appendix 3 - Image gallery, Image 8). Towards the top of the beach, accumulations of beach cast strandline seaweed are present in places. Conspicuous vegetation and fauna are sparse.
- 4.2.2.36 On and adjacent to the shingle beach in the south-east of the survey area, two very small patches of eroding saltmarsh were recorded (Appendix 3 - Image gallery, Image 9). These areas were too small to map as separate habitat parcels and were therefore recorded as target notes (Appendix 2 – Phase 1 Habitat Survey Target notes, VE26, VE28). The saltmarsh was limited in extent and poorly developed, with no clear zonation or development of creeks or pans. Thrift (*Armeria maritima*) was the only conspicuous species identified from photographic records (Section 9 describes survey limitations). Other vegetation observed included evidence of sea sandwort (*Honkenya peploides*), other species typical annual vegetation of the strandline were not clearly observed due to survey timing.
- 4.2.2.37 Coastal vegetated shingle (s3b) is the equivalent UKHab classification.

### H4 Boulders/rocks above high-tide mark

- 4.2.2.38 Boulders/rocks above the high-tide mark comprise artificial boulder sea defence forming the base of the causeway and coastal protection along its eastern flank (Appendix 3 - Image gallery, Image 15), where rock armour also protects and locally raises the road. Conspicuous flora and fauna are sparse and comprise mainly maritime lichens and cast seaweed. Marine litter, including creels, ropes and polystyrene, was recorded trapped within crevices between boulders. A surface water outfall was also noted in one location, with no visible evidence of pollution at the time of survey.
- 4.2.2.39 The corresponding UKHab classification is (t1e 701) splash zone with lichens, sea wall.

## I2.1 Quarry

- 4.2.2.40 A disused quarry is situated in the north of the survey area and will be used as borrow pit for this development. The bedrock is Lewisian Gneiss. The area quarried is small, with steep, unvegetated faces of rock. On the hillside north of the quarry is wet dwarf shrub heath with an acidic flush running through it.
- 4.2.2.41 This is categorised as the UKHab category (s1 836 838) inland rock, quarry – hard rock, disused quarry.

## J3.6 Buildings

- 4.2.2.42 This category is associated with houses and the commercial building by the quarry.
- 4.2.2.43 This equivalent classification for UKHab is (u1b5) buildings.

## J4 Bare ground

- 4.2.2.44 Bare ground in the survey area refers to parking areas and driveways.

4.2.2.45 These areas are classified as (u1c) artificial unvegetated – unsealed surface within UKHab.

### **J5 Other habitat – garden**

4.2.2.46 Gardens associated with private properties in the south of the survey area. These are composed of grassland plant species similar to those on the nearby roadsides which are classed as acid grassland, semi-improved.

4.2.2.47 UKHab are categorises gardens as (g 827) grassland, garden.

## **4.2.3 Linear Features**

4.2.3.1 Descriptions of all key linear features identified within the 250m, shown in Table 4-3, are provided below using standard Phase 1 Habitat Survey nomenclature with reference to the UKHab classification coding. These have been visualised in Figure 4 (Appendix 1).

### **G1 Standing water**

4.2.3.2 Standing water is found in drainage ditches within the southern side of the survey area in Vatersay. The most significant feature being a drainage ditch spanning an area of marshy grassland and connecting with the seasonally inundated pond (described as a swamp, F1). This drain had an unvegetated peaty substrate and had standing water during the site visit. It is possible that the water may flow slowly at some times of year as could alternatively be classed G2 running water. (Appendix 3 - Image gallery, Image 10) The other drain observed were generally more vegetated and shallower.

4.2.3.3 The equivalent UKHab code is (r1g) other standing water.

### **G2 Running water**

4.2.3.4 There are two watercourses in the north of the site, one running into an under the road drain, one running through an acid flush above the quarry, both are small streams.

4.2.3.5 Running water was also found in a roadside ditch in the north of the survey area which connected with the former watercourse described above, at a culvert.

4.2.3.6 Running water is classed as (r2b) other rivers and streams within UKHab.

### **H2.6 Dry ditch**

4.2.3.7 There is one roadside drainage ditch which was dry during the survey. It should be noted that the classification of G1 standing water, G2 running water and H2.6 dry ditches may change seasonally or after high periods of rainfall, and therefore only based on the conditions present at the time of the survey.

4.2.3.8 This dry ditch borders multiple habitats but it is adjacent to a significant area of wet heathland, so it was given the UKHab code (h1a7 50) wet heathland with cross-leaved heath, ditch.

### **J Miscellaneous (utilities)**

4.2.3.9 This refers to overhead electricity lines in the both the north and south of the survey area. Submarine cables were not mapped.

4.2.3.10 Overhead electricity lines were given the UKHab code (u1e) built linear features.

### **J2.3.4 Fence**

4.2.3.11 Fencing is generally rylock fencing. The majority of the fences appeared in good condition during the survey, with the exception of a few points where the fence was trampled by cattle. (Appendix 2 – Phase 1 Habitat Survey Target notes, VE27, Appendix 3 - Image gallery, Image 11).

4.2.3.12 Fences are recorded as (u1e 612) built linear features, fence in UKHab.

## **J4 Bare Ground**

4.2.3.13 Bare ground in the survey area included the road running across the causeway and smaller tracks up to private properties.

4.2.3.14 The UKHab code is (u1e 800), built linear features, road.

## **J5 Other habitat (vegetated access track)**

4.2.3.15 There is a complex of access tracks across the wet dwarf shrub heath in the north of the site. They are mainly vegetated, and with some areas of bare peat or exposed soil (Appendix 2 – Phase 1 Habitat Survey Target notes, VE09). In several cases, the tracks run through the wetter of the flushes' areas over deeper peat. (Appendix 3 - Image gallery, Image 12).

4.2.3.16 Additionally, a publicly accessible footpath which is part of the Hebridean Way, runs through the wet heath in the north of the site. The route of this footpath partially unclear due to the abundance of access tracks in this area but multiple waymarkers were observed roughly leading to the north.

4.2.3.17 The access tracks and footpath were classed as (h1a7 528 839) wet heathland with cross-leaved heath – lowland, walking or cycling route, track, according to the UKHab classification.

## **4.2.4 Invasive Non-Native Species (flora)**

4.2.4.1 No invasive non-native species of flora were recorded within the survey area during the Phase 1 habitat survey.

## **4.3 Protected Species Survey results**

### **4.3.1 Otter**

#### **Walkover**

4.3.1.1 On the northern side of the causeway, evidence of otter activity was concentrated around freshwater inputs and adjacent coastal areas. Multiple field signs were recorded in close proximity, including spraint of varying age and anal jelly (FS03, FS04, Appendix 3 - Image gallery, Image 16, FS11 and FS13), prey remains such as limpet, crab and mussel (FS08), and well-defined paths (FS02, Appendix 3 - Image gallery, Image 15, FS07, FS09 and FS20) indicating regular movement between inland, freshwater and coastal habitats.

4.3.1.2 Several features of high importance were identified, including active resting places (FS06, FS11 and FS18), one of which was confirmed by a live otter sighting (FS05). Freshwater features, including culverts functioning as wash pools (FS01 and FS13), supported concentrated activity, with associated castling piles and sprainting behaviour suggesting use by multiple individuals. Variations in spraint size and colour may indicate the presence of more than one otter, potentially including a breeding female and cubs. Additional evidence, including pawprints and scraping (FS15, Appendix 3 - Image gallery, Image 17) and potential milk spraint (FS12), further supports sustained and potentially breeding-related use of this area.

4.3.1.3 A potential resting place (FS22) was identified within the northern section of the site, in proximity to the quarry. This feature could not be fully assessed during the survey due to adverse weather conditions and access constraints. Evidence at this location comprised a nutrient-rich deposit, potentially representing a castling pile, suggesting possible otter use; however, this could not be confirmed from a distance. Given



its location within approximately 100 m of the proposed blasting works, further targeted assessment is recommended to confirm its status.

- 4.3.1.4 On the southern side of the causeway, no evidence of otter activity was recorded during the survey. This is likely to reflect lower habitat suitability, including limited freshwater availability (with only brackish or stagnant sources present), reduced opportunities for shelter, and the proximity of residential properties and associated disturbance. The shoreline in this area is also more exposed, further reducing its suitability for resting or sheltering.
- 4.3.1.5 Overall, the survey results indicate that the site supports a high level of otter activity, with particularly intensive use of the northern section where freshwater inputs, shelter and foraging opportunities coincide. The full list of field signs identified can be found in see Table 4-4. The location of field signs are provided in Appendix 5 - Confidential Appendix – Protected Species Field Signs.

### 4.3.2 Habitat Evaluation

- 4.3.2.1 Multiple signs of otter were found during the walkover of the site and surrounding buffer (200 m). These were concentrated on the northern side of the causeway, with no evidence of otter presence found on the southern side of the causeway. The full list of field signs identified can be found in see Table 4-4. The location of field signs are provided in Appendix 5 - Confidential Appendix – Protected Species Field Signs.
- 4.3.2.2 **Prey Availability:** Prey availability is assessed as high, with multiple coastal foraging opportunities. These include crab, limpets, mussels, fish, scallops and clams, all of which were observed as prey remains during the survey. Terrestrial foraging may include frogs and ground-nesting birds during the breeding season.
- 4.3.2.3 **Cover Opportunities:** The north side of the site has ample cover opportunities in the form of sea wall boulders, crevices, and other holes within marine infrastructure, extending into the heather and peat of the hillside. On the south side of the site, there are fewer cover opportunities, with the shore comprising flat rock or shingle beach with only a few areas of boulders. The southern shoreline is adjacent to a road, with residential dwellings and grazed land behind, which appears less suitable for otter.
- 4.3.2.4 **Freshwater Opportunities:** Freshwater sources are variable across the site, with more consistent availability on the north side. This includes a number of culverts, one of which appears to be highly favoured by multiple otter and is well screened from the road. On the southern side, one drain was identified on the south-east side of the site, along with a couple of brackish, stagnant pools on the west side. Overall, freshwater availability at the site is assessed as high.
- 4.3.2.5 **Disturbance:** There are a number of human activities on site that may affect otter, particularly on the northern side. There is a quarry which, although not currently in use, has an associated building with multiple cars entering and leaving daily. The road to Vatersay is relatively busy, with cars passing every 5 to 10 minutes during the survey. On the southern side of the site, there are a number of residential properties near the shore, several of which had active building works. In addition, works were taking place at the pier. A dog walker was observed, and there is fishing activity in the surrounding area. Disturbance is therefore assessed as medium across the site, however, the presence of otter on site indicates habituation to these human activities.
- 4.3.2.6 **Breeding:** Breeding potential is likely to be limited to the north-eastern section of the site, further inland and upslope. No signs of a breeding holt were identified; however, given the typically well-concealed nature of breeding holts, this is to be expected. Due to the presence of freshwater sources, relatively low

disturbance, high prey availability, and overall habitat suitability, the area is considered likely to support breeding otter.

*Table 4-4. Field signs recorded during the otter walkover survey.*

| ID   | Otter Sign              | Notes                                                                                                                                                             |
|------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FS01 | Potential washpool      | Potential washpool culvert running to the sea, but low flow so may not be big enough for washing, nearest freshwater.                                             |
| FS02 | Path                    | Path running from top of seawall adjacent to the sea running east away from the causeway.                                                                         |
| FS03 | Spraint & anal jelly    | Washed out spraint and anal jelly near start of path.                                                                                                             |
| FS04 | Spraint                 | Pile of spraint of multiple ages, including recent despite rain.                                                                                                  |
| FS05 | Live sighting           | Sighting of otter coming from inland and heading into the sea less than 2 m away. Adult, thought to be female.                                                    |
| FS06 | Active resting place    | Active resting place in a lobster pot stack confirmed active by otter coming from it.                                                                             |
| FS07 | Path                    | Path into pot stack from both sides clearly active with freshly flattened veg.                                                                                    |
| FS08 | Prey remains            | Multiple prey remains including limpet crab and mussel.                                                                                                           |
| FS09 | Path                    | Path ends along the shore and converges to head back towards lobster pots and towards sea.                                                                        |
| FS10 | Path                    | Path from freshwater source by coast back in land.                                                                                                                |
| FS11 | Active resting place    | Active holt defined by multiple spraints, prey remains and path coming from another freshwater source.                                                            |
| FS12 | Potential milk spraint  | Potential milk spraint.                                                                                                                                           |
| FS13 | Washpool                | Washpool from culvert with castling pile and lots of spraint. Multiple otters use this, suggest mother and cubs by size of spraints associated important feature. |
| FS14 | Castling pile           | Castling pile, including milk spraint potentially.                                                                                                                |
| FS15 | Pawprints               | Pawprints in mud and scraping with paws, multiple otter.                                                                                                          |
| FS16 | Path                    | Path along coast.                                                                                                                                                 |
| FS17 | Castling pile           | Castling pile with spraint of varying freshness.                                                                                                                  |
| FS18 | Active resting place    | Many paths and resting places heading towards roads through dense vegetation.                                                                                     |
| FS20 | Path                    | Path up from the culvert to under the fence line suggestive of breeding somewhere in land.                                                                        |
| FS22 | Potential resting place | Potential resting place difficult to access but evidence of high nutrient deposit which could be casting pile.                                                    |

### 4.3.3 Bats

- 4.3.3.1 The suitability of the site for bats is considered to be negligible. There are no features within the Proposed Development footprint that are likely to support roosting bats. Residential buildings are present within the wider area; however, these were not assessed as part of this PEA and are located out with the development footprint.
- 4.3.3.2 The surrounding habitat is dominated by grazed grassland, heathland and coastal environments, which offer limited structural diversity and low suitability for foraging bats. In addition, there are no well-defined linear features, such as hedgerows or treelines, that would facilitate commuting.
- 4.3.3.3 Overall, the site provides very limited opportunities for roosting, foraging or commuting bats. As such, bats are not considered further within this appraisal.

### 4.3.4 Mountain hare

- 4.3.4.1 No evidence of mountain hare was recorded during the site visit. Suitable habitat within the Proposed Development footprint is limited, with more suitable habitat restricted to the fringes of the survey area, particularly within the northern section.
- 4.3.4.2 Given the limited extent of suitable habitat within the footprint, and the low likelihood of regular use of the development area, mountain hare are not considered further within this appraisal.

### 4.3.5 Reptiles (Slow worm)

- 4.3.5.1 Habitat suitability for slow worm within the site is considered to be limited. While a small number of features (e.g. stones or anthropogenic materials) may provide localised refuge or hibernation opportunities, the surrounding grassland is heavily grazed and subject to frequent disturbance, reducing its suitability for supporting slow worm.
- 4.3.5.2 In addition, the site is highly exposed to coastal influences, including strong winds and salt spray, which further reduce habitat suitability and prey availability.
- 4.3.5.3 Overall, the site is considered to have low potential to support slow worm, and this species is not considered further within this appraisal.

### 4.3.6 Freshwater Ecology

- 4.3.6.1 Very limited freshwater habitat is present within the site, comprising drainage features, culverts associated with surface water runoff, and a small seasonal pool system. These features are shallow, ephemeral or highly modified, and do not provide suitable habitat to support protected or notable freshwater species.
- 4.3.6.2 As such, the potential for freshwater species to be present within the site is considered to be negligible, and freshwater ecology is not considered further within this appraisal.

### 4.3.7 Birds

- 4.3.7.1 The walkover was undertaken in suboptimal weather conditions (high winds with consistent rain) and during the winter period, when bird activity is lower. Observations of birds were recorded opportunistically to inform the ecological context of the site; however, this did not comprise a dedicated ornithological survey. As such, the records presented in Table 4-5 are not intended to represent a comprehensive assessment of bird assemblages or population estimates, and are used to support, but not form the basis

of, the ecological appraisal. Professional judgement, local knowledge and a precautionary approach have been applied in interpreting bird use of the site within this PEA.

*Table 4-5. Birds registered during the site walkover, and their status on the IUCN Birds of Conservation Concern List.*

| Common name              | Scientific name              | Conservation status | Location and notes                                                                                                             |
|--------------------------|------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Oystercatcher            | <i>Haematopus ostralegus</i> | BoCC Amber          | Likely pair on the foreshore of the southern side, alarm calling; second pair observed on the island.                          |
| Herring gull             | <i>Larus argentatus</i>      | BoCC Red            | Multiple flyovers; also recorded on the island.                                                                                |
| Great black-backed gull  | <i>Larus marinus</i>         | BoCC Amber          | Multiple flyovers; also recorded on the island.                                                                                |
| Lesser black-backed gull | <i>Larus fuscus</i>          | BoCC Amber          | Multiple flyovers; also recorded on the island.                                                                                |
| Common gull              | <i>Larus canus</i>           | BoCC Amber          | Multiple flyovers; also recorded on the island.                                                                                |
| European shag            | <i>Gulosus aristotelis</i>   | BoCC Amber          | Multiple individuals (three observed together) resting on rocks on the northern side of the causeway and foraging to the east. |
| Great northern diver     | <i>Gavia immer</i>           | BoCC Amber          | Observed rafting on the sea to the western side of the causeway.                                                               |
| Black guillemot          | <i>Cephus grylle</i>         | BoCC Amber          | Three individuals observed rafting on the sea to the western side of the causeway.                                             |
| Common guillemot         | <i>Uria aalge</i>            | BoCC Amber          | Three individuals observed rafting on the sea to the western side of the causeway.                                             |
| Starling                 | <i>Sturnus vulgaris</i>      | BoCC Red            | Multiple individuals resting on man-made structures and marine equipment near the jetty on the southern side.                  |
| Redwing                  | <i>Turdus iliacus</i>        | BoCC Amber          | Multiple individuals resting on man-made structures and marine equipment near the jetty on the southern side.                  |
| Blackbird                | <i>Turdus merula</i>         | BoCC Green          | Multiple individuals resting on man-made structures and marine equipment near the jetty on the southern side.                  |

## Breeding birds

4.3.7.2 The suitability of the site for breeding birds is generally limited within the development footprint and immediate vicinity, and is influenced by levels of disturbance, particularly above the strandline. These

areas provide some suitable nesting habitat for coastal and ground-nesting species. If disturbance levels are low (e.g. limited dog walking, pedestrian activity and livestock presence), species such as oystercatcher may utilise these areas for breeding, with open shingle and rocky shoreline also offering potential for species such as ringed plover, gulls and redshank. However, the presence of residential housing, livestock and signage relating to public access suggests that disturbance levels are likely to be moderate during the breeding season. The offshore island represents suitable habitat within the vicinity of the project, with potential to support breeding gulls and waders.

- 4.3.7.3 The survey was undertaken in February, prior to the breeding season, and therefore evidence of breeding birds was not expected. Nevertheless, a likely pair of oystercatcher was recorded on the southern foreshore exhibiting alarm calling behaviour, with a second pair present on the island, suggesting early territorial activity. Multiple gull species, including herring gull, great black-backed gull, lesser black-backed gull and common gull were recorded both in flight and on the island, further indicating its suitability as a potential breeding location.
- 4.3.7.4 The wider survey area supports a greater extent of suitable habitat for breeding birds, including grassland and heath habitats which may support ground-nesting species such as curlew and redshank. These habitats are generally more distant from the development footprint, with limited connectivity to the works area, and are considered unlikely to be directly affected. The wider area has suitable habitat for corncrake, a Schedule 1 protected species. Works are not proposed to temporarily or permanently destroy suitable corncrake breeding habitat.
- 4.3.7.5 Impacts to foraging habitat are expected to be minimal, as only a small section of coastline would be affected by the proposed works. Any disturbance to foraging birds is likely to be temporary and largely restricted to the construction phase, with sufficient alternative habitat available in the surrounding area. Red-throated diver, a qualifying feature of the West Coast of the Outer Hebrides SPA, breeds in remote freshwater lochans and is protected from disturbance during the breeding season. The nearest potential breeding habitat is located approximately 760 m north of the causeway. While the site lies within potential foraging range, the limited spatial extent of the works and the presence of existing marine activity indicate that additional impacts are unlikely, should divers breed there.
- 4.3.7.6 Overall, the site is considered to have low to moderate suitability for breeding birds, with the highest suitability associated with the offshore island and wider survey area, and more limited potential within the development footprint itself.

## Wintering birds

- 4.3.7.7 The immediate waters associated with the causeway are located within the West Coast of the Outer Hebrides SPA, which is designated for a range of wintering and migratory waterbird species. Within the context of this assessment, consideration of wintering birds relates specifically to those utilising the marine environment, rather than terrestrial or intertidal habitats.
- 4.3.7.8 During the survey, undertaken in mid-February, several species associated with marine habitats were recorded within the waterbody, including great northern diver, black guillemot, common guillemot and European shag. These species were observed rafting and foraging within the waters around the causeway, indicating use of the site as part of a wider foraging resource. The causeway is likely to provide a degree of shelter from prevailing conditions, which may increase its localised use by waterbirds; however, no significant aggregations were recorded at the time of survey.
- 4.3.7.9 The suitability of the site for wintering birds is therefore considered to be moderate, reflecting its inclusion within the SPA and the availability of suitable marine habitat. However, the area of water directly

associated with the proposed works is relatively small and forms part of a much larger continuous habitat. The presence of existing boat activity within the area indicates that birds using this section of coastline are likely to be habituated to a degree of disturbance. As such, any effects are likely to be limited in scale and largely confined to temporary disturbance during the construction phase, with sufficient alternative habitat available within the surrounding waters.

### 4.3.8 Invasive Non-native Species (Fauna)

- 4.3.8.1 One potential American mink (*Neovison vison*) scat was recorded on site (Appendix 3 - Image gallery, Image 18), located in the vicinity of a potential burrow or shelter feature. No evidence of a den or repeated activity was identified, and the record is considered to represent transient use of the area.
- 4.3.8.2 American mink are a highly mobile and widespread invasive non-native species within coastal environments, and their presence is not considered unusual in this context.

## 5 Recommendations

### 5.1 Overview

- 5.1.1.1 Based on the survey findings and given the scale and nature of the Proposed Development within an already modified and active coastal environment, the potential for significant ecological effects is considered to be low.
- 5.1.1.2 The recommendations set out below are provided to ensure compliance with relevant legislation, apply proportionate mitigation, and address identified ecological sensitivities.

### 5.2 Designated Sites

- 5.2.1.1 The desk study identified one designated site with potential connectivity to the proposed development. This designation is linked to breeding and wintering bird interests.

#### 5.2.2 West Coast of the Outer Hebrides SPA

- 5.2.2.1 The marine element of the site footprint lies within SPA, which is designated for:
- Breeding red-throated diver (foraging areas only); and
  - Non-breeding aggregations of Annex I and migratory waterbird species associated with inshore waters (including divers, seaducks and grebes).

### Recommendations

- **Timing of works** – where practicable, in-water works should be programmed outside the peak wintering period (October to March), when qualifying SPA features are most likely to be present. Where this is not possible, works may proceed with appropriate good practice measures in place to minimise disturbance.
- **Disturbance minimisation (vessels and plant)** - construction activities should be managed to minimise sudden or prolonged disturbance to waterbirds. This includes, avoiding unnecessary vessel movements, maintaining steady speeds and avoiding rapid changes in direction, and avoiding clustering of vessels where possible.
- **Toolbox talks** - all site personnel should receive an ecological toolbox talk outlining the sensitivity of SPA bird species, particularly rafting and foraging birds, and the need to minimise disturbance.

- **CEMP** - Works should be undertaken in accordance with a Construction Environmental Management Plan (CEMP), incorporating standard good practice measures for pollution prevention, sediment control and disturbance minimisation.

## 5.2.3 Habitats Regulations Appraisal (HRA)

- 5.2.3.1 The Proposed Development is located within, and has connectivity to, European designated sites, including the Sound of Barra Special Area of Conservation (SAC) and Special Protection Area (SPA).
- 5.2.3.2 As such, the Proposed Development will require consideration under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). A Habitats Regulations Appraisal (HRA) will be undertaken by the competent authority as part of the marine licensing process.
- 5.2.3.3 The findings of this Preliminary Ecological Appraisal indicate that potential effects are likely to be limited to temporary and localised disturbance during construction, and that these can be appropriately managed through standard mitigation measures.

## 5.3 Otter

- 5.3.1.1 Otter activity is well established within the survey area, particularly on the northern side of the causeway, where multiple resting places, paths and foraging signs were recorded. While no confirmed breeding holt was identified, the presence of suitable habitat and potential breeding indicators suggests that breeding otter may be present within the wider area.
- 5.3.1.2 The following measures are recommended to ensure compliance with the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and to avoid disturbance to otter.

## Recommendations

- **Pre-construction survey** – An updated otter survey should be undertaken by a suitably qualified ecologist no more than three months prior to the commencement of works, with particular focus on areas of suitable habitat within and adjacent to the works footprint and within the blast radius.
- **Works in proximity to the quarry** – Given the presence of active and potential resting places in proximity to the quarry, where blasting is proposed, a pre-construction check should be undertaken prior to works to confirm the status of these features. Where active resting places are identified within influence of blasting, an appropriate buffer should be implemented (minimum 100 m). Should this not be possible, a licence will be required.
- **Protection of resting places** – Where resting places (e.g. couches or holts) are identified within or adjacent to the works area, an appropriate buffer should be implemented. As a guide, a minimum 30 m buffer for resting places and a minimum 200 m buffer for any confirmed breeding holt should be applied, with buffers refined based on site-specific conditions.
- **Licensing** – Should works be required within the buffer of a confirmed breeding holt, or if disturbance cannot be avoided, a licence from NatureScot may be required.
- **Ecological supervision** – An Ecological Clerk of Works (ECoW) should be appointed to oversee works in sensitive areas, including initial site clearance and works near watercourses, the shoreline and identified otter features.
- **Sensitive working practices** – Construction activities should be managed to minimise disturbance to otter, including avoiding unnecessary night-time working where practicable, minimising sudden increases in noise and lighting, and ensuring safe storage of materials to prevent entrapment.

- **Pollution prevention** – Appropriate pollution prevention measures should be implemented to protect water quality, including adherence to best practice guidance (e.g. SEPA GPPs), to avoid impacts to prey availability and freshwater features used by otter.
- **Toolbox talks** – All site personnel should receive a toolbox talk outlining otter legal protection, identification of field signs, and procedures to follow if otter are encountered during works.

## 5.4 Breeding birds

- 5.4.1.1 The site supports limited suitable habitat for breeding birds within the development footprint, with greater potential in the wider area and on the offshore island. The following measures are recommended to ensure compliance with the Wildlife and Countryside Act 1981 (as amended).

### Recommendations

- **Timing of works** – works should avoid the over wintering period where possible. Where works must occur during the breeding season, they may only proceed following a nesting bird check undertaken by a suitably qualified ecologist within 48 hours prior to works commencing. Should active nests be identified, works in the vicinity will be delayed until a suitably trained ecologist can confirm that the nest is no longer in use, or an appropriate buffer is applied, ensuring compliance with the Wildlife and Countryside Act 1981 (as amended).
- **Vegetation clearance** - vegetation clearance and works affecting potential nesting habitat should, where practicable, be undertaken outside the main breeding bird season (April to August inclusive).
- **Pre-construction checks** - where works are required during the breeding season, a nesting bird check should be undertaken by a suitably qualified ecologist within 48 hours prior to works commencing. This should include any suitable habitats within and immediately adjacent to the works area.
- **Protection of active nests** - if active nests are identified, including those of Schedule 1 species such as corncrake, an appropriate buffer should be established (to be defined by an ecologist based on species and context), and works within this buffer delayed until nesting activity has ceased.
- **Toolbox talks** – All site staff should receive toolbox talks to raise awareness of nesting bird legislation and protections afforded to breeding birds, and inform on the protocols should nesting birds be encountered.
- **Habitat retention** - Removal of foreshore habitat above the strandline should be kept to the minimum necessary where feasible.
- **Habitat reinstatement** - Disturbed areas out with the permanent footprint should be reinstated sensitively, avoiding nutrient enrichment and preventing conversion to improved grassland.
- **Lighting** - External lighting should be designed to minimise spill onto adjacent semi-natural habitats, using directional, low-spill fittings where appropriate.

## 5.5 Habitat Summary

- 5.5.1.1 Two habitats were identified which may be associated with groundwater dependency: acid flushes and marshy grassland. Groundwater dependent terrestrial ecosystems (GWDTE) are usually assigned based on National Vegetation Classification (NVC) communities which are listed within SEPA guidance on GWDTEs (SEPA 2024) The Phase 1 Habitat Survey classification does not assign habitats to a level which allows direct comparison to these communities, nor include detailed hydrogeological analysis.
- 5.5.1.2 One acidic flush has a peat depth of 50-60cm, north of a fence demarking the quarry boundary (Appendix 1 - Figures 3 and 5, Appendix 2 – Phase 1 Habitat Survey Target notes, VE17). It is likely that there is a



similar depth of peat beyond the fence down towards the edge of the quarry. If this land were to be used as a borrow pit for the quarry, any peat removed would need consideration.

## 5.6 Intertidal

- 5.6.1.1 The PEA identified and assessed broad habitats within the intertidal zone, subject to the inherent limitations of the survey. The presence of the causeway has altered local coastal conditions by creating an artificial sheltered area in the lee of the structure, protected from prevailing westerly weather and wave action, and promoting the deposition of finer sediments such as sand and mud. East of the causeway, the shoreline is primarily characterised by artificial structures, including the seawall forming the causeway base and associated coastal defences. The survey area is further influenced by its proximity to an operational harbour and other anthropogenic influence including surface water outfalls and shoreline areas used for boat berthing. Although communities of potential conservation interest were noted, including embryonic seagrass patches and mud and shingle communities, their restricted extent and quality, together with the disturbed and modified nature of the site, suggest that this habitat is unlikely to justify more detailed specialist survey.

## 5.7 Biosecurity / Preventing Spread of INNS

- 5.7.1.1 Although no vegetative INNS were recorded during the survey, the site is vulnerable to colonisation from INNS brought in by machinery or materials from elsewhere. Therefore, strict biosecurity measures should be put in place to minimise the chance of spreading vegetative INNS.
- 5.7.1.2 A potential mink spraint was found during the site walkover (Appendix 3 - Image gallery, Image 18). Mink are an INNS that can have an impact on native bird and mammal populations.

## Recommendations

- A proportionate biosecurity protocol should be implemented during construction, including cleaning of vehicles and equipment prior to arrival on site and before leaving site.
- Site staff should be briefed on INNS identification and reporting procedures, and any unexpected occurrences should be managed in accordance with relevant guidance.

# 6 Opportunities for Ecological Enhancement

- 6.1.1.1 In line with NPF4 Policy 3, proportionate measures should be considered to enhance biodiversity. The development will result in the loss of a small area of intertidal and coastal habitat and may cause temporary disturbance to terrestrial, marine and ornithological receptors. Preliminary options for biodiversity enhancement are provided below and will be formalised in advance of a planning application.

## 6.1.2 Coastal and Marine Enhancement

- **Marine litter management** - Implementation of a simple marine litter management approach (e.g. periodic clean-ups, responsible storage of fishing gear) would reduce risks to wildlife and improve habitat quality.
- **Explore incorporation of biodiversity-friendly design into structures** - Where feasible, coastal infrastructure (e.g. rock armour, pier, pontoons) should incorporate features such as varied surface textures, crevices and voids to increase habitat complexity and provide niches for marine invertebrates

and fish. Such approaches are recognised to enhance biodiversity within otherwise uniform artificial structures.

- **Use of naturalistic rock placement** - Rock armour or coastal defences should be designed to maximise structural heterogeneity, including variation in rock size and arrangement, to support intertidal communities and shelter for fauna.
- **Opportunities for artificial reef function** - Where appropriate, submerged elements of the development may provide incidental reef-like habitat, supporting colonisation by marine organisms and increasing local biodiversity over time. Artificial reef structures are widely recognised as a means of enhancing marine habitats and supporting ecological communities.
- **Marine INNS** - vessel activity and artificial marine infrastructure, sheltered waters and frequent boat movements can create favourable conditions for colonisation and transfer of marine INNS. An initiative focused on monitoring, awareness raising and biosecurity may reduce this risk and support the protection of native marine habitats and species.
- **Engagement and collaboration** - enhancement opportunities may exist in collaboration with local marine conservation partnerships, e.g. Muir is Tir Barra and Vatersay<sup>2</sup> which leads collaborative projects undertaking land and sea surveys, marine restoration projects and engagement. Consultation is recommended with local groups to identify potential initiatives that could be developed in partnership with the berthing facility.

### 6.1.3 Terrestrial Enhancement

- **Management of grazing pressure** - Opportunities should be explored to reduce localised overgrazing pressure, particularly on the southern side of the site, to allow recovery of more structurally diverse grassland and coastal vegetation, benefiting invertebrates and ground-nesting birds.
- **Land management for invertebrates** – Aim to reduce trampling effect and plant native grass and wildflower species to appeal to native invertebrates including bumblebees and butterflies.
- **Otter awareness measures** - Installation of signage or informal awareness measures (e.g. speed reduction near key crossing points) could reduce risk of collision and disturbance, particularly in areas of high otter activity.
- **Educational Interpretation Board** - Provision of an interpretation board highlighting; SPA bird species and local biodiversity could raise awareness and reduce unintentional disturbance by site users and marine species which may utilise the area (including otter).

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<sup>2</sup> <https://www.muiristir.co.uk>

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## 8 Appendices

**Appendix 1:** Figures/Maps. Provides general overview maps of the survey area, designated sites, Phase 2 survey results and maps illustrating target notes.

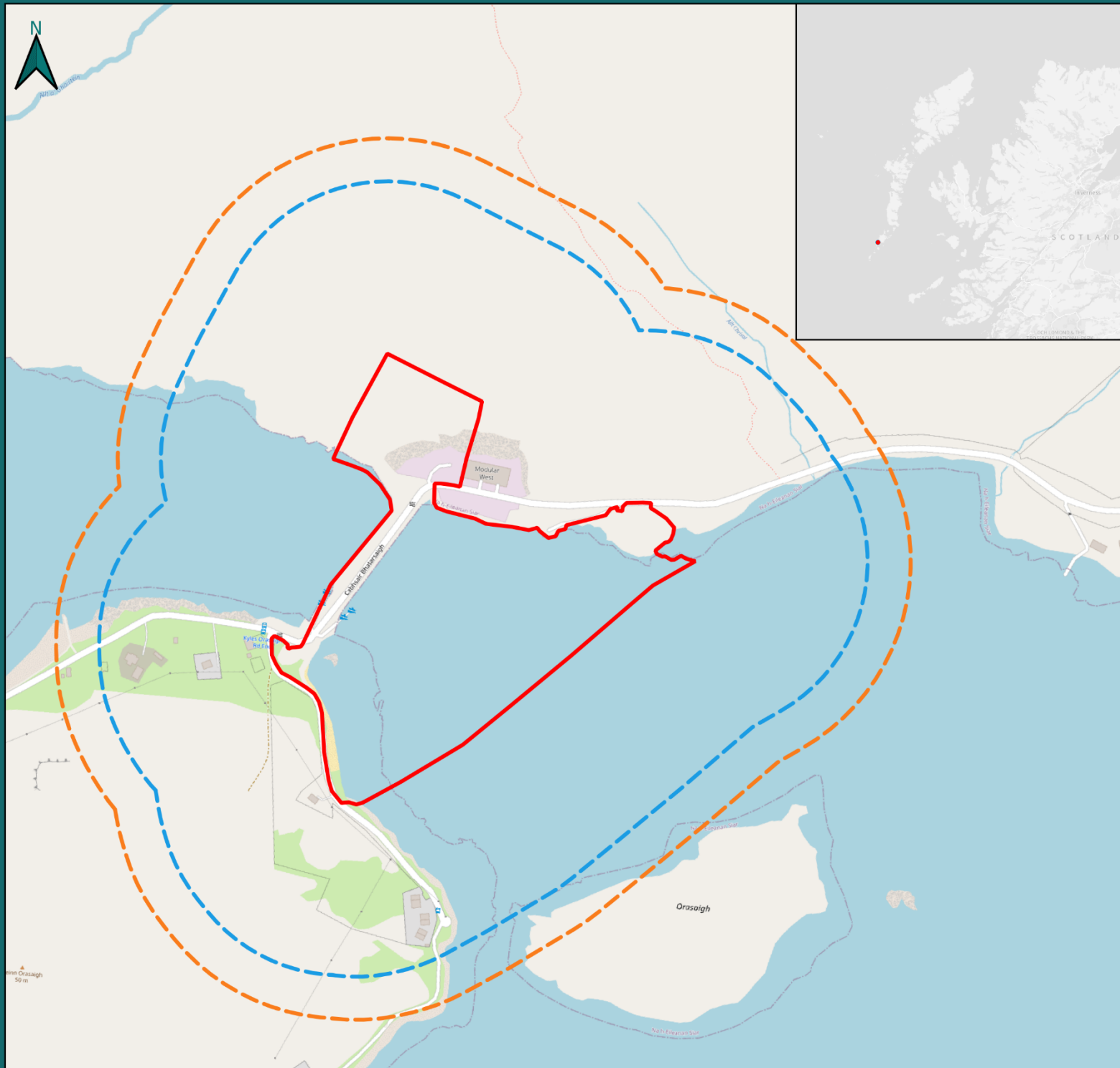
**Appendix 2:** Target notes from Phase 1 and protected species surveys.

**Appendix 3:** Image gallery: Includes relevant photographs with corresponding target note IDs.

**Appendix 4:** Bat Habitat Suitability Table

**Appendix 5:** Confidential Appendix – Protected Species Field Signs

## Appendix 1 - Figures



## Vatersay Sheltered Berthing Facility

Figure 1 - Site location with proposed development footprint and survey areas

### Legend

Site Boundary



Protected Species Survey Area (200 m)



Phase 1 Survey Area (250 m)



100 200 m



Coordinate system: OSGB36 / British National Grid

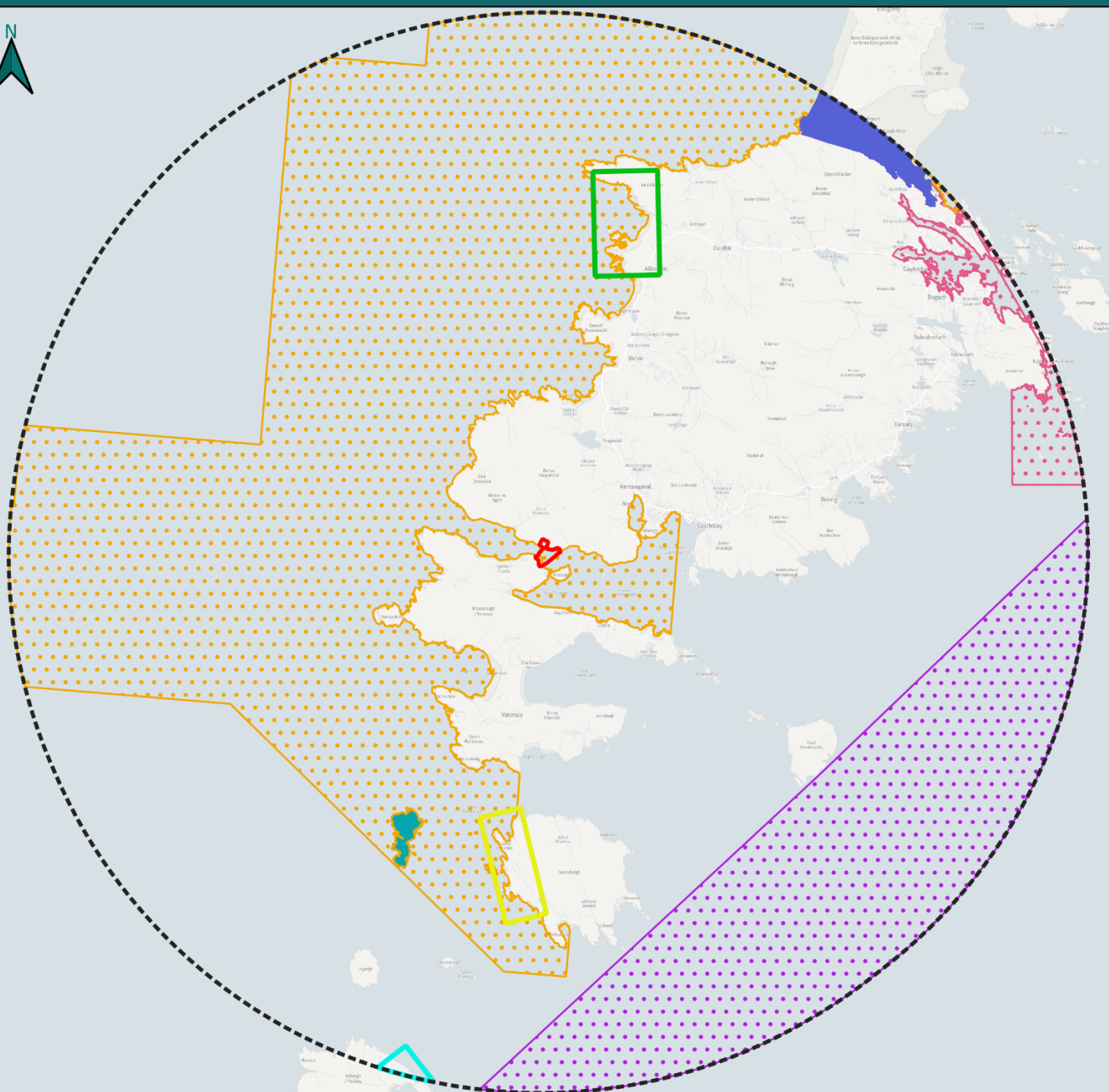
1:6,000 @ A4

Project Code: 87  
Project Name: Vatersay Pier  
Author: VJ

Prepared by: Atlantic58  
Date: 26/03/2026  
Review: RJ

Prepared for:  
Vatersay Pier Users Association

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## Vatersay Sheltered Berthing Facility

Figure 2 - Designated Sites within 10km of the Proposed Development footprint

### Legend

|                                         |  |
|-----------------------------------------|--|
| Site Boundary                           |  |
| 10 km search buffer                     |  |
| West Coast of the Outer Hebrides SPA    |  |
| Sandray Seal Haul-Out                   |  |
| Small Seal Islands (Flodaigh) SSSI      |  |
| Aird Ghrein & Sgeir Liath Seal Haul-Out |  |
| Sea of the Hebrides MPA (NC)            |  |
| Sound of Barra SAC                      |  |
| Eoligarry SSSI                          |  |
| Pabbay Seal Haul-Out                    |  |

1 2 km



Coordinate system: OSGB36 / British National Grid  
1:100,000 @ A4

Project Code: 87  
Project Name: Vatersay Pier  
Author: AM

Prepared by: Atlantic58  
Date: 24/03/2026  
Review: RJ

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## Vatersay Sheltered Berthing Facility

Figure 3 - Phase 1 Habitat Classifications

### Legend

|                                              |  |
|----------------------------------------------|--|
| Site Boundary                                |  |
| Phase 1 Survey Boundary (250m)               |  |
| B1.2 - Acid grassland - semi-improved        |  |
| B4 - Improved grassland                      |  |
| B5 - Marsh/marshy grassland                  |  |
| D1.1 - Dry dwarf shrub heath - acid          |  |
| D2 - Wet dwarf shrub heath                   |  |
| D6 - Wet heath/acid grassland                |  |
| E2.1 - Flush and spring - acid/neutral flush |  |
| F1 - Swamp                                   |  |
| H1.1 - Intertidal - mud/sand                 |  |
| H3 - Shingle above high tide mark            |  |
| H4 - Boulders/rocks above high tide mark     |  |
| I2.1 - Quarry                                |  |
| J3.6 - Buildings                             |  |
| J4 - Bare ground                             |  |
| J5 - Other habitat                           |  |

100 200 m



Coordinate system: OSGB36 / British National Grid

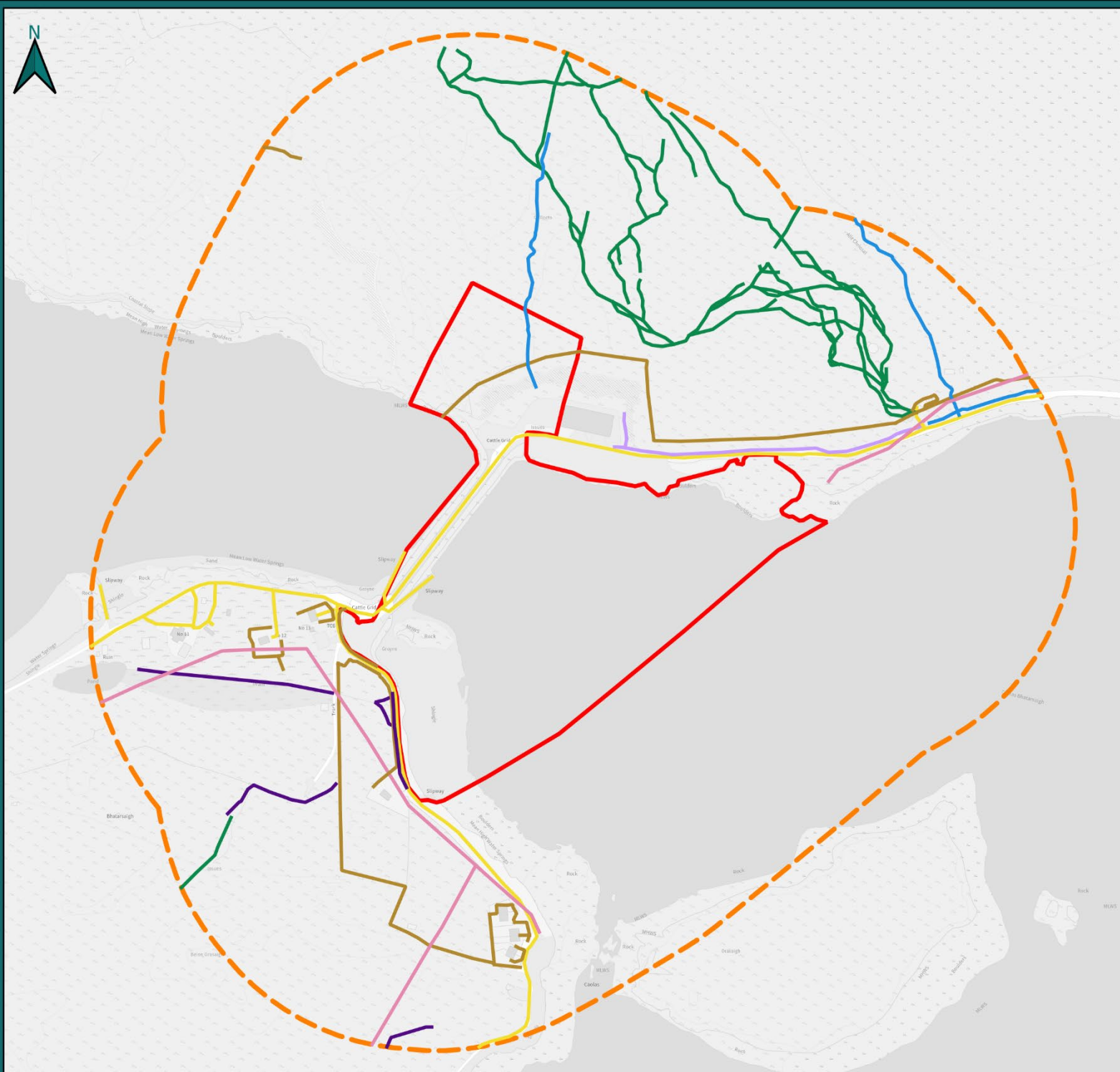
1:5,200 @ A4

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## Vatersay Sheltered Berthing Facility

Figure 4 - Phase 1 Habitat Survey Linear Features

### Legend

- Site boundary
- Phase 1 Survey Boundary (250m)
- G1 - Standing water
- G2 - Running water
- H2.6 - Dry ditch
- J - Miscellaneous (utilities)
- J2.3.4 - Fence
- J4 - Bare Ground
- J5 - Other habitat (vegetated access track)

100 200 m



Coordinate system: OSGB36 / British National Grid  
1:5,200 @ A4

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## Appendix 2 – Phase 1 Habitat Survey Target notes

| Number | Description                                                                                                                                                 |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VE01   | Frequent instances of litter on the boulders, including a discarded bike.                                                                                   |
| VE02   | Patches of bracken and common heather infrequently on the boulders.                                                                                         |
| VE03   | Patch of purple moor grass and willow species within dry heath.                                                                                             |
| VE04   | Patch of grass within dry heath.                                                                                                                            |
| VE05   | Corms of an unidentified plant species (Appendix 3 - Image gallery, Image 13)                                                                               |
| VE06   | Scheduled monument.                                                                                                                                         |
| VE07   | Small patches of bare peat.                                                                                                                                 |
| VE08   | Hebridean way footpath marked by waymarkers.                                                                                                                |
| VE09   | Heavily eroded section of a track.                                                                                                                          |
| VE10   | Peat depth of 70cm.                                                                                                                                         |
| VE11   | Area of shallow, eroding peat.                                                                                                                              |
| VE12   | Peat depth over 100cm.                                                                                                                                      |
| VE13   | Patch where purple moor grass is dominant over heather.                                                                                                     |
| VE14   | Small pool.                                                                                                                                                 |
| VE15   | Patch of grass within wet heath.                                                                                                                            |
| VE16   | Peat depth of 50cm in wet heath.                                                                                                                            |
| VE17   | Peat depth of 50-60cm within purple moor grass.                                                                                                             |
| VE18   | Other side of the fence so not accessed by surveyor due to proximity to cliff, however, could be peat as similar vegetation to VE17 where peat was 50-60cm. |

|      |                                                                           |
|------|---------------------------------------------------------------------------|
| VE19 | Grass on bare ground in the parking area.                                 |
| VE20 | Grass on bare ground alongside fishing equipment and other objects.       |
| VE21 | Small drain from road into ditch, also found at intervals along the road. |
| VE22 | Fishing equipment and container stored here.                              |
| VE23 | A few singular strands of seagrass found on the shingle beach.            |
| VE24 | Fence in poor condition.                                                  |
| VE25 | Small pool in roadside ditch.                                             |
| VE26 | Small patch of eroding salt marsh.                                        |
| VE27 | Fence broken and trampled by cows. (Appendix 3 - Image gallery, Image 11) |
| VE28 | Small patch of eroding salt marsh.                                        |
| VE29 | Eroded vegetation with track marks and muddy.                             |
| VE30 | Muddy area with no vegetation, caused by trampling by cows.               |
| VE31 | Muddy trampled area, wet.                                                 |
| VE32 | Remains of a building, within a croft.                                    |
| VE33 | Small pool within wet heath.                                              |
| VE34 | Small patch of acid grassland within wet heath.                           |
| VE35 | Patch of willow ( <i>Salix</i> sp.).                                      |
| VE36 | Patch of sharp flowered rush within wet dwarf shrub heath.                |
| VE37 | Ruins of a building.                                                      |
| VE38 | Patch of sea sandwort upon shingle beach (Appendix 3 - Image gallery      |



### Appendix 3 - Image gallery



*Image 1. Photograph taken in Vatersay, pointing towards the east, featuring a small road and verge composed of B1.2 Acid grassland – semi-improved. The uninhabited island, Orasaigh is visible to the left.*



*Image 2. B4 Improved grassland and the scheduled monument.*



*Image 3. A patch of B5 marshy grassland, dominated by tussocks of purple moor grass, surrounded by heathland in the south of the survey area.*



*Image 4. D1 dry dwarf shrub heath at the roadside and growing upon rocks in the north of the survey area.*





*Image 5. An acidic flush (E2.1) dominated by Sphagnum mosses and cotton grass with running water in the foreground. In the background, heather-dominated D2 dwarf shrub wet heath is present alongside rocks from the Lewisian Complex – Gneiss.*



*Image 6. Seasonally inundated pond, classified as a swamp.*





*Image 7. Intertidal mud/sand with patches of egg wrack (foreground) and fucoids (background).*



*Image 8. Shingle beach with seaweed deposited at the top.*





*Image 9. Eroding patch of salt marsh-like halophytic vegetation community upon shingle beach.*



*Image 10. Drainage ditch running through marshy grassland towards seasonally inundated pool.*





*Image 11. Trampling of vegetation by cattle, and damage to the fencing in the south of the survey area.*



*Image 12. Heavily eroded track in the north of the survey area (Appendix 3, Table 8, VE09).*





*Image 13. Corms from an unidentified plant (Appendix 2 – Phase 1 Habitat Survey Target notes VE05).*



*Image 14. Sea sandwort (*Honkenya peploides*) (Appendix 2 – Phase 1 Habitat Survey Target notes, VE38).*





*Image 15. Otter pathway running from top of seawall adjacent to the sea running east away from the causeway (FS02).*



*Image 16. Otter spraints of varying freshness / degradation (FS04).*





*Image 17. Otter pawprints in mud by edge of water. at northeastern edge of survey boundary (FS15).*



*Image 18. Potential Mink Scat recorded at northeastern edge of survey boundary.*



## Appendix 4 – Bat Habitat Suitability Tables

Appendix 4 - Table 1 - Bat Conservation Trust guidelines for assessing potential habitat suitability of proposed development sites, based on the presence of habitat features within the landscape (Collins 2023).

| Potential Suitability | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Roosting habitats in structures                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Potential flightpaths and foraging habitats                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>None</b>           | No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).                                                                                                                                                                                                                                                                                                   | No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available to foraging bats).                                                                                                                                                                                                                 |
| <b>Negligible</b>     | No obvious habitat features on site likely to be used by roosting bats: however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.                                                                                                                                                                                                                                                                                         | No obvious habitat features on site likely to be used as flightpaths or by foraging bats: however, a small element of uncertainty remains in order to account for non-standard bat behaviour.                                                                                                                                                                                                                                                                                    |
| <b>Low</b>            | A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats). | Habitat that could be used by small numbers of bats as flightpaths such as gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.<br>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.                                                                                                         |
| <b>Moderate</b>       | A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).                                         | Continuous habitat connected to the wider landscape that could be used by bats for flightpaths such as lines of trees and scrub or linked back gardens.<br>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.                                                                                                                                                                                    |
| <b>High</b>           | A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.                                                                               | Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flightpaths such as river valleys, streams, hedgerows, lines of trees and woodland edge.<br>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.<br>Site is close to and connected to known roosts. |

Appendix 4 – Table 2. Bat Conservation Trust guidelines for assessing the suitability of trees on proposed development sites for bats (Collins, 2023).

| Suitability | Description                                                          |
|-------------|----------------------------------------------------------------------|
| <b>NONE</b> | Either no PRFs in the tree or highly unlikely to be any              |
| <b>FAR</b>  | Further assessment required to establish if PRFs are present in tree |
| <b>PRF</b>  | A tree with at least one PRF present                                 |



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