Stornoway Port Authority
Newton Marina EIA Screening and Scoping Report

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1 INTRODUCTION

1.1 Background

EnviroCentre Ltd has been appointed by the Stornoway Port Authority (SPA) in respect of Environmental Impact Assessment (EIA) Screening and Scoping and supplementary ecological baseline collection in relation to a proposed new redevelopment of the Newton Marina on Goat Island within Stornoway Harbour (as demonstrated within Appendix A: Drawings). The purpose of this report is to seek firstly a Screening Opinion from Marine Scotland Licencing Operations Team (MSLOT) under Regulation 10(1) of the recently adopted Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (hereafter referred to as 'the EIA Regulations'), in which MSLOT would provide an assessment of whether or not the proposed development requires EIA.

Should a positive Screening Opinion be reached, we would refer MSLOT to the contents of this report which sets out an initial baseline and proposed EIA methodology, upon which we request a Scoping Opinion under Part 4, Section 14 of the EIA Regulations.

A similar request has been made to Comhairle nan Eilean Siar (the Council) in respect of EIA advice under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, and at the time of writing, Scoping Responses are being collated.

Accordingly this Report has been organised as follows:

- Section 1 introduces the applicant, the regulatory background to which this Screening and Scoping Request is made;
- Section 2 sets out a description of the proposed development upon which to base potentially significant environmental effects upon. This development description will evolve as engineering design progresses;
- Section 3 sets out the approach to EIA based upon the legislative context introduced within section 1;
- Section 4 discusses potentially significant environmental effects on a topic by topic basis, and offers methodologies for the assessment of those environmental topics;
- Section 5 discusses the content and structure of any potential EIA, based upon the findings of section 4; and
- Section 6 concludes the findings of the Screening and Scoping Report.

1.2 The Applicant

Stornoway Port is the primary port for the Western Isles and is one of the busiest ports on the west coast of Scotland. The Port is central to the economy of the island, facilitating the lifeline ferry service and supporting almost all economic activities from fishing and aquaculture, to construction, retail and marine leisure.

The Port is run by SPA, a Trust Port, with a Board contributing a range of skills and experience. SPA's Board is committed to supporting activities that will benefit the local community, both socially and economically.

SPA may take such steps as it may consider necessary or expedient for the conservancy, protection, regulation, maintenance and improvements of the harbour and the navigation thereof and for these purposes the Authority may:

- Manage, regulate, improve and maintain the harbour;
- Do all other things, which in its opinion are expedient to facilitate the proper carrying on or development of the harbour.

1.3 Project Team

This Scoping Report has been prepared by EnviroCentre Ltd with input from other organisations as shown in Table 1.1 below.

Table 1.1: The Project Team

Topic	Specialist
EIA, Ecology, Water, Noise, Air Quality, Traffic and Transport and Other Issues	EnviroCentre Ltd.
Landscape and Visual	Redacted Landscape Planning
Cultural Heritage and Archaeology	Headland Archaeology
Engineering Design	Redacted
Planning	Redacted

1.4 Planning History and Need for the Proposed Development

The proposed development of the marina was identified within the SPAs' Draft Masterplan for Stornoway, dated 26th November 2016. This formed a masterplan which set out proposed land use and a growth strategy in the harbour area for the next 20 years. Whilst this does not represent adopted Supplementary Planning Guidance (SPG) by the Council, it represents a positive vision for the future of Stornoway and was subject to public consultation on 13th and 14th December 2016.

SPA is aware that the Port of Stornoway is crucial to the economic future of Stornoway and the Outer Hebrides. The masterplan is driven by economic opportunities for the town, and will support job creation and a sustainable community. Along with the Newton Marina redevelopment, the first phase of the Masterplan development would also include the first phase of the Deep Water Port at Arnish. Given these elements will potentially be progressed along different timescales and are subject to separate consenting regimes, they are not considered further within this EIA Screening and Scoping Report.

The Scottish Government's Marine Tourism Strategy (Awakening the Giant) targets a 25% increase in the sector between 2015 and 2020. The proposed expansion of marina capacity is intended to support growth of visiting yachts, particularly in the peak months of June, July and August as well as providing additional berths for residential boat owners. It is anticipated that these additional berths could offer provision for up to 8,500 additional boat visitor nights by 2025. It is estimated that additional expenditure in the local economy generated by the marina would be around £400,000 per year following the development of Newton Marina.

1.5 Scoping under the EIA Regulations 2017

As the proposed development contains elements which are above Mean High Water Springs (MHWS) and below Mean Low Water Springs (MLWS), consents will be required from both the Council (for any elements not covered under SPAs' permitted development rights as part of any HRO) and MSLOT for those elements within their jurisdiction. Accordingly, one EIA will be prepared to cover both consenting regimes under both the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

In determining the requirement for an EIA, Schedule 1 of the EIA Regulations sets out the types of development for which EIA is a mandatory requirement, whilst Schedule 2 lists the projects where the need for EIA is judged on a case-by-case basis, depending on whether a proposal is likely to cause significant environmental effects or is located in a sensitive area.

In this instance, the proposed development is considered to constitute Schedule 2 development as defined by the EIA Regulations as it falls under Regulation 10(g) (of both marine and onshore 2017 EIA Regulations), which states that the "*construction of harbours and port installations"* over 1ha in size may qualify for EIA and also Regulation 12(a) specifies marinas with "the area of the enclosed water surface exceed(ing) 1000m²" as being Schedule 2 development.

Accordingly by virtue of its nature, size and location, the proposed development could potentially have (if unmitigated) significant adverse effects on the environment. Schedule 4 of the EIA Regulations specifies the information that should be included in an EIA Report, and this Scoping Report further discusses the requirements of Schedule 4.

The purpose of EIA Scoping is to:

- *"Identify the key issues to be considered;*
- *Identify those matters which can be either be scoped out or which need not be addressed in detail; and*
- *Discuss and agree appropriate methods of impact assessment, including survey methodology, where relevant".*

This Scoping Report is submitted to MSLOT with the intention that it should form the basis of their Scoping Opinion. Through consultation with MSLOT to date, they are aware that a similar request has been made to the Council and we would encourage cross-regulatory authority working to ensure non-duplication of information. Local people and organisations and other stakeholders are also invited to comment on the potential environmental effects to be included within the EIA and the assessment methodologies to be used. As such, it should be noted that this document does not seek to assess the environmental effects of the proposed development as this is the purpose of the EIA which will be carried out once the design has been sufficiently evolved.

1.6 The Legislative Context

The continued management and development of the harbour area is subject to European and national legislation of which the following is the principal legislation relevant to the current development programme:

- The Harbours Act 1964, to be determined by Transport Scotland to grant a Harbour Empowerment or Revision Order to empower Stornoway Port Authority to undertake works or vary its existing harbour powers;
- The Town and Country Planning (Scotland) Act 1997, as amended by the Planning etc. (Scotland) Act 2006 – for works on land and to MLWS. Any applications for Planning Permission will be determined by the Council;
- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017;
- The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017; and
- The Marine (Scotland) Act 2010 (Marine Licences) – to be consented by MSLOT.

Each of these licensing regimes will require an EIA if the development will create any project categorised under the Environmental Impact Assessment Directive (85/337/EEC –subsequently amended by Directive 97/11/EC, 2011/92/EU and 2014/52/EU

Marine (Scotland) Act 2010

A Marine Licence would be required for the deposit or removal of a substance or object below the mean high water springs mark. Marine Scotland stipulate that any associated dredging works taking place, that involves disposal at sea, then a Marine Licence for Sea Disposal may also be required.

Under Section 20(1) of the Marine (Scotland) Act 2010 (from 0 -12nm) and Section 65(1) of the Marine and Coastal Access Act 2009 (from 12 – 200nm)[1], a marine licence from Scottish Ministers is required if organisation intends to carry out certain acts in the Scottish marine area. These acts can include:

- The deposit of substances or objects into the sea or onto the sea bed;
- The removal of substances or objects from the sea bed;
- Construction, alteration and improvement works;
- Dredging; or
- The deposit or use of explosives.

1.7 Consultation and Stakeholders

The Applicant recognises the importance of consultation and community involvement throughout the project development process in line with "PAN 3/2010 Community Engagement" (PAN 3/2010). PAN 1/2017 also reinforces the importance of public involvement in the Scoping process and makes it clear that the EIA process is intended to ensure that consultation bodies and the public have opportunity to express their opinion on both the proposed development and the EIA Report.

The Applicant has held informal pre-application discussions with local stakeholders during consultation events in December 2016 and has sought pre-application advice from the Council and MSLOT. This advice has been reflected in this Scoping Report and will be taken forward to design of the proposed development as appropriate.

Scoping represents the first formal consultation of the EIA process, and MSLOT has a responsibility to distribute to relevant stakeholders and consultees in order to gather views and opinions regarding the proposed scope of the EIA.

[1] Circular 1/2015 The Relationship Between the Statutory Land Use Planning System and Marine Planning and Licencing - http://www.gov.scot/Publications/2015/06/5851/4

2 THE PROPOSED DEVELOPMENT

2.1 Site and the Surrounding Area

2.1.1 The General Area

Stornoway Port is the primary port for the Western Isles and one of the busiest ports on the west coast, north of the Clyde. The Port is central to the economy of the island, facilitating the lifeline ferry service and supporting almost all economic activities from fishing and aquaculture, to construction, retail and marine leisure. The Port is run by SPA, a Trust Port, with a Board contributing a range of skills and experience. The Applicant is committed to supporting activities that will benefit the local community, both socially and economically.

There is a strong marine tourism sector in Stornoway that provides a solid foundation for future growth. Stornoway is the focus of the £53 million per year tourism sector in the Western Isles. The town and surrounding area have a good offer for marine leisure and other tourists. This includes the newly renovated Lews Castle and grounds, Harris Tweed, Callanish Standing Stones, golf, distillery, blackhouses, beaches, sailing, etc. In addition, Stornoway is an established port of call on the cruise circuit, attracting 66 scheduled calls in 2016, placing it 4th among ports in Scotland.

SPA owns the land around Newton Basin, including Goat Island.

2.1.2 The Site

Goat Island presently comprises a collection of workshops, yard space and seafood processing units and is approximately 400m at its longest point from north-west to south-east. It is located between approximately 0m and 4m above sea level.

Goat Island is bounded to the north, west and south by Stornoway Harbour, whilst being joined to the rest of Stornoway by the 240m long and 6m wide 'Battery Point' causeway. Beyond the causeway to the east, the Coastguard and SSE's Battery Point power station are situated approximately 395m from the closest point of Goat Island. Dating to 1950, the power station is the primary source of electrical power for Lewis and Harris, generating 23.5MW of power from diesel sources. The nearest residential dwellings are located on Newton Street (approx. 160m to the north), with other dwellings on Seaview Terrace (approx. 320m to the north-east), Island Road (approx. 250m to the north) and Inaclete Road (approx. 265m to the north).

2.2 The Proposed Development

The existing marina, the Stornoway Inner Harbour Marina, has been virtually full since it opened 3 years ago with 83 berths being occupied all year. In response to the success of the existing marina, the Newton Marina has been proposed to provide berthing for an additional 75 vessels and relieve the pressure over the summer months for visiting yachts.

The development includes:

- some land reclamation along the north side of Goat Island and causeway;
- breakwater and marina with approximately 75 berths;
- slipway and yacht lift;
- boat storage (on land);

- marina services (club house, toilets, showers, etc.);
- parking;
- redevelopment of the boatyard site on Goat Island, enhancing ship repair/painting facility, and provision for yacht repairs; and
- improvement of fish processing facilities.

An outline schematic of the proposed development is contained within Appendix A: Drawings. It should be noted that the development may be subject to change over the lifetime of the planning application.

The proposed development of the new marina is aimed to support growth in the marine leisure sector. It is estimated that construction would commence in 2018 and in combination with the other improvements noted previously, create around 66 full-time equivalent (FTE) jobs per year during a proposed two to three year construction phase (for all development as part of Phase 1).

It is proposed to build a sheltering breakwater and land reclamation using material excavated in forming the entrance channel and the marina basin. Some of the excavated material will also be used in the construction of the public slipway which will allow the use of a mobile boat lift for yachts overwintering on the reclamation.

Access to the reclamation area will be accessed from the end of the proposed causeway and will be used for the following functions:

- overwintering of yachts (lifted in and out by boat lift, using the slipway);
- facilities building for marina users (toilet, showers, laundry);
- food and drink café/ restaurant;
- car parking;
- community units; and
- public slipway for launching and recovering of boats (also facilitating 'side-slipping' of vessels into the new boatyard covered shed for repairs of maintenance).

2.2.1 Earthworks

The preferred method of constructing the reclamation breakwater and slipway is to make use of as much as possible of the material dredged to form the entrance channel and marina basin, minimising the amount of material deposited at sea.

It is expected that part of the dredge will be undertaken by building a bund of imported rock fill out along the basin area with a conventional land-based excavator. The material thus won would be transported by dumper truck to the reclamation area.

In the deeper entrance channel area, it is proposed that a small cutter suction dredger excavates in from the outside, pumping the uprisings direct by pipeline to the reclamation area.

In both cases, unsuitable material would be stockpiled on site to allow it to drain and consolidate. Good quality material would be placed and compacted to form the reclamation, the core of the sheltering breakwater, and the core of the slipway. Once the slopes were dressed to a suitable gradient, imported armour stone would be placed to protect the core material from erosion.

It is anticipated that all material dredged from the entrance channel (up to 75,000m3) excavated from the basin (up to 80,000m3), and imported for the access bund (up to 20,000m3) and all unsuitable material (up to 10,000m3), will be reused in the construction of the new works. As a contingency, it is assumed a nominal amount (up to 10,000m3) might be required to be deposited at sea in the licenced disposal site to the east of

Arnish peninsula. Surfacing of the reclamation will be a combination of rock fill, hard-standing and tarmac, while the slipway will be surfaced with concrete.

2.2.2 Marina

The Marina will be formed from 100m long floating access walkway legs, each around 60m long and with finger pier berths on either side. At the lowest tide water depths are between 2 and 3m, and as such the berths will be able to accommodate vessels up to 15m in length. Smaller boats will berth on the shore side of the access walkway which will be linked to the shore by a 24m long bridge. All walkways will be secured in place by vertical cantilevered steel tubes, grouted into sockets drilled into the rock of the basin bed. There will be no driven piles.

The pontoons will provide power, water and Wifi services. There will also be a collection point for sewerage waste and general waste. Supporting services will be provided within the reclamation area.

3 APPROACH TO EIA

3.1 Introduction

The objectives of an EIA are to:

- Establish the availability of the baseline data;
- Request that statutory consultees provide any relevant environmental information relating to the site and the surrounding area;
- Define a survey and assessment framework from which a comprehensive overall assessment can be produced; and
- Provide a focus for the consenting authorities and the consultees' considerations – in terms of:
    - Potential impacts to be assessed;
    - Assessment methodologies to be used;
    - Other areas that should be considered; and
    - Any other environmental issues of perceived concern.

The aim of the Scoping Report is to assist MSLOT, and its consultees to form an opinion as to the likely effects of the proposed development. It describes the proposed development and provides information with regard to the environment, with the aim of providing sufficient information in line with Planning Advice Note 1/2017 – Environmental Impact Assessment (PAN 1/2017).

It seeks to identify potential environmental impacts of the proposed development and most importantly to reach agreement on which of the impacts could lead to significant environmental effects. The EIA will be focussed on assessing the potentially significant effects and propose mitigation measures to reduce the residual effects on the environment. The scoping process will eliminate those environmental issues which do not require further consideration.

3.2 General Approach to Assessment

The project team benefits from significant experience and technical expertise in environmental assessment and development of housing projects and will ensure that the EIA will be carried out in accordance with the EIA Regulations.

The potential environmental impacts during construction, operation and decommissioning will be identified and assessed in the ES, based upon the recommendations of the technical EIA team, consultation with statutory consultees, other interested parties and local communities. Topic assessments will be undertaken using best practice methodology, following industry guidelines whenever appropriate and carried out by specialists with relevant professional experience.

Schedule 4 of the EIA Regulations states the information to be included within the EIA. Each assessment will consider these criteria and assess them whenever appropriate to the proposed development. This also highlights that the emphasis of the EIA process should be on assessing likely significant effects, rather than every environmental effect associated with a development.

Impartial professional consultants (as set out in Table 1.1) will assess the likely significant environmental effects identified. These specialist assessments will generally incorporate:

- site visits;
- collection of baseline data regarding the site and surroundings;
- identification of the likely significant effects of the proposed development; and

- recommendations on how these effects could be avoided or reduced.

For each topic the proposed methodology to be used within technical topics is set out within Section 4 of this Scoping Report. Cumulative effects will be assessed within each EIA Report chapter as appropriate, at a scale appropriate to that subject and in line with best practice guidance currently available.

It is essential that the methodology used for assessing the significance of environmental effects is set out clearly and transparently within an EIA Report and is justifiable. Significance is generally determined through a combination of the sensitivity of a receptor or resource to an effect and the magnitude of the change resulting from the proposed development, however where this differs the full methodology is explained within the relevant section as appropriate.

Significant effects are more likely to be predicted where important resources, or numerous or sensitive receptors, could be subject to impacts of considerable magnitude. Effects are unlikely to be significant where low value or non-sensitive resources, or a small number of receptors, are subject to minor impacts. The assessment of significance of an environmental effect resulting from the proposed development will have regard to the following:

- sensitivity, importance or value of the resource or receptor;
- extent and magnitude of the impact;
- duration of the effect;
- nature of the effect;
- performance against environmental quality standards; and
- compatibility with environmental policies.

The methods for predicting the nature and magnitude of any potential impacts vary according to the subject area. Quantitative methods of assessment can predict values that can be compared against published thresholds and indicative criteria in Government guidance and standards. However, it is not always possible to ascribe values to environmental assessments and thus qualitative assessments are used. Such assessments rely on previous experience and professional judgement. The methodologies used for assessing each topic area will be described within the individual chapters of the EIA Report and will follow best practice guidelines where applicable.

3.3 Mitigation

Part 8 of Schedule 4 of the EIA Regulations states that the EIA Report must contain a "*a description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases".*

As outlined in PAN 1/2017, there is a widely accepted strategy for mitigation which will be followed when considering the environmental effects of the proposed development. This comprises (in order of preference): avoidance, reduction, compensation and remediation. In addition, consideration will be given to providing the opportunity for enhancement. Mitigation and, if appropriate, monitoring proposals, will be described clearly within the EIA Report. The mitigation will be achievable and will be delivered through appropriate mechanisms.

3.4 Requirements of the EIA Regulations

In addition to those items explained above, the EIA Report will either include discussion of, or scope out via section 4 of this Scoping Report, the following items:

- a description of the development, including description of the location, its physical characteristics, land-use requirements during construction and operation, a description of characteristics of the operational phase, and an estimate of the types and quantities of expected residues and emissions;
- a description of reasonable alternatives, including development design, size, scale, and a justification of the project choices made;
- a description of the baseline environmental situation and an outline of the likely evolution thereof without implementation of the proposed development;
- an assessment of the environmental baseline for each environmental topic scoped into the EIA, with reference to those items specified within Schedule 4 (5) of the EIA Regulations;
- a description of mitigation and monitoring measures (where applicable); and
- a description of any expected adverse impacts in relation to the vulnerability of the proposed development to risks of major accidents and/or disasters which are relevant to the project.

4 POTENTIALLY SIGNIFICANT ENVIRONMENTAL EFFECTS

4.1 Introduction

This section discusses potentially significant effects. Each of the environmental topics discussed within this section could have the potential to be impacted by the proposed development, or conversely environmental features may impact upon the proposed development. By establishing the extent of potential impacts and subsequent effects, the topic can be scoped into the EIA Report, or scoped out of the EIA altogether.

4.2 Landscape and Visual

4.2.1 Introduction

This section addresses the potential direct and indirect effects of the proposed development on landscape resources and visual receptors. These are defined respectively within paragraph 3.21 of the Guidelines for Landscape and Visual Impact Assessment (GLVIA)[2] as:

"*…the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape*"

and

"*…the people who will be affected by changes in views or visual amenity at different places*".

To help inform the scope of a Landscape and Visual Impact Assessment as part of the EIA process, an initial landscape and visual appraisal was undertaken as a desk study exercise to identify the following:

- the landscape character of the site and surrounding area;
- the seascape character of the site and surrounding area;
- the coverage of any landscape designations across the site and surrounding area;
- important views and viewpoints towards the site from the surrounding landscape/seascape;
- any potentially significant landscape and visual effects during construction and post-completion;
- recommendations for mitigating any potentially significant adverse effects; and
- recommendations for further study.

4.2.2 Baseline Conditions

The purpose of the baseline desk study is to record the existing landscape and visual resources, against which the potential effects of the proposed development can be judged. To inform this, the following baseline conditions have been identified and described:

- landscape character;
- seascape character;
- landscape designations; and
- key views and visual receptors.

[2] Landscape Institute and Institute of Environmental Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment*. Third edition.

Landscape character

As detailed in the *Western Isles landscape character assessment*[3], the site of the proposed development is located within the *Boggy Moor* landscape character type (LCT). To the east of Stornoway, the landscape is characterised by a *Crofting* LCT and to the south of the harbour, *Rocky Moor* LCT.

The *Boggy Moor* landscape is characterised by '*large scale, gently undulating peat moorlands, indented with numerous large and small rounded lochs, which are frequently interconnected by narrow, slow moving rivers. Loch edges are highlighted by their deep, dark peat margins and rivers are cut into smaller peat edged valleys. Occasional small shallow sided hills rise from these gently undulating surroundings*'.

Although information on landscape character provides a useful framework in which to describe the landscape and predict effects, the information provided in the landscape character assessment is relatively broad brush. Furthermore, given the coastal location of the site, the character of the seascape is also an important factor to consider.

Seascape character

Seascape character is made up of physical characteristics of hinterland, coast and sea plus a range of perceptual responses to the seascape, as well as visual aspects. Although no detailed sescape character assessment has been undertaken for the study area, a regional/national coastal character assessment was underatken in support of a study on the sensitivity and capacity of the Scottish seascape in relation to windfarms[4]. As detailed within this study, the site of the proposed development is located within the *Low Rocky Islands Coast* seascape character type (SCT) which exhibits the following key characteristics:

- low rocky coastline, cliffs and fragmented coastline in places backed by moorland;
- sparsely settled, small crofting settlements along coastline, large settlement at Stornoway with some industrial development, airport and busy port;
- views of the Minch and beyond views of distant hills on mainland particularly distinctive Assynt; and
- parts of this landscape feel remote except Stornoway area.

In assessing sensitivity to wind turbines, the study identifies the following seascape sensitivities and these provide a sound framework in which to assess the potential impacts of the proposed development.

Table 4.1: Sensitivity Criteria

Sensitivity criteria	Analysis
Scale and Openness	Fairly open and large – medium scale apart from to the south of this area where the landscape is more contained and smaller scale around Loch Eireasort.
Form	Horizontal emphasis particularly to the north of Stornoway and on the Eye Peninsula, gently undulating with cliffs at coast. The form becomes more complex further south with a more fragmented and contained seascape.
Settlement	Sparse settlement in the north, major settlement including some industry around Stornoway and crofting settlements elsewhere. Some uninhabited areas.
Pattern/Foci	Foci and pattern varied. Foci include views to Assynt on clear days, important headlands and peninsulas e.g. Tolsta and the Eye peninsula.
Lighting	Stornoway is lit but the rest of the seascapes and out at sea are dark.

[3] Scottish Natural Heritage (1998). *Western Isles landscape character assessment*.

[4] Scottish Natural Heritage (2005). *An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms*.

Sensitivity criteria	Analysis
Movement	Busy port at Stornoway but generally the rest of the area is fairly quiet including some uninhabited areas to the north of Tolsta.
Aspect	Easterly aspect across sea. From settlement, roads, ferries. There is a heritage trail from Tolsta to the North of Lewis and open sea views over to Skye are important here.
Modification/Remoteness /Sense of Naturalness	There is modification in parts, around Stornoway and some telecommunications masts etc. The crofting patterns, whilst traditional, can in places appear in contrast to the rougher, wilder and more natural surroundings. Generally though a largely natural and remote area, particularly in the hinterland of Lewis.
Exposure	Feels exposed to the north of this area where coastline becomes more linear, hinterland is flatter and sheltered areas are fewer.

Landscape designations

None of the site is covered by any landscape designations although *Lews Castle and Lady Lever Park* is a Garden and Designed Landscape (GDL) designation that covers a relatively large part of the western bank of the Bayhead River where it meets the harbour. It is located approximately 400 m to the west of the site at its closest point.

As detailed in the designation citation[5], the GDL is '*a prime example of a mid-late 19th century ornamental and estate landscape, rare on Lewis, laid out with coastal and riverside carriage drives and walks. The designed landscape comprises a series of distinctive wooded parklands contrasting dramatically with the prevailing openness of the island landscape'.* It is also noted that GDL makes an '*outstanding contribution to the setting of Stornoway*'.

The closest National Scenic Area (NSA) is the *South Lewis, Harris and North Uist* NSA, which is located approximately 26 km south-west of Stornoway. Two parts of this NSA are also identified as Wild Land Areas[6].

Key views and visual receptors

Although no detailed analysis of the zone of theoretical visibility has been undertaken at this stage, it is evident that views of the site are relatively localised. In general, these are restricted by nearby containing rising ground, large areas of woodland to the west of the harbour and extensive built development across the town.

However, as the site of the proposed development is located within an existing harbour, there is a relatively large number of nearby receptors with open views towards it. This includes residents and road users along Newton Street, visitors to the town and other recreational users. Daily ferries from Stornoway to Ullapool also pass in very close proximity to the site.

Situated on the north-west side of Stornoway Harbour overlooking the town, Lews Castle commands panoramic views and is prominent on the sea approach to Lewis. The Castle is situated mid-way on the east-facing, heavily wooded hillside and dominates views from Stornoway. Views from Lews Castle and Lady Lever Park overlook Stornoway, the inner harbour and town. Extensive views are also obtained from the summit of Cnoc Croich across to Lews Castle, the island's hinterland and the harbour. Similar views of the site are also experienced from areas of low rising moorland to the south of the harbour.

[5] http://portal.historicenvironment.scot/designation/GDL00263
[6] http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/

There is a dense network of Core Paths across the *Lews Castle and Lady Lever Park* GDL and several other 'wider footpaths' to the north and east of the town. The nearest National Cycle Network (NCN) route is NCN 780 which passes approximately 8.5 km to the south-west of the site at its closest point.

4.2.3 Potentially Significant Effects during Construction

As noted previously, the site benefits from a relatively contained setting whereby areas of low-rising ground and headlands, extensive woodland cover across Lews Castle and Lady Lever Park and built development in Stornoway is likely to restrict the extent of landscape and visual impacts to the local area.

During the construction phase, the presence and operation of plant machinery, delivery vehicles and the construction of infrastructure is likely to significantly affect the views of some nearby residents, road users and recreational boat users in the harbour. Some views of recreational users from Lews Castle and Lady Lever Park (and associated Core Path Network) could also be significantly affected.

In addition to the likely localised extent of effects, the presence of nearby built development and activity will also help to limit the nature of landscape and seascape effects during construction. Nonetheless, it likely that some short term direct and indirect significant effects on the character of the harbour during construction could result, particularly on those areas to the south and west of the harbour that have a more undeveloped and peaceful character.

In order for the potential impacts to be fully identified, further survey work is required which is likely to focus on the following:

- local landscape and seascape character;
- Lews Castle and Lady Lever Park GDL; and
- views and amenity of nearby residents, road users and visitors to the town.

4.2.4 Potentially Significant Effects post-Completion

At this stage, the potential for significant landscape and visual effects post-completion is somewhat dependent on the quality of design of the marina and associated infrastructure. During the iterative design process, it will be important to consider the landscape and seascape setting of the harbour and ensure where possible, important views are protected and enhanced through the provision of a high quality development. Until the design is finalised, it assumed that some very localised significant landscape and visual impacts could result and these will be explored through further field survey focusing on the following receptors:

- local landscape and seascape character;
- Lews Castle and Lady Lever Park GDL; and
- views and amenity of nearby road users and visitors to the town.

In assessing landscape and visual effects, there are a number of important factors that are likely to limit overall significance. These include the apparent localised extent of visibility and associated effects, the developed context of the site and considering the nearby marina, any changes would be characteristic to the locality.

4.2.5 Inclusion or Exclusion from EIA

Based on the findings of this desk-based appraisal and the potential for significant effects during construction and post-completion as detailed above, it is recommended that a Landscape and Visual Impact Assessment (LVIA) is undertaken as part of an EIA that focuses on the site and immediate surroundings.

4.2.6 Design and Mitigation

Where any significant landscape and visual effects are identified as part of the LVIA process, recommendations for mitigation which could be implemented in order to avoid, reduce or remedy adverse effects will be identified. As part of this, a series of landscape designs aims will be suggested to help ensure that as far as possible, the proposed development minimises its impact and integrates positively with its sensitive harbour setting.

4.2.7 EIA Assessment Methodology

As part of the EIA process, a full Landscape and Visual Impact Assessment would be undertaken in accordance with the *Guidelines for Landscape and Visual Impact Assessment* (GLVIA), version 3 (Landscape Institute and the Institute of Environmental Management and Assessment 2013). The LVIA would be based on the following methodology.

Evaluation of the Existing Environment – the Baseline

The baseline review for the landscape and visual resource has three elements:

1. Description – a systematic review of existing information and policy relating to the existing landscape and visual resource;
2. Classification – analysis of the data to subdivide the landscape/seascape resource into discrete areas of recognisable character and identification of the visual receptors; and
3. Evaluation – Use of professional judgement to apply sensitivity criteria to a landscape/seascape or visual resource with reference to specified criteria.

The baseline review is undertaken through desk-based data review followed by a site survey to verify the findings, and then analysis of the data. This process is described in detail in the following paragraphs.

Desk Based Data Review

Existing mapping, legislation, policy documents and other written, graphic and digital data relating to the proposal and broader study area is reviewed. This includes the following documents:

- Outer Hebrides Local Development Plan (2012);
- Western Isles landscape character assessment (1998);
- Ordnance Survey maps; and
- Digital sources of mapping and aerial photography.

The desk study also establishes the main users of the area, key viewpoints and key features, thus defining the visual baseline which requires to be verified on site. The potential visual receptors are identified and classified according to their associated use (settlements, footpaths, roads etc.). The aim of the baseline review of visual resources is to ensure that an appropriate range of viewpoints is included in the visual assessment. The potential extent of visibility of the proposed development as identified in the preliminary Zone of Theoretical Visibility (ZTV) provides the basis upon which the potential visual receptors are initially identified.

The desk study informs subsequent site work, which allows the confirmation of the Landscape/Seascape Character Types (LCTs/SCTs) and Landscape/Seascape Character Areas (LCAs/SCAs) where applicable.

Site Survey

Field survey work is carried out to verify and, if required, refine the landscape/seascape character types identified within the study area, and to gain a full appreciation of the relationship between the proposed development, and the landscape.

The baseline visual resource is verified during the survey work and at this time, the validity of the list of representative viewpoints used in the LVIA. Since the ZTV is based on a 1:50,000 digital terrain model, it does not capture local landform. There are times when a viewpoint selected from analysis of the ZTV does not actually have any views to the proposed development. In some instances, this can be remedied by slight adjustments of the grid references, although the location must remain relevant to the particular receptor(s) for which the viewpoint was selected. It is also important to ensure that the viewpoints remain a representative selection of views.

Data Analysis

Analysis and reporting of the baseline resource takes place after the completion of the desk and field surveys. The baseline landscape and visual review provides a description, classification, and evaluation of the landscape and visual resource of the study area.

The baseline review provides a robust description of the landscape and visual resource from which to assess the landscape and visual effects of the proposed development and to advice, in landscape and visual terms, on the development's acceptability in principle and upon its siting, layout and design. This involves identification of all the landscape and visual receptors and analysis of the sensitivity of each of these receptors to the proposed development.

Extent of the Study Area and Viewpoint Selection

Maps of Zone of Theoretical Visibility (ZTVs) are prepared using digital terrain models based on a maximum height of the proposed development. These represent the 'worst case' area of theoretical visibility where the proposed development may theoretically be seen. The ZTVs are based entirely on topographic factors and do not account for any screening effects provided by vegetation, buildings or minor variations in landform or the orientation of view. Therefore, the extent of any ZTVs tends to be greater than actual visibility and does not take account of climatic factors such as light conditions.

The ZTV for the proposed development is then used as a basis for the further assessment and evaluation of the magnitude of visual impacts.

Through the initial stages of the desk study, viewpoints are selected to represent views experienced from a variety of receptors, within different landscape character types and at a variety distances from the proposed development where the view may be apparent.

A study area centred on a likely 5km radius from the proposed development will be used for the study of landscape and visual effects. Given the relative scale of the development and the character of the landscape, significant effects are very unlikely to be experienced at distances over 1-2km.

Landscape/seascape Susceptibility and Value

The GLVIA indicates that landscape receptors need to be assessed firstly in terms of their sensitivity, combining judgements of their susceptibility to the type of proposal and the value attached to the landscape.

Landscape Susceptibility

This LVIA includes an assessment of factors affecting the susceptibility of the landscape to the changes brought about by the proposed development, in order to identify any variation at the local scale. The following table sets out attributes of landscape/seascape character that are typically considered in assessing susceptibility:

Table 4.2: Susceptibility Criteria

Susceptibility Criteria	**Lower**	**Higher**
Scale	Large-scale or vast	Intimate or small-scale
Enclosure	Open or exposed, windswept	Enclosed or confined, sheltered
Landform	Flat, smooth, regular, rolling, gently undulating, or flowing landform	Dramatic, steep, mountainous, rugged, or complex landform with prominent peaks or ridges
Diversity	Simple or uniform, e.g. Moorland or forestry plantations	Complex or diverse, variety of land cover
Landcover pattern and line	Sweeping lines, or indistinct or irregular patterns	Strong and regular linear features, geometric or rectilinear patterns, or planned landscapes
Settlement and infrastructure	Frequent masts, pylons, industrial elements, modern buildings, infrastructure, settlements or main roads	No obvious modern settlement, buildings, infrastructure or main roads
Perception of landscape change	Modern or clearly dynamic showing obvious land use changes	Little or no land use changes, or with obvious historical continuity
Tranquillity	Busy, with evidence of human activity, noise or regular movement	Remote or tranquil with strong sense of stillness or solitude
Settings and skylines	Low lying areas that do not tend to feature in views from populated areas or main transport routes	Areas with topographic features that define the setting, backdrop, outlook or skyline of populated areas or main transport routes

Landscape Value

The assessment takes as its starting point the recognised value of the landscape, for example, as identified by landscape designations.

In addition, the assessment considers the following factors, in order to identify how the relative landscape value may vary at the local scale. The factors set out in the following table are adapted from paragraphs 5.28-5.31 of the GLVIA and other guidance (Scottish Natural Heritage and Countryside Agency 2004 Figure 1b).

Table 4.3: Landscape Value

Factors affecting Landscape value	
Condition/intactness	The degree to which the landscape is unified or intact
Scenic quality	The extent to which the landscape appeals, primarily to the visual senses

Factors affecting Landscape value	
Perceptual aspects	The degree to which the landscape is recognised for perceptual qualities, such as its sense of remoteness
Rarity	The presence of unusual elements or features in the landscape or the presence of an unusual LCT
Representativeness	The degree to which the landscape contains important examples of elements or features, or is of a particular character that is considered important
Conservation interests	Cultural or natural heritage interests that add to the value of the landscape and/or are of value in themselves
Recreational value	Evidence of recreational activity where experience of the landscape is important, such as recognised scenic routes
Associations	Recognised cultural or historical associations that contribute to perceptions of the natural beauty of the landscape

Sensitivity of Visual Receptors

The sensitivity of each visual receptor is assessed in terms of susceptibility to change in views or visual amenity as well as the value attached to particular views.

Susceptibility to Change

People generally have differing responses to views and visual amenity depending on the context (e.g. location, time of day, degree of exposure), and their purpose for being in a particular place (e.g. whether for recreation, travelling through the area, residence or employment). Susceptibility to change is therefore a function of:

- the occupation or activity of people experiencing the view or visual amenity; and
- the extent to which their attention or interest may be focused on the landscape around them.

The following table illustrates some examples of the relative susceptibility of some of the key visual receptors within the Study Area. Note that different individuals or groups of people at one location may have different levels of susceptibility.

Table 4.4: Susceptibility to Change

High	**Medium**	**Low**
Residents within dwellings or curtilage	People at their place of work, where views are an important part of the setting, such as a countryside ranger.	People at their place of work whose attention is likely to be focused on their work or activity, not on their surroundings.
Users of recognised national trails, whose attention or interest is likely to be focused on the landscape or on particular views.	N/A	People engaged in active outdoor sports or recreation and less likely to focus on the view.

High	Medium	Low
Road and rail users where appreciation of the landscape is an important part of the experience, such as recognised scenic routes.	Road and rail users likely to be travelling for other purposes than just the view, such as commuter routes	N/A
Visitors to heritage assets or to other attractions, such as recognised beauty spots, where views of the surroundings are an important part of the experience.	N/A	N/A

Value attached to particular views

Judgments are also be made about the value attached to views, based on the following considerations:

- recognised value – such as views from heritage assets or designated landscapes;
- inclusion in guidebooks or on tourist maps, the facilities provided for visitors or references to the view in literature or art; and
- the relative number of people who are likely to experience the view.

People that are more susceptible to change at viewpoints of recognised value are more likely to be significantly affected by any given change.

Assessing Effects

The impact assessment aims to identify all the potential landscape and visual effects of the proposed development taking account of any proposed mitigation measures. This is carried out by:

- assessing the magnitude of change brought about by the proposed development on each of the receptors identified in the baseline review;
- the effect is then predicted by combining the sensitivity and importance of the receptor (as identified in the baseline review) with the magnitude of change; and
- lastly, the significance of the predicted effect is assessed in a logical and well-reasoned analysis.

The assessment aims to describe the changes in the character and the landscape resources that are expected to result from the proposed development. It covers both landscape effects (changes in the fabric, character and key defining characteristics of the landscape); and the visual effects (changes in available views of the landscape and the significance of those changes on people).

Magnitude of Landscape Change

Each effect on landscape receptors is also assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and reversibility.

Size or Scale of Effect

This is judged using the factors set out in the following table:

Table 4.5: Magnitude of Change

Rating	Criteria
Very large	Highly obvious change, affecting the majority of the key characteristics and defining the experience of the landscape
Large	Obvious change, affecting many key characteristics and the experience of the landscape
Medium	Noticeable but not obvious change, affecting some key characteristics and the experience of the landscape
Small	Minor change, affecting some characteristics and the experience of the landscape slightly
Negligible	Little perceptible change

Geographical Extent of Effect

The geographical area over which the landscape effects would be experienced (regional, local or restricted to the site) is also taken into account. This is distinct from the scale of the change. For example, a small change to the landscape over a large geographical area could be comparable to a very large change affecting a much more localised area.

Magnitude of Visual Effect

Visual effects result from the changes in the content or character of views and visual amenity, due to changes in the landscape. The assessment of visual effects takes account of both the sensitivity of the visual receptors (individuals or groups of people) and the magnitude of the change on their views and visual amenity.

The magnitude of the visual effect resulting from the Proposed Development is evaluated in terms of size or scale, geographical extent, duration and reversibility.

Size or Scale of Effect

This is based on the interpretation of a combination of a range of factors. Some of these are largely quantifiable and include:

- distance and direction of the viewpoint from the Proposed Development;
- extent of the Proposed Development visible from the viewpoint
- scale of the change in the view, including the proportion of the field of view occupied by the proposed development;
- degree of contrast with the existing landscape elements and characteristics in terms of background, form, pattern, scale, movement, colour, texture, mass, line or height;
- the relative amount of time during which the effect would be experienced and whether views would be full, partial or glimpses; and
- orientation of receptors in relation to the proposed development, e.g. whether views are oblique or direct.

Table 4.6: Scale of Effect

Rating	Description	Appearance in field of vision
Very high	Dominant	Commanding, controlling the view Creation/removal of a dominant visual focus Highly uncharacteristic elements or pattern introduced Most of the view affected
High	Prominent	Major change to the view, striking, sharp, unmistakeable, easily seen Creation/removal of major visual focus Uncharacteristic elements or pattern introduced Large proportion of the view affected
Medium	Conspicuous	Noticeable change to the view, distinct, clearly visible, well defined Creation or removal of a visual focus that may compete Some elements of the Proposed Development fit the existing pattern Some of the view affected
Low	Apparent	Minor change to the view but still evident Little change to focus of the view Fits intrinsic visual composition Little of the view affected
Negligible	Inconspicuous	No real change to perception of the view Weak, not legible, hardly discernible

Geographical Extent

The extent over which the changes would be visible is also taken into account.

The magnitude of visual change arising from the proposed development is described as High, Medium, Low or Negligible based on the overall extent of visibility. For individual viewpoints it will depend upon the combination of a range of factors:

- the distance of the viewpoint from the development;
- the duration of effect;
- extent of the development visible from the viewpoint;
- the angle of view in relation to main receptor activity;
- the proportion of the field of view occupied by the development;
- the background to the development; and
- the extent of other built development visible.

Other factors may also influence the visual effect. These relate to both human perception and to the physical environment itself. Factors which tend to reduce the apparent magnitude include the following:

- an absence of visual clues;
- a complex and varied scene; and
- low relative elevation of view

Factors which tend to increase the apparent magnitude include the following:

- visual clues;
- a simple scene; and
- high relative elevation of view.

Sequential Visual Effects

Sequential visual effects typically occur when moving along a linear route, as the observer moves from one point to another and gains views of other developments or a different view of the same development.

Significance of Effects on Landscape and Visual Receptors

The assessment of significance is based on professional judgement, considering both the sensitivity of the receptor and the predicted magnitude of effect resulting from the Proposed Development.

Major loss of landscape features or characteristics across an extensive area that are important to the integrity of a nationally valued landscape are likely to be of greatest significance. Short-term effects on landscape features or characteristics over a restricted part of a landscape of lower value are likely to be of least significance

The degree of significance of effects on visual receptors is determined from a combined evaluation of the sensitivity of the visual receptor and the magnitude of the visual effect.

Effects are more likely to be significant on people who are particularly sensitive to changes in views and visual amenity, or who experience effects at recognised and important viewpoints, or from recognised scenic routes. Large scale changes which introduce new, discordant or intrusive elements into the view are also more likely to be significant than small changes or changes involving features already present within the view.

The significance of any identified landscape or visual effect is assessed as Major, Moderate, Minor or Negligible effect. These categories have been determined by consideration of viewpoint or landscape sensitivity and predicted magnitude of change as described above, with the table below used as a guide to correlating sensitivity and magnitude to determine significance of effects. It should be noted that this is a guide only, and there will be times when the combination of sensitivity and magnitude yield a slightly different result from that predicted by the table. Where this discrepancy leads to prediction of significant effect, it is explained in the text.

Table 4.7: Significance of Effect

	Magnitude of Change			
Sensitivity	**High**	**Medium**	**Low**	**Negligible**
High	Major	Major to moderate	Moderate	Moderate to minor
Medium	Major to moderate	Moderate	Moderate to minor	Minor
Low	Moderate	Moderate to minor	Minor	Minor to none
Negligible	Moderate to minor	Minor	Minor to none	None

Assessment of significance of landscape and visual effects

Where overall effects are predicted to be *major* (shaded dark grey) these are considered to be equivalent to significant effects, as referred to in the EIA Regulations. Overall effects of moderate to major (shaded light grey) may be significant if experienced over an extensive proportion of a receptor, area or route. Changes of moderate or less are not likely to result in significant effects.

Although the proposed development would relate to existing built development, from some viewpoints it is possible that significant cumulative effects could arise. Such effects could arise in combination with other existing, planned and consented built developments.

From each viewpoint, it is therefore proposed that a cumulative assessment is undertaken to further understand the nature of effects with any nearby existing, planned and consented development.

4.3 Ecology

4.3.1 Introduction

The assessment of ecology will consider the geographical area potentially affected by the proposed development. Particular attention will be given to:

- terrestrial ecology, protected habitats and species;
- birds; and
- marine mammals and fish.

The proposals have the potential to affect ecology in the immediate vicinity of the development footprint in terms of direct habitat losses. It is also envisaged that a range of other effects on ecology in the wider area could occur, these include but are not limited to, ecological interactions and changes in hydrodynamic regime, physical disturbance during construction and operation of the marina, and underwater noise and pollution arising from construction activities. These areas will all be considered in the assessment. Impact of the development on the water environment including hydrology, hydrogeology, water quality and coastal processes will be considered in the Water section of the EIA.

Each area of ecology listed above will be considered in turn.

4.3.2 Baseline Conditions

Terrestrial Ecology

In order to determine an ecological baseline for terrestrial ecology at the Newton Basin marina a Preliminary Ecological Appraisal (PEA) was undertaken in May 2017.

The main objectives of the PEA were as follows:

- identify and map the broad habitats present on the site;
- search for field evidence of a range of protected or notable faunal species which may frequent the survey area;
- identify suitable habitat for protected or notable faunal species in the survey area;
- evaluation of the site based on the habitats or faunal species found;

- identify the potential impacts to protected or notable faunal species, vegetation and habitats and outline appropriate mitigation methods; and
- make recommendations for any further survey and/or species licensing requirements.

Desk study

To anticipate the potential ecological sensitivities at the site, a desk study was conducted in April 2017 in advance of the field studies. This included a review of:

- existing data on statutory designated sites available through SNH Sitelink website[7] (up to 5km from the site);
- existing data on non-statutory designated sites available through the Local Development Plan (LDP)[8] (up to 2km from the site);
- records of Ancient Woodland available through Sketchmap[9] (up to 2km from the site);
- records from the Council Biodiversity Officer;
- records from Scottish Badgers;
- the UK Biodiversity Action Plan (UKBAP)[10] and the Local Biodiversity Action Plan (LBAP)[11]; and
- the Scottish Biodiversity List[12].

Designated sites

Two statutory designated sites were found within 5km of the proposed Newton marina development. These are summarised in Table 4.:

Table 4.8: Terrestrial Designated Sites

Site Name	Designation[13]	Distance and Orientation	Comment
Tong Saltings	SSSI	Approximately 1.57km north east of the site boundary.	Designated for breeding bird assemblages, mudflats, saltmarsh and sand dunes.
Lewis Peatlands	SAC / SPA / RAMSAR	Approximately 4.47 km west of the site boundary.	Designated as an SAC primarily for three Annex 1 habitats present on site 1) oligotrophic to mesotrophic standing waters with vegetation and Littorelletea uniflorae and/or of the Isoeta-Nanojuncetea. 2) Natural dystrophic lakes and ponds 3) Blanket Bogs

[7] SNH Sitelink here: https://gateway.snh.gov.uk/sitelink/. Accessed in April 2017
[8] The Western Isles Council LDP here: http://www.cne-siar.gov.uk/planningservice/localdevplan.asp Accessed in April 2017.
[9] Sketchmap available here: http://sketchmap.co.uk/. Accessed in April 2017
[10] The UKBAP here: http://jncc.defra.gov.uk/page-5717. Accessed in April 2017
[11] Western Isles LBAP here http://www.cne-siar.gov.uk/biodiversity/documents/Biodiversity%20Audit%202002.pdf Accessed in April 2017
[12] The Scottish Biodiversity List here: http://www.biodiversityscotland.gov.uk/advice-and-resources/scottish-biodiversity-list/. Accessed in April 2017
[13] SSSI (Site of Special Scientific Interest), SAC (Special Area of Conservation), RAMSAR (Ramsar convention on Wetlands), SPA (Special Protection Area),

Site Name	Designation[13]	Distance and Orientation	Comment
			Designated as a RAMSAR site for blanket bog features, the breeding bird assemblage, and the breeding bird population of Dunlin (Calidris alpina schinzii).

No non-statutory designated sites were found within 2km of the site development.

Ancient woodland inventory

No ancient woodland was found within the site boundary of the proposed Newton Basin marina, and none were found to be located within 2km of the proposed development boundary.

Biodiversity action plan species

Species potentially relevant to the development site and listed in the LBAP for the Western Isles are summarised in Table 4.. The LBAP also lists various invertebrate and plant species of conservation concern.

Table 4.9: Western Isles LBAP Species

Species	LBAP	UKBAP	SBL
Common Pipistrelle Bat *Pipistrellus pipistrellus*	✓	✓	✓
Natterer's Bat *Myotis nattereri*	✓		✓
Daubenton's bat *Myotis daubentonii*	✓		✓
Otter *Lutra lutra*	✓	✓	✓

Biodiversity action plan habitats

The Western Isles LBAP identified 10 priority habitats that were deemed potentially relevant to the development site. These habitats are listed in Table 4..

Table 4.10: Western Isles LBAP Habitats

Habitat	LBAP	UKBAP	SBL
Coastal sand dunes	✓	✓	✓
Machair	✓	✓	✓
Coastal vegetated shingle	✓	✓	✓
Seagrass	✓	✓	
Coastal saltmarsh	✓	✓	✓

Habitat	LBAP	UKBAP	SBL
Mud in deep water	✓	✓	
Maerl beds	✓	✓	
Upland heathland	✓	✓	✓
Fens	✓	✓	
Blanket bog	✓	✓	✓

Records from the Council Biodiversity Officer were requested by email to 'enquiries@cne-siar.gov.uk' on 26/04/2017, however no response was received at the time of writing.

Field Surveys

In order to determine an ecological baseline for the Newton Basin marina development a Phase 1 Habitat Survey and a protected species survey were undertaken in May 2017.

A Phase 1 Habitat Survey is a method that rapidly records vegetation and wildlife habitat over large areas. The information is used to identify ecologically sensitive features, inform additional species surveys and, ultimately, recommend mitigation and enhancement measures in connection with a proposed development.

The Phase 1 Habitat Survey was undertaken according to the standard Joint Nature Conservation Committee method (JNCC, 2010). Field work was carried out on Thursday 4th May 2017. Weather conditions were favourable for fieldwork with bright and sunny conditions and temperatures between 10°C - 13°C.

A total of six Phase 1 habitat types including buildings were recorded on the site:

- B6 Semi-improved Grassland;
- J3.5 Artificial Sea Wall;
- J3.6 Buildings;
- J3 Bare Ground;
- H3 Boulders / Rocks; and
- H2 Shingle / Cobbles.

The main habitats are described in Appendix B: Habitat Information and Site Photography. In addition to this a map illustrating the findings of the survey is located in Appendix A: Drawings.

Protected species

The field survey for protected species was undertaken in accordance with CIEEM guidelines (CIEEM, 2013). The survey focussed on faunal species that are most likely to be found in the habitats which make up the wider landscape, or where suitable habitat is available. However, all UK protected or notable species are considered when undertaking a field survey of this nature in order to assess how valuable the surveyed area is in terms of resources. Species that were searched for and survey methods applied included, but were not limited to:

- Bats (various species); and
- Otter (*Lutra lutra*).

As West European hedgehog (*Erinaceus europaeus*), brown hare (*Lepus europaeus*) and amphibian species are listed on the Scottish Biodiversity List, a search for suitable habitat and presence of these species was also included.

Bats

No records of bats were received during the desk study. No bats or evidence of bats was found during the field survey. The habitats within the survey area offer negligible features on site for commuting and foraging bats. There is very little connectivity to the wider environment. The River Creed and Lews Castle grounds are located immediately to the north west of the site boundary and would provide suitable habitat for bats including mature woodland, parkland and gardens but this area is not directly connected to the site for development.

Otter

No records of otter were received during the desk study. A boat was chartered to survey the coastline at low tide along with searches on the mainland. No otter resting places or other field evidence of otter were identified during the survey.

Birds

A search of the Western Isles LBAP provided the following list of birds deemed Priority species:

Table 4.11: Western Isles LBAP Priority Bird Species

Species	Scientific Name
Common Scoter	*Melanitta nigra*
Spotted Flycatcher	*Muscicapa striata*
Red-throated Diver	*Gavia stellata*
Black-throated Diver	*Gavia arctica*
Great Northern Diver	*Gavia immer*
Slavonian Grebe	*Podiceps auritus*
Storm Petrel	*Hydrobates pelagicus*
Leach's Storm Petrel	*Oceanodroma leucorhoa*
Gannet	*Morus bassanus*
Cormorant	*Phalocrocorax carbo*
Whooper Swan	*Cygnus cygnus*
Greenland White-fronted Goose	*Anser albifrons flavirostris*
Greylag Goose (Scottish)	*Anser anser*
Barnacle Goose	*Branta leucopsis*
Shelduck	*Tadorna tadorna*

Species	Scientific Name
Wigeon	*Anas penelope*
Pintail	*Anas acuta*
Shoveler	*Anas clypeata*
Eider	*Somateria mollissima*
Merlin	*Falco columbarius*
Peregrine	*Falco peregrinus*
Ringed Plover	*Charadrius hiaticula*
Golden Plover	*Pluvialis apricaria*
Grey Plover	*Pluvialis squatarola*
Lapwing	*Vanellus vanellus*
Sanderling	*Calidris alba*
Purple Sandpiper	*Calidris maritima*
Dunlin	*Calidris alpina schinzii*
Bar-tailed Godwit	*Limosa lapponica*
Redshank	*Tringa totanus*
Whimbrel	*Numenius phaeopus*
Greenshank	*Tringa nebularia*
Arctic Skua	*Stercorarius parasiticus*
Common Tern	*Sterna hirundo*
Arctic Tern	*Sterna paradisaea*
Little Tern	*Sterna albifrons*
Razorbill	*Alca torda*
Short-eared Owl	*Asio flammeus*
Dipper	*Cinclus cinclus*
Twite	*Carduelis flavirostris*
Snow Bunting	*Plectrophenax nivalis*

The habitats recorded on site do not provide optimal conditions for the vast majority of bird species noted as Priority species. There is the potential for the site to support small numbers of over-wintering waders such as Ringed Plover and Purple Sandpiper where rocky foreshore habitat exists. The harbour itself could support numbers of diver and grebe species, although the Birds of the Outer Hebrides website[14] states that the main wintering areas for these species on Lewis are Broad Bay, Valtos and Braigh, the nearest of which is ~3.5km from the proposed development.

Several of the species noted above are qualifying species for the Lewis Peatlands SPA, which is located ~4.3km from the proposed development. Disturbance to these species from the proposed development is therefore considered unlikely to result in significant effects.

Marine Mammals and Fish

Developments in marine environments have the potential to affect key physical processes over wide areas. The EIA will assess potential direct and indirect impacts arising from the proposed Newton Basin marina development on marine mammals, their prey species, and fish species (specifically salmonids).

Marine Mammals

A desk study of the marine environment in the vicinity of the proposed Newton Basin marina development identified two areas with nature conservation designations (Table 4.). In addition to these sites all species of dolphin, porpoise and whale are European Protected Species (EPS). Marine mammal species included in the Western Isles LBAP and UK BAP (UKBAP) are also UK priority species and as such should be included in the EIA. All the species are UK priority species and have been recorded in the coastal waters off Stornoway.

Table 4.12: Marine Designated Sites

Site Name	Designation	Distance and Orientation	Comment
Inner Hebrides and Minches	andidate SAC	Approximately 1.4km north east of the proposed Newton Basin marina	Harbour Porpoise
North East Lewis	Proposed Marine Protected Area	Less than 1km east of the proposed Newton Basin marina	Risso's Dolphin

Table 4.13: Marine mammal LBAP species

Common name	Scientific name
Harbour Porpoise*	*Phocoena phocoena*
Northern Right Whale	*Balaena glacialis*
Minke Whale*	*Balaenoptera acutorostrata*
Sei Whale	*Balaenoptera borealis*
Blue Whale	*Balaenoptera musculus*

[14] http://www.western-isles-wildlife.com/Templates/birds_status_outer_hebrides.html

Common name	Scientific name
Fin Whale	*Balaenoptera physalus*
Humpback Whale	*Megaptera novaeangilea*
Bottle-nosed Dolphin*	*Tursiops truncates*
Risso's Dolphin	*Grampus griseus*
White-beaked Dolphin*	*Lagenorhynchus albirostris*
Atlantic White-sided Dolphin*	*Lagenorhynchus acutus*
Common Dolphin	*Delphinus delphis*
Striped Dolphin	*Stenella coeruleoalba*
Northern Bottlenose Whale	*Hyperodoon ampullatus*
Cuvier's Beaked Whale	*Ziphius cavirostris*
Sowerby's Beaked Whale	*Mesoplodon bidens*
True's Beaked Whale	*Mesoplodon mirus*
Killer Whale	*Orcinus orca*
Long-finned Pilot Whale**	*Globicephala melas*
Sperm-Whale**	*Physeter macrocephalus (P. catodon)*

Recent records *http://www.magic.gov.uk/MagicMap.aspx
**http://seawatchfoundation.org.uk/legacy_tools/region.php?output_region=14

Further baseline data on marine mammals will be gathered during the EIA process by means of a more detailed desktop study.

Fish

During the Stornoway Masterplan consultation, concern was raised by the Outer Hebrides Fisheries Trust (OHFT) and the Stornoway Angling Association (SAA) to the potential impact on migratory salmonids, (Atlantic Salmon (*Salmo salar*) and Sea Trout (*Salmo trutta*)) using the Stornoway harbour area and migration routes of fish through the proposed Newton Basin marina development area. The mouth of the River Creed is located less than 1km west of the boundary of the proposed Newton Basin marina. In 2017 the River Creed was classified by Marine Scotland Science (MSS) as a Grade 1 watercourse. This grading is based on data collected between 2011-2015, the data includes reported catches; estimated age composition and egg content of returning salmon; estimated stock levels; and areas of salmon habitat and the probability of achieving conservation limits (Science, 2017). The grading means that the River Creed is currently considered to have an 80% probability of meeting its conservation limits; this also recognises the effectiveness of existing non-statutory local management interventions. There are limitations to the data used to extrapolate the grading of Scottish rivers but the methods are well established and recognised internationally. If there are other empirical data available on the River Creed this will be sorted and used to assess the impact on salmonids in the area.

Along with the River Creed the Glen River enters Stornoway harbour approximately 1km north of the proposed development. There is currently no classification of the Glen River by MSS. The OHFT currently has a restoration program in place to improve the habitat and consequently the number of salmonids produced and returning to the river. The mouth of the Glen River at Bayhead is currently a busy marina with pleasure boats and small fishing boats moored. Further consultation will be undertaken with OHFT.

4.3.3 Potentially Significant Effects

It is anticipated that the development of a marina at Newton Basin will comprise activities with the potential to impact on ecology in the area. Based on existing knowledge of the proposed development it is envisaged that those activities may include:

- Direct loss of tidal and subtidal habitat over the footprint of the development;
- Visual light disturbance to intertidal and sub tidal species during the hours of darkness through the use of artificial lighting during construction and throughout the life of the port;
- Visual light disturbance to migratory routes during the hours of darkness through the use of artificial lighting during construction and throughout the life of the port;
- Temporary increase in suspended sediment and/or deposition from dredging and construction creating physical disturbance in the marine environment;
- Release of contaminants from disturbed sediments during construction;
- Environmental incidents and accidents and potential pollution from fuels, oils etc. potential source of pollution in the marine environment during construction and from boats using the Newton Basin Marina;
- Seabed excavation works during construction;
- Indirect impacts through interruption of changes to coastal processes including tidal flows, local current and sediment movement during construction and as a result of the created deep water; and
- Increased vessel numbers post construction causing disturbance in the marine environment.

Terrestrial Ecology

The baseline data gathered from the ecological survey and desk study provides sufficient information to place the site in context with regard to ecological and conservation value. Based on our current understanding of the proposed development of Newton Basin marina and the field and desktop surveys, it is not anticipated that there will be any significant impacts during construction on terrestrial ecology; protected or notable faunal species, vegetation and habitats or any impacts post completion that need to be considered further.

Birds

Given the habitats on site, and from a review of relevant literature, it is considered that the proposed development would not result in any significant impacts on ornithology. Therefore ornithology can be scoped out of further assessment.

Marine Mammals and Fish

Underwater noise generated during the construction of the development should be highlighted as an area with the highest potential to impact the marine ecology in the area. Underwater noise can have an adverse effect on marine mammals and fish affecting movements, timing of migrations and foraging behaviours. Another area of risk to marine biodiversity is from pollution directly originating from the construction.

Following the construction work and during the life of the Newton Basin marina impacts on marine biodiversity may be seen as a result of the construction leading to changes in hydrodynamic regime in the area.

It is recognised that Atlantic Salmon face a number of pressures during their life cycle that include but are not limited to predation, poor water quality, disease and parasites, barriers to migration, poor physical habitat quality, food availability, and changes in the marine environment. Atlantic Salmon are listed on Annex 5 of the Habitats Regulations 1994 which implements the species protection requirements of the Habitats Directive in Scotland. Therefore based on existing available data and our current understanding of the proposed development it is our view that Atlantic Salmon should be considered further and scoped in.

In addition to this River Lamprey (*Lampetra fluviatilis*) and Sea Lamprey (*Petromyzon marinus*) together with the critically endangered European Eel (*Anguilla Anguilla*), are all UK BAP species and the impact of the proposed works on these species will also be considered in the EIA.

4.3.4 Assessment Methodology

The assessment of potential impacts will be undertaken against a baseline and the significance of these assessed using standard EIA criteria and professional judgement in line with Chartered Institute of Ecology and Environmental Management (CIEEM, 2010) guidelines.

The methodology for the Ecological Impact Assessment (EcIA) will follow the Guidelines for Ecological Impact Assessment in the UK and Ireland: Marine and Coastal, by the CIEEM (CIEEM, 2010) and the Guidelines for Ecological Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal by CIEEM (CIEEM, 2016). The British Standard Biodiversity: Code of Practice for Planning and Development (BS 42020:2013) cites the CIEEM EcIA Guidelines as the acknowledged reference on ecological impact assessment. The guidelines are consistent with the British Standard, which provides recommendations on topics such as professional practice, proportionality, pre-application discussions, ecological surveys, adequacy of ecological information, reporting and monitoring.

Any assessment should include all direct and indirect, lethal and non-lethal impacts on ecology that could reasonably occur during construction work and in operation of the new Newton Basin marina.

Terrestrial Ecology

Based on the results of the baseline survey no further targeted surveys of terrestrial ecology are required.

Birds

No further assessment of birds is required.

Marine Mammals and Fish

The assessment of the potential direct and indirect impacts on marine ecology will draw on the findings of the hydrodynamic studies and the conclusions for the impacts on water and sediment quality assessments. This will in turn determine the potential area of risk.

A desktop study to review current existing literature and data sets for marine mammals in the local area will be conducted. When detailed proposals for construction and operation of the Newton Basin marina become available, specific requirements for survey will be identified. This may include surveys to determine presence/absence, abundance and other behavioural aspects of marine mammals using the area proposed for the Newton Basin marina. Any requirement for additional surveys will be agreed through discussion with SNH and Marine Scotland. The Newton Basin marina is not within any sites designated for marine mammals but connections to the wider area will be considered. The need to include underwater noise studies will be discussed with the competent authority, Marine Scotland.

It is anticipated that a Marine Mammal Observation Protocol (MMOP) will be required to ensure that the proposed construction works do not cause unnecessary disturbance to marine mammals (cetaceans and seals). This is likely to incorporate the use of suitably qualified Marine Mammal Observers (MMOs) and Passive Acoustic Monitoring (PAM) Operators, competent in the identification of marine mammals, being present during construction. The MMOs will undertake observation for marine mammals during high sound producing activities (heavy engineering activities), and during dredging and disposal operations. The PAM Operators will set up monitoring stations/transects and listen for the presence of marine mammals within the mitigation zone before and during high sound producing activities. It is likely that a MMOP will be incorporated into a Marine Mammal Protection Plan (MMPP).

If mitigation is not possible or appropriate and an impact on EPS is envisaged then it may be appropriate to apply for an European Protected Species licence from the licensing authority, Marine Scotland.

All available data on fish movements in the Newton Basin marina will be collated. It is considered that no fisheries surveys are required to assess impacts upon fish in the area.

4.4 Cultural Heritage and Archaeology

4.4.1 Introduction

This section of the EIA Scoping Report outlines the baseline archaeological and cultural heritage conditions at the site and considers the likely significant potential effects from the proposed development on heritage assets.

4.4.2 Baseline Conditions

There are 14 known heritage assets within the Site (Table 4.14, and as illustrated within Appendix A: Drawings).

Table 4.14: Heritage Assets within the Site Boundary

Asset	Description	NGR
4313	Putative site of Cromwellian Fort, Goat Island	NB 42600 32100
102829	Wreck, Unknown	Exact location unknown
102830	Wreck, Unknown	Exact location unknown
102849	Wreck, Unknown	NB 42550 32300
140398	Rectilinear Enclosure, South Beach	NB 42770 32449
140404	Rectilinear Enclosure, South Beach	NB 42734 32465
140405	Rectilinear Enclosure, South Beach	NB 42713 32481
145644	Newton Street, Road	NB 4278 3244
146741	Floating Jetty, Goat Island	NB 4253 3222
146742	Breakwater & Causeway, road to Goat Island	NB 4285 3215
147438	Wreck, Fisher Lassies	NB 4250 3240
147630	Wreck, Jane	NB 4240 3230
147738	Wreck, Celeste	NB 4250 3240
147740	Wreck, Jane Sinclair	NB 4250 3240

These range in date from the post-medieval to the modern period, with the majority being of late post-medieval date. All fourteen are undesignated Historic Environment Record (HER) entries and include seven shipwrecks around Stornoway Harbour and Goat Island. The remaining assets comprise post-medieval enclosures and a road, a modern breakwater and jetty, and the reputed site of a Cromwellian fort.

An eighth shipwreck is recorded on the HER within the Site, but the entry states that the vessel was recovered and refloated. As the wreck does not survive as an archaeological feature, it is not considered a heritage asset in this Scoping Report.

Within 1km of the Site boundary there is one Scheduled Monument, a chambered cairn (SM6550) in the grounds of Lews Castle. Stornoway Conservation Area (CA) encompasses the historic core of Stornoway to the north of the Site and contains 92 Listed Buildings, including six Category A-listed. A further seven Listed Buildings are outside the CA, two of these are Category A. The Inventory Garden and Designed Landscape (IGDL) comprising the grounds of Lews Castle and Lady Lever Park (GDL00263) is located to the west and some of the IGDL is within 1km of the Site. The IGDL also incorporates some of the Stornoway CA and six of the Listed Buildings.

4.4.3 Potentially Significant Effects during Construction

Groundworks comprising onshore excavation and offshore dredging and land reclamation required for the proposed development have the potential to impact directly upon known heritage assets present within the Site. Impacts will potentially be of high magnitude as they could result in the complete destruction and removal of archaeological remains. Particular heritage assets potentially subject to direct impacts include four shipwrecks around Eilean na Gobhail (102829, 102830, 147438 and 147738), the modern breakwater and jetty (146742 and 146741), and the possible fort site (4313). It is understood that the remaining heritage assets will be outside the proposed construction footprint and will be subject to no direct impacts.

In addition to possible impacts upon known heritage assets, the proposed development has the potential to impact upon hitherto unknown buried archaeological remains. The level of effect will be dependent upon the finalised masterplan and construction methods associated with the proposed development.

4.4.4 Potentially Significant Effects post-Completion

The proposed development has the potential to affect the settings of designated heritage assets including Scheduled Monuments, Listed Buildings, a Conservation Area and an Inventory Garden and Designed Landscape.

Designated heritage assets up to 1 km distant from the Site have been identified. Given the character of the proposed development and the character of the heritage assets, it is unlikely that significant setting effects will occur.

4.4.5 Inclusion or Exclusion from EIA

Cultural heritage and archaeology will be scoped into the EIA.

The potential for direct effects upon heritage assets within the Newton Basin will be assessed in the EIA. This will be informed by desk-based assessment and a walkover survey. The methodology to be employed in assessing direct effects is outlined below in Section 4.4.7.

The potential for indirect effects upon the setting or character of designated heritage assets will also be assessed in the EIA. The potential for impacts upon all designated heritage assets within 1 km of the Site boundary will be considered. The assessment will also consider the potential for non-visual settings effects, such as that which could potentially result from elevated traffic, lighting and noise. The methodology to be employed in assessing indirect (setting) effects is outlined below in Section 4.4.7 and will be informed by guidance notes published by HES.

4.4.6 Design and Mitigation

Where significant effects are identified, the ES chapter will put forward mitigation proposals. These proposals will seek to avoid or reduce identified effects. Where it is impossible to avoid or reduce the level of effect the ES chapter will consider the potential to offset any significant effects. The Councils' Archaeology Service and Historic Environment Scotland (HES) will be consulted in order to in establish appropriate design responses or mitigation measures required to avoid, minimise or offset significant effects.

4.4.7 EIA Assessment Methodology

Baseline Assessment

The primary source of information for the presence and significance of known assets within the Site is contained within the National Record of the Historic Environment (as held by HES), the HER and the designated asset data sets held by HES. All heritage assets within 1km of the Site boundary will be identified to allow for an assessment of direct impacts and identify assets beyond the Site boundary that may be subject to setting impacts. A walkover survey will also be undertaken in order to more fully understand the historic environment baseline conditions at the site and inform the impact assessment.

The ES chapter will fully describe the baseline historic environment conditions, collating the results of desk-based data gathering and a walkover survey. It will identify areas where the proposed development may impact upon heritage assets and include a constraints map for direct impacts.

Designated heritage assets within a distance of up to 1km from the Site boundary have been assessed from a desk-based perspective for the purposes of this Scoping Report. Six designated heritage assets are located within 1 km of the Site. However, the majority of these are located beyond the Site boundary and given the topography of the Site and the character of the heritage assets significant setting effects are not anticipated.

Assessment of Significance / Assessment Criteria

This sub-section sets out the methodology for assessing direct and indirect effects upon heritage assets. It takes account of Scottish Planning Policy (SPP) (Scottish Government 2014), Historic Environment Scotland Policy Statement (HESPS) (HES 2016) and PAN 2/2011: Planning and Archaeology (Scottish Government 2011). HES's guidance notes on setting (HES 2016a), contained within the series *Managing Change in the Historic Environment,* will also be considered.

The Assessor

Headland Archaeology Ltd conforms to the standards of professional conduct outlined in the Chartered Institute for Archaeologists' Code of Conduct, the CIfA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the CIfA Standards and Guidance for Historic Environment Desk Based Assessments and Field Evaluations.

Headland Archaeology Ltd is a Registered Archaeological Organisation of the Chartered Institute for Archaeologists. This status ensures that there is regular monitoring and approval by external peers of our internal systems, standards and skills development.

Headland Archaeology Ltd is ISO 9001:2008 accredited, in recognition of the Company's Quality Management System.

Heritage Assets

A heritage asset (or historic asset) is any element of the historic environment which has cultural significance. Both discrete features, and extensive landscapes defined by a specific historic event, process or theme, can be defined as heritage assets; and assets may overlap or be nested within one another.

Designated assets include Scheduled Monuments, Listed Buildings, World Heritage Sites, Conservation Areas, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields and Historic Marine Protected Areas. Other assets may also be locally designated through policies in the Local Plan.

The majority of heritage assets are not designated. Some undesignated assets are recorded in Historic Environment Records or Sites and Monuments Records (HERs/SMRs) maintained by local authorities and other agencies. However, many heritage assets are currently unrecorded, and the information contained in HERs and SMRs is not definitive, since they may include features which, for instance, have been entirely removed, or are of uncertain location, dubious identification, or negligible importance. The identification of undesignated heritage assets is therefore to some extent a matter of professional judgement.

Some heritage assets may coincide with visual receptors or landscape character areas, which are addressed in Section 4.2 (Landscape and Visual), and in such cases it is important to recognise the difference in approach between these two topics. Cultural heritage assessment addresses effects on the cultural heritage significance of heritage assets, which may result from, but are not equivalent to, visual impacts. Similarly, an effect on a landscape character area does not equate to an effect on the cultural heritage significance of heritage assets within it.

Heritage importance, cultural significance and sensitivity

Cultural heritage impact assessment is concerned with effects on *cultural significance*, which is a quality that applies to all heritage assets, and as defined in 'Historic Environment Scotland Policy Statement 2016' (Annex 1, paragraph 3), may be artistic, archaeological, architectural, historic, traditional, aesthetic, scientific or social, and may be 'inherent in the monument itself, its fabric, setting, use, associations, meanings, records, related monuments and related objects'. This use of the word 'significance', referring to the sum of the values we attach to an asset because of its heritage interest, should not be confused with the usage in EIA terminology where the significance of an effect reflects the weight that should be attached to it in a planning decision.

The *importance* of a heritage asset is the overall value assigned to it based on its cultural significance, reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 4.15). Assets of national importance and international importance are assigned a high and very high level respectively. Scheduled Monuments, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields and Historic Marine Protected Areas are, by definition, of national importance. The criterion for Listing is that a building is of 'special architectural or historic interest'; following HESPS Note 2.17, Category A refers to 'buildings of national or international importance', Category B to 'buildings of regional or more than local importance', and Category C to 'buildings of local importance'. Conservation Areas are not defined as being of national importance, and are therefore assigned to a medium level. Any feature which does not merit consideration in planning decisions due to its cultural significance may be said to have negligible heritage importance; in general, such features are not considered as heritage assets and are excluded from the assessment.

Table 4.15: Criteria for Assessing the Importance of Heritage Assets

Importance of the asset	Criteria

Very high	World Heritage Sites and other assets of equal international importance
High	Category A Listed Buildings, Scheduled Monuments, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields, Historic Marine Protected Areas and undesignated assets of national importance
Medium	Category B Listed Buildings, Conservation Areas, and undesignated assets of regional importance
Low	Category C Listed Buildings and undesignated assets of lesser importance

Cultural significance is assessed in relation to the criteria in HESPS Annexes 1-6, which are intended primarily to inform decisions regarding heritage designations, but may also be applied more generally in identifying the 'special characteristics' of a heritage asset, which contribute to its cultural significance and should be protected, conserved and enhanced according to SPP paragraph 137. Annex 1 is widely applicable in assessing the cultural significance of archaeological sites and monuments, for instance, while the criteria in Annex 2 can be used in defining the architectural or historic interest of buildings, whether listed or not.

The special characteristics which contribute to an asset's cultural significance may include elements of its setting. Setting is defined in 'Managing Change in the Historic Environment: Setting' (HES 2016, Section 1) as 'the way the surroundings of a historic asset or place contribute to how it is understood, appreciated and experienced'. The setting of an asset is defined and analysed according to Stage 2 of the three-stage approach promoted in 'MCHE: Setting', with reference to factors listed on pages 9-10. The relevance of these factors to the understanding, appreciation and experience of the asset determines how, and to what extent, an asset's cultural significance derives from its setting. All heritage assets have settings; however, not all assets are equally sensitive to impacts on their settings. In some cases, setting may contribute very little to the asset's cultural significance, or only certain elements of the setting may be relevant.

Assessment of the magnitude of impacts on cultural significance

The magnitude of an impact is a measure of the degree to which the cultural significance of a heritage asset will be increased or diminished by the development. This definition of magnitude applies to impacts on the setting, as well as impacts on the physical fabric, of an asset. Impacts on the settings of heritage assets are assessed with reference to the factors listed in 'MCHE: Setting' Stage 3 (evaluate the potential impact of the proposed changes, pages 10-11). It is important to note that the magnitude of an impact resulting from an impact on setting is not a direct measure of the visual prominence, scale, proximity or other attributes of the development itself, or of the extent to which the setting itself is changed. Therefore, Landscape and Visual Impact Assessment criteria for scale/magnitude cannot be applied directly in determining the magnitude of effect on the setting of a heritage asset. It is also necessary to consider whether, and to what extent, the characteristics of the setting which would be affected contribute to the asset's cultural significance.

Magnitude is assessed as high/medium/low, and adverse/beneficial, or negligible, using the criteria in Table 4.16 as a guide. In assessing the effects of a development, it is often necessary to take into account various impacts which affect an asset's significance in different ways, and balance adverse impacts against beneficial impacts. For instance, there may be adverse impacts on an asset's fabric *and* on its setting, offset by a beneficial impact resulting from archaeological investigation. The residual effect is an overall measure of how the asset's significance is reduced or enhanced.

Table 4.16: Criteria for Assessing the Magnitude of Impacts on Heritage Assets

Magnitude of impact	Guideline Criteria
High beneficial	Elements of the asset's physical fabric which would otherwise be lost, severely compromising its cultural significance, are preserved in situ; or Elements of the asset's setting, which were previously lost or unintelligible, are restored, greatly enhancing its cultural significance.
Medium beneficial	Elements of the asset's physical fabric which would otherwise be lost, leading to an appreciable but partial loss of cultural significance, are preserved in situ; or Elements of the asset's setting are considerably improved, appreciably enhancing its cultural significance; or Research and recording leads to a considerable enhancement to the archaeological or historical interest of the asset.
Low beneficial	Elements of the asset's physical fabric which would otherwise be lost, leading to a slight loss of cultural significance, are preserved in situ; or Elements of the asset's setting are improved, slightly enhancing its cultural significance; or Research and recording leads to a slight enhancement to the archaeological or historical interest of the asset.
Negligible	The asset's fabric and/or setting is changed in ways which do not beneficially or adversely affect its cultural significance.
Low adverse	Elements of the asset's fabric and/or setting which are of very limited relevance to its significance are lost or changed, resulting in a very slight loss of cultural significance; or Elements of the asset's fabric and/or setting which contribute to its cultural significance are minimally affected, resulting in a very slight loss of cultural significance.
Medium adverse	Elements of the asset's fabric and/or setting which contribute to its significance are affected, but to a limited extent, resulting in an appreciable but partial loss of the asset's cultural significance.
High adverse	Key elements of the asset's fabric and/or setting are lost or fundamentally altered, such that the asset's cultural significance is lost or severely compromised.

Assessment of the significance of effects

The significance of an effect (EIA 'significance') on the cultural significance of a heritage asset, resulting from a direct or indirect physical impact, or an impact on its setting, is assessed by combining the magnitude of the impact and the importance of the heritage asset. The matrix in Table 4.17 provides a guide to decision-making but is not a substitute for professional judgement and interpretation, particularly where the importance or impact magnitude levels are not clear or are borderline between categories. EIA significance may be described

on a continuous scale from negligible to major; it is also common practice to identify effects as significant or not significant, and in this sense major and moderate effects are regarded as significant in EIA terms, while minor effects are 'not significant'.

Table 4.17: Criteria for Assessing the Significance of Effects on Heritage Assets

Asset importance	Magnitude of impact			
	High	**Medium**	**Low**	**Negligible**
Very high	Major	Major	Major to moderate	Negligible
High	Major	Major to moderate	Moderate to minor	Negligible
Medium	Major to moderate	Moderate to minor	Minor	Negligible
Low	Moderate to minor	Minor	Negligible	Negligible

Cumulative Effects

Cumulative effects relating to cultural heritage are for the most part limited to indirect effects upon the settings of heritage assets. As there are no specific guidelines with regard to undertaking cumulative assessment for heritage assets, this assessment will follow the criteria for assessing setting impacts as set out above. The assessment of cumulative effects will consider whether there would be an increased impact upon the setting of heritage assets as a result of adding the proposed development to a baseline, which may include existing, under construction, consented or proposed developments as agreed with the planning authority.

Those heritage assets which are included in the detailed setting assessment, under indirect effects for the proposed development, will also be considered when assessing the potential for cumulative effects. However, only those assets which are judged to have the potential to be subject to significant cumulative effects will be included in the detailed cumulative assessment provided. In assessing cumulative effects operational, under construction, consented and proposed developments will be considered. While all of these developments and development proposals will be considered, only those specific developments which would contribute to, or have the possibility to contribute to, cumulative effects on specific heritage assets will be discussed in detail in the text.

4.5 Noise

4.5.1 Introduction

The noise assessment will consider the potential for noise generated by the development to impact upon existing residential receptors. The significance of any noise impacts will also be predicted. The effects of construction noise on marine life shall be considered as part of the ecological scope of work as discussed within section 4.3.

4.5.2 Baseline Conditions

A number of existing residential properties are located close to the proposed development site on Newton Street and surrounding streets. The distance between the proposed development (i.e. the nearest location of dredging as lineated by the red line boundary shown in Appendix A: Drawings) to the nearest noise sensitive receptors on Newton Street is approximately 160m.

Current noise generating sources within the development site boundary on Goat Island include;

- boat servicing, repair, painting and construction facilities;
- fish landing and processing facilities; and
- gulls cawing.

Current noise generating sources outside of the site boundary include:

- battery Point Power Station;
- fishing boats, passenger ferries and other marine vessels arriving and departing from Stornoway Harbour;
- activities in and around Stornoway Harbour; including loading/unloading, generators, servicing and maintenance works;
- road traffic within Stornoway; and
- commercial / industrial activities in and around Stornoway.

4.5.3 Potentially Significant Effects during Construction

The noise from certain construction activities has the potential to impact upon existing noise sensitive receptors. Construction details have not been finalised at this stage. The degree of impact during each phasing stage will depend upon;

- the nature of construction activities being carried out; this includes the type and size of machinery/plant involved, combinations of activities happening simultaneously and HGV routes in and around the site;
- location of construction activities relative to the closest noise sensitive receptors;
- duration of proposed activities;
- construction site operating times; and
- extent of noise mitigation measures in place.

Noise generating activities during the construction phase are understood to include;

- dredging of entrance channel and marina basin using a long reach excavator;
- land reclamation from excavated and imported materials;
- HGV movements in and around the site; and
- drilling of rock bed to accommodate sockets for vertical cantilever steel tubes.

These elements have the potential for significant impacts upon noise sensitive receptors on Newton Street, if unmitigated.

4.5.4 Potentially Significant Effects post-Completion

During the operational phase the marina development is not considered likely to be a significant source of noise. The redevelopment of Goat Island includes enhancing marine vessel repair and painting facilities, as well as an

improvement of fish processing facilities. Although noise from these activities is already present; any significant increase in activities may have the potential to increase the impact at existing noise sensitive receptors.

4.5.5 Inclusion or Exclusion from EIA

Construction Noise

Details of construction activities have not been finalised at this stage. When this information is known, construction noise from these activities shall be assessed as part of the EIA. Details on the specifications, locations and durations of potentially noise plant and equipment shall be determined from the contractor and used to determine the most exposed sensitive receptors to construction noise. Baseline noise surveys shall be carried out pre-construction to determine the existing noise level.

Noise from construction activities shall be predicted at the most exposed residential receptors following guidance provided in *BS5228-1:2009; Code of Practice for Noise and Vibration Control on Construction and Open Sites.* Predicted increases in levels above baseline shall be assessed in order to determine the significance of effects. The results of the assessment can be used to inform a construction noise management plan, to help mitigate any effects at the most exposed sensitive receptors.

Operational Noise

As mentioned in section 4.5.4, yacht movements within the marina, mooring activities and use of the marina public facilities are not anticipated to generate significant levels of noise at the location of the closest sensitive receptors on Newton Street; located approximately 160m to the north. Any noise issues arising regarding activities in and around the marina can potentially be mitigated as part of a noise management plan once details are known. This might include restrictions regarding the hours in which certain types of activities can be carried out within the marina.

Current noise generating activities in the proposed development site include boat servicing/repair activities and fish processing works on Goat Island. Proposals to refurbish and enhance these facilities may lead to a change in noise environment at the closest sensitive receptors. Given that these activities are already present, the proposed enhancements are not considered to be large in scale, therefore it is anticipated there will not be a significant increase in noise levels at the most exposed sensitive receptors as a result of the enhancements.

For the above reasons operational noise shall not be included in the EIA.

4.5.6 EIA Assessment Methodology

The construction noise assessment shall be carried out following the guidance outlined below.

BS5228-1:2009; Code of Practice for Noise and Vibration Control on Construction and Open Sites.

Methods for calculating noise produced by construction and open sites are provided in BS5228-1:2009. The document gives source data for different types of noise source, as well as methods for calculating noise from stationary and mobile plant. Specific advice on noise from sources such as piling is provided. BS5228 does not give full guidance on noise limits, however, guidance is provided on setting appropriate day and night-time limits. Recommendations for basic methods of noise control relating to construction and open sites where activities/operations generate significant noise levels are provided.

The noise impact assessment will comprise the following elements;

- measurement of existing baseline noise environment at a sample of 2-3 areas representative of the most exposed noise sensitive receptors surrounding the marina. Measurement positions will be agreed with the Council Environmental Health Department.
- review of construction activities, locations, noise data and identification of sensitive receptors to be considered in the assessment (to be agreed with the Council Environmental Health Department)
- calculation and assessment of construction noise at the most exposed sensitive receptors; comparison to baseline noise levels.
- if necessary, provide advice on potential mitigation measures necessary to reduce the significance of the construction noise impact.

Sensitive receptors to be included in the assessment are likely to include residential properties on Newton Street, Seaview Terrace and Builnacraig Street.

The potential for cumulative interaction has been considered in relation to the Applicant's other proposed development for a deep water port at Arnish. Although the Applicant will seek a Scoping Opinion for both sites, at this stage, it has not been determined whether or not both will proceed at the same time, and therefore it is impossible to determine if there are likely to be cumulative noise impacts at this stage. Should both developments proceed simultaneously, given the primary receptors of cumulative effects would be those residential properties specified above, construction noise impacts from the Port development would be partly mitigated by the intervening distance and it is unlikely that peak construction activity would occur simultaneously. At this stage, it is proposed to scope out cumulative noise assessment.

4.6 Air Quality

4.6.1 Introduction

The proposed development has the potential to impact local air quality, with the key issues in relation to air quality being traffic emissions from the local road network both surrounding and accessing the site, and dust emissions during the construction phase.

4.6.2 Baseline Conditions

In order to inform the Scoping Report, the relevant 1km background air quality concentration maps were obtained from the Scottish Air Quality and DEFRA websites. The 2016 measured annual average concentrations of NO_2, PM_{10} and $PM_{2.5}$ are 4.79µg/m^3, 8.24µg/m^3 and 5.40µg/m^3 respectively for background square (142500, 932500). This indicates the good air quality within the area of the site with the concentrations well below the relevant National Air Quality Objectives of 40µg/m^3, 18µg/m^3 and 10µg/m^3 respectively.

The 2016 Air Quality Progress Report for the Council (the most up-to-date report available) does not identify any Air Quality Management Areas (AQMAs) within the Council area.

The Council does not currently operate any automatic air quality monitoring stations within their boundary, however NO_2 diffusion tubes are installed at four locations within Stornoway. Monitoring was undertaken between July and December 2015 with no result obtained for September and therefore a capture rate of less than 50%. A bias adjusted annual mean calculated from the obtained results for each of the installed diffusion tubes resulted in a peak result of 25.4µg/m^3 at diffusion tube K2 located at South Beach. This result is 63.5% of the relevant National Air Quality Objective of 40µg/m^3 and therefore further reinforces the relatively good air quality conditions within the vicinity of the development site.

4.6.3 Potentially Significant Effects during Construction

Potential exists for certain construction activities to generate dust and impact existing residents. Impacts can arise at various construction phases including preparatory earthworks, general construction and have the potential to cause dust soiling, human health and ecological impacts if not managed appropriately.

4.6.4 Potentially Significant Effects post-Completion

Potential exists for an increase in traffic in the vicinity of the surrounding road network and in turn increases in the pollutants NO_2, PM_{10} and $PM_{2.5}$ which are most commonly associated with traffic emissions. This has the potential to impact both existing and future residents.

4.6.5 Inclusion or Exclusion from EIA

The primary long-term concern in relation to air quality is the emissions generated by traffic and the subsequent impact on the local ambient air quality at residential and public areas located within the vicinity of the main road network. The main pollutants of concern associated with road traffic emissions are NO_2, PM_{10} and $PM_{2.5}$.

It is estimated that the development will not lead to a significant increase in road traffic on the surrounding roads. Further to this, with data indicating that air quality is good in the vicinity of the site it is anticipated that any increase in exhaust emissions would have a negligible effect on air quality at sensitive receptors. This will therefore not be assessed as part of the EIA.

Currently there are no details available on whether any industrial installations such as biomass boilers will be incorporated into the development design. This has therefore been scoped out. However, should any form of biomass installation be considered in the future then the potential impact on air quality will be assessed when details become available.

Construction of the proposed development is considered to be a temporary impact and can be controlled through developing a site-specific Dust Management Plan as part of a Construction Environmental Management Plan (CEMP). The dust impact assessment requires specific information on site operations during construction, including preparatory earthworks, general construction and the potential for trackout during construction of the proposed development. Currently this information is still being finalised. It is therefore proposed to defer the construction dust assessment and formulation of a construction dust management plan until such time as details on construction have been finalised.

Accordingly, there is no requirement for a specific air quality EIA Report chapter. The findings of the construction dust assessment will be incorporated into the Other Issues chapter.

4.7 Water Environment

4.7.1 Introduction

The water environment is considered to encompass hydrology, hydrogeology and water quality, whilst coastal processes are considered to encompass tides, waves and sediment transport processes. This section of the EIA will therefore address all of these subject areas, in addition to geology. The associated interactions between the water environment, ecology and fisheries will be considered within the ecology section of this Scoping Report, within section 4.3.

The Water Framework Directive (WFD) (Council Directive 2000/60/EC) aims to protect and enhance water bodies within Europe and covers all estuarine and coastal waters out to 1 nautical mile. This requires that there is no deterioration in the quality of surface or groundwater bodies and aims to achieve good ecological status or potential. The implications of the WFD must be considered when assessing this project and the details of how compliance will be achieved provided in the EIA.

The development proposals for the marina at Newton Bay have the potential to cause changes to the baseline hydro(geo)logical conditions and the ongoing coastal processes at the site, and in the wider area. Given the importance of water as a valued resource, coastal processes to the surrounding environment, and of ensuring sustainable development, an assessment of the water environment and coastal processes is considered essential.

4.7.2 Baseline Conditions

The proposed marina development site lies within the coastal inlet of Newton Bay, located on the northern shore of Goat Island, within Stornoway Harbour. The tidal embayment of Stornoway Harbour extends up to 3km in length, and around 1.5km in width at its widest point, covering an area of just over 3km^2.

Geology

The site is underlain by Conglomerate (Stornoway), with Protocataclasite (Outer Hebrides Thrust Complex) immediately to the south, and Gneiss (Lewisian) present further south. There are no significant superficial deposits mapped within the vicinity of the site (BGS, n.d.).

EnviroCentre undertook a geo-environmental and geotechnical site investigation on Goat Island in May 2017. Works incorporated drilling of three rotary boreholes, with drift deposits encountered on site comprising around two metres depth of sandy, cobbly gravel, overlying the conglomerate bedrock.

Coastal Processes

Tidal currents within the Stornoway Harbour embayment are insignificant. The wave climate is dominated by locally generated wind waves, whilst standing wave oscillations (seiches) can occur within the harbour (up to 0.5m in amplitude) when atmospheric depressions pass northwards. A small quantity of silt and peat is deposited in Stornoway Harbour from the Bayhead River during high flow events. Maintenance dredging of this material is infrequently required (once a decade) as a result (Ramsay & Brampton, 2000). The European Nature Information System (EUNIS) seabed habitat map shows the dominant seabed habitat within the harbour embayment to be rock or other hard strata, present within a low energy environment. Sands are shown to be present within, and in the vicinity of, the proposed marina site (EMODnet, 2017).

Tidal Water Levels

Tidal levels at Stornoway Harbour as presented within the Admiralty Tide Tables (UKHO, 2017) are shown in Table 4.. The mean tidal range at Stornoway is 4.1m during spring tides and 1.7m during neap tides.

Table 4.18: Tidal Range at Stornoway

Tide Condition	Chart Datum (mCD)	Ordnance Datum (mOD)
Highest Astronomical Tide (HAT)	5.5	2.79
Mean High Water Spring (MHWS)	4.8	2.09
Mean High Water Neap (MHWN)	3.7	0.99
Mean Low Water Neap (MLWN)	2.0	-0.71
Mean Low Water Spring (MLWS)	0.7	-2.01

Extreme sea levels have been predicted around the whole UK coastline and published by the Environmental Agency/Department for Environmental Food and Rural Affairs report (McMillan et al., 2011). These extreme levels include the effects of both tides and storm surge but not the effect of amplification within estuaries or sea lochs. In order to provide better estimates around the Scottish coastline, SEPA have updated the original estimates. The SEPA derived extreme sea levels, predicted at a point within Stornoway Harbour, are 3.4m Above Ordnance Datum (AOD) for the 1 in 200 year return period event and 3.51mAOD for the 1 in 1,000 year return period event .

Hydrology

The two main inflows of freshwater to the Stornoway Harbour embayment are the Bayhead River, which enters at the northern (inland) tip of the harbour, and the Abhainn Ghrioda (River Creed), which enters the harbour on the western shore, opposite Goat Island. Bayhead River is a minor watercourse with a catchment area of under 8km^2. The Abhainn Ghrioda is a larger watercourse, with a catchment area of around 50km^2, however the inflow of freshwater remains insignificant relative to the much larger volume of seawater exchanged within the harbour embayment.

A review of SEPA flooding maps has identified that a large area of the Harbour is situated within the 1:200 year coastal flooding event, so has a medium to high risk of flooding. There is a long history of flooding from high tides, with coastal floods in 1926, 1959, 1667, 1974, 1984 and 2014. Coastal flooding effects low lying parts of Stornoway.

There are no mapped freshwater inflows to Newton Bay although local discharges from piped drainage systems are likely to be present.

Water Quality

The coastal waters of Stornoway Harbour are classified under the Water Framework Directive (WFD) monitoring programme as a coastal waterbody. The waterbody is classified as being of overall 'Good' status in 2015, with a hydromorphological status of 'High'. Of the watercourses discharging to Stornoway Harbour only the Abhainn Ghrioda is large enough to be classified, with an overall status of 'High' in 2015 (SEPA, n.d.).

4.7.3 Potentially Significant Effects during Construction

The proposed development will involve construction activities in and near the water environment, including land reclamation, a new breakwater, pontoons and seabed dredging. The key potential environmental impacts on the water environment and coastal processes during construction and operation have been identified and are outlined below:

- potential changes in the local wave climate;
- potential changes in local flood risk and drainage;
- potential contamination of coastal water and sediments through spillages and/or sediment transfer (oil, fuels and suspended solids); and
- potential interactions between water environment impacts and associated ecology.

4.7.4 Potentially Significant Effects post-Completion

Potentially significant effects arising from the post-completion phase (i.e. once the development has been built), are likely to arise from the same potential impacts as highlighted above within section 4.7.3.

4.7.5 Inclusion or Exclusion from EIA

The nature of the proposed works, including new breakwater and capital dredge requirement, raises the potential for impacts on the local wave climate, and associated impacts on the local fishing fleet, ferry transport link and other harbour users. A wave modelling study is therefore proposed in order to assess the potential impact of the proposed works on the wave climate within Stornoway Harbour.

Given the absence of significant tidal currents, sediment input and transport within the harbour, and the prominence of bedrock around the foreshore, it is considered unlikely that there would be any significant impact from the proposed development on tidal currents or sediment processes. It is proposed that a desk based study of local hydrodynamic conditions within the harbour embayment should be undertaken to confirm this understanding.

Site investigation will be required within the proposed works area, particularly the dredge pocket, in order to determine the nature of the substrate, the likely implications for the project, and licencing requirements.

Assessment of the potential for particulate and chemical contamination of water will be central to the assessment. The prevention of pollution during construction and operational phases will be a specific focus of the EIA and recommendations made for the adoption of good working practices, including suitable drainage measures, in line with appropriate guidance and not to the detriment of existing conditions.

The water chapter of the EIA will consider of potential flood risk, including wave overtopping and surface water drainage.

4.7.6 Design and Mitigation

Where any significant effects on the water environment or coastal processes are identified as part of the EIA process, recommendations for design alteration or mitigation which could avoid, reduce or remedy the adverse effects will be identified.

4.7.7 EIA Assessment Methodology

The assessment will follow standard EIA procedures and will include:

- desk based review of the design of the proposed development in relation to the local water environment and coastal processes;
- consultation with key stakeholders to obtain relevant information and to ensure their concerns are addressed within the study;
- establishing the existing baseline conditions:
    - review topography and ground conditions at the site and environs;
    - review of hydrology, catchment characteristics, local drainage and water quality conditions;
    - review of coastal processes including bathymetry, tidal levels, river and tidal flow currents, wave action, bed sediment type and distribution, sediment transport and deposition, geology;
    - site investigation within proposed dredge pocket to establish nature of dredge material;
    - wave modelling study to establish baseline and design conditions;
    - flood risk assessment, including wave overtopping and surface water drainage, with climate change scenarios; and
    - reporting of baseline conditions to provide a basis for assessment of the potential impact.
- impact assessment:

- identification of sensitive receptors and environmental constraints;
- identification of potential impacts;
- assessment of effect significance;
- identification and assessment of mitigation measures to reduce or avoid any potential impacts of the proposed development; and
- statement of residual effects.

Potential effects arising from the proposed development will be predicted and evaluated by comparison with environmental quality standards, sediment quality standards, and water and sediment quality objectives. The observed baseline data will initially be used along with expert opinion to qualitatively assess the potential impacts and the significance of effects.

4.8 Traffic and Transport

4.8.1 Introduction

The transport related issues associated with the proposed development have been assessed against national and local policies set out in the following documents:

- National Planning Framework (NPF) 3;
- Planning Advice Note 75 Planning for Transport;
- Outer Hebrides Local Development Plan (LDP) 2 – Working Towards A New Plan (2012);
- The Transport Strategy for the Highlands and Islands – Hitrans (2008 – 2021);

The principal objective of the policies in the above documents is to support the promotion of accessibility by all modes of travel in order to support sustainable economic growth.

The NPF3 states plans and decisions should take account whether:

- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- safe and suitable access to the site can be achieved for all people; and
- improvements can be undertaken within the transport network that cost effectively limits the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts are severe.

The LDP supports sustainable developments that

- support development that reflects the scale and function of Stornoway;
- promotes opportunities for economic growth;
- ensure the sustainability of settlements by reducing the emissions which cause climate change and adapting to its effects; and
- maximise the re-use of previously developed land, in the built out areas.

The Transport Strategy for the Highlands and Islands sets out the thirteen-year transport strategy for the area from 2008 to 2021. The Plan is produced by the Highlands and Islands Transport Partnership (HITRANS) on behalf of the five local authorities (Argyll and Bute, Highland, Moray, Orkney Islands and Comhairle nan Eilean Siar).

The Transport Strategy for the Highlands and Islands is focused on ways to address challenges within three key areas:

- supporting economic development and regeneration;

- addressing climate change; and
- supporting safe and sustainable communities.

Dredged material will be used as an infill, and as such will alleviate the need for HGVs. There may be a limited number of vans delivering materials, however these are expected to be limited in number due to the limited provision of parking. In addition, staff travel will be minimised, again because of limited parking. It is anticipated that staff will be transported to the site in company vehicles in order to minimise disruption to local residents during the construction period.

4.8.2 Baseline Conditions

Site Access

It is proposed that the existing road network will be used to access the proposed Newton Marina. To that end, the principal road accessible to the proposed marina would be Newton Street. In order to access the main road network road traffic must travel through Stornoway town to access the A857 and A858 or head east to the access the A866.

Data Source

Traffic flow data for the A857, A858 and A866 was recorded during 2015 and 2016 (the most recent information available) which was obtained from the Department for Transport website.

The main period of traffic generation is anticipated to be during the construction period. It is likely that most of the dredge material will be reused as infill material, and only a limited volume will be taken off site for treatment/disposal.

The delivery of construction goods and materials, as well as the transport of construction personnel to and from the site will result in additional traffic on the network. Construction traffic has the potential to affect other road users, such as drivers, cyclists and pedestrians, as well as people living and working close to the affected road network.

The Department for Transport holds annual average daily flow (AADF) traffic data from automatic traffic counters on the A859 in the vicinity of the site. The hourly flow profile (with class breakdown) for the count undertaken in 2015 has been used as baseline traffic flow data. Table 4.19 summarises this data, with Figure 4-2 highlighting the traffic count points.

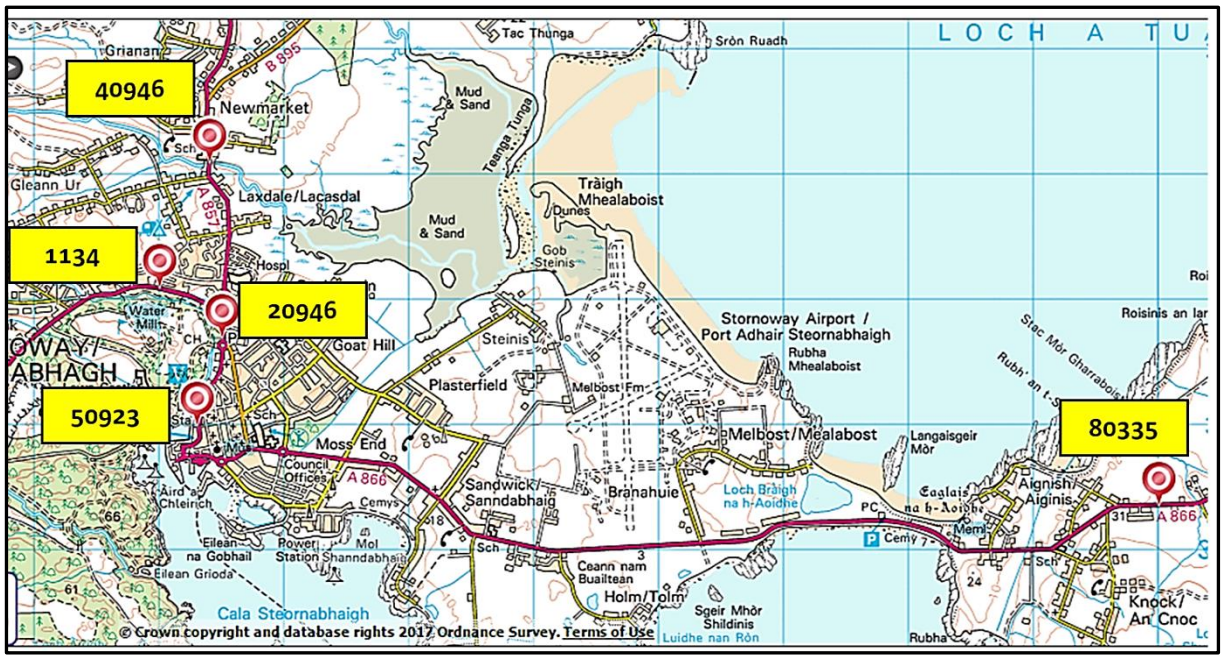
Table 4.19: Newton Marina Traffic 2016

Count point id:	Road	Grid Ref.	Start Junction	End Junction	Annual average daily flow (All Motor Vehicles)	Total HGV
50923	A857[15]	142300, 933000	A866	B8027	8235	60
20946	A858[16]	142500, 933700	B8027	A858	17883	198
80335	A866[17]	150000, 932360	B8027	End of A-road status, Brocair	2196	12
1134*	A858[18]	142000, 934100	A859	A857	6964	205
40946*	A857[19]	142400, 935100	A858	B895	8186	136

[15] http://api.dft.gov.uk/v3/trafficcounts/countpoint/id/20946.csv (Accessed 16/05/2017)
[16] http://api.dft.gov.uk/v3/trafficcounts/countpoint/id/50923.csv (Accessed 16/05/2017)
[17] http://api.dft.gov.uk/v3/trafficcounts/countpoint/id/80335.csv (Accessed 16/05/2017)
[18] http://api.dft.gov.uk/v3/trafficcounts/countpoint/id/1134.csv (Accessed 16/05/2017)
[19] http://api.dft.gov.uk/v3/trafficcounts/countpoint/id/40946.csv (Accessed 16/05/2017)

*2015 Data

Figure 4-1 Traffic Point



The road approaching Newton Marina is narrow and the addition of parked cars by the roadside could potentially obstruct HGV movement. In addition, there are few areas where HGVs can park within the vicinity of the marina.

Road Safety

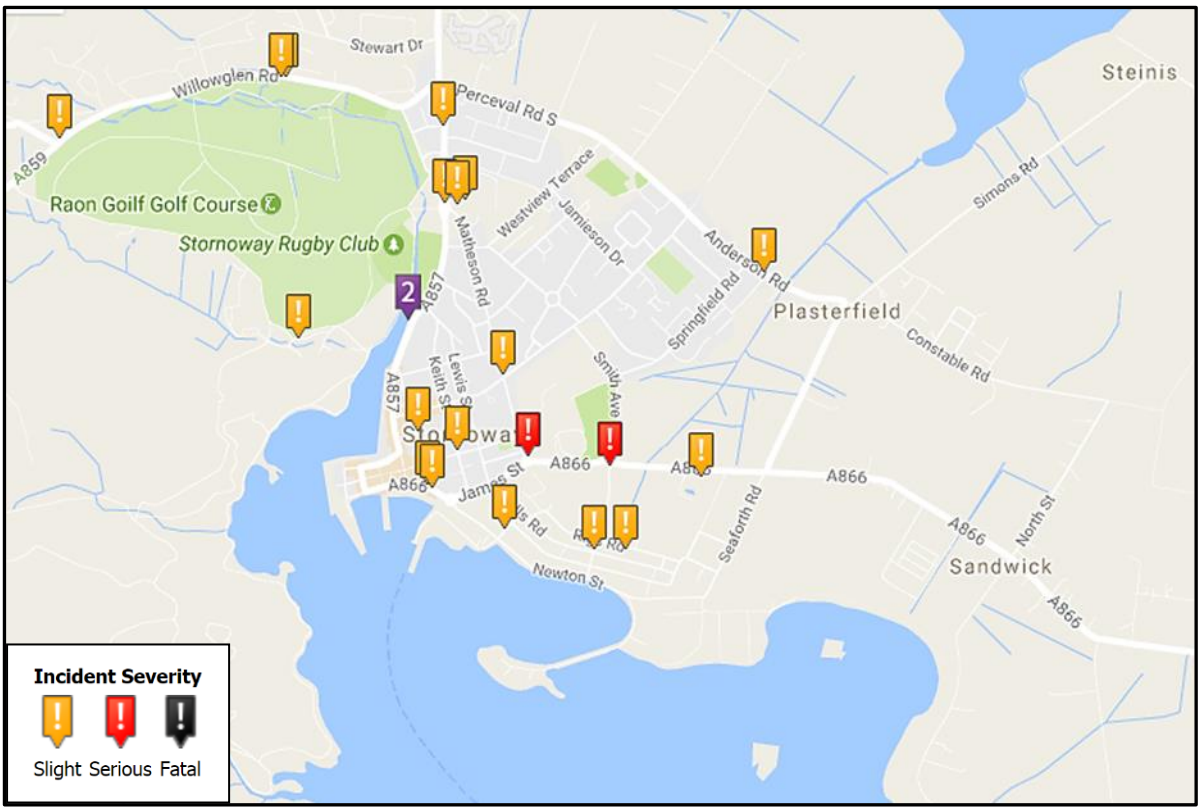
CrashMap[20] was interrogated to identify the number of road traffic incidents within the vicinity of Newton Marina. CrashMap uses data collected by the police about road traffic incidents on British roads where someone is injured which is then compiled in to an easy to use format showing each incident on a map. Incidents are plotted to within 10m of their location. Table 4.20 indicates that there have been 21 Incidents in the five years up to, and including, 2016. Figure 4.2 shows the location of the incidents.

Table 4.20: Road Traffic Incidents

Year	Slight	Serious	Fatal
2012	3	1	0
2013	5	1	0
2014	7	0	0
2015	3	0	0
2016	1	0	0
Total	**19**	**2**	**0**

Figure 4-2 Road Traffic Incidents

[20] http://www.crashmap.co.uk/search#



4.8.3 Potentially Significant Effects during Construction

The following are considered to be the key potential effects with respect to traffic and transport during construction:

- effects upon the levels of traffic experienced at the existing harbour;
- effects upon the condition/structure of the road network;
- environmental effects resulting from associated noise, vibration, and air pollution impacts;
- effects upon pedestrians and other similar users in terms of delays and severance/amenity impacts (due to physical barriers or the effects of increased traffic flows);
- road safety and the potential for accidents;
- the effects of heavy/abnormal loads on the road network; and
- ensuring the safe operation of the harbour with particular respect to existing marine traffic during harbour operation.

With respect to marine traffic, during construction there is the potential for incidents to occur as a result of the presence of dredging and other construction plant in the water. As with all construction works taking place in the marine environment, standard measures will need to be put in place to reduce the navigation risk to other vessels; for example, the construction works would need to be appropriately marked, construction plant be appropriately lit, and notices to Mariners issued, etc.

4.8.4 Potentially Significant Effects post-Completion

During the operational phase the proposed development it is not considered likely to be a significant traffic generator. The redevelopment of Goat Island includes enhancing marine vessel repair and painting facilities, as well as an improvement of fish processing facilities. Although traffic from these activities is already present; the proposed development has the potential to significantly increase the traffic on the local road network should the proposed development by operational at peak time.

4.8.5 Inclusion or Exclusion from EIA

Details of construction activities, including the source and transportation method used to deliver incoming construction materials have not been finalised at this stage. When this information is known, construction traffic generated as a result of these activities shall be assessed as part of the EIA. Details on the specifications, locations and duration of traffic movements shall be determined from the contractor. Baseline traffic surveys pre-construction shall be carried out to determine existing traffic conditions.

4.8.6 EIA Methodology

The assessment will be broadly based on the Institute of Environmental Assessment (IEA)[21] *Guidelines for the Environmental Assessment of Road Traffic*. A site visit will be undertaken to observe background transport conditions and identify access constraints/ opportunities.

This guidance is the only document available which sets out a methodology for assessing potentially significant traffic-related environmental impacts where a proposed development is likely to give rise to changes in traffic flows.

The receptors that will be assessed are the users of local roads and the occupiers and users of land that front the local roads. This is because a change in characteristics, such as an increase in traffic and composition of HGVs, could adversely affect them.

The following rules, summarised from the IEMA guidelines, be used as a screening process to define the scale and extent of this assessment.

- Rule 1: Include roads where traffic flows are predicted to increase by more than 30% (or where the numbers of HGVs are predicted to increase by more than 30%); and
- Rule 2: Include any specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

The IEMA guidelines elaborate on Rule 1 stating that projected changes in traffic of less than 10% create no discernible environmental impact, given that daily variations in background traffic flow may fluctuate by this amount, and that a 30% change in traffic flow represents a reasonable threshold for including a highway link within the assessment.

The IEMA guidelines also identify groups, locations and areas which may be sensitive to changes in traffic conditions and which should be considered for assessment. Groups, locations and areas could, for example, include pedestrians, cyclists, shopping areas, schools and accident hotspots. Where traffic flows are predicted to increase by 10% or more, those relevant sensitive groups, locations and areas will be assessed. It should also be noted that the IEMA guidelines also state that other affected parties could be added if the assessor considers it appropriate.

The potential impacts resulting from construction and development traffic with potential to be generated by the proposed development will be considered in relation to the following areas:

- traffic generation;
- HGV accessibility;
- severance;
- driver delay;
- pedestrian delay;

[21] Now the Institute of Environmental Management and Assessment (IEMA)

- pedestrian amenity, fear and intimidation; and
- accidents and safety, including driver distraction.

4.9 Other Issues

4.9.1 Introduction

This section incorporates those issues which are relevant to the proposed development however to do merit or justify a full chapter within the EIA Report, or similarly where there is no standard methodology. As discussed within section 3.4 of this Scoping Report, the changes to the EIA Regulations include requirement to consider climate change and natural disasters. This section also discusses cumulative assessment in relation to other elements of a proposed Masterplan for Stornoway, and air quality considerations as referred to within section 4.6.5.

4.9.2 Climate Change

Climate change has taken a prominent position within policy and legislation at a national level, with the Climate Change (Scotland) Act 2009 creating a long-term framework for ensuring reduction in Scottish greenhouse gas emissions of 80% by 2050.

Under Schedule 4(4), the EIA Regulations require "*a description of the factors specified in 4(3) likely to be significant affected by the development…(including) climate (for example greenhouse gas emissions, impacts relevant to adaption*)". In addition, Schedule 4(5)(f) of the EIA Regulations requires a "*description of the likely significant effects of the development on the environment resulting from…the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change".*

It is considered at the Scoping stage that the proposed development would not result in a significant effect upon climate given the nature of the development. Any increase in emissions created during either construction or operation is likely to be negligible, and pollution and emissions control would be discussed within a detailed Construction Environmental Management Plan (CEMP). Discussion of the vulnerability of the project to climate change is primarily concerned with the water environment, including flood risk and wave overtopping due to increases in sea level. This would be covered within the modelling and impact assessment within the Water Environment chapter.

4.9.3 Natural Disasters

The proposed development is not located within an area of significant seismic activity, nor are climatic factors prone to creating disasters such as tsunamis, hurricanes or catastrophic flooding. Accordingly consideration of natural disasters is scoped out of the EIA.

4.9.4 Air Quality

Air Quality would form part of the Other Issues chapter as discussed within section 4.6.5, with particular reference to dust.

4.9.5 Cumulative Assessment

Those environmental topics which are considered to require cumulative assessment are included within the relevant sections of section 4. It is not proposed to incorporate a separate cumulative assessment elsewhere within the EIA Report. It is acknowledged that the proposed development is part of a larger Masterplan for the area which has been promoted by the Applicant. It is also acknowledged that a separate Masterplan is in the early stages of being promoted by the Council. Given there is no committed development at this stage, it is not considered practical or appropriate to include cumulative assessment of other Masterplan development in the harbour area given assessment would be based upon assumption, conjecture and hypothesis.

5 CONTENT AND STRUCTURE OF THE EIA REPORT

5.1 Content and Structure

Following the rationale set out within the above sections, it is proposed that the final EIA Report is set out within the following structure:

- Volume 1: EIA Report, containing:
  - Preface;
  - Chapter 1: Introduction;
  - Chapter 2: EIA Methodology and Scoping;
  - Chapter 3: The Proposed Development;
  - Chapter 4: Planning Policy Context;
  - Chapter 5: Landscape and Visual;
  - Chapter 6: Ecology;
  - Chapter 7: Cultural Heritage and Archaeology;
  - Chapter 8: Noise;
  - Chapter 9: Water Environment;
  - Chapter 10: Traffic and Transport;
  - Chapter 11: Other Issues;
  - Chapter 12: Schedule of Mitigation; and
  - Chapter 13: Conclusions.
- Volume 2: Figures, containing relevant supplementary figures and drawings relevant to Volume 1 chapters;
- Volume 3: Technical Appendices, including reports and technical background documents which support the main assessments contained within Volume 1; and
- A standalone Non-Technical Summary (NTS).

6 CONCLUSIONS

Given the proposed development falls under Schedule 2 of the 2017 EIA Regulations, it is appropriate to request a Screening Opinion from MSLOT. Sufficient baseline information has been provided regarding the proposed development and the surrounding and receiving environment upon which to base a decision. Should the Council determine that the proposed development does not require EIA, we would be grateful for a formal Screening Opinion.

Should the information provided lead MSLOT to issue a positive Screening determination (i.e. EIA is required), the information and methodologies contained within this report allow the Council, Marine Scotland and other consultees to advise and approve the scope of work and add relevant information and guidance as required. We would be very grateful to receive a formal Scoping Opinion and are committed to working with all consultees to deliver a proportionate, robust EIA that benefits the Western Isles.

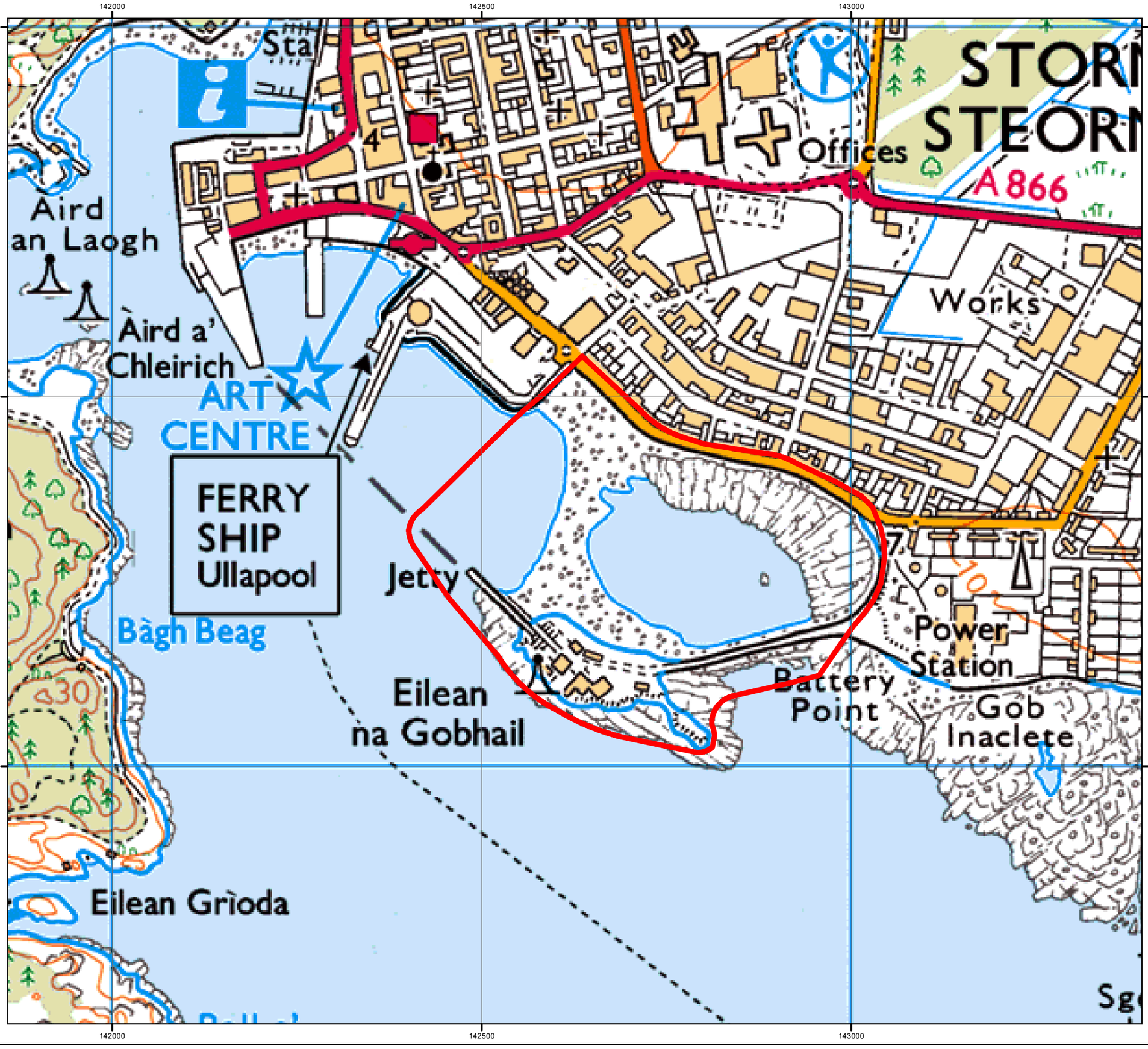
For the benefit of doubt, the environmental topics we propose to scope **in** to the EIA Report are:

- landscape and visual;
- ecology;
- cultural heritage and archaeology;
- noise;
- water environment; and
- traffic and transport.

It is proposed that all other topics, including full air quality assessment, are scoped out.

APPENDICES AND DRAWINGS

A DRAWINGS



Legend

Site Boundary

Do not scale this map

Client
Stornoway Port Authority

Project
Newton Basin

Title
Newton Basin Site Boundary

Status
DRAFT

Drawing No.
169265-001

Revision

Scale
1:5,000

A3

Date
11 May 2017

Drawn	Checked	Approved
Re	R	R

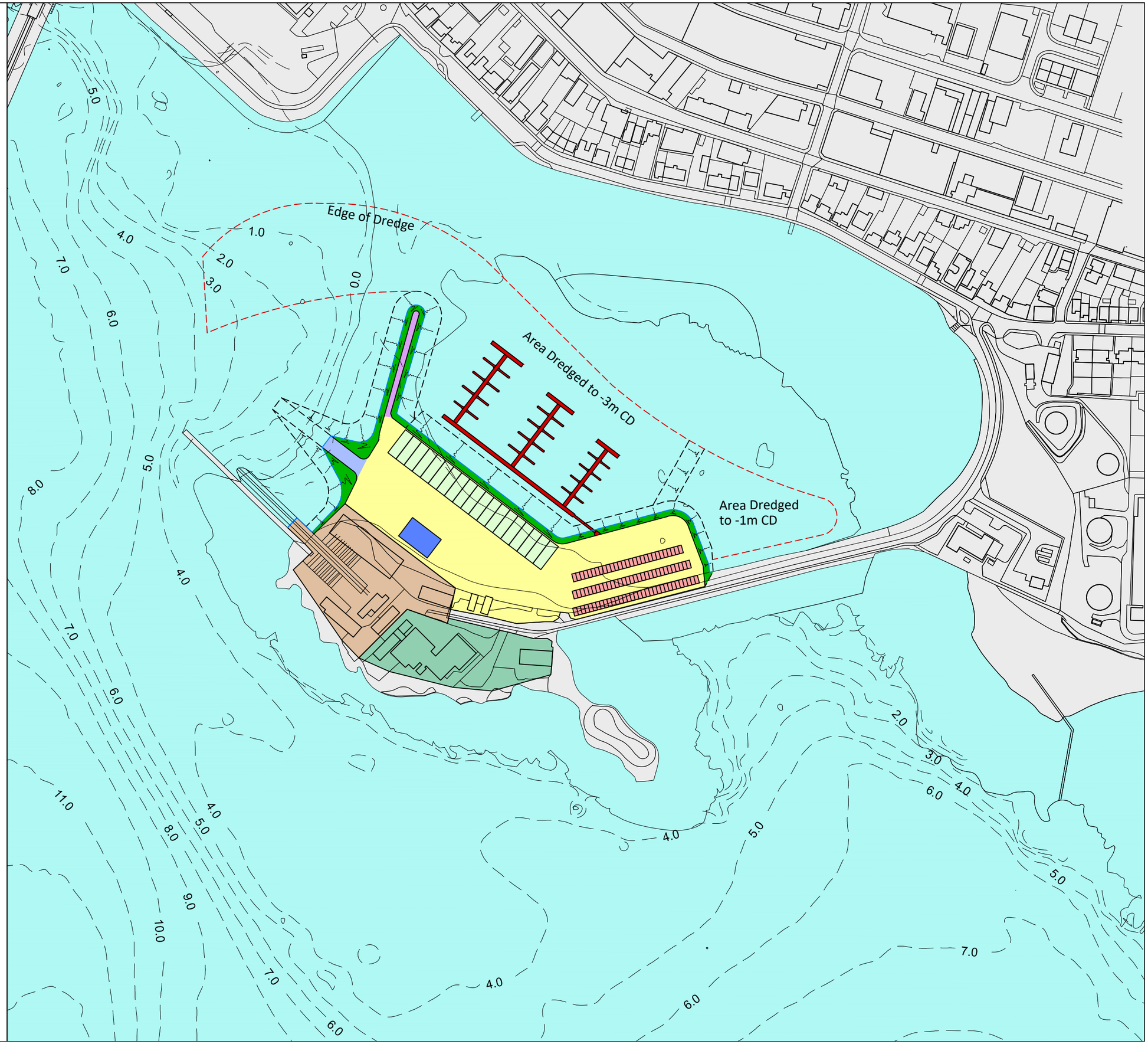
ENVIRO Centre
Craighall Business Park, Eagle Street, Glasgow, G4 9XA
Tel: 0141 341 5040
Fax: 0141 341 5045

Stornoway Port Masterplan

Newton Basin

Scale - 1:2,500

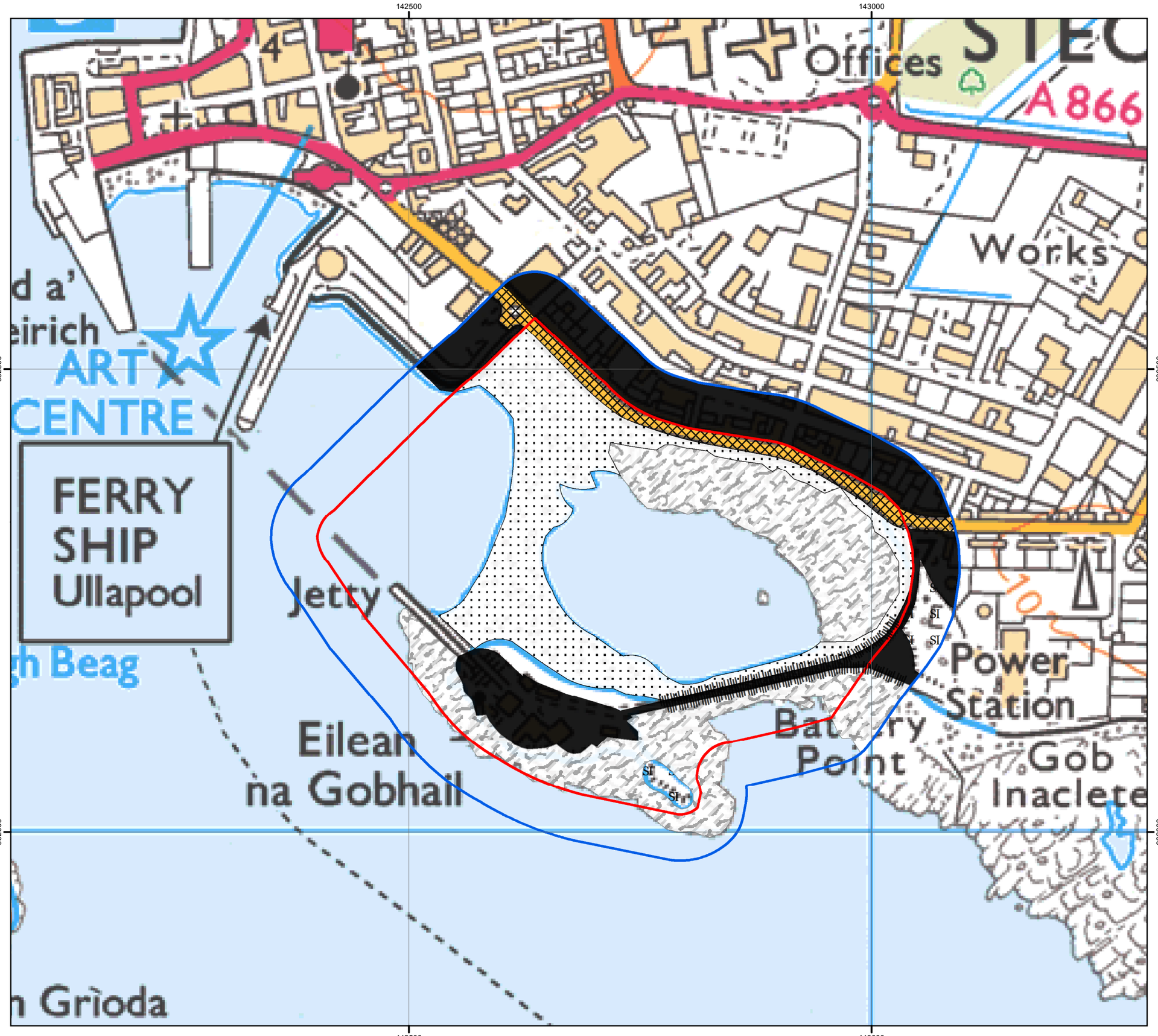
- Reclamation Area
- Marina
- Car Parking
- Boatyard Improvements
- Rock Armour Protection
- Proposed Sheds
- Yacht Storage
- Breakwater
- Slipway
- Fish Processing
- Dredge Outline
- MHWS



0 50 100 200m

Note: Seabed Contours in Metres Below Chart Datum

Drawing No.	1917/103C



Legend

- Newton Basin Site Boundary
- 50m Survey Buffer

JNCC Habitat Code

- B6 Semi-improved Grassland
- J3.5 Artificial Sea Wall
- J3.6 Buildings
- J4 Bare Ground
- Rock Outcrop
- Shingle

Do not scale this map

Client: Stornoway Port Authority

Project: Newton Basin

Title: Phase 1 Habitat Map

Status: DRAFT

Drawing No.: 169265-002

Revision:

Scale: 1:4,000

A3

Date: 22 May 2017

Drawn	Checked	Approved
R	R	R

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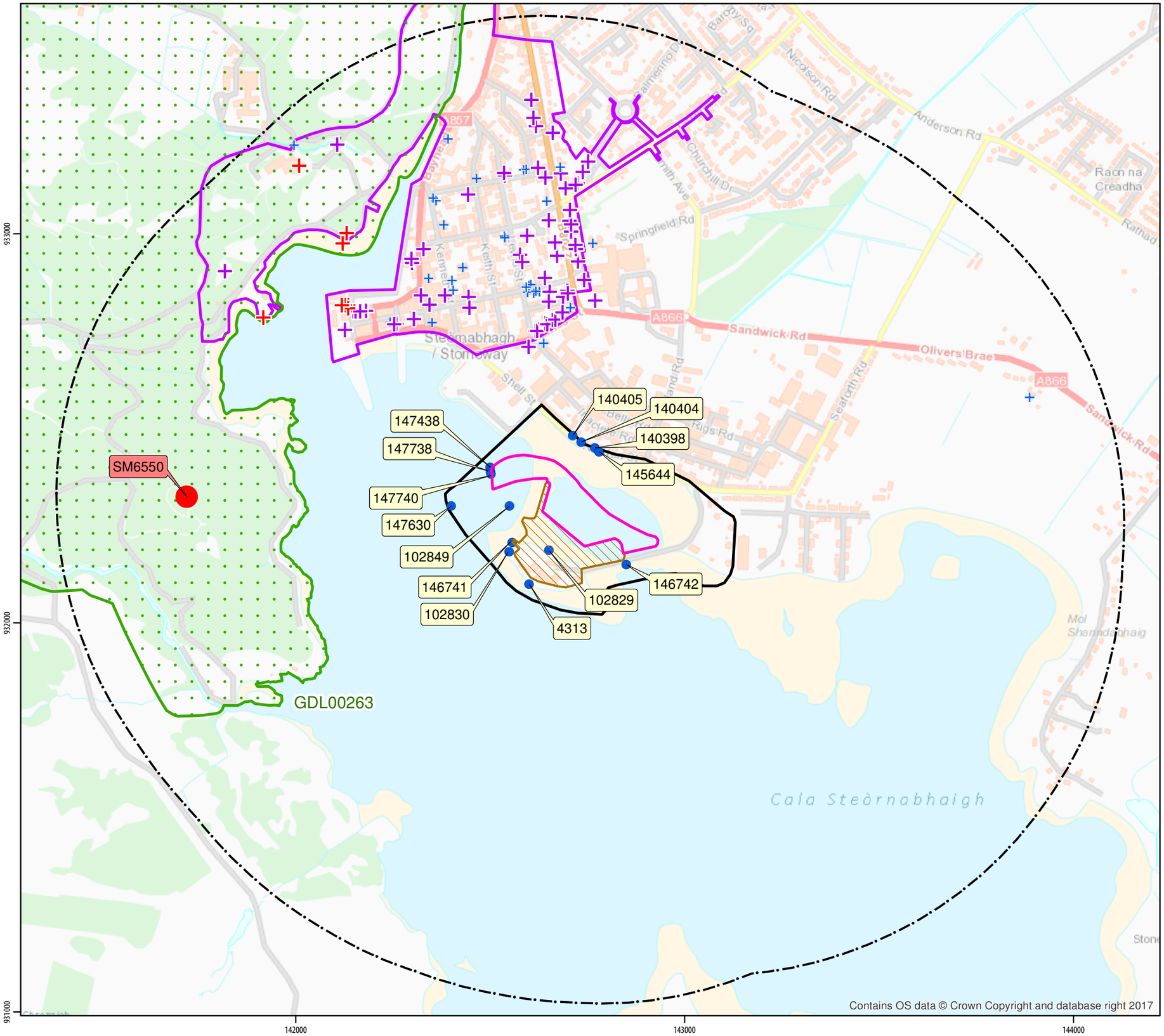

KEY

- Scheduled Monument
- Category A Listed Building
- Category B Listed Building
- Category C Listed Building
- Inventory Garden and Designed Landscape
- Stornoway Conservation Area
- HER Entry
- 1km Radius
- Site Boundary
- Proposed Reclamation & Construction
- Proposed Dredging

HER information derived from Pastmap data dated 15/05/17 © Crown Copyright

Scheduled Monument, Listed Building and Inventory Garden and Designed Landscape area information derived from Historic Environment Scotland data dated Jan 2017.

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N

1:10,000 @ A3

0 240m

Heritage Assets within Study Area

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B HABITAT INFORMATION AND SITE PHOTOGRAPHY

APPENDIX B: HABITAT INFORMATION AND SITE PHOTOGRAPHY

1.1 Phase 1 Habitat survey

A total of six Phase 1 habitat types including buildings were recorded on the site:

- J3.5 Artificial Sea Wall
- J3.6 Buildings
- J3 Bare Ground
- H3 Boulders / Rocks
- H2 Shingle/ Cobbles

1.1.1 B6 Semi-improved Grassland

Semi-improved grassland is found on the small island to the west of Goat Island and along the eastern boundary between the causeway and the boundary with the power station. Grassland species present include: cocksfoot (*Dactylis glomerata*), perennial rye grass (*Lolium perenne*) and fescue sp. (*Festuca* sp.)

1.1.2 J3.5 Artificial Sea Wall

Sea wall consisting of rock armour and concrete blocks is present connecting Battery Point to Goat Island and along the site boundary to the north

1.1.3 J3.6 Buildings

Buildings associated with the boat yard and sea food processing factory are found on Goat Island. Residential housing of Stornoway forms the northern boundary

1.1.4 J3 Bare Ground

Areas of bare ground and are present to the north of the site along the site boundary.

1.1.5 H3 Boulders / Rocks

Rocky outcrops are found along the coastline to the north east and of the site within the boundary and on the coastline of Goat Island

1.1.6 H2 Shingle / Cobbles

A shingle bar is in the north of the site forming Newton Basin at low tide

Photo 1: Causeway from mainland to Goat Island, formed from rock armour and tarmac

Photo 2: Goat Island with buildings associated with sea food processing and boat repairs

Photo 3: Small island south east of site with semi improved grassland

Photo 4: Newton Basin, taken from the eastern boundary looking towards Goat Island