MOTT MACDONALD

South Nesting Boating Club Proposed Marina at Catfirth, Nesting

Environmental Impact Assessment Scoping Report

February 2023

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February 2023

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1 Purpose and Scope of the Report

1.1 Introduction

This Environmental Impact Assessment (EIA) Scoping Report has been prepared on behalf of South Nesting Boating Club (SNBC) to accompany a request for an EIA Scoping Opinion from Shetland Islands Council. It sets out the proposed scope of the EIA to be undertaken in respect of constructing and operating a small boat marina (hereafter referred to as 'the Scheme') at Catfirth. Further details of the Scheme are provided in Section 2.

1.2 Request for EIA Scoping Opinion

This scoping report has been prepared in accordance with the requirements of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, hereafter referred to as the 'EIA Regulations'.

The aim of this scoping report is to provide sufficient information to allow Shetland Islands Council, the local planning authority (LPA), and relevant consultees to state their opinion as to the scope and level of information and assessment to be provided in the EIA Report (EIAR) ('a scoping opinion').

Additionally, as parts of the Scheme are located below Mean High Water Springs (MHWS) this report has also been prepared in accordance with the requirements of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The aim of this scoping report would be to also provide sufficient information to allow Marine Scotland (the determining authority for a marine licence), to state their opinion as to the scope and level of information and assessment to be provided in the EIAR for the application for a marine licence.

There may be an opportunity to streamline consultation with Shetland Islands Council and Marine Scotland through the EIA scoping process and subsequent stages (planning application and marine licence application). However, this must be agreed between these organisations prior and for one to act as the 'lead authority' in consultation with the other (and other statutory consultees). Further discussions are required to agree this.

1.3 Report objectives

The objectives of this report are to:

- Set out the proposed scope of the EIA (i.e. identify which environmental topics are to be scoped 'in' or 'out' of the assessment), taking into account what is currently known about the existing environment and the Scheme;
- Facilitate consultation with the LPA, Scottish Environment Protection Agency (SEPA), NatureScot, Historic Environment Scotland (HES), Marine Scotland and other relevant statutory and non-statutory bodies on environmental issues to be addressed as part of the EIAR and design development process;
- Set out what additional information needs to be collected (i.e. through desk-based studies or field survey work) to characterise the baseline environment within and around the Scheme;
- Define the assessment methods to be used to determine the likely significant environmental effects of the Scheme; and
- Identify potential effects and opportunities for mitigation.

2 Description of the Scheme

2.1 Location and description of the Scheme

The Scheme would comprise a small boat marina in South Nesting between the villages of Catfirth and Freester in Shetland (Figure 2.1). The location is below and adjacent to a disused World War 1 Flying Boat Station site on the area of shore at the mouth of Mill Burn at grid reference (GR) HU 44795 53750. The Scheme comprises open foreshore that is currently used for rough sheep grazing. The Scheme lies within the East Mainland Coast Special Protection Area (SPA); the Gletness and Skellister proposed Local Landscape Area (pLLA); is within the catchment area of an identified Burn Buffer, the Catfirth Wastewater Drainage Area and a Shellfish Water Protected Area. The Catfirth Flushes Local Nature Conservation Site (LNCS) is also adjacent to the site that is being proposed for development.

The total area of the proposed development site is 1.985 hectares.

Figure 2.1: Location Plan

The Scheme would be created by excavating the existing foreshore down to a dredged depth of approximately 1.75m below chart datum (CD) and enclosing with rock armoured breakwaters for shelter and protection from wave action. The maximum excavation / dredge depth is approx. 2.5m - refer to design drawings 0003 and 0004 (existing level minus proposed level).

The marina would accommodate approximately 50 berths along two floating pontoons. A concrete slipway (approximately 10m wide and to extend a least 1m below CD) would be provided alongside parking facilities (minimum of 22 spaces), a vehicle turning point and upgrade to the existing access road for motorised vehicles. A quay face of at least 40m in length would also be constructed to enable lifting of boats in and out of the water and to allow local mussel boats to berth and work from the site. The total height from wall base to top of the quay

wall would be 5.25m. A concrete paved working area 40m x 15m would be required behind the quay. A galvanised steel guardrail 1.1m high would be provided along the top of the concrete quay retaining wall where it is located directly over the concrete slipway. The quay would be provided with standard accessories such as mooring bollards, toe rails, quayside ladders and lifebuoy. The site would also have installation of power, water and external lighting.

Breakwater construction would comprise compacted core fill (from site excavations and imported from a local quarry), geotextile membrane to prevent wash-out of core fill, secondary armour (size 200kg to 300kg) laid as a single 600mm thick layer on the inner face of the breakwater and a single 600mm thick layer on the outer face, and primary armour (size 2.0t to 3.0t) laid as a neat interlocking layer on the outer face over the secondary armour. All of the primary and secondary armour will be imported stone.

Additionally, to accommodate the Scheme, the existing Mill Burn will require a new bottomless concrete arch culvert under the proposed marina access to maintain flow into the sea. Culvert size will be based on assessment of the burn catchment area and associated flow rate.

Sustainable Drainage Systems (SuDS) would be implemented as part of the Scheme. It is proposed that a 90m length of 5m wide filter strip would be installed on the north side of the access track to the marina.

The upgraded access track would be re-surfaced and graded with a single cross fall towards the filter strip.

The Scheme would be enclosed by fencing comprising post and wire mesh fencing approximately 1.2m high with gates made from galvanised steel.

2.2 Construction methods and techniques

2.2.1.1 Construction Works Timeframe

The construction works would take at least 24 months to complete.

General working hours on site would be expected to take place 0800-1800 Mondays to Fridays, 0800-1300 on Saturdays and works are expected to stop on Sundays.

2.2.1.2 Required construction activities

It is envisaged that the first phase of the construction of the marina would comprise installation of the precast concrete bottomless culvert over Mill Burn – to enable vehicular access onto the site, and the main earthworks including dredging the seabed, by cutting and filling in materials so that the correct levels are achieved. There are areas on the east of the Scheme area (HU 44809 53790) that would be used for temporary storage of excavated materials, so that eventual agricultural improvements can take place such as through landscaping surplus excavated topsoil & unsuitable material, re-seeding, and new ditching. The estimated total weight of dredged material is 15,000 tonnes. Based on the findings of previous trial pits it is envisaged that most of this material will be soft glacial till, which will be used for raising levels on-land. There will be no disposal of dredged material at sea. The proposed method for dredging will be excavation from shore side using a long reach excavator.

It is unlikely that rock breaking will be required as existing sea-bed comprises >2m thickness of soft deposits. Some allowance for minor rock breaking should be included in the dredging operations however just in case. If it is required, the volumes will be very small and will likely involve <0.5m depth of weathered rock removal at most.

All required dredging is shown hatched in red on design drawing 0002 (proposed site layout) and drawing 0013 (Extent of Dredging) while depth of dredging is indicated in red on design

drawings 0003 and 0004 (sections). The total area of dredging is approx. 10,700 sqm (1.07 Ha). There is minimal dredging required for the approach channels.

The results from the project pre-disposal sampling plan will be compiled in the 'Pre-disposal Sampling Results Form'. The completed form will be submitted along with the Marine Licence Application.

All excavated material will be retained on site for re-use. Suitable granular materials will be used for infilling the shore hard-standing area while less suitable material will be used for agricultural improvement landscaping across the area of adjacent field.

Once the earthworks and dredging has been carried out, the next phase in the development would comprise construction of the rock armoured breakwater. It is likely that not all of the materials that are available on site will be suitable for constructing the breakwater so these would be likely imported from local quarries. An excavator will be used to place general fill which would be layered with geotextile on top. Secondary and then primary rock armour would then be layered and interlocking on top of the geotextile. The total length of breakwaters is 190m – refer to design drawing 0010 (section details) for typical breakwater construction details including width and height.

The concrete quay, which is expected to be constructed with concrete poured in-situ, would be the next stage in the development of the marina. The steel reinforcement and temporary formwork would be fixed into place followed by pouring of concrete, some of which will be placed underwater using a tremie pipe. The proposed concrete slipway located next to the quay will be 10m wide x 35m long. The total estimated quantity of concrete required for the project is approx. 1500 tonnes.

Once the concrete quay face has been installed, roadworks, underground drainage and services installation, including street lighting, would then be carried out.

For the access road, car parking area and additional boat/trailer parking area the initial construction would comprise compacted Class 1A general fill reclamation build-up with unbound Type 1 surfacing. Smaller individual projects may be considered in future (if funding allows) for bitumen macadam surfacing of the access road and parking areas.

The proposed floating pontoons will be supplied by specialist manufacturer e.g. Inland & Coastal or Gael Force and will be moored.

Once works are complete, temporary work areas would be reinstated, reseeded and landscaping and ditching of the land would take place.

2.2.2 Material requirements

For the rock armoured breakwater and fill material, materials are likely to be imported as it is likely that there will not be enough materials on site. The materials would be imported from local quarries e.g. Vatster, Staneyhill, Scord, Brindister or Sullom Mine. Referring to the Design Statement Section 7, primary armour (2-3t size) total quantity required is approx. 4,000 tonnes and secondary armour (0.2-0.3t size) total quantity required is approx. 6,000 tonnes. The total quantity of Class 1A general fill reclamation below MHWS for hard-standing areas and breakwater core fill is 40,000 tonnes (estimated 15,000 tonnes won on site and remaining 25,000 tonnes imported from local quarry). There will be no Type 1 surfacing below MHWS.

The total area of land to be reclaimed is approx. 4,700 sqm (0.47 Ha). Reclamation as stated above will be achieved using suitable dredged/excavated material from site and imported quarry material. The total amount of geotextile required to protect Class 1A fill below MHWS is approx. 240m length x 25m width = 6,000 sqm. There will be <u>no</u> concrete paving/roads laid over the top of rock armour.

The ready-mix concrete required for the quay and slipway would be imported from local quarries with batching plants. Likely quarries that may be used to source the ready-mix concrete include Brindister, Staneyhill or Sullom Mine. The total quantity of concrete required for the project is estimated to be 1500 tonnes while the total volume of steel reinforcement to be used in the concrete is estimated as 50 tonnes.

The materials required for the bituminous road surfacing on site would be imported from the local Scord Quarry. It is estimated that for future bituminous surfacing of the car park & turning area approx. 400 tonnes of dense bitumen macadam (DBM) would be required.

The two floating pontoons that are intended for the 50-berth marina would be sourced from UK Mainland suppliers such as Inland & Coastal Marina Systems Ltd or Gael Force Marine Ltd. The pontoons will be moored using chains.

All materials imported to the development site will be taken in by road. There will be no imports by sea.

2.2.3 Typical equipment required

The typical equipment that would be used on site throughout the construction process would include:

- Excavators;
- Dump trucks;
- Ready-mix concrete trucks;
- Mobile crane;
- Compaction equipment;
- Generators; and
- Pumps.

All elements of the project will be constructed from the land side. There will be no requirement for jack-up barges etc.

2.2.4 Site Compound

During the construction phase, an area of the site would be required for a laydown area for the potential storage of materials, equipment and plant and including site welfare. The compound would be set up within the red boundary line furthest away from the sea (HU 44809 53790) (see drawing MMD-100102822-C-DR-00-XX-0002 for reference).

2.2.5 Traffic Management

The Scheme is remote from the public road and has its own access track. There will be increased traffic on the existing single track public road during construction due to deliveries of quarry material and concrete etc and the impact of this increased traffic may need to be assessed, but there is no work on or adjacent to the existing public road that would require traffic management, opening permits or temporary closures.

2.3 Operation

During operation of the Scheme, the main activities would involve vehicles using the upgraded access road & parking area, and boating activity in and around the marina at the head of Catfirth Voe.

2.4 Other Development

It is known that adjacent to the Scheme there is a housing development by E&H Building Contractors Ltd (Planning Ref. 2018/269/PPF) with planning permission, which is located on the area of land to the south-east of the marina site which will also utilises the existing access track. This development will include upgrading the existing track to a new adoptable road along most of its length. The housing development has yet to complete construction, however, the Scheme has assumed that the upgrading of part of the track to accommodate the housing will take place. The remaining length of access track (which will not be upgraded by the housing development) and required for the marina site will be upgraded during works for the Scheme (approximately 90m) and will also be constructed to adoptable standard. In the event that the housing development can no longer be built, SNBC would be required to upgrade the whole of the existing access track.

3 Proposed EIA Methodology

3.1 Legislation and Planning Policy Context

3.1.1 Legislation

In the UK, the driver for EIAs is the European Directive "*on the assessment of the effects of certain public and private projects on the environment*" (hereafter 'the EIA Directive') 2011/92/EU (as amended in 2014 (2014/52/EU). In Scotland, the EIA Directive is implemented in the planning regime through The Town and Country Planning (EIA) (Scotland) Regulations 2017. These regulations apply to development which is given planning permission under Part III of the *Town and Country Planning Act 1990*.

The objective of the EIA Directive is to provide a high level of protection of the environment and to help integrate environmental considerations into the preparation of proposals for development to reduce their impact on the environment. The EIA Directive prohibits the granting of consent for development which is likely to have a significant effect on the environment unless an EIA has been carried out.

Additionally, as significant parts of the Scheme are located below Mean High Water Springs (MHWS). The Scheme must consider the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017. These regulations apply to the Scheme which requires a marine licence.

3.1.2 National Planning Framework and Scottish Planning Policy

The most recent National Planning Framework 3 (NPF3) and Scottish Planning Policy (SPP) was published in June 2014. The NPF3 and SPP sets out the Scottish Government's planning strategy and policy in Scotland which should be considered as part of development of the Scheme. The Draft Fourth National Planning Framework (Draft NPF4), which details the long term plan for what Scotland could be in 2045, was laid in Parliament on 10 November 2021. Consultation took place on Draft NPF4 and closed on March 2022.

Scotland's National Marine Plan considerations also should be considered as part of the development scheme in terms of the potential impacts of the scheme.

3.1.3 Local Planning Policy and Guidance

The current Local Development Plan for Shetland Islands Council (2014) was adopted and launched in September 2014. This sets out the Council's vision and spatial strategy over 20 years. This Local Development Plan should be considered as part of the development of the Scheme.

3.2 Stakeholder engagement and consultation

The applicant submitted a planning application (reference: 2022/070/PPF) on 21 March 2022. The LPA undertook consultation with various consultees. An EIA Screening Opinion was received on 9 May 2022 which determined an EIA would be required for the Scheme. The following key issues were raised within the screening opinion letter:

- The excavation, construction and operational phases of the Scheme has the potential to impact on the qualifying features of the East Mainland Coast SPA and is likely to affect protected species and habitats listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and on Annex 1 of the EU Birds Directive.

- The Scheme lies adjacent to the Catfirth Flushes LNCS and given the value of the habitat and vegetation here in conjunction with the proposed diversion and culverting of Mill Burn, the Scheme could have an ecological impact on the LNCS which hosts a rare plant species.
- The Catfirth Waste Water Drainage Area is poor in ground conditions, thus there is potential for development to have impacts on coastal waters of high amenity value.
- The approved Gletness and Skellister proposed Local LLA (yet to be adopted as Supplementary Guidance) characterises the area as a tranquil sheltered coast that is rich in wildlife, hence the associated development guidelines are required to be taken into consideration.
- Additionally, consultation with NatureScot in July 2022 regarding the Scheme took place. The key issues identified include: the Scheme is likely to have a significant effect on qualifying features of East Mainland Coast SPA and an assessment of the implications of the Scheme should be within a Habitat Regulations Appraisal.

On receipt of this EIA Scoping Report, Shetland Islands Council and Marine Scotland will consult with statutory and non-statutory consultees to provide an EIA Scoping Opinion. The EIA Scoping Opinion will be taken into account in the EIA and in preparing the EIAR. The EIAR will summarise how the EIA Scoping Opinion and relevant comments have been considered within the EIA. When submitted, the EIAR will be publicised by Shetland Islands Council and Marine Scotland and will be subject to consultation.

3.3 Approach to EIA

The EIA will be undertaken in line with the requirements of EIA Regulations. The findings of the EIA will be presented in an EIA Report (EIAR) which will be produced in accordance with Schedule 4 of the EIA Regulations, which details the information for inclusion in an EIAR.

The EIA will identify the likely direct, indirect, cumulative, short, medium and long-term, permanent, temporary, beneficial and adverse significant effects arising from the Scheme. The EIAR will describe the mitigation measures required to avoid, reduce or remedy the significant adverse effects identified.

Each topic chapter of the EIAR will define the baseline against which the likely significant environmental effects of the Scheme will be assessed. Study areas applied when determining the baseline shall be clearly defined. Study areas will vary according to the environmental discipline under consideration and will reflect the Scheme and surrounding environment over which effects are reasonably thought to occur, taking account of guidance and professional judgement. It may be necessary for a topic chapter to apply multiple study areas, relative to sensitivity of receptors or the extents of potential impacts. The anticipated study areas to be applied to each environmental discipline have been identified within the topic chapters of this EIA Scoping Report.

Following on from the definition of the baseline conditions, any mitigation measures embedded into the Scheme design will be described. The impact of the Scheme will be assessed for both the construction and operation phases of the development taking account of those embedded mitigation measures.

Following that assessment, additional mitigation measures will be identified, where possible, to reduce adverse effects and, following the incorporation of mitigation measures, the significance of any remaining residual effects will be defined. Cumulative effects will then be identified and assessed.

3.4 Assessment of Significant Effects

It is proposed that the methodology and criteria for the EIA will be based upon the approach published in the Design Manual for Roads and Bridges (DMRB) guidance document LA104 Environmental Assessment and Monitoring (Standards for Highways, 2020). The document publishes overarching criteria for determining receptor value (or sensitivity) and impact magnitude which are reproduced in Table 3.1 and Table 3.2 respectively.

Individual environmental topic chapters may depart from this approach, particularly where alternative criteria and terminologies are offered in topic specific guidance documents. This will be explained in the relevant topic chapters of the EIAR.

3.4.1 Assessing Receptor Sensitivity

For each of the sensitive receptors identified, a level of value or sensitivity will be assigned in accordance with the criteria presented in Table 3.1.

Table 3.1: Criteria for assessing value (sensitivity) of receptor / resource

Value (sensitivity) of receptor / resource	Typical description
Very high	Very high importance and rarity with minimal or no ability to absorb change without fundamentally altering its character, of international scale, of very high environmental value, and limited potential for substitution.
High	High importance and rarity, low ability to absorb change, of national scale, of high environmental value and limited potential for substitution.
Medium	Medium importance and rarity, moderate capacity to absorb change without significantly altering its character, or regional environmental value and importance.
Low	Low importance and rarity, minor capacity to absorb change without significantly altering its character, of local environmental value and importance.
Neglig ble	The receptor is resistant and can wholly absorb change and has little environmental value.

3.4.2 Assessing Impact Magnitude

The potential impacts of the Scheme will be reported within the environmental assessments. Each of the potential impacts reported will be assigned a level of impact magnitude in accordance with criteria presented in Table 3.2.

Table 3.2: Criteria for assessing magnitude of impacts

Magnitude of Impact	
High	**Adverse** Total loss of resource, quality, integrity, irreversible or severe damage to key characteristics and severe degradation to attribute quality.
	Beneficial Large scale improvement of resource, quality, integrity, extensive restoration and enhancement that causes major improvement to attribute quality.
Medium	**Adverse** Loss of resource, partial loss or damage to key characteristics, features or elements.
	Beneficial Benefit or addition to key characteristics, features or elements, improvement of attribute quality.
Low	**Adverse** Minor loss, detriment, or alteration to one or more characteristics, features or elements.
	Beneficial

Magnitude of Impact	
	Minor benefit or addition to one or more characteristics, features or elements.
Neglig ble	**Adverse** Very minor loss, detriment, alteration to one or more characteristics, features or elements.
	Beneficial Very minor benefit, addition, to one or more characteristics, features or elements.

3.4.3 Assessing Significance of Effect

The significance of the effects of the Scheme will be reported within the EIAR. The assessment of the significance of environmental effects shall take account of the following factors:

1. The receptors / resources (natural and human) which would be affected and the pathways for such effects;
2. The geographic importance, sensitivity or value of receptors / resources;
3. The duration (long or short term); permanence (permanent or temporary) and changes in significance (increase or decrease) of the receptor;
4. Reversibility – i.e. is the change reversible or irreversible, permanent or temporary;
5. Environmental and health standards (e.g. local air quality standards) being threatened; and
6. Feasibility of, and mechanisms for, and the effect of delivering mitigating measures.

Where appropriate, a matrix-based approach will be used when deriving significance of effect from receptor value and impact magnitude. This matrix of significance is presented in Table 3.3.

Unless otherwise stated in individual topic chapters, effects of moderate or major significance are deemed to be significant in EIA terms. Effects of minor or negligible significance are not deemed to be significant.

Table 3.3: Significance Matrix

Magnitude	Value (sensitivity)				
	Very High	**High**	**Medium**	**Low**	**Negligible**
High	Major	Major	Moderate	Moderate	Minor
Medium	Major	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

3.4.4 Consideration of in-combination and cumulative effects

The EIA Regulations require the consideration of the potential impacts of:

- Inter-relationships of different environmental disciplines, termed as in-combination effects.
- Cumulative effects of other existing and/or approved development.

The EIA will consider the potential for impact interactions leading to an in-combination or cumulative environmental effect on a receptor being greater than each of the individual effects that have been identified.

In-combination effects will be assessed and reported within the environmental topic chapters. Cumulative effects will be assessed and reported within a standalone chapter of the EIAR.

3.5 Other relevant legislation

3.5.1 Habitats Regulations

The Conservation (Natural Habitats, &c.) Regulations 1994, known as the Habitats Regulations covers the requirements for protecting sites that are internationally important threatened habitats and species and a legal framework for species requiring strict protection.

The Habitats Regulations have been amended in Scotland, most recently in 2019 as a result of the UK leaving the EU. These amendments mean that the requirements of the Habitats and Birds Directives to how European sites are designated and protected must still be applied.

The Scheme is directly located within the footprint of East Mainland Coast, Shetland Special Protection Area which is a European site protected under the above regulations. Without mitigation, the construction and operation of the Scheme is likely to have a significant effect on the designated features of the site. An appropriate assessment is required, and shall be completed in a Habitats Regulations Appraisal (HRA) in conjunction with the production of the EIAR.

4 Air quality

4.1 Introduction

This section considers the risk of impacts on air quality by considering the potential effects of pollution on human health from dust and emissions from equipment and vehicles during the construction and operation of the Scheme. Air quality impacts on ecology is outlined in more detail, in Section 7. For air quality, the study area includes receptors within 300m of the Scheme red line boundary .

4.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Google Maps (Google, visited at https://www.google.co.uk/maps in September 2022);
- Air Quality Management Areas (AQMAs) Interactive Map (Defra, visited at https://ukair.defra.gov.uk/aqma/maps in September 2022); and
- Scotland's Environment Map (Scotland's Environment, visited at https://www.arcgis.com/apps/MapJournal/index.html?appid=29581665638a4ac99f36100f8e6b28bb in September 2022).

4.3 Baseline environment

The Scheme is not located within an AQMA. Features which may be affected within 300m from the Scheme include:

- Residents at properties on the B9075 (approximately 200m north of the Scheme red line boundary);
- Local fisher people and other users of the Cat Firth waterbody;
- Users and workers of Skellister Stores and TP Gifford Ltd (approximately 260m northeast of the Scheme red line boundary);

Additionally, there is a disused camp site, approximately 100m east of the Scheme red line boundary.

4.4 Potential effects and mitigation

During the construction of the Scheme, the operation of site equipment such as vehicles and machinery is likely to result in emissions of exhaust gases to the atmosphere, whilst construction also has the potential to generate dust. Therefore, this could potentially lead to a deterioration in air quality due to dust and particulate matter emissions, which in turn has the potential to affect human health, particularly around the construction site and access routes.

However, these air quality impacts and consequent impacts on health are considered unlikely to be significant, due to the temporary and short-term nature of construction. These impacts can be mitigated through the application of good practice construction management measures to control air emissions. Good practice management measures incorporated into a Construction Environmental Management Plan (CEMP) would include:

- The use of modern equipment and plant, meeting emission control standards;
- The use of dust control methods such as spraying water to damp down soils and ensuring that excavated material from works is compacted or covered when stockpiled; and

- Ensuring vehicles entering and leaving sites are covered where appropriate to prevent escape of materials during transport.

During operation, the impacts to air quality would be likely through emissions from vehicles using road vehicles and boats. Overall, the additional impact from emissions is anticipated to be minor, as the additional usage of this area is relatively small scale. Overall, the effects on air quality from construction and operation of the Scheme are not expected to be significant.

4.5 Scope in / out

The temporary and short-term impacts on air quality associated with construction can be managed through the application of good practice measures. Therefore, no significant effects are anticipated for air quality during construction. During operation, the increased usage of the area from car parking and boating is relatively minor and small scale. Overall, the effects on air quality are not anticipated to be significant. As such, **air quality (construction and operation) have been scoped out** of any further assessment for the Scheme.

5 Cultural heritage

5.1 Introduction

This section considers the risk of impacts on archaeological remains (buried and visible), historic buildings and historic landscape during the construction and operation of the Scheme. For cultural heritage, the study area includes designated heritage assets within 1km of the Scheme red line boundary and 500m for non-designated heritage assets (see Appendix A, Map 1).

5.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Datasets of designated heritage assets as held by Historic Environment Scotland (HES) (Historic Environment Scotland, visited at: https://hesportal.maps.arcgis.com/apps/Viewer/index.html?appid=18d2608ac1284066ba3927312710d16d in September 2022);
- Datasets of the National Record of the Historic Environment (NRHE), a database of non-designated heritage assets held by HES (Canmore, visited at: https://canmore.org.uk/site/search/result?view=map&layer=areas in September 2022); and
- The online Shetland Sites and Monuments Record (SMR) (Available online on Past Map, visited at: https://www.pastmap.org.uk/map in September 2022).

5.3 Baseline environment

5.3.1 Designated Heritage Assets

Designated heritage assets are defined as those protected by statutory legislation. There are no Listed Buildings, Conservation Areas, World Heritage Sites, Battlefields, Gardens and Designed Landscapes or Historic Marine Protected Areas within 1km of the Scheme.

There are three Scheduled Monuments within 1km of the Scheme which are considered of ‘high’ value (Appendix A, Map 1). These include:

- Loch of Freester, chambered cairn 100m SE of Old Trafford (SM3595) (approximately 230m northeast of the Scheme red line boundary);
- Loch of Houlland, cairn 470m E of Clack (SM3601) (approximately 675m northeast of the Scheme red line boundary); and
- Hard Knowe, cairn 330m N of Muness (SM3598) (approximately 520m southeast of the Scheme red line boundary).

5.3.2 Non-designated Heritage Assets

There are 30 terrestrial non-designated heritage assets within 500m of the Scheme (Appendix A, Map 1). Of these, there are 7 assets which are identified as key heritage assets at this stage, they are considered to be of low value. These assets are listed below, identified by their SMR number where applicable, or prefixed by ‘ID’ if they are an NRHE record:

- Catfirth, Military Airfield Site, Military Camp, Ammunition Dump (SMR 4454) (within the Scheme red line boundary);
- Mill Burn, Horizontal Mill (SMR 4003) (within the Scheme red line boundary);
- Mill Burn, Sheepfold (SMR 4008) (within the Scheme red line boundary);

- Mill Burn, Horizontal Mill (SMR 4011) (approximately 5m east of the Scheme) red line boundary;
- Mill Burn, Mound (SMR 4012) (within the Scheme red line boundary);
- Cat Firth, Seaplane Base (ID 105814) (within the Scheme red line boundary); and
- Quoys Of Catfirth (ID 189393) (approximately 70m north-east of the Scheme red line boundary).

There are three maritime non-designated heritage assets recorded within 500m of the Scheme red line boundary (Appendix A, Map 1). These are considered to be of low value. This includes:

- Cat Firth, Craft (ID 102917) (approximately 45m north-west of the Scheme red line boundary);
- Unknown, Craft (Possible) (ID 325172) (approximately 145m east of the Scheme red line boundary and unlikely to be accurately located); and
- Fitful Head: Cat Firth, Steam Drifter (ID 102916) (approximately 160m south-west of the Scheme red line boundary).

5.3.2.1 Summary

The history of study area is diverse in character, with archaeology ranging from prehistoric sites to a short-lived 20th century military airbase.

Prehistoric activity within the study area is evidenced through the presence of three prehistoric cairns which are all Scheduled Monuments. This includes a chambered cairn (SM3595) likely of Neolithic date (c. 4000 – 2500 BC) and two cairns (SM3601 and SM3598) either of Bronze Neolithic or Bronze Age date (c. 4000 BC – 1000 BC).

There are a series of horizontal mills and other earthworks along Mill Burn which relates to the possible post-medieval and early modern exploitation of the landscape.

The maritime character of the study area is reflected by the presence of three non-designated maritime heritage assets. This includes two 19th century steam drifters, apparently well-preserved, wrecked just off the west shore from the proposed Scheme area.

The Scheme area is also located on the site of the former First World War military seaplane base at Catfirth. Established in the summer of 1918, the base was closed by the winter of the same year and the wireless direction-finding station closed in 1919.

5.4 Potential effects and mitigation

There is likely to be no physical or setting impacts on Scheduled Monuments ‘Loch of Houland, cairn 470m E of Clack’ (SM3601) and ‘Hard Knowe, cairn 30m N of Muness’ (SM3598), as the Scheme is not located within the footprint of these assets, and they are considered a sufficient distance away from the Scheme (greater than 500m).

‘Loch of Freester, chambered cairn 100m SE of Old Trafford’ (SM3595) is located approximately 230m northeast of the Scheme. As such, the construction of the Scheme may have potential impacts on the setting of the Scheduled Monument which lies in a landscape which contributes to its historic value.

Moreover, while the Scheme does not coincide with the footprint of this Scheduled Monument, HES suggests that there may be archaeological remains within the vicinity of the site. This means there is the potential for unknown non-designated archaeological remains to be encountered during the construction of the Scheme. Therefore, works should be undertaken under a watching brief, through the instructions of an Archaeological Written Scheme of Investigation (WSI) as approved by Shetland Amenity Trust on behalf of Shetland Islands

Council. If buried archaeology is encountered during construction, works would be stopped and advice from a suitably qualified archaeological consultant would be sought.

There are several non-designated heritage assets located within the footprint of the Scheme. This includes a series of horizontal mills and other earthworks along the burn to the east of the Scheme. These non-designated heritage assets have the potential to be impacted by the construction of the Scheme. As such, any heritage assets within the vicinity of the Scheme would be expected to be appropriately delineated and fenced off under archaeological supervision.

There are two non-designated vessels wrecked just offshore from the Scheme. These maritime non-designated heritage assets have the potential to be impacted by the construction of the Scheme. Therefore, at this stage, further assessment such as a marine geophysical survey as outlined in an Archaeological WSI would be required to understand the possible location and condition of the vessels, and potential impacts and effects from the Scheme on these remains.

Further assessment, including a desk-based assessment and walkover survey, is required to understand the potential impacts on heritage assets within the study area and assess the potential to encounter archaeological remains.

It is anticipated that during operation of the Scheme, there would be no impacts on cultural heritage assets/archaeological remains. Activities would be limited to use of the marina by people, motorised vehicles and boats which would not disturb the Scheduled Monument or any archaeological remains.

5.5 Scope in / out

Cultural heritage (construction only) has been **scoped in** for further assessment within the EIA. The scope of the assessment would be limited to:

- Potential impacts on the setting of ‘Loch of Freester, chambers cairn 100m SE of Old Trafford Scheduled Monument’ (SM3595);
- Potential impacts on non-designated heritage assets; and
- Potential impacts on unknown archaeological remains.

It is not anticipated that effects during operation of the Scheme would be significant, as this is limited to car and boat activity within the Scheme area. As such, assessment of **operational impacts in relation to cultural heritage has been scoped out.**

5.6 Proposed Scope and Methodology of Assessment

5.6.1 Legislation, Policy and Guidance

The EIA will be completed with reference to all relevant legislation, policies and guidance some of which are outlined in Table 5.1 below.

Table 5.1: Summary of legislation, policy, and guidance in relation to cultural heritage

Legislation and Policy		**Guidance**
National	**Local** **(Shetland Islands Council Local Development Plan)**	
● The Ancient Monuments and Archaeological Areas Act 1979 ● Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 ● Historic Environment Scotland Act 2014 ● Scottish Planning Policy 2014 ● Historic Environment Policy for Scotland (HEPS) (2019) ● Planning Advice note (PAN) 2/2011: Planning and Archaeology	● HE1 Historic Environment ● HE2 Listed Buildings ● HE3 Conservation Areas ● HE4 Archaeology ● HE5 Gardens and Designed Landscapes	● Managing Change in the Historic Environment series, notably that covering Setting (HES, 2016) ● Guide to conservation areas in Scotland (Historic Scotland, 2005) ● Standard and Guidance for historic environment desk-based assessment (CIfA, 2020) ● Environmental Impact Assessment Handbook (HES and SNH, 2018) ● DMRB LA106 Cultural heritage assessment; ● Principles for Cultural Heritage Impact Assessment (CIfA, Institute of Historic Building Conservation (IHBC) and Institute of Environmental Management and Assessment (IEMA) (2021)

5.6.2 Further assessment and surveys

The following assessments and surveys are required to inform the EIA in relation to cultural heritage:

- Historic Environment Desk-based Assessment and walkover survey;
- Written Scheme of Investigation; and
- Marine geophysical survey to investigate potential for archaeological remains.

6 Landscape and visual amenity

6.1 Introduction

This section outlines the landscape designations and landscape character of the area and identifies potential key visual receptors. Potential significant effects during construction and operation are considered, as well as landscape mitigation. For landscape and visual amenity, the study area includes receptors within 1km of the Scheme red line boundary.

6.2 Baseline sources

Baseline information and data were gathered from the following sources:

- NatureScot digital map of national landscape character assessment.(NatureScot, visited at: https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map in September 2022); and
- NatureScot Landscape Character Assessment (NatureScot (formerly Scottish National Heritage), 2019) (visited at https://www.nature.scot/sites/default/files/LCA/LCT%20354%20-%20Farmed%20and%20Settled%20Voes%20and%20Sounds%20-%20final%20pdf.pdf in September 2022)

6.3 Baseline environment

The Scheme red line boundary is located entirely within Farmed and Settled Voes and Sounds Landscape Character Type (LCT) 354. This is dominated by pasture and rough grassland resulting from long established farming. The key characteristics of this LCT which are relevant include:

- Narrow, low lying coastal strips of gently sloping undulating land around enclosed waters;
- Complex, indented coastline which provides shelter;
- Mainly agricultural land use on improved and unimproved pastures with heathland, wetland and wet pastures which add variety;
- Scarce broadleaf tree cover found in very small remnant woodland patches and recent plantations; and
- Remote settlements have a strong sense of isolation and tranquillity.

The Scheme red line boundary is also located within the Gletness and Skellister proposed Local Landscape Area (pLLA), which was approved by Shetland Islands Council in 2012, but has yet to be adopted. The key characteristics of the pLLA are:

- An intact, settled area, whose character has been preserved through a sympathetic approach to development;
- An understated beauty of intricate and generally sheltered coast, rocky islands and ayres; and
- Rich in wildlife, a quiet tranquil area.

There are no Tree Preservation Order trees, Conservation Areas, Core Paths, National Parks or National Scenic Areas within the footprint of the Scheme red line boundary or wider study area.

Features and users that may be affected by landscape change within 2km of the Scheme red line boundary include:

- The value (condition, scenic quality, rarity, perceptual qualities, conservation interest, representativeness and recreation value) of the Farmed and Settled Voes and Sounds LCT 354.
- The value (condition, scenic quality, rarity, perceptual qualities, conservation interest, representativeness and recreation value) of the Gletness and Skellister pLLA

Features and users that may be affected by changes to visual amenity within 2km of the Scheme red line boundary include:

- Residents at properties on the B9075 (approximately 200m-500m north of the Scheme); and
- Users and works of Skellister Stores and TP Gifford Ltd (approximately 260m northeast of the Scheme).

Additionally, there is a camp site which is now disused approximately 100m east of the Scheme.

6.4 Potential effects and mitigation

The landscape and visual amenity impact from the construction of the Scheme would be from:

- Temporary reduction in quality of views and tranquillity for visual receptors, due to presence of construction plant, equipment, and materials.
- Temporary reduction of landscape condition and scenic quality, leading to a temporary loss in landscape value due to presence of construction plant, equipment and materials.

Impacts on views could be mitigated through setting up fencing around the construction site, to visually screen construction activities.

The landscape and visual amenity impact from the operation of the Scheme would be from:

- Permanent reduction of landscape condition, tranquillity and scenic quality leading to a permanent loss in landscape value due to the introduction of a marina within the landscape.
- Permanent reduction in quality of views for visual receptors, due to the presence in these views of the new marina, and additional use of the area by cars and boats within the marina.

Impacts could be mitigated through incorporating a sympathetic design of the marina which fits appropriately within the existing landscape. There is potential for construction and operation of the Scheme to cause significant effects on local residents and users/owners of businesses in the local area without appropriate design and mitigation measures.

6.5 Scope in / out

There is potential for significant environmental effects in relation to landscape and visual amenity due to temporary and permanent reduction in quality of views, landscape condition and scenic quality during construction and operation. As such, assessment of **construction and operational impacts in relation to landscape and visual amenity have been scoped in.**

6.6 Proposed Scope and Methodology of Assessment

6.6.1 Legislation, Policy and Guidance

The EIA will be completed with reference to all relevant legislation, policies and guidance some of which are outlined in Table 5.1: Summary ofTable 6.1 below.

Table 6.1: Summary of legislation, policy, and guidance in relation to landscape and visual amenity

Legislation and Policy		**Guidance**
National	**Local** **(Shetland Islands Council Local Development Plan)**	
• National Planning Framework 3 (2014)	• GP2 General Requirements for All Development • GP3 All Development Layout and Design • NH4 Local Designations • HE6 Trees and Woodlands	• Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA) (Landscape Institute, 2013) • GLVIA3 Statements of Clarification(Landscape Institute, 2015) • LI-TGN-06-19 - Visual Representation - Landscape Institute, 2019

6.6.2 Further assessment and surveys

The following assessments and surveys are required to inform the EIA in relation to landscape and visual amenity:

- A Zone of Theoretic Visual Influence assessment
- Site and photographic survey
- Type 1 or Type 2 photomontages

7 Ecology

7.1 Introduction

This section outlines the ecological designations, priority habitats and species within the study area and potential significant effects during construction and operation. For ecology, the study area includes habitat and species receptors within 500m of the Scheme red line boundary, 5km for European sites (including where appropriate associated primary features of interest) and 1km for all other designated sites (see Appendix A Map 1).

7.2 Baseline sources

Baseline information and data were gathered from the following sources:

- NatureScot Sitelink - Home (NatureScot) (accessed September 2022),
- Scotland's Environment Map (Scotland's Environment, visited at https://www.arcgis.com/apps/MapJournal/index.html?appid=29581665638a4ac99f36100f8e6b28bb in September 2022),
- East Mainland Coast, Shetland – SPA Site Selection Document. NatureScot, 2016,
- East Mainland Coast, Shetland SPA – Conservation and Management Advice Note. NatureScot, 2022,
- East Mainland Coast, Shetland SPA – Advice to Support Management, NatureScot, 2016.

7.3 Baseline environment

7.3.1 Statutory and Non-Statutory Designated Sites for Nature Conservation

There is one European designated site within 5km of the Scheme red line boundary. This is the East Mainland Coast, Shetland Special Protection Area (SPA), parts of which lie in the footprint of the Scheme red line boundary (Appendix A, Map 1).

The SPA encompasses the marine waters to the east of mainland Shetland. The site qualifies under Article 4.1 of the European Birds Directive[1] by regularly supporting wintering (non-breeding) populations of European importance of the following Annex 1 species: great northern diver *Gavia immer* (7.3% of the GB population) and Slavonian grebe *Podiceps auritus* (4.9% of GB population). The site also qualifies by regularly supporting a population of European importance of the Annex 1 species red-throated diver *Gavia stallata* (16.6% of the GB population.

The site further qualifies under Article 4,2 by regularly supporting populations of European importance of the following migratory species: common eider *Somateria mollissima*, long-tailed duck *Clangula hyemalis*, and red-breasted merganser *Mergus serrator*.

The SPA's 'Site Selection Document' confirms that the waters to the east of the Shetland mainland provide important wintering grounds used for feeding, moulting and roosting by waterfowl, including the species detailed above. A number of 'hotspots' have been highlighted, many of which cover the coastal waters adjacent to the scheme. These include areas north of Bressay which are especially important to wintering great northern diver and long-tailed duck. Other species, such as Slavonian grebes and red-breasted merganser are largely confined to the inner voes, including the sheltered, shallow waters of the inner Catfirth immediately adjacent

[1] **Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds**

to the proposed scheme, which is also known to provide an important foraging resource to breeding red-throated diver.

Within 1km of the Scheme, there is one Site of Special Scientific Interest (SSSI). This is Catfirth SSSI located approximately 900m west of the Scheme. This designated site is a small limestone ravine containing relict scrub vegetation. The scrub contains hazel *Corylus avelana*, rowan *Sorbus aucuparia* and rose *Rosa sp.* and is the best example of such scrub in Shetland.

The Scheme is also located adjacent to the non-statutory Catfirth Flushes Local Nature Conservation Site (LNCS), comprising a mosaic of base-rich flushes and more typical acid blanket bog vegetation. This site supports the largest population of bog orchid *Hammarbya paludosa* in Shetland, thought to exceed 500 plants.

The scheme is within Shellfish protected waters – Catfirth, and within a Shellfish harvesting area – common mussels class A.

There are no Local Nature Reserves, National Nature Reserves, Biosphere Reserves or Marine Protected Areas within 1km of the Scheme.

7.3.2 Habitats and Species

The main habitats within the footprint of the Scheme red line boundary comprise of improved/semi-improved grassland (agricultural), marshy grassland, areas of hardstanding (existing access track), a freshwater stream (Mill Burn), ditches and drains, and the coastal (marine) waters of Catfirth.

Terrestrial habitats may potentially support ground-nesting birds, amongst others the red-throated diver (also Schedule 1 listed species[2]).

The sheltered, shallow waters of the adjacent Inner Catfirth are known to provide excellent foraging habitat to SPA qualifying species including red-throated diver (breeding), Slavonian grebe (non-breeding), and red-breasted merganser (non-breeding).

Shetland is recognised as a stronghold for the Eurasian otter *Lutra lutra*, where it is likely that habitats within and adjacent to the scheme (within Zone of Influence) are suitable for the species, which may potentially support protected otter shelters (holts, hovers, couches etc.)

The impacts on marine life will also need to be considered within the EIA.

7.4 Early Consultation

An initial consultation with NatureScot has confirmed that due to the immediate proximity of the East Mainland Coast SPA, the proposed scheme has the potential for significant effects on the qualifying interests of the site, and that the disturbance effects of the construction and operation of the Scheme on these must be considered. Predicted usage of the adjacent coastal waters is high for all three qualifying species (great northern diver, Slavonian grebe and red-throated diver), with divers considered most vulnerable to disturbance by an increase in (operational) boat traffic. Hence, any assessment conducted in support of EIA and Habitat Regulations Appraisal (HRA), should include surveys to assess usage of Catfirth by qualifying species and estimates of future boat traffic use (i.e. increases in numbers, movements, routes).

Additionally, due to the importance of Shetland to otters, NatureScot also recommend that consideration must also be made to the effect of the scheme on this European Protected Species (EPS).

[2] Schedule 1 of the Wildlife and Countryside Act 1981 as amended in Scotland.

7.5 Potential effects and mitigation

7.5.1 East Mainland Coast, Shetland SPA

Construction of the Scheme has the potential for direct impacts on either breeding, or non-breeding (depending on construction timing) waterfowl species which are qualifying interests of the East Mainland Coast, Shetland SPA.

Construction activity undertaken during summer months has the potential to impact ground-nesting bird species, including disturbance of breeding Schedule 1 red-throated diver (if present with the Zone of Influence (ZoI) of the scheme), and/or disturbance/displacement of foraging red-throated diver from important feeding areas within the immediately adjacent Catfirth.

Construction activity undertaken during winter months has the potential to impact other SPA qualifying species, including over-wintering (non-breeding) populations of Slavonian grebe and red-breasted merganser which are known to regularly frequent the inner Catfirth, where construction activity could potentially lead to the disturbance/displacement of these species from important winter foraging areas.

Operation of the Scheme, including an increase in leisure boat traffic and human activity, has the potential to lead to direct impacts on the breeding and non-breeding waterfowl interests of the SPA. This includes important wintering (non-breeding) populations of Slavonian grebe, great northern diver and long-tailed duck, and an important breeding population of red-throated diver, which are known to be present in adjacent coastal waters, where an increase in human/boat activity could potentially lead to the disturbance/displacement of waterfowl from areas important to breeding and non-breeding populations.

7.5.2 Other Habitats and species

Onshore areas of the Scheme are located within an existing agricultural field (improved/semi-improved grassland) of likely low conservation value, however, habitats here may support ground nesting birds, where there is a risk of damage/destruction of active birds' nests if present within the footprint of the scheme during construction. Additionally, both construction and operation of the Scheme have the potential to lead to the destruction/disturbance of protected otter shelters if present within the Scheme footprint or within the ZoI.

The realignment and culverting of Mill Burn during construction has potential to impact species and habitats within the burn and/or within downstream areas (i.e marine environment of inner Catfirth) through accidental pollution or sedimentation events.

The scheme is located adjacent to areas of base-rich flushes and blanket bog (Catfirth Flushes LNCS), which is known to support a large population of bog orchids. Accidental encroachment into this area could lead to the destruction of individual bog orchids, which may also be impacted through the generation dust during the construction of the Scheme. The impacts on marine life also need to be considered.

With the above impacts, there is potential for significant effects during construction and operation. Further assessment is required, including Habitats Regulations Appraisal which will be informed by the EIAR.

7.6 Scope in / out

There are potential impacts in relation to loss/disturbance of habitats and species within East Mainland Coast, Shetland SPA, Catfirth Flushes LNCS and Shellfish protected waters during construction and operation. As such, assessment of **construction and operation impacts in relation to designated sites of nature conservation importance have been scoped in.**

Given the potential for impacts to habitats of conservation importance, breeding birds, otters and marine life which may be present within the area, **an assessment of construction and operation impacts in relation to these features have been scoped in.**

7.7 Proposed Scope and Methodology of Assessment

The EIA will be completed with reference to all relevant legislation, policies and guidance some of which are outlined in Table 7.1 below.

Table 7.1: Summary of legislation, policy, and guidance in relation to ecology

Legislation and Policy		**Guidance**
National	**Local** **(Shetland Islands Council Local Development Plan)**	
• The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland) • Wildlife and Countryside Act 1981 (as amended in Scotland) • The Nature Conservation (Scotland) Act 2004 • The Wildlife and Natural Environment (Scotland) Act 2011 • Marine (Scotland) Act 2010 • The Water Framework Directive (2000/60/EC) • Scottish Planning Policy (SPP, 2014) • National Planning Framework 3 (NPF3) • Scotland 2045 - Fourth National Planning Framework (NPF4) (Draft Guidance) • Planning (Scotland) Act 2019 • The Scottish Biodiversity Strategy (2004) • Scottish Biodiversity List (SBL)	• NH1 International and National Designations • NH2 Protected Species • NH3 Furthering the Conservation of Biodiversity • NH4 Local Designations • NH7 Water Environment	• CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater, Coastal and Marine, 2018.

7.7.1 Further assessment and surveys

The following assessments and surveys are required to inform the EIA in relation to ecology:

- Preliminary Ecological Appraisal (PEA) to include a desk study and a site survey comprising detailed Phase 1 Habitat Survey and assessments of the suitability of habitats to support legally protected species;
- Full baseline bird surveys in support of EIA (scope not confirmed but likely to include both land and boat-based surveys of Catfirth to assess importance of the voe to SPA qualifying species);
- Otter surveys; and
- Habitats Regulations Appraisal (HRA) including Appropriate Assessment.

8 Geology and soils

8.1 Introduction

This section considers potential geology and soil issues in relation to the Scheme. For geology and soils, the study area is within the footprint of the Scheme.

8.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Geology of Britain Viewer (British Geological Survey, visited at http://mapapps.bgs.ac.uk/geologyofbritain/home.html in September 2022); and
- National Soil map of Scotland (Scotland's Soils, visited at https://map.environment.gov.scot/Soil_maps/?layer=1&layer=1 in September 2022).

8.3 Baseline environment

In relation to bedrock geology, the entirety of the Scheme red line boundary overlaps the Colla Firth Permeation and Injection Belt – Semipelite, gneissose. Metamorphic bedrock formed between 1000 and 541 million years ago between the Tonian and Ediacaran periods.

In relation to superficial deposits, the western side of the Scheme red line boundary overlaps marine beach deposits – gravel, sand and silt. Sedimentary superficial deposit formed between 2,588 million years ago and the present during the Quaternary period.

The eastern side of the Scheme red line boundary overlaps Till, Devensian – Diamicton. Which is sedimentary superficial deposit formed between 116 and 11.8 thousand years ago during the Quaternary period.

The Scheme red line boundary is located within a peaty gleys soil type. This is described as acidic with poor ability for drainage. The agricultural land classification of the area within the footprint and vicinity of the Scheme is Class 6.3 - Land capable of use as rough grazings with low quality plants. Classes 1 to 3.1 are considered to be prime agricultural land.

There are no historic or authorised land fill sites within the footprint or vicinity of the Scheme.

8.4 Potential effects and mitigation

Construction of the Scheme would impact directly on surface soils through compaction from heavy machinery or equipment. Topsoil and sub-soil would be excavated and stored separately according to good practice and reused on site. There would be a direct permanent loss of surface soils due to the construction of the Scheme. However, this agricultural land is of lower quality and the effect is anticipated to be minor. Overall, there are no significant effects anticipated for geology and soils.

It is likely that no rock breaking will be required as existing sea-bed comprises >2m thickness of soft deposits. Allowance for some rock breaking in the dredging operations process will however be included just in case. If it is required, the volumes will be very small and will likely be approx. 0.5m weathered rock removal at the most. Rock type on site is 'semipelitic and psammitic granulite and pelitic schist' (East Mainland Succession). Any excavated rock will be used on site for filling the landward hard-standing area.

8.5 Scope in / out

Impacts are anticipated to be minor, as loss of agricultural land/soil is of low quality. As such, **geology and soils (construction and operation) have been scoped out** from any further assessment.

9 Materials and waste

9.1 Introduction

This section considers potential materials used and waste in relation to the Scheme. The study area for materials and waste is the island of Shetland and the footprint of the Scheme.

9.2 Baseline environment

There are no mineral safeguarding zones within the footprint of the Scheme. General materials which are required to construct the Scheme include:

- Excavated on-site material;
- Imported quarry material;
- Geotextile;
- Primary and secondary rock armour imported from quarry;
- Concrete;
- Steel reinforcement;
- Granular Type 1 imported from quarry;
- Fencing (post and wire); and
- Streetlighting.

9.3 Potential effects and mitigation

A trial pit investigation was carried out across the Scheme red line boundary area. Ground conditions comprised mainly dense, grey, gravely-clay with frequent stones. A proportion of this material should be suitable for re-use as core-fill for breakwaters and/or general reclamation filling (after basic screening and selecting), however imported fill from a local quarry is also likely to be required, as not all the core fill material required for breakwaters will be balanced by material won from excavations on site. Some mechanical breaking of rock may be required to achieve final basin levels, however based on the findings of the trial pit investigations, quantities of excavated rock are not expected to be significant. It is therefore expected that all stone for primary and secondary rock armouring of breakwaters would be imported from a local quarry.

The design would seek to maximise opportunities for re-use, recycling and recovery of waste materials at the construction stage and thereby reduce the volume of waste produced. In addition, a Site Waste Management Plan would be prepared to incorporate the principles of the waste management hierarchy to ensure waste is minimised. All waste requiring removal from site during construction would be appropriately segregated to enable its recycling or reuse. The effects from the Scheme on waste and materials during construction is not anticipated to be significant. Waste can be managed through application of appropriate mitigation measures and best practice during construction. There are no anticipated significant operational effects in relation to materials and waste as this would be limited to general maintenance of the marina.

9.4 Scope in / out

During construction materials to be used / waste generated is not anticipated to be significant. Materials would be sources locally, and opportunities to re-use, recycle and recover waste would be maximised. During operation, materials and waste would be limited to general maintenance of the marina. Overall, **materials and waste (construction and operation) has been scoped out** for further assessment.

10 Noise and vibration

10.1 Introduction

This section considers the potential noise and vibration impacts to sensitive receptors, including potential impacts on human health, from both the construction and operational phases of the Scheme. An overview of the baseline conditions is provided with a description of the potential impacts and mitigation measures. Noise and vibration impacts on ecology is outlined in more detail, in Section 7. For noise and vibration, the study area includes receptors within 300m of the Scheme red line boundary. Underwater noise impacts also need to be considered.

10.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Google Maps (Google, visited at https://www.google.co.uk/maps in September 2022); and
- Scotland's Environment Map (Scotland's Environment, visited at https://www.arcgis.com/apps/MapJournal/index.html?appid=29581665638a4ac99f36100f8e6b28bb in September 2022).

10.3 Baseline environment

The Scheme is not located within a noise management area. Baseline noise levels within the area are likely to be relatively low due to the remoteness of the area and low density of people. The likely main sources of noise include:

- Road traffic noise from the B9075 road;
- Local fisher people and other users of the Cat Firth waterbody; and
- Residents at properties on B9075 and businesses (Skellister Stores and TP Gifford Ltd.

Features which may be affected within 300m from the Scheme include:

- Residents at properties on the B9075 (approximately 200m north of the Scheme red line boundary); and
- Users and works of Skellister Stores and TP Gifford Ltd (approximately 260m northeast of the Scheme red line boundary).

Additionally, there is a camp site which is now disused approximately 100m east of the Scheme.

10.4 Potential effects and mitigation

During construction of the Scheme, there is the potential for periodic elevated noise and vibration impacts to features in the immediate vicinity. The potential effects of such impacts on human health receptors may include annoyance and interference with speech. Working outside of standard hours is not anticipated to be a requirement for the Scheme, therefore the risk of disturbance during normal sleep periods is avoided. Working hours would be restricted to 0800-1800 Mondays to Fridays, 0800-1300 on Saturdays and works are expected to stop on Sundays.

Best practicable means would be used to ensure noise is kept to a minimum. This would include minimising vehicle movements and deliveries and ensuring well-maintained and silenced plant and equipment is used. Switching off machinery and vehicles when not in use and keeping movement of construction vehicles to a minimum can also help reduce the amount of noise and vibration in the surrounding area. The above measures would be incorporated into a CEMP.

Overall, the noise impacts during construction would be temporary and short-term. During operation, some additional noise would likely be generated from increased motorised vehicles and boat usage in the area however, the increases are likely to be small scale and minor. With the above mitigation measures, no likely significant effects are expected.

The source of underwater noise during construction would be a long reach excavator – dredging soft sea-bed material and depositing breakwater core fill material and rock armour. Underwater rock breaking operations are unlikely to be required and will be avoided if at all possible, however if required the volumes would be very small and will involve mechanical breaker (no blasting).

10.5 Scope in / out

Overall, the noise and vibration impacts during construction are temporary and short-term which can be managed through best practicable means measures. During operation, the increase in noise is expected to be minor as the Scheme is small scale. As such, **noise and vibration has been scoped out** of any further assessment.

11 Population and Human Health

11.1 Introduction

This section considers potential impacts to people and their health by considering disturbance and disruption to people during construction and operation of the Scheme. The study area includes receptors within 300m of the Scheme red line boundary (see Appendix A, Map 1).

11.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Google Maps (Google, visited at https://www.google.co.uk/maps in September 2022); and
- Scotland's Environment Map (Scotland's Environment, visited at https://www.arcgis.com/apps/MapJournal/index.html?appid=29581665638a4ac99f36100f8e6b28bb in September 2022).

11.3 Baseline environment

There are no core paths within the footprint of the Scheme or wider study area.

The presence of people within the Scheme and wider study area include:

- Residents at properties on the B9075 (approximately 200m north of the Scheme red line boundary);
- Local fisher people and other users of the Cat Firth waterbody; and
- Users and workers of Skellister Stores and TP Gifford Ltd (approximately 260m northeast of the Scheme red line boundary).

Additionally, there is a disused camp site, approximately 100m east of the Scheme.

11.4 Potential effects and mitigation

During construction of the Scheme, there is potential for disruption and visual amenity impacts for receptors identified in Section 11.3 due to construction traffic, noise, vibration, and dust from the construction site at the Scheme. These impacts are likely to be minor, temporary, and short-term. Disturbance could be minimised through good practice measures to manage noise, vibration, and dust (see Section 4 and 10) and by providing residents, users, and workers of the area advanced notice of the works and information of the working days and hours, to allow them to plan ahead.

There are potential slight beneficial impacts from new recreational uses for local people in the area, as well as increased use of other local businesses

During operation, there is likely to be a slight increase in traffic, due to vehicles accessing the Scheme and a slight increase in noise from boat activity. The impacts are likely to be minor, as the introduction of the marina would be small in scale.

Overall, the effects during construction and operation of the Scheme are not anticipated to be significant.

11.5 Scope in / out

The potential disruption impacts to receptors during construction is minor and can be managed through good practice measures. Operation of the Scheme is likely to lead to small increases in

noise in the area. However, overall, the impacts during construction and operation are likely to be minor and no significant effects are anticipated. As such, **population and human heath (construction and operation) has been scoped out** of any further assessment.

12 Water environment

12.1 Introduction

This section considers potential impacts to the water environment (including surface water and groundwater) from construction and operation of the Scheme. For water environment the study area includes receptors within 1km of the Scheme red line boundary (see Appendix A, Map 1).

12.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Scottish Environment Protection Agency (SEPA) Flood Map (SEPA, visited at https://map.sepa.org.uk/floodmap/map.htm in September 2022); and
- Scotland's Environment Map (Scotland's Environment, visited at https://www.arcgis.com/apps/MapJournal/index.html?appid=29581665638a4ac99f36100f8e6b28bb in September 2022).

12.3 Baseline environment

The following surface water bodies are located within 1km of the Scheme:

- Mill Burn (within the footprint of the Scheme red line boundary);
- Catfirth (within the footprint of the Scheme red line boundary);
- Various unnamed drains (various distances from the Scheme red line boundary);
- Burn of Crookadale (approximately 800 west of the Scheme red line boundary)
- Burn of Quoys (approximately 290m north the Scheme red line boundary);
- Loch of Freester (approximately 270m east of the Scheme red line boundary);
- Loch of Houlland (approximately 560m east of the Scheme red line boundary); and
- Loch of Benston (approximately 800m southeast of the Scheme red line boundary).

The entire off shore footprint of the Scheme red line boundary is located within Catfirth which is a coastal water body (ID: 200260). Additionally, the Scheme red line boundary is within Shellfish Water Protected Area (ID: SWPA8) which is in 'fair' condition, and Catfirth Waste Water Drainage Area. The overall Water Framework Directive (WFD) status of Catfirth is 'good'. The entire onshore footprint of the Scheme red line boundary and wider study area is within the footprint of Shetland groundwater body (ID: 150687). The overall status is 'good'.

The landward areas of the Scheme red line boundary are not identified as areas which have a high likelihood of flooding from surface water or from rivers. Areas of the Scheme which are off shore are in areas that have a high likelihood of coastal fluvial flooding.

12.4 Potential effects and mitigation

There would be direct impacts on Mill Burn and its hydrodynamic and sediment dynamics through the diversion and culverting of the watercourse. To reduce these impacts, a bottomless concrete arch culvert under the proposed marina access would be constructed to maintain the Mill Burn flow into the sea, however impacts to this watercourse would remain through the introduction of this man made structure.

Additionally, there would be potential impacts to the hydrodynamic, sediment dynamics and tidal patterns on Catfirth coastal water body, through dredging works and the introduction of rock armour and marina. There is potential for local water quality to be adversely affected during

construction due to the disturbance and mobilisation of sediment during dredging, excavations and construction of the rock armour/marina. Rock armour works would need to be completed at low tide (above the water line) which would minimise effects associated with sediment mobilisation and the creation of suspended solids. Additionally, there is potential for pollutants to be introduced via the construction materials used at site. Any materials used at site would be appropriately tested prior to use.

For the remaining water bodies identified in Section 12.3 above there would be no direct impacts on them. However, there is a risk that pollutants from construction of the Scheme could enter into the water environment if appropriate mitigation is not implemented. The risk is low for water bodies located furthest away from the Scheme.

Protection of the water environment generally (for example, to avoid pollution infiltrating groundwater or entering surface water bodies such as rivers and lochs) would include implementation of good practice pollution prevention approaches (incorporated into a CEMP) in adherence to all Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs)including:

- Measures to reduce the risk of spillage or leakage of oil, fuel and other liquid chemicals e.g all fuel tanks and oil drums would be bunded with imperious material, installation of oil separators, designated areas for oil, fuel, other liquid chemical and waste storage. ;
- Incident response planning including preparation of an emergency plan, ensuring availability of spill kits and provision of staff training;
- Management of site runoff and suspended solids e.g through introducing physical silt barriers along between construction working areas and the edges of water bodies;
- Regular visual inspection of site drainage during construction; and
- Regular visual inspection of flows in known watercourse in immediate vicinity during construction.

Overall, during construction there are direct impacts on Mill Burn and Catfirth where there is potential for significant effects through potential impacts on the hydrodynamics, sediment dynamics and water quality of these water bodies. Potential risks to water quality in the water environment are low if managed through good practice pollution prevention measures and appropriate working methods are used.

A marine licence would be applied for from Marine Scotland and obtained for any works below mean high water springs. Any conditions outlined within the licence would be followed.

During operation, there would be increased car and boat usage and risk of spillage/leakage of fuel and pollution into water courses and coastal environment. There is likely to be beneficial impacts for the localised area which would protected from coastal waters through the introduction of breakwaters.

12.5 Scope in / out

During construction, there is potential for significant effects due to direct impacts on the hydrodynamics, sediment dynamics and water quality on Mill Burn and Catfirth. However, risks of pollution can managed through good practice pollution prevention measures outlined in Section 12.4. **Water environment has been scoped in for further assessment,** but this is restricted to consideration of:

- Potential impacts on Mill Burn and Catfirth through alteration of these water bodies and potentially altering their WFD status.
- Underwater noise modelling.

During operation, there is potential for impacts on the hydrodynamics, wave and sediment dynamics due to the scheme. Increased usage of the area by motorised vehicles and boats is relatively small scale, therefore risk of pollution is low. **Water environment (operation) has been scoped in** for further assessment, but this is restricted to consideration of:

- Hydrodynamic and wave modelling and the impacts the scheme will have on these.

12.6 Proposed Scope and Methodology of Assessment

The EIA will be completed with reference to all relevant legislation, policies and guidance some of which are outlined in Table 12.1.

Table 12.1: Summary of legislation, policy, and guidance in relation to water environment

Legislation and Policy		**Guidance**
National	**Local** **(Shetland Islands Council Local Development Plan)**	
• Flood Risk Management (Scotland) Act 2009 • The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) • Water Framework Directive (WFD) • The River Basin Management Plan for the Scotland River Basin District 2021-2027 • Scottish Planning Policy	• NH7 Water Environment • WD1 Flooding Avoidance • WD3 SuDs	• Guidance for Pollution Prevention (GGPs) – GPP 1, 2, 3, 4, 5, 13, 21 and 22 • Pollution Prevention Guidelines (PPGs) – PPG 6, 7 and 8.

13 Climate Change

13.1 Introduction

This section considers the risk of impacts on climate change as a result of the Scheme. For climate change, the study area includes the Shetland Islands and Scotland emission targets.

13.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Scottish Government Website (Scottish Government, visited at: https://www.gov.scot/policies/climate-change/reducing-emissions/ in September 2022);
- Shetland Islands Council Website (Shetland Islands Council, visited at https://www.shetland.gov.uk/climate-change/climate-change-1 in September 2022);

  and
- Met Office Climate Projections data (CP18) (Met Office, visited at: https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/data/index in September 2022).

13.3 Baseline Environment

13.3.1 Greenhouse Gases

Carbon emissions are identified as a primary cause of climate change as they contribute to increased levels of greenhouse gases in the atmosphere.

The Climate Change (Scotland) Act 2009 requires us to act and contribute to carbon emissions reduction targets and to climate change adaptation. The ambition of Scotland's emissions reduction target is to be net zero by 2045. There is also an interim target of a 75% reduction in emissions by 2030, relative to 1990 levels of carbon dioxide, methane and nitrous oxide and 1995 levels of hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride.

Scotland's Climate Change Plan is a statutory delivery plan for meeting Scotland's reduction targets which is published at least every 5 years. The latest update in December 2020 sets of a pathway to meeting Scotland's emission reduction targets over the period to 2032.

13.3.2 Climate Change Vulnerability

Climate change over the next few decades, is likely to mean wetter winters and hotter drier summers in the UK, with sea level continuing to rise. This is anticipated to be applicable to the Shetland Islands. According to Sheffield Islands Council, changes to the climate system that Shetland might face include:

- Coastal flooding from storms and sea level rise;
- Surface/flash flooding from extreme rainfall;
- Flooding of burns from extreme rainfall;
- Landslides;
- Pests, pathogens and invasive species;
- Extreme temperatures;
- More storms;

- Drought/water security; and
- Ocean acidification as the ocean absorbs carbon dioxide and becomes more acidic.

13.4 Potential effects and mitigation

In relation to greenhouse gases, carbon emissions from this Scheme are expected to be limited to traffic movements and embodied carbon of construction materials. During operations, small increases in carbon emissions through the usage of boats and motorised vehicles is likely. However, the Scheme is a small-scale marina which would accommodate an additional 50 berths and 22 car parking spaces. Materials used to construct the Scheme would be sourced locally and reusing site won materials, where possible to minimise carbon emissions. The overall additional carbon emissions are not expected to be significant.

In relation to climate change vulnerability, there is a risk that during operation, the Scheme could experience effects from climate change, in particular coastal flooding from storms and sea level rise and flooding from Mill Burn during extreme rainfall events. The Scheme is, however, a water compatible development and has been designed to a standard which considers future climate change. The Scheme is unlikely to significantly increase the risk of climate change impacts of other developments in the area and may have slight beneficial impacts with the introduction of a rock revetment and protection of developments behind the Scheme from coastal erosion.

13.5 Scope in / out

The temporary and short-term impacts from greenhouse gas emissions associated with construction can be managed through sourcing materials locally and reusing materials site-won, where possible. Overall, the Scheme is small scale, and the additional carbon emissions are not anticipated to be significant. Construction is anticipated to take place within the next 2 years and the risk of future climate change and extreme weather events is low. Therefore, no significant effects are anticipated for and climate change during construction. During operation, the increased usage of the area from car parking and boating is relatively minor and small scale. The Scheme could experience effects from climate change, in particular coastal flooding from storms and sea level rise, flooding from Mill Burn during extreme rainfall events. The Scheme is, however, a water compatible development and has been designed to a standard which considers future climate change. As such, **climate change (construction and operation) have been scoped out** of any further assessment for the Scheme.

14 Cumulative effects

14.1 Introduction

This section considers potential cumulative effects of the Scheme and the interaction of other reasonably foreseeable developments within the vicinity of the Scheme. For cumulative effects, the study area includes developments within 1km of the Scheme red line boundary.

14.2 Baseline sources

Baseline information and data were gathered from the following sources:

- Shetland Islands Council Planning Portal (Shetland Islands Council, visited at: https://pa.shetland.gov.uk/online-applications/spatialDisplay.do?action=display&searchType=Application in September 2022).

14.3 Baseline environment

The following potential development within 1km of the Scheme was identified within the Shetland Islands Council planning portal:

- Catfirth South Nesting Shetland ZE2 9PP (Reference: 2015/009/PPP). To develop site for 7 no. private house plots with associated new road access; upgrading existing road; new foul and surface water drainage to sea out fall via septic tank.

The housing development at Catfirth South Nesting would be located directly adjacent to the Scheme and has received planning permission in 2016. Construction works have begun for this development. There are no other major developments within 1km of the Scheme.

14.4 Potential effects and mitigation

There is potential for cumulative effects through the interaction of the Scheme and the housing development adjacent. Although it is unclear when the house development construction would take place, in the worst case there is potential for construction of both developments to take place concurrently, which has potential to interact cumulatively with the effects of the Scheme. Further assessment within the EIA is required to understand the cumulative effects further.

14.5 Scope in / out

There is potential for cumulative effects with another development in the area. As such, **cumulative effects have been scoped in.**

14.6 Proposed Scope and Methodology of Assessment

14.6.1 Legislation and Policy Context

The EIA will be completed with reference to all relevant legislation, policies and guidance some of which are outlined in Table 14.1.

Table 14.1: Summary of legislation, policy and guidance in relation to cumulative effects

Legislation and Policy		**Guidance**
National	**Local** **(Shetland Islands Council Local Development Plan)**	
● The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 ● Planning Advice Note 1/2013: Environmental Impact Assessment ● Planning Circular 1/2017: Environmental Impact Assessment regulations	● All policies identified in Sections 5,6,7 and 12.	● Planning Inspectorate: Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects ● DMRB: LA 104: Environmental assessment and monitoring

15 Summary of EIA Scope

Table 15.1 below summarises which environmental topics have been scoped in and out of the EIA and the justification. Environmental topics scoped in will be assessed and the findings presented within the EIAR.

Table 15.1: Summary of environmental topics scoped in and out

Environmental Topic	Scope in / out		Justification
	Construction	Operation	
Air quality	Out	Out	The temporary and short-term impacts in air quality associated with construction can be managed through the application of good practice measures. During operation, the increased usage of the area from car parking and boating is relatively minor and small scale.
Cultural heritage	In	Out	During construction there is potential impacts on a Scheduled Monument, non-designated heritage assets (due to lack of information) and unknown archaeological remains. Further assessment and surveys are required. It is not anticipated that effects during operation of the Scheme would be significant, as this is limited to car and boat activity within the Scheme area.
Landscape and visual amenity	In	In	There is potential for significant environmental effects in relation to landscape and visual amenity due to temporary and permanent reduction in quality of views, landscape condition and scenic quality during construction and operation.
Ecology	In	In	There are potential impacts in relation to loss/disturbance of habitats and species within Catfirth Flushes LNCS and East Mainland Coast, Shetland SPA during construction and operation. Further assessment and surveys are required.
Geology and soils	Out	Out	Impacts are anticipated to be minor, as loss of agricultural land/soil is of low quality.
Materials and waste	Out	Out	During construction materials to be used / waste generated is not anticipated to be significant. Materials would be sourced locally, and opportunities to re-use, recycle and recover waste would be maximised. During operation, materials and waste would be limited to general maintenance of the marina
Noise and vibration	In	Out	The noise and vibration impacts during construction are temporary and short-term which can be managed through best practicable means measures, further assessment for underwater noise impacts during construction are required however. During operation, the increase in noise is expected to be minor as the Scheme is small scale.
Population and Human Health	Out	Out	The potential disruption impacts to receptors during construction is minor and can be managed through good practice measures. Operation of the Scheme is likely to lead to small increases in noise in the area. There would be benefits to the local community from the Scheme through the provision of the marina facility.
Water environment	In	in	During construction and operation there are direct impacts on the hydrodynamics, sediment dynamics and water quality Mill Burn and Catfirth.
Climate Change	Out	Out	The temporary and short-term impacts from greenhouse gas emissions associated with construction can be managed through sourcing materials locally and reusing materials site-won, where possible. Construction is anticipated to take place within the next 2 years and the risk of future climate change and extreme weather events is low. During operation, the increased usage of the area

Environmental Topic	Scope in / out		Justification
	Construction	Operation	
			from car parking and boating is relatively minor and small scale. the Scheme could experience effects from climate change, in particular coastal flooding from storms and sea level rise, flooding from Mill Burn during extreme rainfall events. The Scheme is, however, a water compatible development and has been designed to a standard which considers future climate change.
Cumulative effects	In	In	There is potential for cumulative effects with the housing development adjacent to the Scheme.

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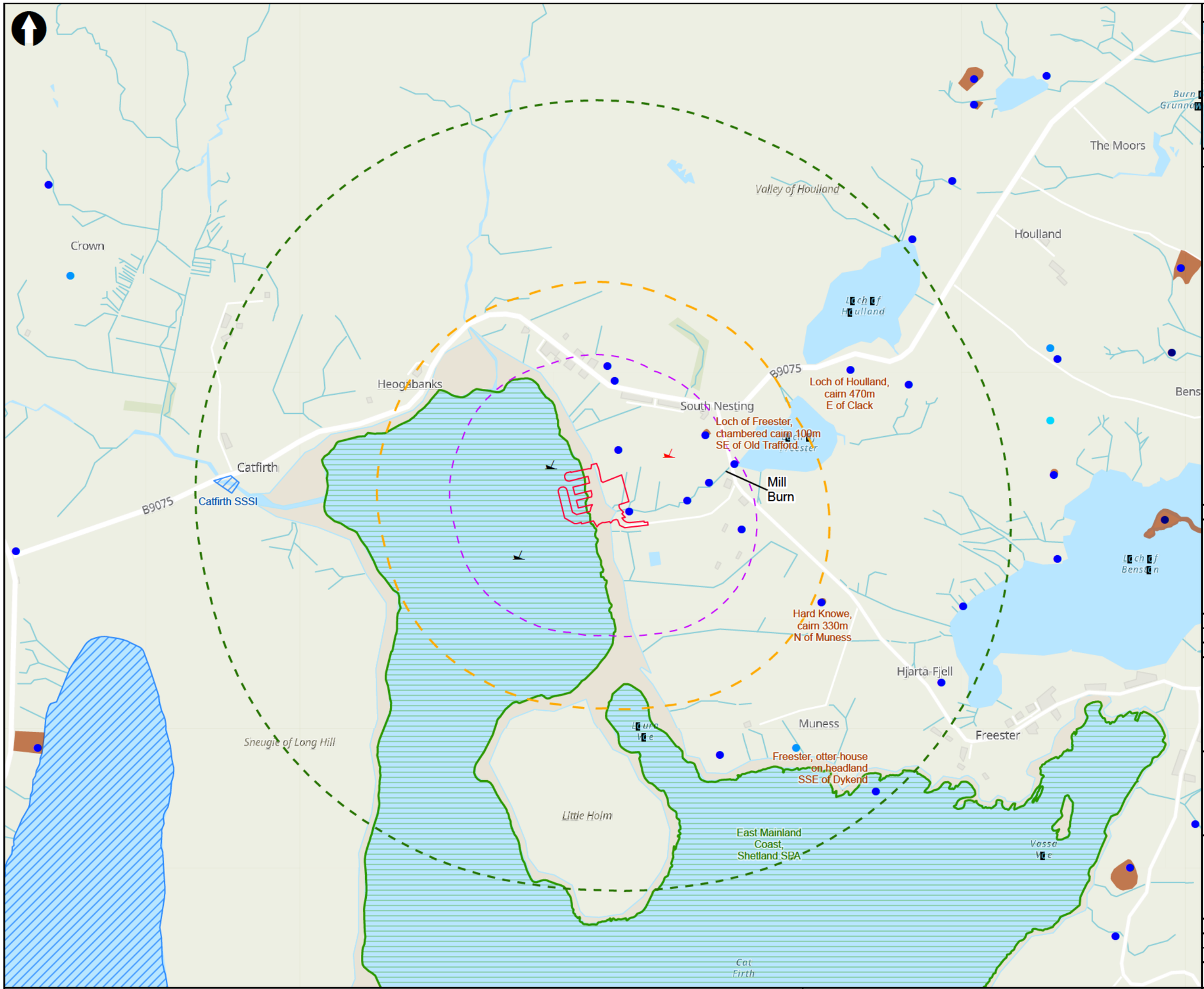
A. Appendix A

Map 1 Environmental Constraints Plan



Location Map

Key to Symbols

- Red Line Boundary
- 300m buffer
- 500m buffer
- 1000m buffer
- Scheduled Monument
- Site of Special Scientific Interest
- Special Protection Area

Non-designated heritage asset

- 1m precision
- 10m precision
- 100m precision
- 1km precision
- Wreck
- Casualty

Notes

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South Nesting Boating Club Community Marina
Project: Environmental Constraints Plan

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Drawn	C Donald		Coordination	G Chan	
GIS Check	T Graham		Approved	J Craig	
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