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APPENDIX 11-A PRELIMINARY ECOLOGICAL ASSESSMENT





Aberdeen Harbour Extension, Nigg Bay, Aberdeen

Preliminary Ecological Assessment

June 2014

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Aberdeen Harbour Extension, Nigg Bay, Aberdeen

Preliminary Ecological Assessment

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Waterman Group's IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007)

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Comments



Property & Buildings



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Appendices

- A. Target Notes

1. Summary

- 1.1. Waterman Energy, Environment and Design Ltd (Waterman) was commissioned by Aberdeen Harbour Board to undertake a Preliminary Ecological Assessment of land at Nigg Bay, Aberdeen, hereafter referred to as 'the Site'. The Site is subject to redevelopment proposals comprising an extension of Aberdeen Harbour and the creation of a deep water harbour.
- 1.2. The Preliminary Ecological Assessment comprised a site survey undertaken in April 2014 to identify and map habitats on Site and identify any potential for the presence of protected or notable species. In addition to a desk-based search of known ecological records obtained from the local record centre, an online search was undertaken for designated sites within 2km of the Site.
- 1.3. The aim of the Preliminary Ecological Assessment is to identify the nature conservation value of the Site and to establish whether the proposed development could give rise to significant ecological effects. In addition it also identifies any potential for mitigation in design and enhancement opportunities, where appropriate within the emerging scheme design.
- 1.4. This report will discuss the terrestrial aspects of the design only. Marine surveys have been commissioned and will report separately.
- 1.5. The Site is located within Nigg Bay. A variety of habitats have been identified within the Site boundary, with the intertidal zones, rocky shore, cliffs and grassland areas considered to be of ecological significance. Some of these habitats support specially protected species.
- 1.6. There is a Local Nature Conservation Site (LNCS, a non-statutory designation of Aberdeen City Council) which extends along the coastline from Balnagask to Cove. Large expanses of the proposed development Site from Girdle Ness to Greg Ness are located within the boundary of the LNCS. The proposed development is likely to have a significant and long term impact on the area at the northern boundary of this designation.
- 1.7. The Site is in close proximity to the River Dee Corridor, Special Area of Conservation (SAC), which was designated primarily due to its importance for otter. The habitats on Site have potential to support otter, and as such a dedicated otter survey is recommended. Otters are a UK BAP priority species, listed on the Scottish Biodiversity List (SBL) and are listed on the North East Scotland Local Biodiversity Action Plan (LBAP). They also receive full legal protection via inclusion on Schedule 2 of the Conservation (Natural Habitats & c.) Regulations 1994. Further surveys for otter are recommended to investigate this potential. These surveys should search for any otter activity (holts, hovers, footprints, spraints and feeding remains) within the Site and 200m out of the Site boundary. These surveys can be undertaken throughout the year. They will investigate the potential for otter and provide information for any potential mitigation to inform the risk of causing an offence under the Habitats Regulations 2010.
- 1.8. Part of Nigg Bay is designated as a geological SSSI. As this is not designated for ecological or biodiversity interest, it is not addressed in detail in this report. Scottish Natural Heritage should be consulted about the potential impact of the Development on this SSSI.
- 1.9. Specialised botanical surveys are recommended using the National Vegetation Classification survey (NVC), as the habitats on Site have potential to support notable and / or protected species. The curved sedge *Carex maritima* was identified on Site during the survey: it is listed on the International Union for Conservation of Nature (IUCN) as an endangered species, and it is also a Nationally Scarce species and listed on the SBL as a species of principal importance for biodiversity conservation. Sea pea *Lathyrus japonicus* was identified on Site during a previous

survey, and is classified as Nationally Scarce and also listed on the SB) as a species of principal importance for biodiversity conservation.

- 1.10. A variety of bird species are using habitats within the Site for foraging, shelter and nesting. All active birds' nests are protected by law, any vegetation or structures clearance should take place outside of the bird nesting season (March to August inclusive). Should this not be possible, a suitably qualified Ecologist should undertake a survey for nests in suitable areas, no less than 24 hours prior to their removal. All active nests would have to be retained until use of the nest had occurred.
- 1.11. Should the lighthouse and pumping station buildings on site be affected by the Development, then access should be arranged to undertake external and internal inspections for bat roosts.
- 1.12. Recommendations have not been provided within this report to facilitate an increase in the biodiversity value of the Site as part of the local authority's obligations under the Nature Conservation Scotland Act 2004 (as amended), as further surveys are required before any final recommendations can be provided.
- 1.13. If there is a significant period of time between this report and the proposed development being commenced (authorities consider this to be between 12 and 24 months), the ecological value of the Site habitats may change and should be subject to an update survey.

2. Introduction

- 2.1. Waterman Energy, Environment & Design Ltd (Waterman) was commissioned by Aberdeen Harbour Board to carry out a Preliminary Ecological Assessment of land at Nigg Bay, Aberdeen (hereafter referred to as the 'the Site').
- 2.2. Aberdeen Harbour Board have proposed the design and construction of a new harbour facility at Nigg Bay, immediately South of the existing harbour. The purpose of the new facility is to complement and expand the capabilities of the existing harbour, accommodate larger vessels, retain existing custom, and attract increased numbers of vessels and vessel types to Aberdeen.
- 2.3. The new harbour development shall include but is not limited to:
 - Dredging the existing bay to accommodate vessels up to 9m draft with additional dredge depth of 10.5m to the east quay and entrance channel;
 - Construction of new North and South breakwaters to form the harbour;
 - Provision of approximately 1500m of new quays and associated support infrastructure. The quay will be constructed with solid quay wall construction and suspended decks over open revetment;
 - Construction of areas for development by others to facilitate the provision of fuel, bulk commodities and potable water;
 - Land reclamation principally through using materials recovered from dredging operations and local sources, where possible;
 - Provision of ancillary accommodation for the facility;
 - Off-site highway works to the extent necessary to access the facility and to satisfy statutory obligations;
 - Diversions and enabling works necessary to permit the development.

Site description

- 2.4. The Site (see Figure 1) is approximately 130 hectares (ha) in area and is centred on Ordnance Survey Grid Reference NJ 96563 04696.
- 2.5. The Site is located within Nigg Bay, extending from the entrance to the existing harbour southwards to the northern edge of the Altens Industrial Estate.

The proposed development

- 2.6. The Site is subject to redevelopment proposals comprising an extension of Aberdeen Harbour and the creation of a deep water harbour, as part of a proposed National Development (under the emerging National Planning Framework 3).
- 2.7. The proposed development involves constructing the harbour on the north side of the bay. The southern section of the bay will be largely undeveloped, however, a breakwater will need to be constructed from the southern point at Greg Ness.

This report

- 2.8. This report sets out the findings of the Preliminary Ecological Appraisal undertaken to date. The purpose of this report is to:
 - Identify any terrestrial ecological issues, highlighted through the Preliminary Ecological Assessment and background data searches that could constrain the development proposals planned at the Site;

- Make recommendations for further terrestrial ecology survey and assessment work, if required, to enable works to be carried out without adversely affecting the ecology of the Site;
- Assess the consequences of works in relation to relevant planning policy and legislation; and
- Identify any mitigation and enhancement opportunities, where appropriate within the emerging scheme design.

3. Relevant Planning Policy and Legislation

Legislation

- 3.1. Specific habitats and species of relevance to the Site receive legal protection in the UK under various pieces of legislation, including:
- The Wildlife and Countryside Act 1981 (as amended) (WCA)¹;
 - The Protection of Wild Mammals (Scotland) Act 2002²
 - Nature Conservation (Scotland) Act 2004 (as amended)³, setting out the Scottish Biodiversity List (originally 2005, updated 2010, SBL)
 - Nature Conservation: Implementation in Scotland of the Habitats and Birds Directives: Scottish Executive Circular 6/1995 as amended (June 2000) and The Conservation of Habitats and Species Regulations 2010 (as amended) (the “Habitats Regulations”)⁴
 - The Wildlife and Natural Environment (Scotland) Act 2011 (WANE)⁵
 - The Protection of Badgers Act 1992⁶.
- 3.2. Where relevant, this appraisal takes account of the legislative protection afforded to specific habitats and species.

Planning Policy

National

- 3.3. The Scottish Government’s Planning Policies are set out in several documents, including the National Planning Framework and the Scottish Planning Policy (SPP).
- 3.4. **National Planning Framework 2 (NPF2)** was published in 2009. It sets out the spatial strategy for Scotland’s development to 2030, and designates 14 national developments of strategic importance to Scotland. Aberdeen Harbour expansion is not on this list. The Planning etc. (Scotland) Act 2006 requires Scottish Ministers to prepare a National Planning Framework. It also requires planning authorities to take NPF2 into account in development plans and development management decisions.
- 3.5. The main objective under the ‘National Ecological Network’ section of the NPF2 is to “Develop a National Ecological Network potentially encompassing large strategic habitat restoration projects”.
- 3.6. A specific milestone within this action is as follows;

“Local actions such as projects with potential to encompass large strategic habitat restoration to be taken forward through development plans, associated Action Programmes, supplementary planning guidance and partnership agreements. Consider the need for environmental assessment, appropriate assessment and detailed scheme level mitigation at plan or project level.”

- The **Scottish Planning Policy** (Consolidated 2010) provides a statement of the Scottish Government’s policy on nationally important land use planning matters. Specific relevant policies within this document include:

¹ HMSO (1981) ‘Wildlife and Countryside Act 1981 (as amended)’

² HMSO (1996) ‘The Wild Mammals (Protection) Act’

³ Scottish Government (2004) ‘Nature Conservation (Scotland) Act 2004 (as amended)’

⁴ HMSO (2010) ‘The Conservation of Habitats and Species Regulations 2010 (as amended)’

⁵ Scottish Government (2011) ‘The Wildlife and Natural Environment (Scotland) Act 2011’

⁶ ODPM (1992) ‘The Protection of Badgers Act’

- Policy 207 – *“Sites designated as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) make up the Natura 2000 network of protected areas. Any development plan or proposal likely to have a significant effect on these sites which is not directly connected with or necessary to their conservation management must be subject to an “appropriate assessment” of the implications for the conservation objectives. Such plans or proposals may only be approved if the competent authority has ascertained by means of an “appropriate assessment” that there will be no adverse effect on the integrity of the site.”*

 - Policy 208 – *“A derogation is available for authorities to approve plans or projects which could adversely affect the integrity of a Natura site if:*
 - *there are no alternative solutions;*
 - *there are imperative reasons of overriding public interest, including those of a social or economic nature; and*
 - *compensatory measures are provided to ensure that the overall coherence of the Natura network is protected.*

 - Policy 212 – *“Development that affects a National Park, National Scenic Area, Site of Special Scientific Interest or a National Nature Reserve should only be permitted where:*
 - *the objectives of designation and the overall integrity of the area will not be compromised; or*
 - *any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental or economic benefits of national importance.”*

 - Policy 214 – *“The presence (or potential presence) of a legally protected species is an important consideration in decisions on planning applications. If there is evidence to suggest that a protected species is present on site or may be affected by a proposed development, steps must be taken to establish their presence. The level of protection afforded by legislation must be factored into the planning and design of the development and any impacts must be fully considered prior to the determination of the application. Certain activities – for example those involving European Protected Speciesⁱ as specified in the Conservation (Natural Habitats, &c.) Regulations 1994 and wild birds, protected animals and plants under the Wildlife and Countryside Act 1981 – may only be undertaken under licence. Following the introduction of the Wildlife and Natural Environment (Scotland) Act 2011, Scottish Natural Heritage is now responsible for the majority of wildlife licensing in Scotland.*

 - Policy 215 – *“In areas of wild land (wild land character is displayed in some of Scotland’s remoter upland, mountain and coastal areas, which are very sensitive to any form of intrusive human activity and have little or no capacity to accept new development), development may be appropriate in some circumstances. Further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.”*
- 3.7. The proposed **National Planning Framework 3 (NPF3)** was laid before the Scottish Parliament in January 2014 and is expected to be finalised in June 2014. It refers to the expansion of Aberdeen Harbour in relation to the City of Aberdeen’s position, stating ‘*The expansion of Aberdeen Harbour will strengthen its key role in supporting the economy of the north east, as too will continued*

improvements to infrastructure including the Aberdeen Western Peripheral Route and Aberdeen Airport'. Paragraphs 5.21 and 6.7 identify Aberdeen Harbour expansion as a **national development**, stating:

'.. Aberdeen Harbour serves as a multi-functional seaport, providing berthing and handling facilities for passengers, freight, oil and gas and other sectors. Despite the capacity constraints of the current harbour, this is one of Scotland's key gateways. Expansion of Aberdeen Harbour is identified as a national development'.

'Aberdeen Harbour is a nationally important facility which supports the oil and gas sector, provides international and lifeline connections and makes a significant contribution to the wider economy of the north east. Expansion of the harbour is required to address current capacity constraints, consolidate and expand its role. We expect development proposals for this to come forward in the lifetime of NPF3, including new harbour facilities and onshore transport links'.

- 3.8. Annex A sets out a 'Statement of need and technical descriptions' for each identified national development. For Aberdeen Harbour Expansion it states:

'1 – Location: Nigg Bay.

2 – Description of Classes of Development: Development at the location for: a. the construction of new and/or replacement harbour facilities where resultant building or structure is or exceeds 10,000 square metres, or the area of development is or exceeds 2 hectares. b. the construction of new and/or replacement road infrastructure from existing networks. c. the provision of water supply and related infrastructure directly for new harbour facilities.

3 – Designation: A development within one or more of the Classes of Development described in paragraph (2) (a) to (c) is designated a national development.

4 – Need: These classes of development support the expansion of Aberdeen Harbour. Current constraints will increasingly limit the ability of the harbour to provide crucial services and limits opportunities for business growth at this nationally important facility. Nigg Bay has been identified as the preferred development option, as a result of the constraints of the existing sites'.

- 3.9. Whilst national development status establishes the need for a project, it does not grant development consent. Planning permission and any other necessary assessments and consents will still be required at the consenting stage.

Local

- 3.10. Aberdeen City Council adopted its first Local Development Plan⁷ in February 2012. The Aberdeen Local Development Plan (ALDP) (2012) replaced the Aberdeen Local Plan (2008) and was the first Development Plan of its kind in Scotland. The Local Development Plan is a vital public document which shapes the future of Aberdeen, and influences significant public and private investment in homes, businesses, shops, infrastructure and facilities.
- 3.11. Aberdeen City Council have written an environmental report⁸ ("the report") for the Aberdeen Local Development Plan (ALDP) under the Environmental Assessment (Scotland) Act 2005, as part of its Strategic Environmental Assessment (SEA). The reason for undertaking SEA is to address all the effects that a plan, programme or strategy will have on the environment. The overall aim of the process being to protect the environment.
- 3.12. The following mitigation measures for biodiversity, flora and fauna have been recommended within the environmental report:

⁷ Aberdeen City Council (2012) 'Aberdeen Local Development Plan'

⁸ Aberdeen City Council (2012) 'SEA Environmental Report'

- *All of the Natural Environment and Open Space policies provide protection to biodiversity and developments that may have significant impacts on biodiversity are required to strictly comply with these policies.*
 - *Where policies that support development have a negative effect on biodiversity they will be over ridden by the natural environment and open space policies.*
 - *Those proposals with significant impacts on biodiversity have been removed from the plan and are only alternatives.*
 - *Where the assessment has identified a natural heritage designation, these areas of sites have been identified as green space network to provide protection.*
 - *In view of the potential significant impacts on biodiversity, developers will be required to undertake EIA prior to commencing some developments. EIA would address issues such as creation of wildlife corridors, habitat management and green space network. Where green field land is allocated, consideration will be given to improving housing densities. An “appropriate assessment” will be carried out where development projects are likely to cause a significant impact on the River Dee SAC and its qualifying species.*
 - *A Habitats Regulation Assessment has been undertaken to ensure that the risk to the conservation status of the River Dee SAC has been minimised, and policies are included in the plan to ensure that development does not affect the River Dee’s status. A Habitats Regulation Assessment will be required for developments in close proximity to the River Dee.*
 - *New developments should compensate for any biodiversity loss and advocating high quality green infrastructure within master planning and working with the grain of nature should also ensure that biodiversity is considered and incorporated in developments.*
 - *Developments in close proximity to designated sites should have an appropriate buffer zone to ensure that they do not abut these important wildlife habitats*
- 3.13. Statute requires that Development Plans are reviewed every five years, and so the adopted Local Development Plan is already under review. A ‘Main Issues’ paper was issued in January 2014, which includes Aberdeen Harbour Expansion as a Main Issue (number 7, para, 6.3), identifying Nigg Bay as the preferred location.
- 3.14. The **Aberdeen City and Shire Strategic Development Plan** was published in April 2014. One of the Plan’s targets is: *‘To make sure that development improves and does not lead to the loss of, or damage to, built, natural or cultural heritage assets’*. To achieve this target, *‘both councils will take account of biodiversity, wildlife habitats, landscape, green networks and other sensitive areas in identifying land for development, preparing masterplans and assessing development proposals’*.
- 3.15. One of the Plan’s proposals is:
- ‘Improving the port and associated facilities at Aberdeen and Peterhead to make the most of their opportunities and potential, particularly for the energy (including off shore wind) and fishing sectors’*.

UK Post-2010 Biodiversity Framework

- 3.16. The Environment Departments of all four governments in the UK work together through the Four Countries Biodiversity Group. Together, they have agreed, and Ministers have signed, a framework of priorities for UK-level work for the Convention of Biological Diversity. Published on 17 July 2012,

the 'UK Post-2010 Biodiversity Framework'⁹ covers the period from 2011 to 2020. This now supersedes the UK Biodiversity Action Plan (BAP)¹⁰. However, many of the tools developed under the UK BAP remain of use, for example, background information about the lists of priority habitats and species. The lists of priority species and habitats agreed under UK BAP still apply for the basis of much biodiversity work within the countries.

- 3.17. Although the UK Post-2010 Biodiversity Framework does not confer any statutory legal protection, in practice, many of the species listed already receive statutory legal protection under UK and/or European legislation. In addition, all of the priority UK BAP habitats and species found in Scotland are now listed on the Scottish Biodiversity List which was published in 2005 and updated in 2010 to satisfy the requirement under Section 2(4) of The Nature Conservation (Scotland) Act 2004 (as amended). For the purpose of this report, habitats and species listed on the Scottish Biodiversity List are referred to as having superseded the UK BAP. The Nature Conservation (Scotland) Act 2004 (as amended) places a duty on every public body to further the conservation of biodiversity by having particular regard to those species and habitats listed on the Scottish Biodiversity List.

Local Biodiversity Action Plan

- 3.18. Local authorities in the UK have produced individual Local Biodiversity Action Plans (LBAPs). Despite the changes these are still used locally to highlight species and habitats of local note or importance. These action plans work at a local level to conserve and enhance national priorities identified in the UK BAP. The Site is covered by the Scottish Biodiversity List (SBL) and North East Scotland Local Biodiversity Action Plan (LBAP).
- 3.19. The following habitats and species, listed on the Scottish Biodiversity List (SBL), North East Scotland Local Biodiversity Action Plan (LBAP) and previously recorded within the area, are considered relevant to the Site:

Birds

- Arctic skua *Stercorarius parasiticus* (SBL)
- Bar-tailed godwit *Limosa lapponica* (SBL)
- Black-headed gull *Larus ridibundus* (SBL)
- Black-throated diver *Gavia arctica* (SBL)
- Brambling *Fringilla montifringilla* (SBL)
- Bullfinch *Pyrrhula pyrrhula* (SBL, LBAP)
- Common scoter *Melanitta nigra* (SBL, LBAP)
- Common tern *Sterna hirundo* (SBL, LBAP)
- Curlew *Numenius arquata* (SBL, LBAP)
- Eider *Somateria mollissima* (LBAP)
- Goldeneye *Bucephala clangula* (SBL, LBAP)
- Greater scaup *Aythya marila* (SBL)
- Hedge accentor *Prunella modularis* (SBL)
- Herring gull *Larus argentatus* (SBL)
- House sparrow *Passer domesticus* (SBL)
- Kestrel *Falco tinnunculus* (SBL, LBAP)

⁹ JNCC and DEFRA (on behalf of the Four Countries' Biodiversity Group). 2012 UK Post-Biodiversity Framework. July 2012. Available on-line from <http://jncc.defra.gov.uk/page-6189>

¹⁰ HMSO (1994) The UK Biodiversity Action Plan.

- Linnet *Carduelis cannabina* (SBL, LBAP)
- Merlin *Falco columbarius* (SBL)
- Peregrine falcon *Falco peregrinus* (SBL)
- Purple sandpiper *Calidris maritima* (SBL, LBAP)
- Short-eared owl *Asio flammeus* (SBL)
- Skylark *Alauda arvensis* (SBL, LBAP)
- Snipe *Gallinago gallinago* (LBAP)
- Snow bunting *Plectrophenax nivalis* (SBL, LBAP)
- Spotted flycatcher *Muscicapa striata* (SBL, LBAP)
- Starling *Sturnus vulgaris* (SBL)
- Swift *Apus apus* (SBL)
- Red-backed shrike *Lanius collurio* (SBL)
- Red-throated diver *Gavia stellate* (SBL)
- Yellowhammer *Emberiza citronella* (SBL, LBAP)

Invertebrates

- Autumnal rustic *Eugnorisma glareosa* (SBL)
- Brindled ochre *Dasypolia temple* (SBL)
- Dingy skipper *Erynnis tages* (LBAP)
- Grass rivulet *Perizoma albulata* (SBL)
- Rosy minor *Mesoligia literosa* (SBL)
- Streak *Chesias legatella* (SBL)
- Sword-grass *Xylena exsoleta* (LBAP)
- White-line dart *Euxoa tritici* (SBL)

Mammals

- Badger *Meles meles* (SBL, LBAP)
- Daubenton's bat *Myotis daubentonii* (SBL, LBAP)
- Otter *Lutra lutra* (SBL, LBAP)
- Pipistrelle *Pipistrellus pipistrellus* (SBL, LBAP)
- Soprano pipistrelle *Pipistrellus pygmaeus* (SBL)

Amphibians

- Common toad *Bufo bufo* (SBL, LBAP)

Plants

- Scottish scurvygrass *Cochlearia officinalis subsp. Scotica* (SBL, LBAP)
- Wych elm *Ulmus glabra* (LBAP)
- Wild pansy *Viola tricolor* (SBL)

4. Methodology

- 4.1. This section summarises the methodologies used for undertaking the ecological data search and the Preliminary Ecological Assessment. The basis for evaluation of ecological resources is also described within this section.

Ecological Data Search

- 4.2. The aim of the ecological data search is to collate existing ecological records for the Site and adjacent areas. Obtaining existing records is an important part of the evaluation process, as it provides additional information that may not be apparent during a site survey.
- 4.3. An ecological data search was undertaken on 8th May 2014, and updated on the 16th of October 2015. During which, all records of protected species, Scottish Biodiversity List species and other notable fauna or flora within 2km of the Site were requested from the North East Scotland Biological Records Centre (NESBReC). Given the scale of the Site, it was considered that undertaking a search of records within 2km of the Site would provide sufficient data to inform this Preliminary Ecological Assessment, with an additional extended search for any European and internationally designated sites in the locality.
- 4.4. Records of designated sites and statutory sites designated for their nature conservation value were also requested from the North East Scotland Biological Records Centre (NESBReC), and searched for using Multi-Agency Geographic Information for the Countryside (MAGIC)¹¹. Sites with statutory designations could typically include Local Nature Reserves (LNR), notified or candidate Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Ramsar Sites.
- 4.5. Habitats and species plans on the Scottish Biodiversity List as well as the Local Biodiversity Action Plan (LBAP) were consulted with regards to species and habitats that might be present on or adjacent to the Site. LBAPs have been produced for a whole suite of habitats and species as part of the Government's commitment to maintain and enhance local and national biodiversity.
- 4.6. Following consultation with Aberdeen City Council (ACC) in October 2015, it was concluded that more detailed ecological data with regard to local records of otter, reptile and bat would be sought to inform the assessment. This is discussed in the following sections.

Preliminary Ecological Assessment

- 4.7. A Preliminary Ecological Assessment was undertaken on 16th April 2014 using the Joint Nature Conservation Council (JNCC, 1990)¹² standard 'Phase 1' survey technique. The survey also included an assessment of the Site's potential to support protected and notable faunal species. All habitat types within the Site were mapped (see Figure 1).
- 4.8. Where access allowed, adjacent habitats were also considered to assess the Site within the wider landscape, and to provide information with which to assess possible effects of the proposed Development.
- 4.9. The Preliminary Ecological Assessment of the Site was conducted under appropriate conditions; being optimum survey conditions and during the optimum survey season (April to September) when the majority of plant species are visible. All plants were identified through their floristic and vegetative characteristics.

¹¹Multi-Agency Geographical Information for the Countryside (MAGIC) Available on-line from www.magic.gov.uk

¹² Joint Nature Conservation Committee (2004) 'Handbook for Phase 1 Habitat Survey'.

Building Inspections

- 4.10. Building inspections for bats were undertaken (where access permitted) in combination with the 'Preliminary Ecological Assessment'. All building surveys followed current best practice guidelines (Hundt, 2012)¹³. The potential of buildings and structures within the Site to support bat roosts was assessed by an external inspection under conditions considered appropriate for survey.
- 4.11. The inspection involved looking for evidence of roosting bats, such as:
- bat droppings;
 - insect wings under feeding roosts;
 - staining from urine or from the oil on bats' fur around well-used roosting places or access points; and
 - actual bat presence.
- 4.12. Those features known to commonly provide roosting opportunities for bats were also sought, such as:
- gaps under eaves, around windows, under tiles, fascia boards and lead flashing;
 - loft spaces; and
 - soffits and boxed eaves.
- 4.13. The potential of each building or structure to support a bat roost was determined based on the above features, or evidence visible during the inspection, as well as those other factors that may influence roost establishment such as aspect, shading, disturbance, lighting and the presence of features that could be used by bats for commuting and foraging.

Evaluation

- 4.14. The survey undertaken is a Preliminary Ecological Assessment and further surveys may be required before full evaluation of the Site is undertaken. However in order to provide some guidance at this stage the habitats and species evaluations are based on published guidance from the Institute of Ecology and Environmental Management (IEEM)¹⁴, now the Chartered Institute of Ecology and Environmental Management (CIEEM). The level of value of specific ecological receptors is assigned using a geographic frame of reference, i.e. international value being most important, then national, regional, county (metropolitan), district, local and lastly, within the boundary of the Site only. A negligible value is assigned where the habitat offers no value to wildlife. Please note further survey and assessment, where necessary, may alter these evaluations.
- 4.15. Value judgements are based on various characteristics that can be used to identify ecological resources or features likely to be important in terms of biodiversity. These include site designations (such as SSSI), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological resource. In terms of the latter, 'quality' can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

Survey Limitations

- 4.16. Ecological surveys are limited by a variety of factors which affect the presence of flora and fauna such as season, climate, migration patterns and species behaviour. Where evidence of protected

¹³ Hundt (2012) 'Bat Surveys – Good Practice Guidelines' Bat Conservation Trust, London.

¹⁴ IEEM (2006) 'Guidelines for Ecological Impact Assessment in the United Kingdom'

species is not discovered during the survey, this does not mean that such a species is not present, or that it will not be present in the future.

- 4.17. It should be noted that the timing of the Survey in April at the beginning of the flowering season means that later flowering species may not have been identified and recorded during the survey. However, an NVC survey has been recommended for later in the year, which will provide a detailed report on the plant species within the Site.
- 4.18. It should also be noted that access was not obtained to the Lighthouse and associated buildings, the Coastguard Station and the Water Pumping Station. Buildings out of the Site boundary were also not accessed as part of this survey. No areas of the railway line were accessed during the survey and view was restricted from the adjacent coastal path, therefore habitats and species may not have been recorded. However, this area is already subjected to a high level of disturbance, and the works should not impact on the railway line.
- 4.19. The results of the Preliminary Ecological Assessment has provided sufficient detail to make an assessment of likely constraints, develop a suitable scheme of mitigation or precautionary method of working and highlighted the requirement for further surveys prior to the works commencing at the Site.

5. Results

Desk Study

- 5.1. Records of statutory and non-statutory sites within 2km of the Site were provided by the North East Scotland Biological Records Centre (NESBReC). A summary of the most significant results of relevance to the Site is provided in Table 1. Full results can be obtained from Waterman but cannot be presented in this report as they are subject to limiting copyright.

Table 1: Desk study records of designated sites within 2km of the Site

Site Name	Designation	Distance from Site (km)	Description/Citation
Statutory Sites / designations (of note within 2km of the Site)			
Nigg Bay	SSSI (Geological)	Within site	Nigg Bay is a classic locality for Quaternary stratigraphy in north-east Scotland, illustrating several of the characteristic glacial deposits of the area.
River Dee Corridor	SAC	Approximately 500m north	A clean, fast flowing river supporting a diverse range of plants and animals, including otter. Strips of semi-natural grassland and water margin vegetation are present. Patches of willow and alder. Also a LNCS.
Non-statutory Sites / designations (of note within 2km of the Site)			
Balnagask to Cove -	Aberdeen City Local Nature Conservation Site	Extends along the coastline within Site boundary	Mixed habitats, on a rich substrate supporting herb rich grasslands, wet flushes, coastal heathland, rocky cliffs and rock pools. Interesting insect fauna and nesting sea birds. Geologically interesting.
Tullos Hill	Aberdeen City Local Nature Conservation Site	Approximately 250m west	Mixture of broadleaved woodland, rank neutral grassland, scrub woodland, bracken, acid grassland and dry heath. Some small patches of lowland birch woodland and wet heath. A good example of heathland close to the city.
Kincorth Hill	Aberdeen City Local Nature Conservation Site	Approximately 2km west	Forms part of "The Gramps" and is one of the largest remaining areas of semi-natural vegetation in the district. Mainly scrub woodland, neutral grassland and dry heath with some small areas of woodland and patches of bracken.
River Dee Corridor	Aberdeen City Local Nature Conservation Site	Approximately 500m north	A clean, fast flowing river supporting a diverse range of plants and animals. Strips of semi-natural grassland and water margin vegetation are present. Patches of willow and alder. Also a SAC.
Deeside Old Railway	Aberdeen City Local	Approximately 2km west	The banks of this former railway line are a mixture of grassland, tall ruderal, small

Site Name	Designation	Distance from Site (km)	Description/Citation
	Nature Conservation Site		pockets of woodland, scattered trees and shrubs. A valuable green corridor in the west of the city.

Local Nature Conservation Sites

- 5.2. Local authorities may designate certain areas as being of local conservation interest. These are areas considered by the Council to be of local importance for wildlife, usually following consultation with local voluntary nature conservation organisations. The criteria for inclusion, and the level of protection provided, if any, may vary between areas. These sites, together with statutory designations, are defined in local and structure plans and are a material consideration when planning applications are being determined.

Special Areas of Conservation (SACs)

- 5.3. SACs are designated under the EC Habitats Directive. SACs are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are designated under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

Protected, or Notable Species

- 5.4. Records of legally protected or otherwise notable species of flora and fauna within 2km of the Site were provided by the North East Scotland Biological Records Centre (NESBReC) and the Aberdeen Harbour Board. A summary of the most significant results within the previous 10 years and of relevance to the Site is provided below in Table 2. Results over 10 years old are considered historic. However they were used to help the overall assessment of the sites conditions where appropriate. Full results can be obtained from Waterman but cannot be presented in this report as a result of copyright.

Table 2: Desk study records of flora and fauna within 2km of the Site

Species	Location	Protection/Status
Amphibians		
Common toad <i>Bufo bufo</i>	2011 record approximately 2km from the Site	All common amphibians receive partial protection under the Wildlife and Countryside Act 1981 (as amended) SBL - Scottish Biodiversity List LBAP – North East Scotland Local Biodiversity Action Plan
Birds		
		All breeding birds (with some exceptions for pest species) are protected under current UK legislation through the Wildlife and Countryside Act 1981 (as

Species	Location	Protection/Status amended)
		Schedule 1 (S1) Species of the Wildlife and Countryside Act 1981 (as amended) are protected at all times
Reed warbler <i>Acrocephalus scirpaceus</i>	2004 record approximately 600m from the Site	SBL - Scottish Biodiversity List
Skylark <i>Alauda arvensis</i>	2010 record approximately 600m from the Site	SBL - Scottish Biodiversity List LBAP – North East Scotland Local Biodiversity Action Plan
Kingfisher <i>Alcedo atthis</i>	2010 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List
Swift <i>Apus apus</i>	2011 record approximately 400m from the Site	SBL - Scottish Biodiversity List
Short-eared owl <i>Asio flammeus</i>	2010 record approximately 500m from the Site	SBL - Scottish Biodiversity List
Common pochard <i>Aythya farina</i>	2010 record within same 10km ² grid reference	SBL - Scottish Biodiversity List
Greater scaup <i>Aythya marila</i>	2009 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List
Goldeneye <i>Bucephala clangula</i>	2009 record approximately 2km from the Site	S1 – Schedule 1 LBAP – North East Scotland Local Biodiversity Action Plan
Dunlin <i>Calidris alpina</i>	2009 record approximately 600m from the Site	SBL - Scottish Biodiversity List
Purple sandpiper <i>Calidris maritima</i>	2010 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Lesser redpoll <i>Carduelis cabaret</i>	2005 record approximately 500m from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC) LBAP – North East Scotland

Species	Location	Protection/Status
		Local Biodiversity Action Plan
Linnet <i>Carduelis cannabina</i>	2010 record approximately 500m from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Siskin <i>Carduelis spinus</i>	2010 record approximately 500m from the Site	SBL - Scottish Biodiversity List
Hooded crow <i>Corvus cornix</i>	2008 record approximately 600m from the Site	SBL - Scottish Biodiversity List
Corncrake <i>Crex crex</i>	2010 record approximately 500m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Whooper swan <i>Cygnus cygnus</i>	2004 record within same 10km ² grid reference	S1 – Schedule 1, SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Yellowhammer <i>Emberiza citronella</i>	2011 record approximately 2km from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Reed bunting <i>Emberiza schoeniclus</i>	2010 record within same 10km ² grid reference	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Merlin <i>Falco columbarius</i>	2004 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Peregrine falcon <i>Falco peregrinus</i>	2010 record approximately 400m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List

Species	Location	Protection/Status
Hobby <i>Falco subbuteo</i>	2008 record approximately 2km from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List
Kestrel <i>Falco tinnunculus</i>	2007 record approximately 200m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Brambling <i>Fringilla montifringilla</i>	2010 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List
Snipe <i>Gallinago gallinago</i>	2010 record within same 4km grid reference	Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Black-throated diver <i>Gavia arctica</i>	2010 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Red-throated diver <i>Gavia stellate</i>	2009 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
White-tailed eagle <i>Haliaeetus albicilla</i>	2010 record within same 10km ² grid reference	S1 – Schedule 1, SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Wryneck <i>Jynx torquilla</i>	2004 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Red grouse <i>Lagopus lagopus</i>	2004 record approximately 600m from the Site	SBL - Scottish Biodiversity List
Red-backed shrike <i>Lanius collurio</i>	2004 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List
Herring gull <i>Larus argentatus</i>	2009 record	SBL - Scottish Biodiversity List

Species	Location	Protection/Status
	approximately 600m from the Site	Red - Birds of Conservation Concern (BoCC)
Black-headed gull <i>Larus ridibundus</i>	2009 record approximately 600m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Bar-tailed godwit <i>Limosa lapponica</i>	2004 record approximately 600m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Common scoter <i>Melanitta nigra</i>	2010 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Spotted flycatcher <i>Muscicapa striata</i>	2010 record approximately 500m from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Curlew <i>Numenius arquata</i>	2011 record approximately 300m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
House sparrow <i>Passer domesticus</i>	2008 record approximately 600m from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Ruff <i>Philomachus pugnax</i>	2005 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Snow bunting <i>Plectrophenax nivalis</i>	2005 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland

Species	Location	Protection/Status
		Local Biodiversity Action Plan
Hedge accentor <i>Prunella modularis</i>	2008 record approximately 600m from the Site	SBL - Scottish Biodiversity List
Manx shearwater <i>Puffinus puffinus</i>	2004 record approximately 600m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Bullfinch <i>Pyrrhula pyrrhula</i>	2012 record approximately 500m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Woodcock <i>Scolopax rusticola</i>	2010 record approximately 400m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC)
Eider <i>Somateria mollissima</i>	2009 record approximately 500m from the Site	Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Arctic skua <i>Stercorarius parasiticus</i>	2010 record approximately 600m from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Common tern <i>Sterna hirundo</i>	2008 record approximately 600m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Arctic tern <i>Sterna paradisaea</i>	2009 record approximately 600m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Sandwich tern <i>Sterna sandvicensis</i>	2010 record approximately 600m from the Site	SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan

Species	Location	Protection/Status
Starling <i>Sturnus vulgaris</i>	2012 record approximately 100m from the Site	SBL - Scottish Biodiversity List
Redshank <i>Tringa totanus</i>	2009 record approximately 500m from the Site	Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Redwing <i>Turdus iliacus</i>	2009 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Song thrush <i>Turdus philomelos</i>	2010 record approximately 600m from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Ring ouzel <i>Turdus torquatus</i>	2010 record within same 10km ² grid reference	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC)
Barn owl <i>Tyto alba</i>	2004 record approximately 600m from the Site	S1 – Schedule 1, SBL - Scottish Biodiversity List Amber - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Northern lapwing <i>Vanellus vanellus</i>	2011 record approximately 300m from the Site	SBL - Scottish Biodiversity List Red - Birds of Conservation Concern (BoCC) LBAP – North East Scotland Local Biodiversity Action Plan
Invertebrates		
Grass rivulet <i>Perizoma albulata</i>	2005 record within same 10km ² grid reference	SBL - Scottish Biodiversity List
Mammals		
Otter <i>Lutra lutra</i>	2008 record approximately 200m from the Site	WCA 1981 (as amended) EPS – European Protected

Species	Location	Protection/Status
		Species
		SBL - Scottish Biodiversity List
		LBAP – North East Scotland Local Biodiversity Action Plan
Badger <i>Meles meles</i>	2013 record within same 10km ² grid reference	SBL - Scottish Biodiversity List Protection of Badgers Act
Daubenton's bat <i>Myotis daubentonii</i>	2011 record within same 10km ² grid reference	WCA 1981 (as amended) EPS – European Protected Species SBL - Scottish Biodiversity List LBAP – North East Scotland Local Biodiversity Action Plan
Pipistrelle <i>Pipistrellus pipistrellus</i>	2007 record approximately 2km from the Site	WCA 1981 (as amended) EPS – European Protected Species SBL - Scottish Biodiversity List LBAP – North East Scotland Local Biodiversity Action Plan
Flora		
Greater knapweed <i>Centaurea scabiosa</i>	2008 record approximately 2km from the Site	SBL - Scottish Biodiversity List
Scottish scurvygrass <i>Cochlearia officinalis subsp. Scotica</i>	2010 record approximately 2km from the Site	SBL - Scottish Biodiversity List LBAP – North East Scotland Local Biodiversity Action Plan
Sea Pea <i>Lathyrus japonicus</i>	2013 record within Site	SBL - Scottish Biodiversity List LBAP – North East Scotland Local Biodiversity Action Plan Nationally Scarce
Oysterplant <i>Mertensia maritima</i>	2013 record within Site	Nationally Scarce LBAP – North East Scotland Local Biodiversity Action Plan
Wych elm <i>Ulmus glabra</i>	2010 record approximately 1km from the Site	LBAP – North East Scotland Local Biodiversity Action Plan

Preliminary Ecological Assessment

Site Summary

- 5.5. The Site is located within Nigg Bay and comprises a narrow area extending from the entrance to the existing harbour to the northern edge of Altens Industrial Estate.
- 5.6. The habitat on Site extends along a narrow section of land along the coastline around Nigg Bay. The rocky headlands of Girdle Ness at the north of the Site lead into Nigg Bay dominated by a pebbled shore and gorse scrub to the north and coastal heathland to the south of the Bay. Neutral grassland is present on the headland at Greg Ness. South of Greg Ness the Site boundary narrows and moves inland bordering Greyhope Road and the railway line. The railway runs through a steep cutting bordered by neutral grassland and scrub vegetation. The southern of the Site is bordered by semi-improved neutral grassland used for grazing livestock.
- 5.7. The habitats within the Site have been valued individually in terms of ecological frequency, diversity and opportunities they provide. However, it is considered that the collective value of such a diverse mosaic of habitats, is of local importance. Following discussions with Aberdeen City Council (ACC) in October 2015, the value of Greenspace in Aberdeen was highlighted. The Greenspace of St Fittick's Park and the East Tullos Burn Project form part of a larger Greenspace Network within and around the city, which is of ecological and social value to Aberdeen. Mitigation and enhancement measures are discussed in terms of protecting this locally valuable Network.

Habitats

- 5.8. The following habitat descriptions should be read in conjunction with **Figure 1, Habitat Features Plan (ref: EED14221-100_GR_EC_1B)** and the Target Notes (TN) presented in **Appendix A** which accompany this report.

Scrub (JNCC Code: A2)

Dense areas of coastal scrub dominated by gorse *Ulex europaeus* are scattered along the northern areas of Nigg Bay on the stabilised sand dunes. Further inland the gorse is surrounded by rank grass, willow *Salix* spp. and broom *Cytisus scoparius*. A further significant area of scrub habitat was recorded in an area west of Nigg Bay with the ground flora dominated by rank grasses, bramble *Rubus fruticosus*, and rosebay willow-herb *Epilobium angustifolium* and bordered on the road side edge by a scattered hawthorn *Crataegus monogyna* hedge,. Ash *Fraxinus excelsior* saplings have recently been planted within this scrub area.

This habitat is readily used by a combination of common and rare migrant passerines in spring and autumn. Given the assemblage of birds that use this habitat, it is considered to be of **local** value.

Semi Improved Neutral Grassland (JNCC Code: B2)

- 5.9. The Site supports areas of herb rich neutral grasslands on the cliff tops and along sections of the verges bordering Greyhope Road, which extends throughout out the Site along the Western boundary. Species including white clover *Trifolium repens*, red clover *Trifolium pratense*, wild pansy *Viola tricolor*, ribwort plantain *Plantago lanceolata*, thrift *Armeria maritime* and cotton grass *Eriophorum angustifolium*.
- 5.10. Curved sedge *Carex maritime* was identified along the grassland areas sited among scattered scrub vegetation around Nigg Bay.

5.11. These areas of herb rich neutral grasslands situated along the coast are considered to be at least of **local** value for ecology, given the LNCS designation and perhaps of higher value in view of the rare plant species present. The NVC survey will provide further information.

5.12. The Site boundary to the south of the Site is bordered on both sides by semi-improved neutral grassland fields used for grazing livestock. As livestock were present at the time of the survey, these fields were not entered.

Dry Dwarf Shrub Heath (JNCC Code: D1)

5.13. European dry heath predominates in areas along the coastline to the south of Greg Ness. It is dominated by heath species with cross-leaved heath *Erica tetralix* being the major component of the vegetation. This habitat is at least of **local** value for ecology, given the LNCS designation and perhaps of higher value: the NVC survey will provide further information.

Shingle/Gravel above High-tide Mark (JNCC Code: H3)

5.14. The beach at Nigg Bay consists of coarse fine sands, with significant large cobbles and pebbles. Both Greg and Girdle Ness are rocky with patches of stones (pebbles and cobbles) and sandy foreshore. This continues to the south with a rocky shore with patches of pebbles and cobbles and a sandy foreshore. This area is considered to have a low species diversity and given the frequency of this habitat in the area is considered of ecological value **within the boundary of the Application Site only**.

Boulders/Rocks above High-tide Mark (JNCC Code: H4)

5.15. Rocks and boulders at Girdle Ness and Greg Ness headlands that remain exposed above the high-tide line have lichens such as the yellow *Xanthoria* species. This area is considered to have a low species diversity and given the frequency of this habitat in the area is considered of ecological value within the **boundary of the Application Site only**.

Strandline Vegetation (JNCC Code: H5)

5.16. Areas of hard standing overgrown by strandline vegetation occupy a narrow high tide zone along the upper edges of the stony and rocky beaches at the south of Nigg Bay: here the vegetation is a weedy mix of species such as silverweed *Argentina anserine*, sea sandwort *Honckenya peploides*, bramble and rosebay willow-herb (TN16 in Figure 1). This area is considered to have a low species diversity and given the frequency of this habitat in the area is considered of ecological value **within the boundary of the Application Site only**.

Maritime Hard Cliff (JNCC Code: H8.1)

5.17. The coastline south of Nigg Bay consists of rocky cliffs comprised of metamorphic rock with minimal vegetation coverage (TN14 in Figure 1). Large colonies of seabirds were nesting on these rocky cliffs within sheltered coves at the time of the survey. This habitat is considered to be of ecological significance at **regional level**. The targeted marine and terrestrial bird surveys will provide further information with regard to the value of this habitat.

Coastal Heath (JNCC: H8.5)

5.18. The coastal heathland is located adjacent to the coast but inland from the zone of sea spray influence. This habitat is composed of heather *Calluna vulgaris* and bell heather *Erica cinerea*, with abundant sea plantain *Plantago maritime* and white clover. This habitat is at least of **local** value for ecology, given the LNCS designation and perhaps of higher value: the NVC survey will provide further information.

Amenity grassland (JNCC: J1.2)

- 5.19. Two significant areas of amenity grassland are located within the boundary of the Site. Walker Park borders the northern boundary of the Site, whilst a disused section of the golf course lies on the western boundary of the Site. These are large areas of regularly mown, amenity grassland dominated by perennial ryegrass *Lolium perenne* and dense patches of white clover with areas of curled dock *Rumex crispus* and common hogweed *Heracleum sphondylium* along some field boundaries. This area is considered to have a low species diversity is considered of ecological value **within the boundary of the Application Site only**.

Wall (JNCC Code: J2.5)

- 5.20. A stone wall extends around the amenity grassland on Walker Park and continues around the lighthouse buildings and along large extents of Greyhope Road which runs from north to south along the western boundary of the Site. The stones within the wall have white, grey and yellow species of lichens. This habitat is considered to have **negligible** ecological value.

Fence (JNCC Code: J3.4)

Iron fencing is present along the sea wall and around the carpark (see Figure 1). The habitat is also present along the coastal edge of the road in the north of the Site. The habitat is considered to have **negligible** ecological value.

Sea-Wall (JNCC Code: J3.5)

- 5.21. A reinforced concrete sea wall has been constructed along the north-westerly edge of Nigg Bay. This habitat is considered to have **negligible** ecological value.

Buildings (JNCC Code: J3.6)

- 5.22. Several structures are located within the boundary of the Site, these include the lighthouse buildings at Girdle Ness and an active water pumping station consisting of a stone two storey building, with grated windows, located below the lighthouse. These were not accessed. The coastguard station is a single storey metal structure located behind a high metal fence on the headland at Greg Ness. There was no access to the Coastguard Station, but due to its structure it was not considered to have roosting bat potential.
- 5.23. There are also remains of the exterior walls of two ruined single storey stone buildings, located along the northern shorefront of Nigg Bay within the Site boundary. No evidence of roosting bats or nesting birds was identified using these structures during the survey, and they are not considered to have significant potential to support these species. On the northern edge of the Site in Walker Park is a small single storey stone structure which has been extensively vandalised and with only small parts of the roof remaining. Two bird nests were identified within the remains of the roof, but due to the exposed nature of the remains, it is considered to have no potential to support roosting bats.
- 5.24. In addition, the Site borders the roofless remains of St Fittick's Church on the western boundary, with only the stone walls remaining intact. The Water Treatment Plant contains a series of commercial buildings and is located outside of the Site and immediately adjacent to the western development boundary. Doonies Rare Breeds Farm is located on the western boundary of the Site and contains a series of corrugated metal buildings. No evidence of roosting bats or nesting birds were identified within these structures during the survey, and they are not considered to have significant potential to support these species.
- 5.25. The findings of the survey indicate that none of the accessible buildings have potential to support roosting bats, and no bird nests were identified using the structures at the time of the survey (with the exception of the small single storey building, located within Walker Park, where two bird nests

were recorded within the partially collapsed roof). Therefore, the buildings are considered to have low potential to support breeding birds and are only of value **within the boundary of the Application Site only**.

Protected or Notable Fauna and Flora

- 5.26. Evidence of, or potential for protected fauna and flora were identified during the Site visit and are detailed below.

Birds

- 5.27. The habitats on Site provide a range of opportunities for breeding, passage and wintering terrestrial and marine bird species. Although the Site lacks trees, there are areas of dense and scattered scrub which provide foraging and sheltering opportunities and these habitats are locally valued for birds. The intertidal zones provide valuable feeding opportunities for birds in the area. The cliff fronts within sheltered coves at the south of the Site are considered particularly important, with large colonies of sea birds nesting and sheltering on these at the time of the survey. It is also noted that small areas of scrub within the area are valuable to migrating / on passage passerines.
- 5.28. As a result the Site, particularly the cliffs and intertidal areas, are considered to be of **regional/county value** to nesting, wintering and migrant /on passage bird species.

Bats

- 5.29. The desk study gave rise to two records of bat within 2km of the Site. The field survey recorded no evidence of potential or actual bat roosts, and recorded limited foraging / commuting habitat within the Site. The Site is also largely exposed further reducing opportunities to bat species.. However, a lack of access did not permit an external or internal survey of the lighthouse, or an internal survey of the pumping station. Currently, the Site is assessed as having **negligible** value for bats.

Otter

- 5.30. Although no evidence of otter *Lutra lutra* was identified during the Site visit, the desk study returned a single record of the species approximately 200m from the Site in 2008. The Site lies approximately 500m to the south of the River Dee Special Area of Conservation (SAC). Otter are a qualifying feature of the SAC and Waterman have been advised of anecdotal evidence of otter being present during daylight hours at the mouth of the Dee. Otter use coastal areas for foraging and commuting, and as such, the value of the site to otter is considered to be **within the boundary of the Application site**.

Reptiles

- 5.31. Habitat within the Site (including rough grassland, heath and scrub) offers limited potential to support common reptiles such as slow worm and common lizard. The data search produced no records for reptiles for the immediate area and information obtained from the NBN Gateway state that both slow worm and common lizard are rare in coastal Aberdeenshire (nearest common lizard record is over 5km to the north of the Site, beyond the City of Aberdeen). An updated desk-based study (October 2015) provided no additional records. No reptiles were recorded during the walkover survey.
- 5.32. Based upon this evidence, the site is considered to be of value **within the boundary of the Application site**.

Invertebrates

- 5.33. The habitats on Site provide a range of opportunities for invertebrates. Grassland, heath and scrub provides a valuable mosaic habitat for invertebrates and the Site is considered to be of value **within the boundary of the Application Site only**.

Flora

- 5.34. The habitats on Site, particularly the grassland and rocky shore area provide important habitat of national significance for species of flora. Curved sedge *Carex maritima* was identified on Site during the survey (and is an IUCN Endangered species, Nationally Scarce species, Scottish Biodiversity List (SBL) species). Sea pea *Lathyrus japonicus* was identified on Site during a previous survey, and is classified as Nationally Scarce and listed on the Scottish Biodiversity List (SBL) as a species of principal importance for biodiversity conservation.
- 5.35. The flora present within the Site is generally composed of commonly occurring species and is considered to be of value **within the boundary of the Application Site only**. However, curved sedge, sea pea and oyster plant are considered to be of **National** importance.

Other Notable / Protected species

No evidence of, or potential for other protected species were identified on Site. Given the habitats available it is not expected further groups of protected or notable species would be encountered on Site.

6. Discussion and Recommendations

Designated Sites

- 6.1. Nigg Bay Geological SSSI, located within the Site, is not designated for ecological or biodiversity interest and is therefore not considered further in this report. However, Scottish Natural Heritage should be consulted about the potential impact of the Development on this SSSI.
- 6.2. The River Dee Corridor is located approximately 500m to the north of the Site. It is separated from the Site boundary by the headland to the north of Girdle Ness and by Balnagask Golf course to the west. The River Dee Corridor is a Special Area of Conservation (SAC) which is a statutory designation and is strictly protected under The Habitats Directive (Council Directive 92/43/EEC of 21 May 1992). The Habitats Directive (Council Directive 92/43/EEC of 21 May 1992) requires EU Member States to create a network of protected wildlife areas, known as Natura 2000, across the European Union, this includes SACs. The River Dee Corridor is also listed as a non-statutory designated Local Nature Conservation Site (LNCS) for Aberdeen City. A detailed evaluation of the impact of the proposed development on this area along with mitigation and recommendations will be provided on completion of the protected species and botanical surveys that have been recommended.
- 6.3. The Balnagask to Cove Local Nature Conservation Site (LNCS) is a non-statutory designation which extends along the coastline. Large expanses of the proposed development Site from Girdle Ness to Greg Ness are located within the boundary of the LNCS. The LNCS continues south, bordering the coastal boundary of the Site. It is considered that the proposed development will have a significant and long term impact on this LNCS, however, as the proposed development is largely confined to the north of the Site, only a small irreversible loss of habitat will occur, and the majority of the LNCS should not be significantly impacted by the development in the long term if precautionary measures are put in place. A detailed evaluation of the impact of the proposed development on this area along with mitigation and recommendations will be provided on completion of the protected species and botanical surveys that have been recommended.
- 6.4. Although there are two further non-statutory designations located approximately 2km from the Site boundary, it is considered that the proposed development will not have a significant impact on these areas given the distance from the proposed development and that a large expanses of residential and commercial areas, separates the Site from the LNCS, as such they are not discussed further within this report.

Habitats

- 6.5. The habitats within the Site have been valued individually in terms of ecological frequency, diversity and opportunities they provide. However, it is considered that the collective value of such a diverse mosaic of habitats, is of local importance. Following discussions with Aberdeen City Council (ACC) in October 2015, the value of greenspace in Aberdeen was highlighted. The Greenspace of St Fittick's Park and the East Tullos Burn Project form part of a larger Greenspace Network, which is of ecological and social value.
- 6.6. No habitats listed on the Scottish Biodiversity List (SBL) were identified within the Site boundary. The Site features a variety of habitats, including habitats with a high species diversity and potential to support rare and protected species of plants. It has therefore been recommended that a National Vegetation Classification (NVC) survey is undertaken of habitats within the Site, to include the areas of grassland, coastal heathland and rocky shores. The results of this survey will identify recommendations and mitigation to reduce the impacts of the proposed development as well as provide detailed information to assess the ecological value of the Site.

- 6.7. Stone walls extend along large stretches of the Site bordering Greyhope Road and surrounding Walker Park at the north of the Site. These linear features should be left undisturbed if possible. If they need to be removed, they should be dismantled and repositioned as close to the Site as possible within a similar setting. The walls provide wildlife corridors, and opportunities for shelter and foraging for various groups of species including mammals, birds and invertebrates. The stones within the wall also had communities of white, grey and yellow lichen species. If left intact, the wall will also act as a buffer which may reduce the level of disturbance to surrounding wildlife and habitats.

Protected and other Notable Species

- 6.8. The Site has the potential to support a number of protected and notable species. In order to fully identify potential risk to the project, further ecological surveys are required to quantify impacts and inform mitigation and design. The suggested surveys and/ or Site design implications are set out below.

Birds

- 6.9. Large colonies of seabirds including the red listed Bird of Conservation Concern (BoCC) herring gull *Larus argentatus*, were identified nesting and sheltering on the cliffs within sheltered coves at the southern end of the Site. Two bird nests were identified within the remains of the roof a small single storey structure at the north of the Site in Walker Park. Birds and their nests are fully protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird. It is an offence to intentionally take, damage or destroy the eggs, young or nest of a bird whilst it is being built or in use. Therefore, it is recommended that any vegetation / structure clearance and works likely to disturb these breeding colonies should avoid the bird nesting season (March to August inclusive). If vegetation / structure removal is unavoidable at this time of year then an Ecological Clerk of Works should be appointed to carry out checks for nesting birds immediately prior to their removal. However, it should be noted that, where nesting birds are encountered, vegetation / structure removal would have to cease until the young have fledged the nest.
- 6.10. Specialist marine and terrestrial bird surveys are being undertaken at the Site and as such detailed mitigation and recommendations will be provided at a later date within the associated reports.

Bats

- 6.11. The desk study and field survey gave rise to little evidence of bats; no potential or actual roosts were present onsite, foraging / commuting habitat is limited, and the entire Site is exposed to the North Sea. With no agreed access, a bat roost potential assessment of the lighthouse (external or internal) and the pumping station (internal) could not be undertaken at the time of survey. It was initially considered that the buildings would not be directly affected by the proposed development, so no further surveys would be required. However, at the time of review of this report (October 2015), the proposed plans (Figure 3.2 in the ES) show that the land acquired for the construction phase of the project lies adjacent to both the lighthouse and the pumping station (separate areas of land to be acquired). It is proposed that a 24-hour working regime will be employed during the construction phase which could result in the disturbance (noise, light, vibration, human presence) of bats that may roost within these structures. Although the value of the surrounding Site to bats is low, Aberdeen Harbour Board (AHB) will continue to consult with Aberdeen City Council (ACC) and local bat groups about the requirement and potential scope for further bat surveys.

Otters

- 6.12. Otters are protected under The Wildlife and Countryside Act, The Habitats Directive (as amended) and are listed as a European Protected Species and as such are a material planning consideration.

Although no evidence of evidence of otter *Lutra lutra* was identified during the survey, the habitat within the Site is considered to have potential to support foraging and commuting otter, with similar habitat to the north of the Site offering a direct link between the Site and the SAC. The boundary of the Site is located approximately 500m to the south of the River Dee SAC; otter are a qualifying feature of the SAC.

- 6.13. Given the local value of otter, Aberdeen Harbour Board (AHB) would consult with Aberdeen City Council (ACC) and Scottish Natural Heritage (SNH) to agree the scope for further otter surveys during the planning application process.

Reptiles

- 6.14. Habitat within the Site (e.g. rough grassland, heath and scrub) has limited potential to support common reptiles, such as slow worm and common lizard. The data search produced no records for reptiles for the immediate area and information obtained from the NBN Gateway state that both slow worm and common lizard are rare in coastal Aberdeenshire (nearest common lizard record is over 5km to the north of the Site, beyond the City of Aberdeen. Although the value of the Site to reptile is considered to be low, Aberdeen Harbour Board (AHB) will continue to consult with Aberdeen City Council (ACC) and local herptile groups about the requirement and potential scope for reptile surveys.

Invertebrates

- 6.15. The Site is potentially of value to invertebrates in particular the scrub and grassland in the west of the Site. Species listed on the Scottish Biodiversity List have been recorded within 2km of the Site and as such, measures should be taken to enhance the habitat for these species. This should include maintaining as much unmanaged vegetation as possible to protect habitats for shelter, foraging and breeding.

Flora

- 6.16. As the Preliminary Ecological Assessment was undertaken at the beginning of the flowering season, later flowering species may not have been recorded, combined with the potential for the Site to support rare and endangered species, it is recommended that a dedicated botanical survey in the form of a National Vegetation Classification (NVC) is completed. The NVC survey should be undertaken during June and early September.
- 6.17. The habitats on Site, particularly the grassland and rocky shore area provide important habitat of national significance for species of flora. Curved sedge *Carex maritima* was identified on Site during the survey (and is an IUCN Endangered species, Nationally Scarce species, Scottish Biodiversity List (SBL) species. Sea pea *Lathyrus japonicus* was identified on Site during a previous survey, and is classified as Nationally Scarce and listed on the Scottish Biodiversity List (SBL) as a species of principal importance for biodiversity conservation. Information provided by Envirocentre show that in 2012 / 2013, sea pea and oyster plant are present within an area identified as land to be acquired on a permanent basis.
- 6.18. Based upon findings to date, it is recommended that targeted surveys are undertaken to locate all individuals of these species within the Site.

Invasive Species

- 6.19. No invasive species were identified within the Site or immediately adjacent areas.

Best practice and enhancement opportunities

6.20. The following generic avoidance and protection measures should be adopted during the Site clearance phases of the development. These should be aligned with any species-specific recommendations which may arise from further surveys at the Site:

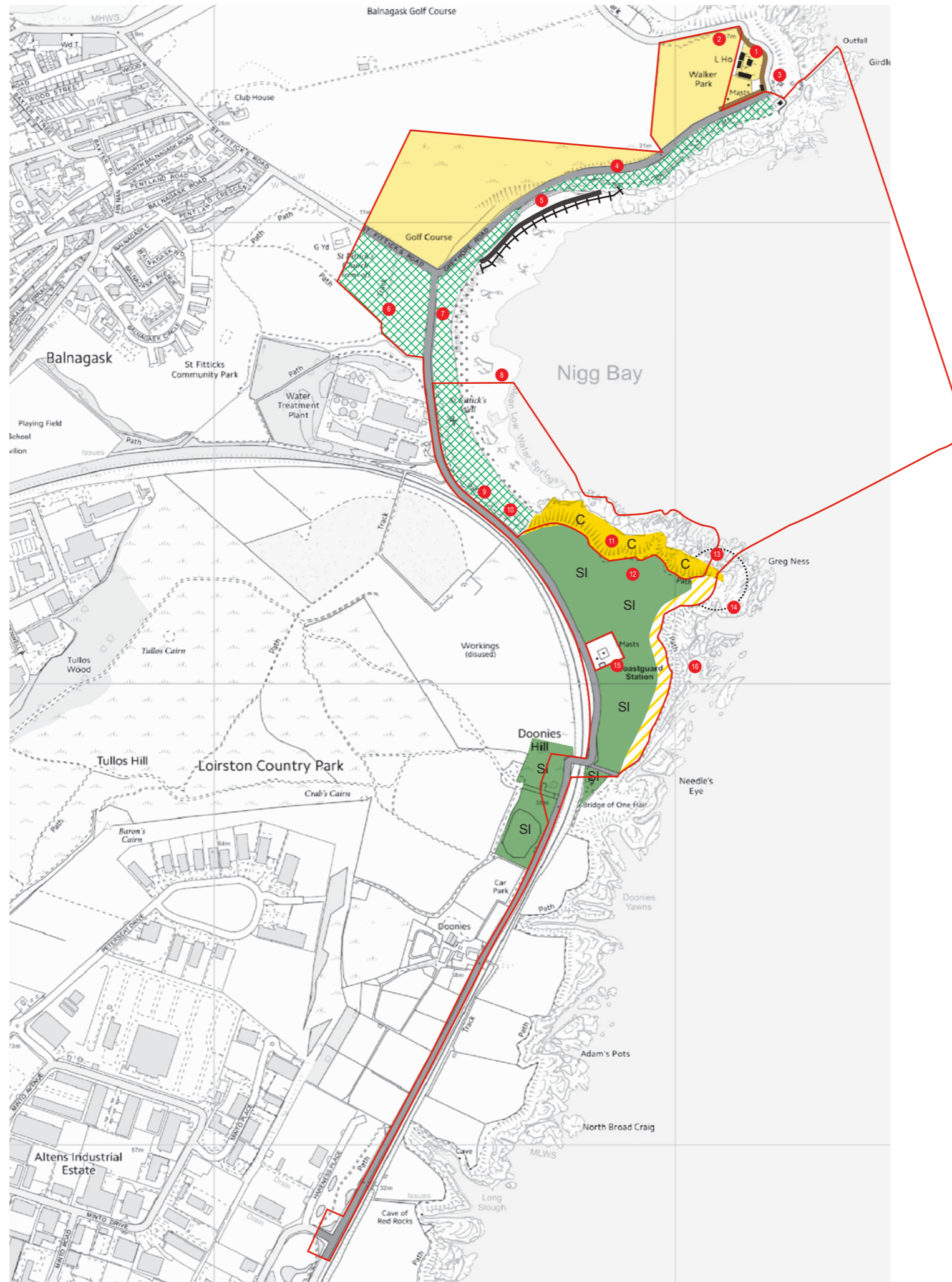
- Any vegetation clearance should be undertaken outside of the bird nesting season (bird nesting season is March to August). If this is not possible, then a nesting bird check should be undertaken prior to clearance works.
- Site staff should be briefed about the likely presence of protected species. Should protected species be found during the works, then works should cease and ecological advice taken.
- During construction open trenches greater than 0.5m in depth should be fenced off to prevent animals, which may use the Site, from falling in and sustaining injury; any trenches which cannot be fenced overnight will require an escape ramp to allow any trapped animals to leave on their own accord. In addition, all trenches should be checked in the morning before works commence to check for the presence of trapped animals, if present, they should be removed by a suitably qualified person.
- During construction exposed pipework should be checked for the presence of trapped and/or sheltering animals, if present they should be removed by a suitably qualified person before being securely covered overnight and when not in use.
- Where artificial lighting is required on Site it should be directional and not illuminate the surrounding area creating potential disturbance to surrounding wildlife















7. Conclusions

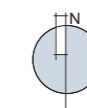
- 7.1. Based on the results of the Preliminary Ecological Assessment and background data searches, the Site is considered to be of value with regards to protected and/or notable species, particularly flowering plant species, otters, reptiles and birds.
- 7.2. Given the habitats and species identified on Site, it is considered that further ecological surveys are necessary as the Site is considered to support notable and / or protected species.
- 7.3. The Aberdeen City Local Nature Conservation Site (LNCS) is a non-statutory designation which extends along the coastline from Balnagask to Cove. Large expanses of the proposed development Site from Girdle Ness to Greg Ness is located within the boundary of the LNCS. It is considered that the proposed development will have a significant and long term impact on a discrete area at the northern boundary of this designation.
- 7.4. The Site is in close proximity to the River Dee, Special Area of Conservation (SAC), which was designated primarily due to its importance for otter. The coastal habitats on Site have potential to support foraging otter which are a European Protected Species and a material planning consideration, protected under the Habitats Directive. It is therefore recommended that AHB would consult with Aberdeen City Council (ACC) and Scottish Natural Heritage (SNH) to agree the scope for further otter surveys during the planning application process.
- 7.5. Given the mosaic of interesting habitats on site, including dry dwarf shrub heath and coastal heathland, and the presence of notable and protected plant species (curved sedge *Carex maritima* and sea pea *Lathyrus japonicas*) a National Vegetation Classification (NVC) survey is recommended. It is further recommended that a targeted survey to identify the location of nationally scarce plants (sea pea, curved sedge and oyster plant).
- 7.6. Based on the low suitability the Site offers to reptiles, AHB will continue to consult with Aberdeen City Council (ACC) and local herptile groups about the requirement and potential scope for reptile surveys.
- 7.7. Marine and terrestrial bird surveys have already been commissioned and are currently being undertaken on Site.
- 7.8. Aberdeen Harbour Board (AHB) will continue to consult with Aberdeen City Council (ACC) and local bat groups about the requirement and potential scope for further bat surveys.
- 7.9. Any vegetation / structure clearance should take place outside of the bird nesting season (March to August), if this is not possible, an Ecological Clerk of Works should be appointed to check the vegetation / structure for nesting birds prior to clearance. Detailed mitigation and recommendation will be provided within the reports for terrestrial and marine birds.
- 7.10. If there is a significant period of time between this report and the proposed development works commencing (most authorities consider this to be between 12 and 24 months), the ecological value of the Site habitats may change and further ecological advice should be sought.

FIGURES

Figure 1: Habitat Features Plan (ref.EED13734100_GR_EC_1B)



-  Nigg Development Boundary
-  Building
-  Hardstanding
-  Amenity Grassland
-  Scrub
-  Semi Improved Natural Grassland
-  Coastal Heath
-  Target Note
-  Wall
-  Sea Wall
-  Fence
-  Shingle / Gravel Above High Tide Mark
-  Boulders / Rocks Above High Tide Mark
-  Dry Dwarf Shrub Heath



<p>Project Details</p> <p>Figure Title</p> <p>Figure Ref</p> <p>Date</p> <p>File Location</p>	<p>WIB14221-100: Aberdeen Harbour</p> <p>Figure 1: Habitat Plan</p> <p>WIB14221-100_GR_EC_1C</p> <p>October 2015</p> <p>\\s-inc\wiel\projects\wib14221\100\graphics\ec\issued figures</p>
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APPENDICES

A. Target Notes

- TN1 Lighthouse and associated buildings. This area was not accessed as part of the survey. These buildings and the adjacent Walker Park surrounded by stone wall.
 - TN2 The remains of the exterior walls of a small stone structure, the roof of which has mostly collapsed and has been heavily vandalised. Two bird nests were identified within the partial remains of the roof, but the structure is considered unsuitable to support roosting bats.
 - TN3 Active water pumping station containing machinery and artificial lighting within a two storey stone building with open but grated windows and doors. There was no access to this structure during the survey.
 - TN4 Stone wall supporting lichen species and neutral grassland on verges along western edge of Greyhope Road.
 - TN5 Reinforced concrete sea wall with an area of hard standing to the south used for car parking.
 - TN6 Area of scrub habitat to the south of the sea wall and car park including species such as bramble *Rubus fruticosus*, and rosebay willow-herb *Epilobium angustifolium*.
 - TN7 The habitat pattern continues in the areas on the opposite side of the road, which is bordered by a broken hawthorn hedge and has been densely planted with tree saplings including ash *Fraxinus excelsior*.
 - TN8 Pebbles and cobbles along foreshore.
 - TN9 Colony of field voles *Microtus agrestis*.
 - TN10 Area of hard standing completely overgrown by successional vegetation including, sea sandwort *Honckenya peploides*, bramble and rosebay willow-herb.
 - TN11 Coastal heath, dominated by heather and bell heather with abundant sea plantain and white clover.
 - TN12 Dry shrub heath dominated by heath species.
 - TN13 Boulders / rocks above high-tide mark with lichens such as the yellow *Xanthoria* species.
 - TN14: Maritime hard cliffs consisting of metamorphic rock.
 - TN15 Coastguard Station is a metal single storey structure located within an area contained within a high metal fence and was not accessed as part of the survey. No potential to support roosting bats or nesting birds.
 - TN16: Strandline vegetation
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