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Braxbess Storage Site

Report to Inform a Habitats Regulations Appraisal – Screening

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Contents

1 Introduction

Background to Commission

1.1 BSG Ecology was commissioned by Braxbess Limited (the client) in February 2023 to undertake a range of surveys and reports including the provision of evidence in support of a Habitats Regulations Appraisal (HRA) for the proposed works at land south of Barns Terrace Branxton, Innerwick, East Lothian, Scotland (the Site).

1.2 This report provides the information necessary to enable East Lothian Council to assess potential impacts of the proposal on Internationally Important Wildlife Sites (IIWS) and thereby meet its obligations as Competent Authority under The Conservation of Habitats and Species Regulations 2017 (as amended)[1] and to ensure alignment with the relevant policy within the Local Plan 2018, Policy PROP EGT1.

Site Description

1.3 The Site is located on Land South of Barns Ness Terrace, Innerwick, East Lothian, EH42 1SE Barns and consists of agricultural land, dominated by arable, separated by a mix of drystone walls and hedgerows. It is approximately 5.75 km south east of Dunbar and 1.5 km west of Torness Power Station and the North Sea coastline.

1.4 The Site is on a hill, which slopes gently to the north and the south from the centre of the Site. From the southern Site boundary, the slope steepens into a valley which contains a watercourse and dense scrub. The watercourse flows to the east. The Site is approximately 20.6 hectares (ha) in size and is centred on Ordnance Survey National Grid reference NT 72149 73416. The location of the Site is shown on Figure 1, Appendix 1.

1.5 The Site is not subject to any nature conservation designations, and the Impact Risk Zones for Scotland are not currently presented in Defra's interactive map (https://magic.defra.gov.uk/MagicMap.aspx).

Description of Project

1.6 The client proposes to develop the Site and construct and operate a battery energy storage system (BESS) facility up to 650MW with transformers, substation and associated Infrastructure. Green infrastructure will be incorporated into the design to screen the development. During the construction phase all site compounds will be located within the current Site boundary.

1.7 At this stage there is insufficient detail to comment on construction methods, but it is likely to include general mobilisation and site preparation, earth works, road works and battery installation. Construction activities may include piling. A construction programme is not yet available. The full construction period is likely to be between 12-18 months, but the majority of the construction will be completed in a 4-6 month period to allow the civil works time to settle before the main construction works. The works are expected to start Spring 2026 and commercial operations starting in 2028.

Purpose of the Report

1.8 This report provides evidence in support of a Stage 1 HRA and should be regarded as a draft for consultation with Nature Scot and the Local Planning Authority (LPA) and other key stakeholders, to seek their views.

Report Scope and Structure

1.9 There are certain ecological sites that are designated for their international importance and to which special considerations under the Conservation of Species and Habitat Regulations 2017 (as amended including the Conservation of Habitats and Species (amendment) (EU Exit) Regulations

[1] Article 6 of the Habitats Directive (Directive 92/43/EEC) and Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994

2019), apply either through operation of law or government policy. For ease, these will be referred to as the 'Habitats Regulations' throughout the remainder of this document. These sites include Special Areas of Conservation (SAC) that have been designated to protect certain species and habitats; Special Protection Areas (SPA), classified to protect certain species of wild birds; and Ramsar sites designated to protect internationally important wetland areas. For clarity these are referred to as Internationally Important Wildlife Sites (IIWS) throughout this document. It is important to note that the amending 2019 Regulations generally seek to retain the requirements of the 2017 Habitats Regulations but with adjustments for the UK's exit from the European Union. Regulation 4 confirms that the interpretation of these Regulations as they had effect, or any guidance as it applied, before exit day, shall continue to do so.

1.10 These sites are subject to special legal protection that imposes restrictions on a Competent Authority from granting consent, permission or authorisations for any plan or project that may affect the conservation status and integrity of these designations. The Habitats Regulations require the Competent Authority, before deciding to undertake, or give any consent, permission or other authorisation for a plan or project which is likely to have a significant effect on these designated sites (either alone or in combination with other plans or projects) to make an appropriate assessment of the implications of the plan or project for potentially affected sites in view of those sites' conservation objectives.

1.11 A Stage 1 (Screening) HRA provides an initial evaluation of whether significant effects on the qualifying interest features and conservation objectives of IIWS are likely as a result of the proposal. The results of this assessment determine whether a more detailed Appropriate Assessment (Stage 2) is required. Likely Significant Effects (LSE) are considered first in isolation and then in combination with other plans and projects if appropriate. In line with the precautionary principal, unless a significant effect can be objectively ruled out with certainty, it is considered 'likely'.

1.12 This screening exercise takes into account recent case law, including the People Over Wind and Sweetman v Coillte Teoranta (C-323/17) which determined that mitigation aimed specifically at reducing the impacts of a given plan or project on an IIWS should be taken into account at Stage 2 only (Appropriate Assessment) and not at Stage 1 (Screening).

Contributors

1.13 The report has been prepared by Claire Dewson, who has worked in the ecological sector for over 20 years. During this time, she has undertaken HRAs for Local Planning Authorities as the competent authority as well as preparing HRA reports for plans and projects on a consultancy basis.

1.14 The report has been reviewed by Steve Betts. Steve is an experienced professional ecologist with over 30 years' experience. He has prepared HRA reports and managed and/or contributed to numerous projects that have included a requirement for HRA.

2 Methodology

HRA Process

2.1 The Habitats Directive and Habitats Regulations do not specify how an assessment should be undertaken. The methodology for this report is therefore informed by Department for Environment, Food and Rural Affairs, Ministry of Housing, Communities and Local Government, guidance and best practice including Dodd et al., (2007), NatureScot's Habitats Regulations Guidance and Conservation Advice Documents and is in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) where appropriate.

2.2 HRAs are required for all development/strategic plans likely to impact IIWS (also referred to in Scotland as National Site Network (NSN) sites and sometimes European sites). In line with DEFRA (2021), such assessments follow the precautionary approach in considering the effects on site integrity, in that projects may only proceed if the Competent Authority has ascertained that it will not adversely affect the integrity of an IIWS. Habitats Regulations do not provide statutory protection for potential SPAs (pSPAs), possible/probable SACs (pSACs)[2] or listed or proposed Ramsar sites. For the purpose of considering development proposals and their likely impacts on such sites, government policy (4)[3] in Scotland is that the aforementioned sites 'should be given the same protection' as IIWS sites. The requirements of the Habitats Regulations with regard to the implications of plans or projects are set out within Regulation 63 of the Habitats Regulations. The step-based approach implicit within this Regulation is referred to as a 'Habitats Regulations Appraisal', which is the term that has been used throughout this report.

2.3 Although the HRA process relates specifically and exclusively to the qualifying interests of IIWS, given that each designation overlaps to some degree with Site(s) of Special Scientific Interest (SSSI), features of international importance cited for these nationally important sites, and their condition, are important considerations for the planning process and form part of this assessment where relevant and possible.

2.4 The Habitats Regulations describe a procedure that provides for a systematic set of stages for the transparent consideration of the likely significant effects a plan or project could have on an IIWS. Guidance states that there are four stages in producing an assessment as follows in Table 1 below.

2.5 Each stage determines whether a further stage in the process is required. If, for example, the conclusions at the end of Stage One are that there are no likely significant effects on the IIWS, there is no requirement to proceed further.

[2] In Scotland, IIWS sites are defined in regulation 10 of the Habitats Regulations and include candidate SACs, designated SACs and classified SPAs.
[3] 4th National Planning Framework (NP4)

***Table 1**: Stages in the Habitats Regulations Appraisal process*

Stage	Description	Legislative Context
Purpose	Determines if the purpose of the plan or project is directly connected with, or necessary, to the management of an IIWS. If it is, then no further assessment is necessary	Regulation 63(1)(b)
Scoping	The identification of any IIWS that might be within scope of a HRA, i.e., those IIWSs should be taken forward to the screening stage based on a wide consideration of spatial and ecological factors. Such IIWSs may be located within the plan or project area but may also include sites located in neighbouring authority areas.	
Screening	Assessment of whether a plan or project, either alone or in combination with other plans or projects, is likely to have a significant effect on any IIWSs' qualifying features (habitats and species) and the achievement of the IIWS's conservation objectives. This is also known as the 'test of likely significant effect' (ToLSE).	Regulation 63(1)(a)
Appropriate Assessment	Consideration of the impacts of the proposals to determine whether it is possible to conclude with certainty that the project will not result in an adverse effect on the integrity of an IIWS, either alone or in combination with other plans or projects and with reference to the IIWS's conservation objectives. This is also known as the test of 'adverse effect on integrity' (AEoI). At this stage consent may be granted for the plan or project if it is possible to conclude with certainty that the proposal will not result in any adverse effect on the integrity of any IIWS, either alone or in combination with other plans or projects.	Regulation 63(5)
If it cannot be concluded with certainty that the proposal will not result in any adverse effect on the integrity of any IIWS then proceed to:		
Assessment of alternative solutions	Assess whether there is an alternative solution to the plan or project, i.e., one that avoids adverse effects on IIWSs. If no such alternative solution exists, the process continues to an assessment of whether there are 'imperative reasons of overriding public interest' (IROPI) for the plan or project to proceed.	Regulation 64(1)
Assessment of IROPI	Assess whether a plan or project can be justified as being needed for 'imperative reasons of overriding public interest' (IROPI).	Regulation 64(1)
Compensatory measures	Identify and secure any necessary compensatory measures to ensure that the overall coherence of the 'national site network' is protected.	Regulation 68

Functionally Linked Land

2.6 A development has the potential to impact an IIWS either directly, for example as a result of land-take, or indirectly, for example as a result of changes in air quality. When assessing impacts it is important to note that impacts need to be considered on 'functionally linked land'. Functionally linked land can be defined as follows (Chapman & Tyldesley, 2016):

2.7 '*the term 'functional linkage' refers to the role or 'function' that land or sea beyond the boundary of a European site* [IIWS] *might fulfil in terms of ecologically supporting the populations for which the site was designated or classified. Such land is therefore 'linked' to the European site* [IIWS] *in question because it provides an important role in maintaining or restoring the population of qualifying species at favourable conservation status*.'

2.8 In this report consideration has been given to whether the proposed development will impact land that is functionally linked to an IIWS.

Stage 1 HRA (Screening)

2.9 Likely significant effect (LSE) is not defined in the Habitats Regulations and case law informs how Regulation 63(1) should be interpreted, as follows:

- 'significant' means 'any effect that would undermine the conservation objectives of an IIWS site'[4];
- 'likely' is a low threshold and simply means that there is a 'risk' or 'doubt' regarding such an effect that 'cannot be excluded on the basis of objective information'[5] ; and
- [it] '… is not that significant effects are probable, a risk is sufficient'… and there must be 'credible evidence that there was a real, rather than a hypothetical, risk'[6].

2.10 A good working definition of 'significant effect' is, therefore, any effect that may reasonably be predicted as a consequence of a plan or project that may affect the achievement of conservation objectives of the features for which the IIWS was designated but excluding trivial and inconsequential effects (de minimis effects). Further, likely effect is not only one that is probable but should also be taken to mean an effect that could happen if its occurrence cannot be ruled out, based on the best available impartial information. Effects that are likely to be significant include:

- causing change to the ecological coherence or robustness of the site, or to the wider series of IIWS (for example by presenting a barrier between isolated fragments or reducing the ability of the site to act as a source of new colonisers);
- causing reduction in the area of a particular habitat within the site or the actual site, or in some way sterilising part of the site from its ecological functioning;
- causing direct or indirect change to the physical quality of the environment (including the hydrology) or habitat within the site;
- causing ongoing disturbance to species or habitats for which the site is designated/classified/listed;
- altering community structure (species composition);
- causing direct or indirect damage to the size, characteristics or reproductive ability of populations on the site or using supporting habitat outside the site;
- altering the vulnerability of populations to other impacts;

[4] Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij (2004), European Court of Justice, C-127/02 (referred to as the Waddenzee judgement) at paragraphs 44, 47 and 48.
[5] Waddenzee judgement at paragraphs 44 and 45.
[6] Boggis at paragraphs 36 and 37

- causing a reduction in the resilience of the feature against external change (for example its ability to respond to extremes of environmental conditions); and

- affecting restoration of a feature where this is a conservation objective.

2.11 Each phase of the proposal (project) has been considered against each of the IIWS qualifying features and an assessment of potential effects made using best available evidence and information.

2.12 The construction and operational elements of the proposal have first been considered 'alone', that is, in isolation from any potential combined effects of other development proposals that may also affect the IIWS. Following assessment of effects 'alone', the assessment then considers the potential for significant effects 'in combination' with other plans or proposals if appropriate. A precautionary principle is applied to the process of assessing significant effects.

2.13 In addition, the effects of the proposal are considered alongside other live (within the planning system pending decision or decided but not yet in place) plans or projects to assess whether they may add up to a significant 'in-combination' effect.

2.14 If Stage 1 (Screening) finds the project, alone, is likely to result in LSE[7] on the integrity of the site, then the scale and significance of these effects 'alone' must then be assessed in Stage 2 and potential mitigation measures proposed and assessed to avoid these impacts. Where Stage 1 finds the project will not have a likely significant effect on site integrity on its own but will do so in combination with other plans or projects, the scale and significance of these 'in-combination' impacts must be considered in Stage 2 prior to exploring mitigation. In either case, where mitigation measures are proposed, these should be agreed with NatureScot.

2.15 It should be noted that "integrity" is defined by the European Commission (2000) as relating to the reasons for the site's designation as follows:

'*the integrity of a site is the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified.'*

Screening Area

2.16 There are no standard criteria for determining the spatial scope of an HRA and so the decision to include or exclude IIWSs from an assessment needs to be supported by application of the source-pathway-receptor conceptual model, which highlights whether there is any potential pathway that connects the development to any IIWSs. In this case the spatial scope of the assessment is informed by identifying the impacts that could potentially arise as a result of the development, assessing the spatial and temporal scope of those impacts and understanding the effects on sensitive receptors that might arise.

2.17 For the purposes of this assessment, given the scale and nature of the proposed development and particular interest features of nearby IIWS, a 10 km radius was considered appropriate as an initial screening radius around the proposed development. This distance is considered sufficiently precautionary to capture reasonably foreseeable potential impact pathways in reasonably foreseeable situations and is appropriate in this instance.

2.18 The 10 km search radius encompasses all or part of the following IIWS (as shown on Figure 1, Appendix 1):

- Firth of Forth SPA

- Firth of Forth Ramsar Site

[7] The term 'likely significant effect' comes from Regulation 48(1) of the Habitats Regulations and its interpretation has been shaped by case law and guidance (e.g. European Commission, 2001; European Commission, 2018).

- Outer Firth of Forth and St Andrews Bay Complex SPA
- River Tweed SAC

2.19 The Conservation Advice for each site (JNCC, 2020), together with standard data forms (JNCC 2018, 2020) and individual component SSSI citations, where relevant, provide the necessary context for HRAs and detail on the site's structure, function and supporting processes. These objectives, provided by the JNCC, aim to ensure that the integrity of each site is maintained or restored as appropriate, and that each site contributes to achieving the aims of the Habitats Regulations.

2.20 The condition of the sites is estimated using Scotland's Environment Feature Condition.

2.21 The Conservation Advice and supporting information such as Conservation Priorities and Advice to Support Management and Conservation Measures are designed to help avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and to ensure for the qualifying species that the following are maintained in the long term by:

- Population of the species as a viable component of the site;
- Distribution and extent of habitats supporting the species;
- Structure, function and supporting processes of habitats supporting the species; and
- No significant disturbance of the species.

2.22 Pressures on and threats to the sites are identified, based on the features assessment section for each designated site on Nature Scot's website (NatureScot 2005, 2015) and Conservation Management Advice documents where available (NatureScot 2022).

3 Stage 1 HRA (Screening)

Overview

3.1 This section provides a summary of each IIWS and sets out the potential ways in which the proposal might reasonably be expected to affect the qualifying features of these sites based on a rapid assessment, as appropriate, of location, proximity, type, scale, extent, duration, frequency and timing including embedded mitigation measures of the proposed operations or activities.

3.2 A brief description of the IIWS, taken largely from the site citations (JNCC) is presented below, along with a summary of the qualifying habitats and species.

Firth of Forth SPA

3.3 The site is located approximately 7 km (closest point) to the north east of the proposed development Site. The primary reason for classification is the presence of:

- an internationally important non-breeding population of red-throated diver *Gavia stellata*,
- an internationally important non-breeding population of Slavonian grebe *Podiceps auritus*;
- an internationally important non-breeding population of golden plover *Pluvialis apricaria*;
- an internationally important non-breeding population of bar-tailed godwit *Limosa lapponica;*
- an internationally important passage population of sandwich tern *Sterna sandvicensis;*
- an internationally important migratory population of pink-footed goose *Anser brachyrhynchus*;
- an internationally important migratory population of shelduck *Tadorna tadorna;*
- an internationally important migratory population knot *Calidris canutus;*
- an internationally important migratory population redshank *Tringa tetanus*;
- an internationally important migratory population turnstone *Arenaria interpres*; and
- an internationally important waterfowl assemblage, in excess of 20,000 individuals.

3.4 Further details of percentages of populations and numbers of species can be found in Table 5, Appendix 2.

3.5 The Firth of Forth SPA covers 6317.93 ha and is located on the south-east coast of Scotland stretching from Alloa to the coast of Fife and East Lothian. The boundary of the SPA mostly follows that of the Firth of Forth Site of Special Scientific Interest and slightly overlaps with Forth Islands SPA.

3.6 It is comprised of a wide variety of habitats including extensive invertebrate-rich intertidal flats and rocky shores, areas of saltmarsh, lagoons and sand dune.

3.7 The main current pressure/threat to the integrity of the site is recreational disturbance especially from walkers and dog walkers and poor water quality adversely affecting availability and suitability of feeding and roosting habitats, climate change, game and fisheries management.

Site Condition

3.8 Scotland's Environment website (accessed 28.11.23) indicates that some of the qualifying bird species are in favourable condition whilst some species are in unfavourable condition. Species

populations that are identified as being in unfavourable condition are: common scoter, goldeneye *Bucephala clangula*, golden plover, great crested grebe *Podiceps cristatus,* knot, long-tailed duck *Clangula hyemalis*, red-breasted merganser *Mergus serrator,* scaup *Aythya marila* and Slavonian grebe.

Conservation Objectives

3.9 To avoid deterioration of the habitats of the qualifying species or significant disturbance of the qualifying species, thus ensuring that the integrity of the site is maintained; and to ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site;
- Distribution of the species within site;
- Distribution and extent of habitats supporting the species;
- Structure, function and supporting processes of habitats supporting the species; and
- No significant disturbance of the species

Firth of Forth Ramsar Site

3.10 The site is located approximately 7 km (closest point) to the north east of the proposed development Site. The primary reason for classification is the presence of:

- an internationally important non-breeding population of Slavonian grebe *Podiceps auratus*;
- an internationally important non-breeding population of pink-footed goose *Anser brachyrhynchus*;
- an internationally important non-breeding population of shelduck *Tadorna tadorna;*
- an internationally important non-breeding population knot *Calidris canutus;*
- an internationally important non-breeding population redshank *Tringa tetanus;*
- an internationally important non-breeding population turnstone *Arenaria interpres*;
- an internationally important non-breeding goldeneye *Bucephala clangula*;
- an internationally important non-breeding population of bar-tailed godwit *Limosa lapponica*;
- an internationally important passage population of sandwich tern *Sterna sandvicensis;*
- an internationally important non-breeding population of red-throated diver *Gavia stellata*;
- an internationally important non-breeding population of golden plover *Pluvialis apricaria*; and
- an internationally important waterbird assemblage, in excess of 20,000 individuals.

3.11 Further details of percentages of populations and numbers can be found in Table 6, Appendix 2.

3.12 The Ramsar has a site area of 6317.93 ha and it is located on the south-east coast of Scotland stretching east from Alloa to the coasts of Fife and East Lothian. The boundary of the Ramsar site is coincident with the Firth of Forth Special Protection Area (SPA), which underpins all the bird features of the Ramsar site. It also lies within the Firth of Forth Site of Special Scientific Interest (SSSI).

3.13 It is comprised of a wide variety of habitats including extensive invertebrate-rich intertidal flats and rocky shores, areas of saltmarsh, lagoons and sand dune.

Site Condition

3.14 The qualifying species for the Ramsar site are subject to the same threats and pressures as the Firth of Forth SPA and it is expected that the qualifying species are in the same condition as those reported for the SPA.

Conservation Objectives

3.15 The conservation objectives for Ramsar sites are taken to be the same as for the corresponding SACs/SPAs (where sites overlap). The conservation objectives are considered when assessing the potential effects of the project on the sites; information on the sensitivities of the interest features also informs the assessment.

Outer Firth of Forth and St Andrews Bay Complex

3.16 The site is located approximately 2 km (closest point) to the north east of the proposed development Site. The primary reason for classification is the presence of:

- an internationally important non-breeding population red-throated diver *Gavia stellata*;
- an internationally important non-breeding population Slavonian grebe *Podiceps auratus*;
- an internationally important non-breeding population little gull *Larus minutus*;
- an internationally important feeding population of common tern *Sterna hirundo* and Arctic tern *Sterna paradisaea;*
- an internationally important migratory population of common eider *Somateria mollissima*;
- an internationally important migratory population of foraging European shag *Phalacrocorax aristotelis*;
- an internationally important migratory population of northern gannet *Morus bassanus*;
- an internationally important waterfowl assemblage, in excess of 20,000 individuals;
- an internationally important breeding population of sea birds, in excess of 20,000 individuals; and
- an internationally important of non-breeding sea birds, in excess of 20,000 individuals.

3.17 The Outer Firth of Forth and St Andrews Bay Complex SPA covers 272,068.09 ha and was designated in 2020. The site is located on the south-east coast of Scotland stretching from Kirk Hill to Abroath in the north and consists of two adjacent Firths: the Forth and the Tay. In the mid Firth of Forth a belt of mud-rich sediments lies between areas of sandy gravels and shell material on either side along the shore. As the estuary widens towards the outer firth, there are extensive areas of sandy and gravelly muds and fine sediments. In contrast St Andrews Bay contains clean sands and gravel with only small areas of muddy sediments. Water depth is variable but large areas, in both the Firth of Forth and St Andrews Bay, are shallow and less than 10 m deep. The boundary of the SPA mostly follows that of the Firth of Forth Site of Special Scientific Interest and slightly overlaps with Forth Islands SPA.

3.18 The area supports a wide variety of both pelagic and demersal fish, including sand eels, and crustaceans, molluscs and marine worms, all of which, especially sand eels, comprise the prey of the waterfowl species.

3.19 The main current pressure/threat to the integrity of the site is fishing, both commercial and lone fishermen, visual and physical disturbance, marine development causing disturbance and displacement, reduction in prey availability, pollution, change in water clarity, plastic waste, increase in microbial pathogens and lighting.

3.20 Further details of percentages of populations and numbers can be found in Table 7, Appendix 2.

Site Condition

3.21 Scotland's Environment website indicates that all qualifying features are in favourable maintained condition except the breeding seabird assemblage for which condition has not been assessed.

Conservation Objectives

- To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and to make an appropriate contribution to achieving Favourable Conservation Status.
- To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting all 3 objectives below for each qualifying feature:
- The populations of qualifying features are viable components of the site.
- The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species.
- The supporting habitats and processes relevant to the qualifying features and their prey/food resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.

River Tweed SAC

3.22 The River Tweed is a special area of conservation (SAC) because it has a high ecological diversity and supports a very large, high-quality population of Atlantic salmon *Salmo salar* and otter *Lutra lutra*, which is a protected species under the Habitats Directive**.** The river is 1,284.69 km long and approximately 8.2 km south west of the development Site. The river has a rich variety of water plants, including several species of water-crowfoot *Ranunculus* that are rare or at their northern limit in Britain**.** The river drains a large catchment on the east coast of the UK, with sub-catchments in both Scotland and England, and shows a strong nutrient gradient along its length, from oligotrophic conditions in its headwaters to nutrient-rich lowland conditions near the sea**.** It is also supports Annex II species sea lamprey *Petromyzon marinus*, brook lamprey *Lampetra planeri* and river lamprey *Lampetra fluviatilis*

Site conditions

3.23 Scotland's Environment website (accessed 27.11.23) indicates that the qualifying habitat "*rivers with floating vegetation often dominated by water-crowfoot*" is in unfavourable condition along with sea lamprey which is declining. Brook lamprey, river lamprey, Atlantic salmon and otter are all in favourable condition.

Conservation Objectives

- To ensure that the qualifying features of the River Tweed SAC are in favourable condition and make an appropriate contribution to achieving favourable conservation status.
- To ensure that the integrity of the River Tweed SAC is restored by meeting the three objectives below for each qualifying feature:
- Restore the population of the species as a viable component of the site;
- Restore the distribution of the species throughout the site; and
- Maintain the habitat supporting the species and the availability of food throughout the site.

3.24 The SAC will be scoped out of further consideration because the Site is not located within the catchment area of the Tweed and is approximately 8 km away from the Site with no direct connection to the qualifying features that it supports.

Information to inform the Screening Assessment

3.25 A programme of breeding bird surveys was undertaken on Site during March and June 2023. The birds recorded breeding or possibly breeding on Site were primarily farmland birds and passerines, none of which are connected to the designations above.

3.26 Non-breeding bird surveys have been designed to identify foraging and roosting grounds used by birds associated with both SPAs and the Ramsar site. Two surveys were completed in October and November and a further four surveys are programmed to be completed monthly until March 2024.

3.27 The surveys so far indicate that pink footed geese are commuting over the Site (during both surveys). Five herring gulls *Larus argentatus* were observed flying over the Site during the October surveys only.

3.28 Planning permission in principle was granted for electricity transmission infrastructure (substation or converter station) and associated development including buried cabling at land between Skateraw and Branxton East Lothian (23/00162/PPM). This applicant carried out bird surveys in support of the application and their survey buffer included fields approximately 100 m to the east of the Site and beyond. Four winter bird walkover surveys were undertaken in October and December 2020 and then in January and February 2021 by ITP energised. They recorded pink footed goose on all four survey visits. Over 200 geese were recorded within the survey buffer area. Herring gull and blacked headed gull *Larus ridibundus* was also recorded within this area but in small numbers. No other qualifying SPA birds were recorded within this survey buffer.

Impact Pathways and Likely Significant Effects Test

3.29 The following section of this report carries out the screening of likely significant effects. This fulfils the requirement of Regulation 63 of the Habitats Regulations (as amended) that a proposed project is assessed to determine whether or not it is likely to have a significant effect on the qualifying features (species and habitats) of any International Site, either alone or in combination with other plans or projects.

3.30 The proposed development is not directly connected with or necessary to the management of any of the international sites.

3.31 The following international sites, as described in the earlier section, have been scoped in for consideration for screening for any likely significant effects (for the location of the sites see Figure 2 in Appendix 1):

- Firth of Forth SPA
- Firth of Forth Ramsar site
- Outer Firth of Forth and St Andrews Bay SPA

3.32 The following types of potentially adverse activity, as described in the earlier section, have been scoped in as potential sources of likely significant effects and are included within the screening process set out below in accordance with the requirements of Regulation 63 of the Habitats Regulations (as amended):

- Physical habitat loss – Impacts on habitats, i.e. the loss or destruction of habitats, arising from the proposed development which supports habitats outside of the international sites that have the potential to be ‘functionally linked’;
- Physical habitat damage – Impacts on habitats, i.e. temporary / short-term disturbance, arising from the proposed development which supports habitats outside of the international sites that have the potential to be ‘functionally linked’;
- Disturbance – Impacts on sensitive species due to, for example, noise and vibration from working machinery or visual from the presence of people and lighting.

- Changes in water quality which may arise from the following: potential pollution of surface water from fuel spills; potential release of suspended solids/sediment as a result of the development; dust generated from construction works.
- Mortality – due to increased traffic from construction works.

3.33 Each international site is assessed in turn with reference to the potentially adverse activity, first considering the site alone and then, if necessary, considering the site in combination with other plans and projects.

3.34 The screening for likely significant effects has not relied on avoidance or reduction measures that would allow a conclusion of 'no likely significant effect' to be reached[8]. Instead, it is accepted that there may be a 'likely significant effect' in the absence of these measures, which triggers the need to move to the next stage, i.e. appropriate assessment.

Table 2: *Screening Appraisal for Firth of Forth SPA*

Site:	**Interest features:**
Firth of Forth SPA	The Firth of Forth SPA qualifies under: *Article 4.1 by*: • regularly supporting populations of international importance of the Annex 1 species: • Red-throated diver; • Slavonian grebe; • Golden plover; • Bar-tailed godwit; and • Sandwich tern. *Article 4.2 by*: • regularly supporting populations of international importance of the migratory species • Pink-footed goose; • Shelduck; • Knot; • Redshank; and • Turnstone. • regularly supporting in excess of 20,000 individual waterfowl, including nationally important populations of: common scoter, cormorant, curlew, dunlin, eider, goldeneye, great crested grebe, grey plover, lapwing, long-tailed duck, mallard, oystercatcher, red-breasted merganser, ringed plover, scaup, velvet scoter and wigeon.

[8] People Over Wind and Sweetman judgement (12 April 2018, C-323/17).

Potentially adverse activity:	Assessment:
Physical habitat loss	The proposed development is outside the SPA boundary, will not involve works within the SPA, and is located inland and does not support any intertidal habitats; most qualifying features of the SPA are pelagic, associated with maritime habitats. The nearest part of the SPA is approximately 7 km from the application Site. Habitat loss arising from the proposed development may impact the SPA if the area in the vicinity of the application Site is used by qualifying features (birds), including areas that are 'functionally linked' to the SPA. There is potential for the application Site to provide habitat that is used by some SPA species for foraging and roosting at high-tide. The construction of the proposed scheme is likely to be ongoing throughout passage, wintering and breeding season. Bird survey data obtained from the local records centre show qualifying species such as pink footed geese, oyster catcher, *Haemotopus ostralegus* lapwing *Vanellus vanellus*, curlew *Numenius arquata* and golden plover within 2 km of the development Site. Survey work in support of planning application 23/00162/PPM shows qualifying species such as pink footed geese are present in good numbers around the Site and flying over the Site. Pink footed geese tend to arrive for the winter in September and leave in April. They can be found in estuaries, coastal marshes, and lakes on the east Scottish coast and the north and east of England. They can also be seen on farmland where they go to feed during the day. During the winter geese feed on grains, vegetables, grasses, cereals, potatoes, beets, rape, and other crops. There is the potential for species such as golden plover, lapwing curlew and oystercatcher to be present in and around the Site owing to its agricultural nature. Golden plover tend to fly to agricultural lowlands or estuaries over the winter months and are often found in flocks with lapwings. In winter curlew head for intertidal mudflats, saltmarshes and agricultural land, foraging particularly for cereal crops. Given the above and taking into account the location and scope of works and applying the precautionary principle, it is considered that the proposed development is likely to have a significant effect on the qualifying features (birds).
Conclusion	Likely significant effect.
Physical habitat damage	The assessment presented for habitat loss (see above) is also relevant when considering habitat damage and disturbance. The disturbance and damage of habitats during the construction and operation phases are

	expected to have similar impacts as those described above when considering the impacts arising from habitat loss. Given the above and taking into account the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is likely to have a significant effect on the qualifying feature.
Conclusion	Likely significant effect.
Disturbance	Construction of the proposed scheme has the potential to increase noise and vibration levels through typical construction activities. Typically, visual stimuli will result in a disturbance effect such as a flight response before associated noise. The response of roosting (and feeding) waders to disturbance at a site can depend on factors such as the species involved, type of disturbance, degree of habituation, availability of alternative roost / feeding locations, and the individual bird's condition and need for feeding or resting. Alert distances triggering a behavioural response of unhabituated waterbirds during feeding range[9] from approximately 50 m to 275 m. Although species can become habituated to disturbance, it does not necessarily mean that they will be habituated to new types of disturbance such as construction activities. The application Site lies in a relatively rural location surrounded by agricultural fields with a mix of crop types. The SPA is over 7 km from the Site with farming and the A1 between in between the Site and the designation. At this distance the noise and vibration levels from the proposed development are expected to dissipate to that of current background levels and not be significant on birds within the SPA boundary. A neighbouring application has noted the presence of some of the qualifying features. The application Site provides similar habitat to that planning application site. Full non-breeding bird surveys are not complete at the Site but there is the potential that interest feature birds could be using the Site, meaning that the Site would be considered to be functionally linked land. This may mean that qualifying birds would be affected through disturbance from construction and operational noise and vibration. Lighting plans for construction and operational activities are not available at the time of writing this screening assessment. However, due to the rural location of the Site, lighting (if required) could potentially result in a discernible change to the current base line. Considering the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is likely to have a significant effect on the qualifying features (birds).

[9] Cutts, N.D., Phelps, A., & Burdon, D., (2009) Construction and waterfowl: Defining sensitivity, response, impacts and guidance report.

Conclusion	Likely significant effect.
Changes in water quality	There are no watercourses connecting the Site to the designation. It is expected that normal surface water treatment and drainage incorporated into the development proposals on Site as part of the Scheme will reduce effects on the qualifying features of the SPA to a level that is not significant.
Conclusion	No likely significant effect.
Mortality	It is expected that the proposed scheme will result in a temporary increase in traffic during construction and a small increase in traffic to service the development. Owing to the temporary nature of the works and the potential for birds to be disturbed by the works it is unlikely that a significant effect would take place from collisions of birds with traffic. .
Conclusion	No Likely significant effect.
Overall conclusion	The development of the application Site, when considered alone, will have a likely significant effect on the Firth of Forth SPA and its interest features (functionally linked land) because of physical habitat loss, damage and disturbance. An Appropriate Assessment is therefore required.

***Table 3**: Screening Appraisal for Firth of Forth Ramsar Site*

Site:	**Interest features:**
Firth of Forth Ramsar Site	Qualifying interest features: Ramsar criterion 5: • Assemblages of 27,028 waterfowl Ramsar criterion 6: • Internationally important populations waterbirds
Potentially adverse activity:	**Assessment:**
Physical habitat loss	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	Likely significant effect.
Physical habitat damage	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	Likely significant effect.
Disturbance	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	Likely significant effect.
Changes in water quality	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA.
Conclusion	No likely significant effect.
Mortality	See Table 2 – the screening assessment for likely significant effects on the Ramsar site is the same as reported for the Firth of Forth SPA
Conclusion	No Likely significant effect.
Overall conclusion	The development of the application Site, when considered alone, will have a likely significant effect on the Firth of Forth Ramsar Site and its interest features (functionally linked land) because of physical habitat loss, damage and disturbance. An Appropriate Assessment is therefore required.

***Table 4**: Screening Appraisal for Outer Firth of Forth and St Andrews Bay SPA*

Site:	**Interest features:**
Outer Firth of Forth and St Andrews Bay SPA	Outer Firth of Forth and St Andrews Bay Complex qualifies under: Article 4.1 by: • Regularly supporting a non-breeding population of international importance of the following Annex 1 species: • Red-throated diver; • Slavonian grebe; • Little gull; • Common tern; and • Arctic tern. Article 4.2 by: • Regularly supporting populations of international importance of the following migratory seabirds species: • European shag; and • Northern gannet. • an internationally important waterfowl assemblage, in excess of 20,000 individuals; • an internationally important breeding population of sea birds, in excess of 20,000 individuals; and • an internationally important of non-breeding sea birds, in excess of 20,000 individuals.
Potentially adverse activity:	**Assessment:**
Physical habitat loss	The proposed development is outside the SPA boundary, will not involve works within the SPA, and is located inland and does not support any intertidal habitats; most qualifying features of the SPA are pelagic, associated with maritime habitats. The nearest part of the SPA is approximately 2 km from the application Site. Habitat loss arising from the proposed development may impact the SPA if the area in the vicinity of the application Site is used by qualifying features (birds), including areas that are 'functionally linked' to the SPA. There is a potential for the application Site to provide habitat that is used by some SPA species for foraging and roosting at high-tide. The construction of the proposed scheme is likely to be ongoing throughout passage, wintering and breeding season. Bird survey data obtained from the local records centre show qualifying species such as black headed gull and herring gull within 2 km of the development Site.

	Survey work in support of planning application 23/00162/PPM shows qualifying species such as black headed and herring gull utilising area albeit in small numbers. Given the above and taking into account the location and scope of works and applying the precautionary principle, it is considered that the proposed development is likely to have a significant effect on the qualifying features (birds).
Conclusion	Likely significant effect.
Physical habitat damage	The assessment presented for habitat loss (see above) is also relevant when considering habitat damage and disturbance. The disturbance and damage of habitats during the construction and operation phases are expected to have similar impacts as those described above when considering the impacts arising from habitat loss. Given the above and taking into account the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is likely to have a significant effect on the qualifying feature.
Conclusion	Likely significant effect.
Disturbance	Construction of the proposed scheme has the potential to increase noise and vibration levels through typical construction activities. Typically, visual stimuli will result in a disturbance effect such as a flight response before associated noise. The response of roosting (and feeding) waders to disturbance at a site can depend on factors such as the species involved, type of disturbance, degree of habituation, availability of alternative roost / feeding locations, and the individual bird's condition and need for feeding or resting. Alert distances triggering a behavioural response of unhabituated waterbirds during feeding range from approximately 50 m to 275 m. Although species can become habituated to disturbance, it does not necessarily mean that they will be habituated to new types of disturbance such as construction activities. The application Site lies in a relatively rural location surrounded by agricultural fields with a mix of crop types. The SPA is over 2 km from the Site with farming and the A1 between in between the Site and designation. At this distance the noise and vibration levels from the proposed development are expected to dissipate to that of current background levels and not be significant on birds within the SPA boundary. A neighbouring application has noted the presence of some of the qualifying features. The Site provides similar habitat to this planning application and the fact that the full surveys are not complete there is the potential that birds could be using the Site which could therefore be functionally linked land which may mean that qualifying birds would be

	affected through disturbance from construction and operational noise and vibration. Lighting plans for construction and operational activities are not available at the time of writing this screening assessment. However, due to rural location of the Site lighting could potentially result in a discernible change to the current base line. Considering the location and scope of the proposed work and applying the precautionary principle, it is concluded that the proposed development is likely to have a significant effect on the qualifying features (birds).
Conclusion	Likely significant effect.
Changes in water quality	Braidwood burn is located to the south of the Site connecting the Site to the coast and associated nature conservation designations (over 2 km away). It is expected that normal surface water treatment and drainage incorporated into the development proposals on Site as part of the Scheme will reduce effects on the qualifying features of the SPA to a level that is not significant.
Conclusion	No likely significant effect.
Mortality	It is expected that the proposed scheme will result in a temporary increase in traffic during construction and a small increase in traffic to service the development. Owing to the temporary nature of the works and the potential for birds to be disturbed by the works it is unlikely that a significant effect would take place from collisions of birds with traffic.
Conclusion	No Likely significant effect.
Overall conclusion	The development of the application Site, when considered alone, will have a likely significant effect on the Outer Firth of Forth and St Andrews Bay SPA (functionally linked land) and its interest features as a result of physical habitat loss, damage and disturbance. An Appropriate Assessment is therefore required.

Appraisal of Likely Significant Effects of Proposals 'In-Combination'

3.35 Impact pathways such as mortality and changes in water quality during the construction and operational phase were not considered significant as a result of the project alone, and effects are likely to be negligible for all three designations. As such it is considered that they do not have the potential to meaningfully contribute to any combined effects of other plans or projects and that a formal in-combination assessment is not required.

Summary of Appraisal of Likely Significant Effects (LSE)

3.36 The screening test (Stage 1 HRA) above has identified impact pathways for all three designations that must be carried through to Stage 2 Appropriate Assessment and these are listed below:

- Physical habitat loss of functionally linked land supporting qualifying birds;

- Damage and disturbance to functionally linked land supporting qualifying birds; and
- Disturbance of qualifying species.

3.37 All other impact pathways have been screened out on the basis that there is considered to be no potential for LSE alone or in combination with other projects.

4 Conclusions

4.1 This draft document provides all the information necessary for the Competent Authority to undertake a Stage 1 (screening assessment) for the purposes of Regulation 63 of the Habitats Regulations 2017, as amended, should one be required. The outcomes allow for the following conclusions to be drawn:

- it is considered that in the absence of mitigation/standard best practice measures, likely significant effects on qualifying bird species, that could undermine the conservation objectives of Firth of Forth SPA and Ramsar site or the Outer Firth of Forth and St Andrews Bay SPA could arise; and
- therefore, LSE cannot be ruled out; and
- it is considered that a Stage 2 Appropriate Assessment is required.

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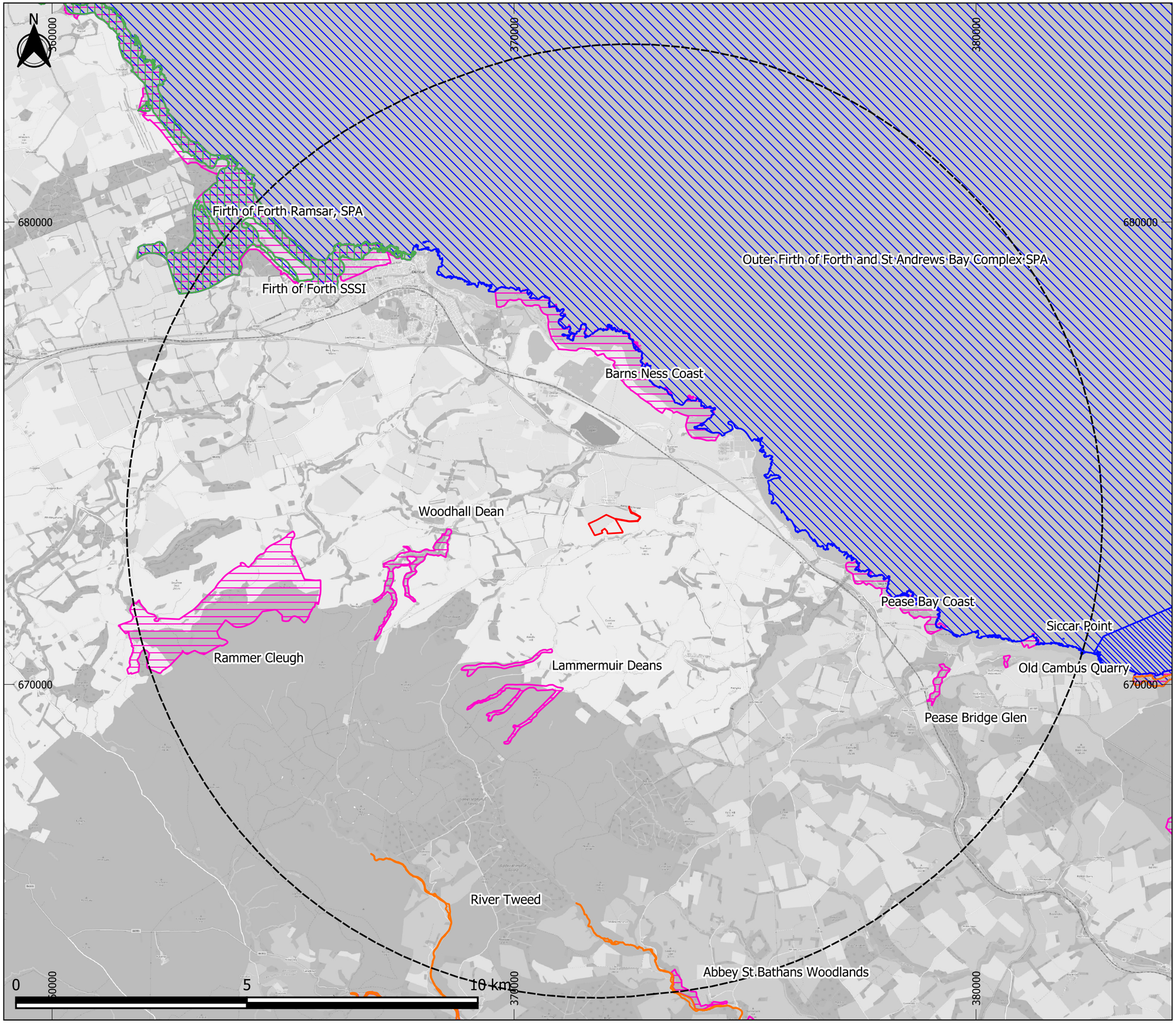
Appendix 1: Figures

(overleaf)

- Figure 1: Site boundary and Statutory designated sites



Legend

- Site boundary
- 10km from site boundary
- Ramsar
- Sites of Special Scientific Interest
- Special Protection Areas
- Special Areas of Conservation

BSG | ecology

OFFICE: NEWCASTLE
T: 0191 303 8964

JOB REF: P23-074

PROJECT TITLE

BRAXBESS STORAGE

DRAWING TITLE

Figure 1: Statutory sites within 10km

DATE: 02/01/2024 CHECKED: AM SCALE: 1:78,000

DRAWN: BH APPROVED: CD VERSION:1.0

Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: © Natural England

Graphics Ref. No.: 05453

Appendix 2: Citations

***Table 5**: Firth of Forth SPA*

Site name: Firth of Forth SPA
Site code: UK9004411
Year designated: Designated on 30 October 2001 amended 25 April 2018
Area: 6317.93 ha
Component SSSIs: Firth of Forth SSSI
Qualifying Interest N.B All figures relate to numbers at the time of classification: The Firth of Forth SPA qualifies under Article 4.1 by regularly supporting populations of European importance of the Annex 1 species (1993/94 to 1997/98 winter peak means): red-throated diver *Gavia stellata* (90 individuals, 2% of the GB population), Slavonian grebe *Podiceps auritus* (84 individuals, 21% of the GB population), golden plover *Pluvialis apricaria* (2,949 individuals, 1% of the GB population) and bar-tailed godwit *Limosa lapponica* (1,974 individuals, 4% of the GB population). The Firth of Forth SPA qualifies under Article 4.1 by regularly supporting a population of European importance of the Annex 1 species: sandwich tern *Sterna sandvicensis* during the passage period (a winter peak mean during the five year period 1993/94 to 1997/98 of 1,617 individuals, 6% of the GB population). The Firth of Forth SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species (1993/94 to 1997/98 winter peak means): pink-footed goose *Anser brachyrhynchus* (10,852 individuals, 6% of the Eastern Greenland/Iceland/UK biogeographic population); shelduck *Tadorna tadorna* (4,509 individuals, 2% of the North-western Europe biogeographic population); knot *Calidris canutus* (9,258 individuals, 3% of the North-eastern Canada/Greenland/Iceland/North-western Europe biogeographic population); redshank *Tringa totanus* (4,341 individuals, 3% of the Eastern Atlantic biogeographic population) and turnstone *Arenaria interpres* (860 individuals, 1% of the Western Palearctic biogeographic population). The Firth of Forth SPA also qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual waterfowl. In the five year period 1992/93 to 1996/97 a winter peak mean of 95,000 individual waterfowl was recorded, comprising 45,000 wildfowl and 50,000 waders including nationally important populations of the following species: scaup *Aythya marila* (437 individuals, 4% of the GB population); Slavonian grebe (84 individuals); golden plover (2,949 individuals); bar-tailed godwit (1974 individuals); pink-footed goose (10,852 individuals, 6% of the GB population); shelduck (4,509 individuals, 6% of the GB population); knot (9258 individuals, 3% of the GB population); redshank (4,341 individuals, 4% of the GB population); turnstone (860 individuals, 1% of the GB population); great crested grebe *Podiceps cristatus* (720 individuals, 7% of the GB population); cormorant *Phalacrocorax carbo* (682 individuals, 5% of the GB population); red-throated diver (90 individuals); curlew *Numenius arquata* (1,928 individuals, 2% of the GB population); eider *Somateria mollissima* (9,400 individuals, 13% of the GB population); long-tailed duck *Clangula hyemalis* (1,045 individuals, 4% of the GB population); common scoter *Melanitta nigra* (2,880 individuals, 8% of the GB population); velvet scoter Melanitta fusca (635 individuals, 21% of the GB population); goldeneye *Bucephala clangula* (3,004 individuals, 18% of the GB population); red-breasted merganser Mergus serrator (670 individuals, 7% of the GB population); oystercatcher Haematopus ostralegus (7,846 individuals, 2% of the GB population); ringed plover *Charadrius hiaticula* (328 individuals, 1% of the GB population); grey plover *Pluvialis squatarola* (724 individuals, 2% of the GB population); dunlin *Calidris alpina alpina* (9,514 individuals, 2% of the GB population). In the five year winter period 1991/92 to 1995/96 the assemblage additionally included nationally important populations greater than 2,000 individuals of: mallard *Anas platyrhynchos* (2,564 individuals, 0.5% of the GB population); lapwing *Vanellus vanellus* (4,148 individuals, 0.3% of the GB population), and wigeon *Anas penelope* (2,139 individuals, 0.78% of the GB population).

***Table 6**: Firth of Forth Ramsar Site*

Site name: Firth of Forth Ramsar Site
Site code: UK13017
Year designated: Designated on 30th October 2001 amended 1 November 2021
Area: 6317.72 ha
Component SSSIs: Firth of Forth SSSI
Interest Features (marked in bold): N.B All bird figures relate to numbers at the time of designation: Firth of Forth Ramsar site qualifies under Ramsar Criterion 2 by supporting: (1993/94 to 1997/98 winter peak means): red-throated diver *Gavia stellata* (90 individuals, 2% of the GB population), golden plover *Pluvialis apricaria* (2,949 individuals, 1% of the GB population). Firth of Forth Ramsar site further qualifies under Ramsar Criterion 5 by regularly supporting waterbirds in numbers of 20,000 individuals or more. In the five-year period 1992/93 to 1996/97, a winter peak mean of 95,000 individual waterbirds was recorded, comprising 45,000 wildfowl and 50,000 waders. The site also qualifies under Ramsar Criterion 4 by supporting the following waterbird species at a critical stage in their life cycles (data 1992/93 to 1996/97 except where stated): scaup *Aythya marila* (437 individuals, 4% of the GB population), great crested grebe *Podiceps cristatus* (720 individuals, 7% of the GB population), cormorant *Phalacrocorax carbo* (682 individuals, 5% of the GB population), curlew *Numenius arquata* (1,928 individuals, 2% of the GB population), eider *Somateria mollissima* (9,400 individuals, 13% of the GB population), long-tailed duck *Clangula hyemalis* (1,045 individuals, 4% of the GB population), common scoter *Melanitta nigra* (2,880 individuals, 8% of the GB population), velvet scoter *Melanitta fusca* (635 individuals, 21% of the GB population), red-breasted merganser *Mergus serrator* (670 individuals, 7% of the GB population), oystercatcher *Haematopus ostralegus* (7,846 individuals, 2% of the GB population), ringed plover *Charadrius hiaticula* (328 individuals, 1% of the GB population), grey plover *Pluvialis squatarola* (724 individuals, 2% of the GB population), and dunlin Calidris *alpina alpina* (9,514 individuals, 2% of the GB population). In the five year winter period 1991/92 to 1995/96 the assemblage additionally included nationally important populations greater than 2,000 individuals of: mallard *Anas platyrhynchos* (2,564 individuals, 0.5% of the GB population), lapwing *Vanellus vanellus* (4,148 individuals, 0.3% of the GB population), and wigeon *Anas penelope* (2,139 individuals, 0.78% of the GB population). Red-throated diver, golden plover, Slavonian grebe, pink-footed goose, shelduck, knot, redshank, turnstone, goldeneye and bar-tailed godwit are also components of the waterbird assemblage. Firth of Forth Ramsar site also qualifies under Ramsar Criterion 6 by regularly supporting 1% or more of the individuals in a population of waterbirds (1993/94 to 1997/98 winter peak means): Slavonian grebe *Podiceps auritus* (84 individuals, 2% of the Northwest Europe biogeographic population), Pink-footed goose *Anser brachyrhynchus* (10,852 individuals, 6% of the Eastern Greenland/Iceland/UK biogeographic population), shelduck *Tadorna tadorna* (4,509 individuals, 2% of the North-western Europe biogeographic population), knot *Calidris canutus* (9,258 individuals, 3% of the NE Canada & Greenland/W Europe biogeographic population), redshank *Tringa totanus* (4,341 individuals, 3% of the Eastern Atlantic biogeographic population), turnstone *Arenaria interpres* (860 individuals, 1% of the NE Canada & Greenland/W Europe & NW Africa biogeographic population), goldeneye *Bucephala clangula* (3,004 individuals, 1% of the NW & C Europe biogeographic population), bar-tailed godwit *Limosa lapponica* (1,974 individuals, 2% of the Western European biogeographic population), and sandwich tern *Sterna sandvicensis* during the passage period (a winter peak mean of 1,617 individuals, 1% of the Europe and West Africa biogeographic population).

***Table 7**: Outer Firth of Forth and St Andrews Bay SPA*

Site name: Outer Firth of Forth and St Andrews Bay SPA
Site code: UK9020316
Year designated: Designated on 3 December 2020
Area: 272, 068.09 ha
Component SSSIs:
Qualifying interest features: The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) qualifies under Article 4.1 by regularly supporting a non-breeding population of European importance of the following Annex 1 species: red-throated diver *Gavia stellata* during the period 2001/02 to 2004/05 (a mean peak estimate of 851 individuals; 5.0% of the Great Britain population); Slavonian grebe *Podiceps auritus* during the period 2006/07 to 2010/11 (an average of 30 individuals (2.7% of the Great Britain population); little Gull *Larus minutus* during the period 2001/02 to 2004/05 (126 individuals; more than 50 individuals) and feeding common tern *Sterna hirundo* and Arctic tern *Sterna paradisaea* from the adjacent breeding colonies. The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) further qualifies under Article 4.2 by regularly supporting populations of European importance of the following migratory waterfowl species: common eider *Somateria mollissima* average peak counts recorded during the five year period 2001/02 to 2004/05 (21,546 individuals 2.1% of the biogeographic population and 35.9% of the Great Britain population) and by regularly supporting in excess of 20,000 individual waterfowl including nationally important populations of the following species during the five year period 2001/02 to 2004/05: long tailed duck *Clangula hyemalis* (1,948 individuals, 17.7% of the Great Britain population), common scoter *Melanitta nigra* (4,677 individuals, 4.7% of the Great Britain population) and during the period 2006/07-2010/11: velvet scoter *Melanitta fusca* (775 individuals, 31% of the Great Britain population), common goldeneye *Bucephala clangula* (589 individuals, 2.9% of the Great Britain population) and red-breasted merganser *Mergus serrator* (431 individuals, 5.1% of the Great Britain population). The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) further qualifies under Article 4.2 by regularly supporting populations of European importance of following migratory species of seabird: foraging european shag *Phalacrocorax aristotelis* from the nearby colonies, and northern gannet *Morus bassanus* during the period 1980-2006 (10,945 individuals, 1.4% of biogeographical population and 2.7% of the Great Britain population). The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) further qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual seabirds during the breeding season including nationally important populations of the following species during the period 1980-2006: Atlantic puffin *Fratercula arctica* (61,086 individuals, 5.3% of the Great Britain population), black-legged kittiwake *Rissa tridactyla* (12,020 individuals,1.6% of the Great Britain population), manx shearwater *Puffinus puffinus* (2,885 individuals, more than 2,000 individuals), common guillemot *Uria aalge* (28,123 individuals, more than 2,000 individuals) and herring gull *Larus argentatus* (3,044 individuals, 1.1% of the Great Britain population). The Outer Firth of Forth and St Andrews Bay Complex Special Protection Area (SPA) further qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual seabirds during the non-breeding season including nationally important populations of the following species during the period 2003/04-2005/06: black-headed gull *Chroicocephalus ridibundus* (26,835 individuals,1.2% of the Great Britain population), common gull *Larus canus* (14,647 individuals, 2.1% of the Great Britain population), and herring gull *Larus argentatus* (12,313 individuals, 1.7% of the Great Britain population) and, during the period 1980-2006: common guillemot *Uria aalge* (21,968 individuals, more than 2,000 individuals), european shag *Phalacrocorax aristotelis* (2,426 individuals, 2.2% of the Great Britain population), black-legged kittiwake *Rissa tridactyla* (3,191 individuals, more than 2,000 individuals) and razorbill *Alca torda* (5,481 individuals, more than 2,000 individuals).

Appendix 3: Landscape Master Plan

Overleaf

KEY

- Site boundary

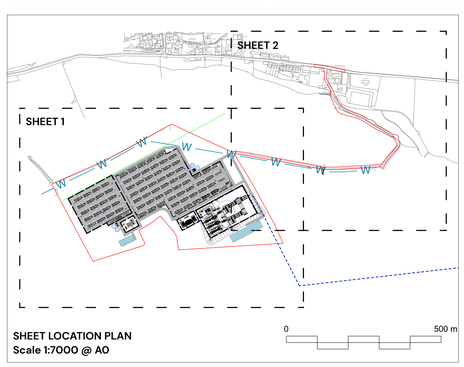
EXISTING

- Existing vegetation to be retained and protected
- Existing vegetation to be removed
- Stone wall to be retained
- Stone wall to be removed
- Water pipe
- Track beyond Site boundary

PROPOSED

- Native hedgerow trees
- Tree planting. Deciduous native mixed woodland, planted as Heavy Standards
- Native mixed hedgerow, new sections and 'gapping up' of existing hedgelines
- Native shrub mix
- Mown grass. Seeded with Emorsgate EL1 Flowering Lawn or similar and approved
- Tussock grass - seeded with Emorsgate EM10 Tussock Meadow Mixture, or similar approved.
- Species rich grass, seeded with Emorsgate EG1 General Purpose Meadow Mixture or similar and approved.
- Access road
- Easement

Refer to Sheet 2 for Indicative Species List



SHEET LOCATION PLAN
Scale 1:7000 @ A0

Key Considerations:
Minimum of a 10m wide landscape belt around the periphery of the site. Combining new native tree planting and native hedgerow planting to the north and native hedgerow planting and species rich 'Tussock' grass to the south.
Additional hedgerow planting within the site interior, to the perimeter of the development.
Proposed planting to comprise species of local provenance, with stock in accordance with seed zone 203 as described in Seed Sources for Planting Native Trees and Shrubs in Scotland (Forestry Commission Scotland 2006).
Existing vegetation to perimeter of Site to be protected and retained as far as practicable in accordance with BS 5837:2012.
Opportunities for biodiversity net gain.
Emergency and maintenance access will be from the north east, off Barns Ness Terrace.

0 50 100 150 200 m

N

Rev	Date	By	Note
B	17/01/24	LB	Revised layout - minor landscape amendments
A	03/01/24	KCH	Addition of native shrub mix and minor landscape amendments
-	29/11/23	LB	First draft

Landscape Masterplan

Braxbess Storage

Sheet 1 of 2

Client: Braxbess Limited
DRWG No: P23-0094_EN_0001_S1 REV: B
Drawn by : LB Approved by: KC
Date: 29/11/2023
Scale: 1:1000 @ A0

PEGASUS GROUP

Key Considerations:
Minimum of a 10m wide landscape belt around the periphery of the site. Combining new native tree planting and native hedgerow planting to the north and native hedgerow planting and species rich 'Tussock' grass to the south.
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Proposed planting to comprise species of local provenance, with stock in accordance with seed zone 203 as described in Seed Sources for Planting Native Trees and Shrubs in Scotland (Forestry Commission Scotland 2006).
Existing vegetation to perimeter of Site to be protected and retained as far as practicable in accordance with BS 5837:2012.
Opportunities for biodiversity net gain.
Emergency and maintenance access will be from the north east, off Barns Ness Terrace.

INDICATIVE PLANT SCHEDULE

WOODLAND MIX

Heavy standards. Planted on a staggered grid, min. 3m centres, in species groups of 3 to 5.

PLANT SPECIES	SIZE (GIRTH AND HEIGHT)
Acer campestre	RB 12-14 cm, 350-400 cm ht
Alnus glutinosa	RB 12-14 cm, 350-400 cm ht
Carinus betulus	RB 12-14 cm, 350-400 cm ht
Coryus avellana	B 80-100cm ht
Crateagus monogyna	B 80-100cm ht
Betula pendula	RB 12-14 cm, 350-400 cm ht
Betula pubescens	RB 12-14 cm, 350-400 cm ht
Fagus sylvatica	RB 12-14 cm, 350-400 cm ht
Malus sylvestris	RB 12-14 cm, 350-400 cm ht
Prunus avium	RB 12-14 cm, 350-400 cm ht
Quercus robur	RB 12-14 cm, 350-400 cm ht
Sorbus aria	RB 12-14 cm, 350-400 cm ht
Sorbus aucuparia	RB 12-14 cm, 350-400 cm ht

HEDGEROW TREES

PLANT SPECIES	SIZE (GIRTH AND HEIGHT)
Acer campestre	RB 12-14 cm, 350-400 cm ht
Betula pendula	RB 12-14 cm, 350-400 cm ht
Fagus sylvatica	RB 12-14 cm, 350-400 cm ht
Malus sylvestris	RB 12-14 cm, 350-400 cm ht
Prunus avium	RB 12-14 cm, 350-400 cm ht
Quercus robur	RB 12-14 cm, 350-400 cm ht
Sorbus aucuparia	RB 12-14 cm, 350-400 cm ht

NATIVE MIXED HEDGEROW

Planted 5 plants per linear m, double staggered row

PLANT SPECIES	SIZE	%
Coryus avellana	B 80-100 cm ht	20
Crateagus monogyna	B 80-100 cm ht	30
Ilex aquifolium	3L 40-60cm ht	10
Prunus spinosa	B 80-100 cm ht	25
Rosa canina	B 80-100 cm ht	5
Sambucus nigra	B 80-100 cm ht	5
Viburnum opulus	B 80-100 cm ht	5

KEY

- Site boundary

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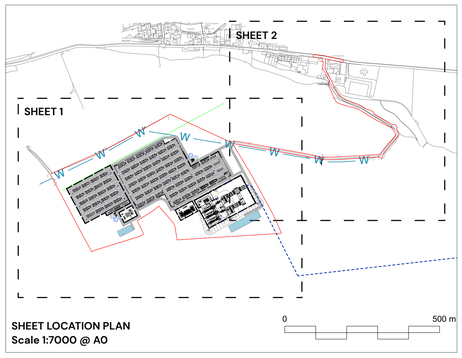

Rev	Date	By	Note
B	17/01/24	LB	Revised layout - minor landscape amendments
A	03/01/24	KCH	Addition of native shrub mix and minor landscape amendments
–	29/11/23	LB	First draft

Landscape Masterplan

Braxbess Storage

Sheet 2 of 2

Client: Braxbess Limited
DRWG No: P23-0094_EN_0001_S2 REV: B
Drawn by : LB Approved by: KC
Date: 29/11/2023
Scale: 1:1000 @ A0

PEGASUS GROUP

P23-0094 BRANXBESS STORAGE

HABITAT MEASUREMENTS FOR BIODIVERSITY
Based on Landscape Masterplan Rev B
17/01/2024

RED LINE AREA **206,044**

ITEM	AREA (m2)	NOTE (areas within red line boundary only)
Deciduous woodland	13,946	
Native shrub mix	11,710	
Amenity/mown grass	8,354	
Tussock meadow grass	36,801	South of site
Species rich grass	16,304	Access route, easement through woodland & woodland periphery
TOTAL	**87,115**	

ITEM	Total No.	
No.of hedgerow trees	110	

ITEM	Length (m)	
Existing hedgerow **removed**	420	Based on Topo survey
Existing hedgerow **retained**	383	Based on Topo survey
New native hedgerow	3,618	