



**BACTON STORAGE COMPANY LTD (BSCL) & ENI  
HEWETT LIMITED**

**PHASE 1 HABITAT AND SCOPING SURVEY  
REPORT**

**PROPOSED VEHICLE CHECKING AND  
CONSTRUCTION LAYDOWN AREA ASSOCIATED  
WITH DEVELOPMENTS AT THE BACTON TERMINAL  
COMPLEX, LAND SOUTH OF THE B1159 PASTON  
ROAD AND EAST OF THE NATIONAL GRID GAS  
TERMINAL, BACTON, NORFOLK**

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# 1 INTRODUCTION

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## a) Background

- 1.1 This Phase 1 Habitat and Scoping Survey Report has been prepared by RPS Planning & Development Ltd for Bacton Storage Company Ltd (BSCL) (a joint venture company formed by Centrica Storage and Perenco UK) and Eni Hewett Limited (Eni).
- 1.2 This report supports a full planning application that has been submitted jointly by BSCL and Eni to North Norfolk District Council (the local planning authority) for a temporary vehicle checking and construction laydown site (the development) on the western half of the large arable field south of the main Bacton Terminal Complex (BTC), across the B1159 Paston Road and immediately to the east of the National Grid and Interconnector Terminals. This area is required to support the construction of the onshore elements of the Baird project and also a number of other projects that are being advanced at the BTC.
- 1.3 The onshore elements of the Baird project include the construction of new gas reception, compression and conditioning facilities within an area of the Perenco UK Terminal (part of the BTC), as well as a new landfall for the sub-sea pipeline that will connect these facilities with the gas field, which is approximately 86 kilometres from the shore. The local planning authority (LPA) granted planning permission (ref. no. PF/10/0141) for these works on 27 July 2010.
- 1.4 The Deborah gas storage project requires the redevelopment of areas of the existing Eni Hewett onshore terminal (part of the BTC). New gas reception, treatment and transfer facilities will be installed as well as the landfall for two new pipelines. Planning permission was granted for this development on 24 November 2010 (ref. no. PF/10/0737).
- 1.5 The development will be used by BSCL for the Baird project and, as indicated above and also by a number of the other projects being advanced at the gas terminals, including by Eni (Deborah gas storage project) and National Grid (works at its Terminal south of Paston Road to link the Baird and Eni projects with the National Transmission System). The site will also include an expansion/contingency area in the event that further land is required to support the construction of the projects at the terminals.
- 1.6 The need for the vehicle checking area has arisen due to the requirements of the security services. The security services have confirmed that a secure vehicle checking area needs to be provided close to the BTC, as the existing arrangements inside the Terminals will not be sufficient to accommodate the number of construction vehicles associated with the Baird and Deborah projects. The vehicle checking area will provide a secure area where deliveries and consignments associated with the project can be security-cleared before entering the BTC. BSCL, Eni and National Grid (NG) will also make use of the vehicle checking area during the construction of their respective projects.
- 1.7 Furthermore, since planning permission was granted in July 2010 for Baird, additional work has been undertaken on the construction programme for the project. This has identified a requirement for additional land to support the construction phase of the project in addition to that already identified within the Perenco Terminal and adjacent to Seagulls Field. Due to the limited space available within the Perenco Terminal and the BTC generally, it has been necessary to

identify land that lies outside of the BTC boundary to provide laydown/construction compounds. These will be used for both the Baird and the NG works.

- 1.8 The large arable field south of Paston Road is an ideal location in which to provide the vehicle checking and construction laydown area due to its proximity to the BTC. The field has previously been the subject of development associated with the terminals, including the installation of the Interconnector and BBL pipeline.

**b) Aims**

- 1.9 The aims of the survey were to establish if any habitats or protected species of conservation concern were located on site.

**c) Survey Area**

- 1.10 The application site is located to the south of the B1159 Paston Road and immediately to the east of the National Grid (NG) Terminal.
- 1.11 The site itself is roughly rectangular in shape and comprises of the western half of a large arable field, which has recently been cleared of barley. The site slopes gradually from north to south before the land starts to rise again.
- 1.12 The site is bound to the north by Paston Road. The boundary with the road is formed by a wide verge and a ditch with some tree planting to the western end. To the north of Paston Road are the gas terminals and Seagulls Field. To the east of the site is the remainder of the arable field, which adjoins the rear gardens of a number of residential properties that front on to Coast Road. The eastern boundary of the site will be at least 185m from these properties. These dwellings are screened to some extent from the field by an existing hedgerow of approximately 2m in height. Beyond the residential properties is Castaways Holiday Park. The southern boundary of the site is currently open and is defined by a rough agricultural track and land ditch beyond which are further fields. To the west, the site borders a shelter belt of trees that separates it from the National Grid and Interconnector UK sites. There is an existing entrance to the arable field in its north east corner from Paston Road.
- 1.13 The application site also includes a section of the B1159 Paston Road that will form the crossing point between the development and the BTC and parts of the terminals access road and the entrances to the Perenco Terminal, which will be subject to some minor modifications to accommodate construction vehicles.
- 1.14 The entire application site extends to approximately 8.09 hectares.

## 2 METHODS

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### a) Desk Study

- 2.1 A desk-based study was conducted that involved contacting the 'Norfolk Biological Information Service' (NBIS) for all records of designated habitats and species of conservation concern recorded within 2km of the site.
- 2.2 A review of existing statutory sites of nature conservation interest, such as Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs), Special Area of Conservation (SACs) and National Nature Reserves (NNRs) designated sites within 2km of the site was also undertaken using Multi Agency Geographic Information for the Countryside website
- 2.3 All information received on species in the search area was reviewed and is summarised in this report. Records over 10 years old were not included unless directly relevant to the site.

### b) Phase 1 Habitat Survey

- 2.4 A Phase 1 Habitat Survey was undertaken on 22nd September 2010. The survey followed the standard methodology (JNCC, 2003). In summary, this comprised walking over the survey area and recording the habitat types and boundary features present.
- 2.5 Dominant plant species observed within each habitat type were recorded on a DAFOR scale. This classifies species as Dominant, Abundant, Frequent, Occasional or Rare.

### c) Ecological Scoping Survey

- 2.6 A Protected Species Scoping Survey was carried out in conjunction with the Phase 1 Habitat Survey. The site was assessed for its suitability to support protected species, in particular, Badgers *Meles meles*, bats, birds, reptiles and Great Crested Newts *Triturus cristatus*, and other species of conservation importance that could pose a planning constraint.
- 2.7 The Scoping Survey does not assess the presence or absence of species but is used to assess the potential for habitat to support them. Where clear and recent evidence of a species or the species is seen, this is reported.

### 3 RESULTS

#### a) Desk Study

##### i. *Designated Sites*

3.1 No records of designated sites were received from NBIS. A review of the site on Multi Agency Government Information for the Countryside website ([www.magic.gov.uk](http://www.magic.gov.uk)) showed no statutory designated sites within 2km of the site, with the exception of Paston Barn, a significant roost for Barabstelle bats.

##### ii. *Species*

3.2 A large number of bird records were received. The majority of these records related to birds associated with the sea, owing to the proximity of the site to the North Sea. These records have been omitted and only bird species that may forage or nest on site were included.

3.3 As confirmed above, a significant bat roost for Barabstelle bats *Barbastellus barbastellus* at Paston Barn is located approximately 1km to the north west of the site boundary.

3.4 The nearest record to the site for any species was 900m. A summary of the records is provided below in Table 3.1.

**Table 3.1: Species recorded within 2km of the study area**

Common Name	Scientific name	Date of record	Conservation status	Distance from site(km)
<b>Birds</b>				
Bewick's Swan	<i>Cygnus columbianus subsp. bewickii</i>	2007	UKBAP W&CA Sch 1	0.9
Whooper Swan	<i>Cygnus cygnus</i>	2007	W&CA Sch 1	0.9
Bean Goose	<i>Anser fabalis</i>	2003	Amber	0.9
Pink-footed Goose	<i>Anser brachyrhynchus</i>	2007	Amber	0.9
Greater White-fronted Goose	<i>Anser albifrons</i>	2008	Amber	0.9
Grey Partridge	<i>Perdix perdix</i>	2008	Red UKBAP	0.9
Red Kite	<i>Milvus milvus</i>	2006	Amber W&CA Sch 1	0.9
Eurasian Marsh Harrier	<i>Circus aeruginosus</i>	2008	Amber W&CA Sch 1	0.9
Hen Harrier	<i>Circus cyaneus</i>	2008	Red W&CA Sch 1	0.9
Montagu's Harrier	<i>Circus pygargus</i>	2003	Amber W&CA Sch 1	0.9
Common Cuckoo	<i>Cuculus canorus</i>	2006	Amber UKBAP	0.9
Barn Owl	<i>Tyto alba</i>	2006	Amber W&CA Sch	0.9
Short-eared Owl	<i>Asio flammeus</i>	2007	Amber,	0.9
Wood Lark	<i>Lullula arborea</i>	2008	Red W&CA Sch	0.9
Black Redstart	<i>Phoenicurus ochruros</i>	2006	UKBAP W&CA Sch1	0.9
Nightjar	<i>Caprimulgus europaeus</i>	2001	UKBAP	1.2
Skylark	<i>Alauda arvensis</i>	1999	Red UKBAP	1.4
<b>Mammals</b>				
Brown Hare	<i>Lepus europaeus</i>	2003	UKBAP	0.9
Daubenton's Bat	<i>Myotis daubentoni</i>	2000	UKBAP W&CA Sch5	1.0
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	2008	W&CA Sch 5	1.0
Barbastelle	<i>Barbastella barbastellus</i>	2001	UKBAP W&CA Sch5	0.9

Common Name	Scientific name	Date of record	Conservation status	Distance from site(km)
Natterer's Bat	<i>Myotis nattereri</i>	2005	UKBAP W&CA Sch5	1.2
Noctule	<i>Nyctalus noctula</i>	2002	UKBAP W&CA Sch5	1.2
Nathusius' Pipistrelle	<i>Pipistrellus nathusii</i>	2002	UKBAP W&CA Sch5	1.2
Hedgehog	<i>Erinaceus europaeus</i>	2001	UKBAP	1.9

Notes: UK BAP: United Kingdom Biodiversity Action Plan. W&CA Sch X: Wildlife and Countryside Act 1981 (as amended) Schedule 1 and 5. Bird Population Status (amber, red list species).

## b) Phase 1 Habitat Survey

3.5 A figure of the site is provided in Figure 3.1.

### *i. Woodland and Scrub*

#### **Woodland**

3.6 A small area of mixed-plantation woodland was present and adjacent to the western boundary of the site. Species recorded in this area included abundant Sycamore *Acer pseudoplatanus*, frequent Ash *Fraxinus excelsior*, Scots Pine *Pinus sylvestris* and Whitebeam *Sorbus* sp. Along the eastern boundary of the woodland were the remnants of a hedgerow, which in the absence of any management, had grown into a line of trees and become part of the mixed-plantation woodland. Species recorded included frequent Field Maple *Acer campestre*, Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa*.

#### **Scrub**

3.7 A small area of dense scrub was present and adjacent to a spoil pile on the southern boundary. This consisted of predominantly Bramble *Rubus fruticosus* agg.

#### **Scattered trees**

3.8 Along the northern boundary were a number of scattered trees. Species recorded were Holm Oak *Quercus ilex*.

### *ii. Grassland*

#### **Neutral grassland**

3.9 Two areas of unimproved neutral grassland were present on site. This was the field margin along the southern boundary and the road verge along the northern boundary.

3.10 Species recorded along the field margin included dominant Cock's-foot *Dactylis glomerata* and False-Oat Grass *Arrhenatherum elatius*. Abundant species included Lady's Bedstraw *Galium verum* and Ground Ivy *Glechoma hederacea*. Frequent species included Common Knapweed *Centaurea nigra*, Field Scabious *Knautia arvensis*, Yarrow *Achillea millefolium*, Common Vetch *Vicia sativa*, Self-heal *Prunella vulgaris*, and Ribwort Plantain *Plantago lanceolata*. On the more compacted areas adjacent to the spoil pile and track Creeping Cinquefoil *Potentilla repens* was abundant.

3.11 The road verge had a slightly different species composition and included abundant Common Bent *Agrostis capillaris*, Cock's-foot, False-oat Grass, Yarrow, Common Knapweed and Black

Medick *Medicago lupulina*. Frequent species included Tufted Vetch *Vicia cracca*, Autumn Hawkbit *Leontodon autumnalis* and Meadow Vetchling *Lathyrus pratensis*.

**iii. Tall herb**

**Tall ruderal**

- 3.12 Along the southern boundary was a dry ditch, which contained tall ruderal species. This included frequent Creeping Thistle *Cirsium arvense*, Common Nettle *Urtica dioica*, Field Speedwell *Veronica arvensis*, Bristly Oxtongue *Picris echioides* and Scentless Mayweed *Tripleurospermum inodorum*.

**iv. Miscellaneous**

**Cultivated/disturbed land**

- 3.13 The site consists of an arable field recently cleared of barley. Along the edges of the field were common arable weed species including frequent Fat Hen *Chenopodium*, Common Orache *Atriplex patula* and Scentless Mayweed.

**Boundaries**

- 3.14 Along the eastern boundary of the site was a species-poor hedgerow (H1). Species recorded included dominant hawthorn with frequent Garden Privet *Ligustrum ovalifolium* and occasional Wild Privet *Ligustrum vulgare*.
- 3.15 Along the northern and southern boundary of the site were dry ditches. The southern ditch comprised tall ruderal species as described previously and the northern ditch contained unimproved neutral grassland.

**c) Species**

**i. Invertebrates**

- 3.16 The site has potential to support a number of common invertebrate species. It is not considered that the site supports habitat associated with rarer invertebrate species such as species-rich grassland or areas of dead wood.

**ii. Amphibians**

- 3.17 It is considered that the site does not support any amphibian species such as GCN, as no water bodies are located within 500m of the site.

**iii. Reptiles**

- 3.18 The field margins and dry ditches contained an area of grassland connected to other fields and field margins. It is considered that the habitat present could potentially support a population of reptiles including Grass Snake *Natrix natrix* and Common Lizard *Zootoca vivipara*.

**iv. Birds**

- 3.19 The site has the potential to support a number of breeding bird species including ground nesting species such as Skylark and species associated with hedgerows such as Yellow Hammer.

These and a number of other widespread farmland species are on the UKBAP priority list; the list of species of principal importance for biodiversity; and the BoCC Redlist due to declines in the population.

3.20 The site could also attract winter migrants such as geese and passerines.

**v. Mammals**

3.21 It is considered that the site has the potential to support common mammal species.

3.22 No evidence of Badgers activity was recorded on site, though there is potential foraging habitat available.

3.23 The site has some potential for Brown Hare *Lepus europaeus* but is not considered likely to provide a significant habitat resource for this species.

3.24 It is considered that bats may forage along the boundaries of the site. Badgers may also forage on site but no suitable areas to construct setts were recorded.

3.25 Bats could potentially forage across the site and along the hedge lines but no suitable areas which might contain roosts were recorded. Although a known Barbastelle roost is within 1km of the site (Paston Barn), the habitat on site is not considered ideal habitat for foraging Barbastelle bats as this species generally forages in woodland and along unlit hedgerows.

## 4 EVALUATION

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### a) Habitat

- 4.1 The area of unimproved-neutral grassland (the field margins) qualifies as the UKBAP Priority Habitat 'Arable Field Margins' and the Norfolk LBAP Priority Habitat 'Cereal Field Margins'. The Habitat Action Plan (HAP) for this habitat includes the objectives of halting the decline and loss of key species and suites of associated species that use arable land and increase populations of those species which use arable in association with other habitats.
- 4.2 The area of unimproved neutral grassland that forms the road verge on the northern boundary is not considered to qualify as the UKBAP Priority Habitat 'Lowland meadow' as it contained abundant False-Oat Grass and is considered as MG1 (*Arrhenatherum elatius* (False-Oat Grass) grassland) under the National Vegetation Classification (NVC), which is not covered by the Priority Habitat action plan.
- 4.3 The hedgerows on site qualify as the UKBAP and Norfolk LBAP Priority Habitat 'Hedgerows'. The objectives of these action plans are to retain and increase the extent of hedgerows nationally and locally and encourage the appropriate management of existing hedgerows.
- 4.4 It is not considered that any of these habitats will be affected by the development as the field margins are largely excluded from the proposed development area and that the site will be returned to arable production once construction activities cease.
- 4.5 If areas of habitat are damaged or removed during the use of the site then these should be reinstated when the site is returned to arable use.

### b) Species

#### *i. Reptiles*

- 4.6 Reptiles may potentially be present along the field margins. All British reptile species are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as updated by the Countryside and Rights of Way Act 2000.).
- 4.7 Adder, Grass Snake, Slow-worm and Common Lizard receive partial protection under part of Section 9(1) and all of Section 9(5). As such it is an offence to:
- intentionally or recklessly kill or injure any individual; and
  - sell, offer for sale, possess or transport for the purpose of sale or publish advertisements to buy or sell individual reptiles.
- 4.8 It is therefore important that the presence or absence of reptiles is established on site. If reptiles are present then measures to mitigate any impact would need to be considered including erecting reptile fencing around the perimeter of the site.
- 4.9 An alternative option would be to assume reptiles are on site and erect the reptile fencing prior to works commencing. This fencing should remain in place throughout the use of the site.

- 4.10 If new access points are required that cross through reptile habitat then these can be strimmed to push any reptiles to the other areas of habitat. These access points can then be fenced off from the remaining reptile habitat. This work should be undertaken when reptiles are active i.e. March – September inclusive on clear, sunny days when the temperature is above 10°C.

### *ii. Birds*

- 4.11 All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981 (as amended). In summary it is an offence to:
- intentionally kill, injure or take any wild bird;
  - intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
  - intentionally take or destroy the egg of any wild bird.
- 4.12 Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are afforded greater protection. In particular, it is an offence to disturb a schedule 1 species whilst occupying a nest.
- 4.13 Species such as Skylark, which is a UKBAP Priority Species and other species associated with farmland, may nest on site. It is important that any clearance work on the site is undertaken during September to February inclusive, which is outside of the breeding bird season and to avoid potentially damaging or disturbing a nest.
- 4.14 If the site is bare, cutting in February/ March by the local farmer can be done cheaply to keep the site open and free of cover. An alternative option could be to treat the site with herbicide to remove plant cover. The fact that the site will remain fallow and clear of crops means that ground nesting birds are unlikely to be an issue.
- 4.15 A breeding bird survey should be undertaken prior to commencement of works to identify any breeding behaviour or nests on site. Any nests identified will then have to be cordoned off (distance dependant on the species) until the young have fledged (typically several weeks). While the birds are nesting, disturbance near the cordon will need to be restricted to passing site traffic only, nothing else.
- 4.16 The site also has the potential to attract winter migrants. However, records of birds were concentrated approximately 900m from the site and no records were received for on the site or within 100m. The site is also an arable field adjacent to other areas of arable land and it is not considered that the loss of the field temporarily would have a significant impact on the available foraging habitat in the wider area. During the site's use, it is considered unlikely that birds will be attracted to the site owing to levels of disturbance and lack of vegetation and/or cover.

### *iii. Mammals*

#### **Bats**

- 4.17 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000 and are included on Schedule 2 of the Conservation (Natural Habitats etc.) Regulations 1994 as European Protected Species. Taken together, these pieces of legislation make it an offence to:
- intentionally kill, injure or capture bats;

- intentionally or recklessly damage, destroy or obstruct access to bat roosts; and
- intentionally or recklessly disturb a bat (whether in a roost or not).

- 4.18 The lighting of the site could disturb foraging bats. However, this impact is unlikely to be significant given the presence of the BTC, which is adjacent to the site and well lit during the night. Lighting should be designed so as to limit further light spill to the south of the site, which may affect bats foraging adjacent to the site.
- 4.19 It is not considered that the temporary loss of the field will result in a significant loss of foraging habitat for any bats species in the local area.
- 4.20 It is considered that the use of the site will not directly impact the known Barbastelle roost to the north as the BTC is situated between the site and the roost location with no suitable direct route from the roost to the site.
- 4.21 The site provides limited foraging habitat for the species with only a strip of mixed plantation woodland along the western boundary, proving suitable foraging conditions but no connectivity. It is not certain what affect the proximity of the BTC has on the use of the site by Barbastelles but as the site is large and open, light overspill from the gas works is likely to deter them from using the site.

#### **Brown Hare**

- 4.22 The site is not considered likely to support large numbers of Brown Hare, and impacts on this species are not likely to be significant.

#### **Badgers**

- 4.23 No evidence of Badgers was recorded on site, although they may potentially forage on site. Any impacts are considered likely to be insignificant in consideration of the wider area of habitat available as foraging habitat. The site will be used to store material and any excavation work is unlikely to be undertaken. If any excavation does take place, these should be covered up at the end of each day to avoid trapping any animals.

## 5 CONCLUSIONS

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- 5.1 The only part of the site that are of any biodiversity interest are the field margins and hedgerows. These are, however, largely excluded from the area to be developed and it is not considered that any of these habitats will be affected.
- 5.2 It is recommended that either a reptile survey is undertaken or that reptiles are assumed to be present on site and appropriate mitigation put in place.
- 5.3 Vegetation clearance should be undertaken outside of the breeding bird season. If clearance work can not be undertaken during winter then an Ecological Clerk of Works (ECoWs) would need to be present prior to such works commencing. If an active nest was found, a cordon appropriate to the species would need to be established around the nest and work delayed until the young have fledged (typically 4 weeks from eggs being laid, but can be longer).
- 5.4 The site is considered to provide limited foraging habitat for bats. The area of suitable foraging habitat is limited to a strip of mixed plantation woodland to the west, which provides no connectivity to the wider area. The field may also provide a seasonal abundance of invertebrates for foraging bats but is considered sub-optimal.
- 5.5 As foraging bats are considered to use at least a small portion of the site and areas nearby, lighting of the site should take into consideration the impact on foraging bats species and direct light away from boundary features and use lower power lighting where appropriate. However, the impact of any lighting is unlikely to be significant given the presence of the BTC, which is lit at night.
- 5.6 The use of the laydown site is not considered to significantly reduce available foraging habitat in the area, therefore, would have a limited effect on the amount of foraging habitat available for local bat populations.

## REFERENCES

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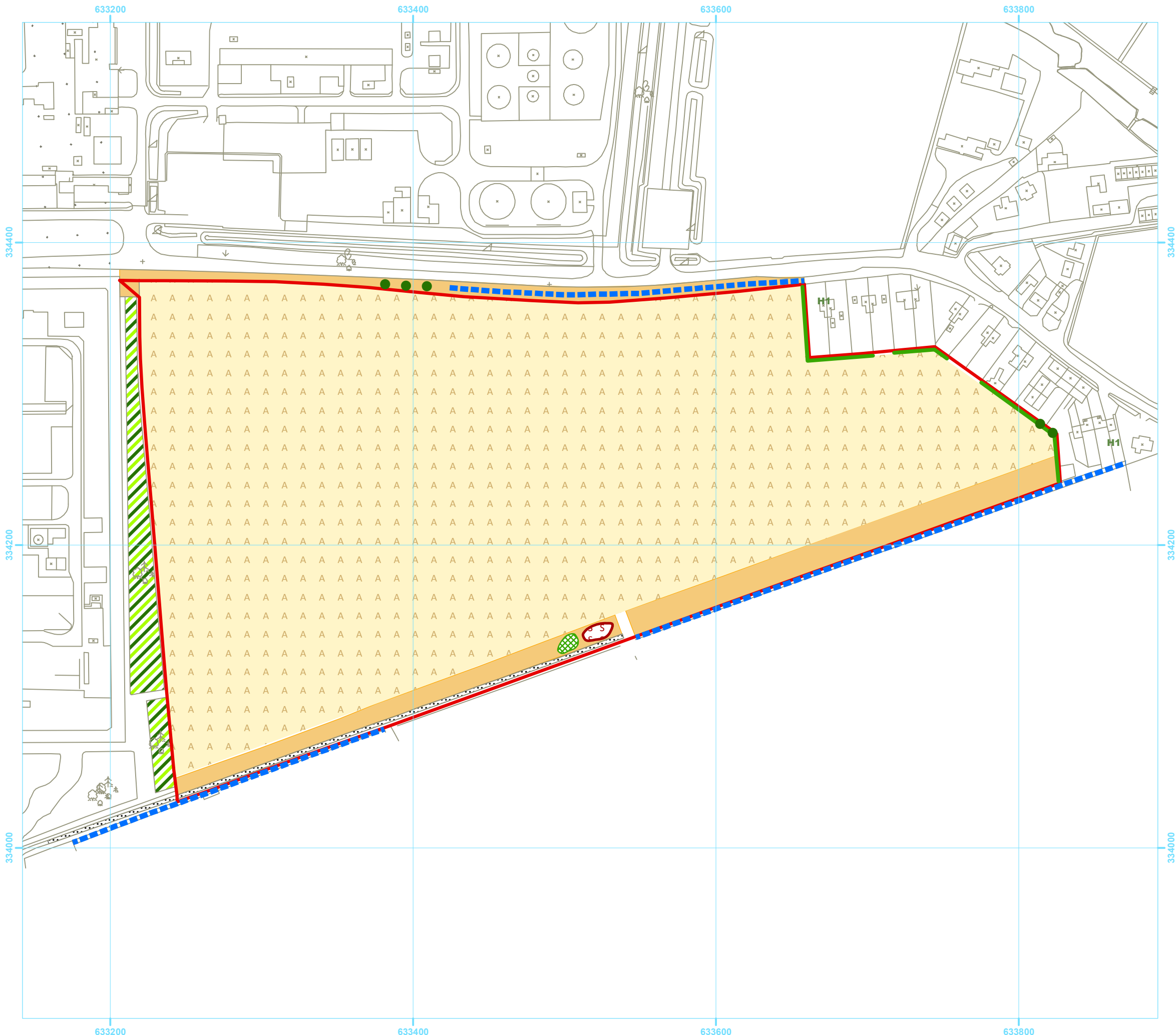
JNCC (2003). *Handbook for Phase 1 habitat survey: a technique for environmental audit (revised reprint)*. Joint Nature Conservation Committee, Peterborough.

## FIGURES

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Figure 3.1: Phase 1 Habitat and Scoping Map

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**Legend**

- Boundary
- Mixed plantation woodland
- Dense scrub
- Unimproved neutral grassland
- S  
S Spoil pile
- Bareground (track)
- A Arable land
- Hedge
- Dry Ditch
- Scattered trees

Rev:	Date:	Amendment:	Name:	Checked:

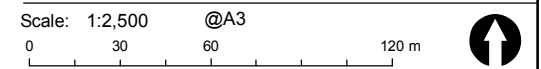
■ Data Source: RPS 2010  
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 Project: Bacton Gas Storage

Title: Phase 1 Habitat and scoping survey



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