Towers XB2 and XB3 Replacement, Hunterston

Preliminary Ecological Appraisal

September 2021

Control sheet

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Signed (Author)	Signed (QA)

Contents

Executive Summary

An extended Phase 1 Habitat survey was completed in February 2021 ahead of a proposed replacement and displacement of the existing pylon towers XB2 and XB3 and an installation of an overhead downlead line span between the substation and tower XB2 at Hunterston East Substation, Hunterston, West Kilbride.

Key ecological features, potential impacts, further survey requirements and outline mitigation measures are summarised in Table 1 below.

Table 1: *Summary of ecological features, impacts and outline mitigation.*

Ecological Feature	Potential Impact	Further surveys required	Outline Mitigation
Brackenbank Plantation	Potential loss, disturbance, and degradation.	No	Works to be designed to ensure that no areas of ancient woodland habitat are impacted. Implement best practice working measures through a Construction Environmental Management Plan.
Mosaic habitat of grassland/bracken/scattered scrub	Potential loss, disturbance, and degradation.	No	Retention where possible or reinstatement upon completion of works.
Bats	Loss of, damage to, or obstruction of bat roosts and the possible killing, injury or disturbance of bats.	Yes	No felling of trees should take place without an inspection for bat roosting potential and more detailed subsequent survey, such as aerial inspections or summer emergence surveys. If the bat boxes within the woodland to be affected by works, they should be checked for occupation before any works commence.
Badgers and other small mammals	Injuring or killing and entrapment.	No	Pre-works check of suitable habitat. Precautionary working measures.
Breeding birds	Damage and destroy nests, kill and injure nesting birds.	No	Removal of suitable bird nesting habitat outside of nesting season (March – August inclusive) or preclearance nesting bird check by an ecologist required.
Reptiles and amphibians	Injuring, killing or entrapment should reptiles/amphibians be present during works.	No	Precautionary working measures.

Invasive non-native species	Potential spread of invasive non-native species, if present within working areas.	No	Toolbox talk to be provided to all operatives prior to commencement of works.

1. Introduction

1.1 Bowland Ecology Ltd was commissioned by SP Energy Networks to undertake an ecological appraisal based on an extended Phase 1 Habitat survey ahead of a proposed replacement and displacement, up to 40m centre to centre, of the existing pylon towers XB2 and XB3 and an installation of an overhead downlead line span between the substation and tower XB2 at Hunterston East Substation, Hunterston, West Kilbride (NGR: NS 18822 50928).

1.2 The survey site is located to the south of Hunterston East Substation within sheep grazed pasture fields. The Hunterston B nuclear power station infrastructure is situated to the north-west of the towers, beyond which is Firth of Clyde coast. The wider surrounding area has a rural character consisting of silage fields and grazed pastures bounded by trees and pockets of woodland.

1.3 The purpose of the survey and appraisal was to: 1) identify and map all habitats occurring within the survey area, 2) identify the presence of (or potential for) wildlife interests with particular reference to the need for further surveys and legal requirements, and 3) provide an ecological assessment, identify potential impacts and provide recommendations pertaining to the proposal.

1.4 This report includes a description of survey methods, habitats and fauna present, and outlines recommendations to provide protection and enhancements for biodiversity and protected species.

2. Methodology

2.1 This Ecological Appraisal is based on a desk study and an extended Phase 1 Habitat survey. It follows the CIEEM Guidelines for Preliminary Ecological Appraisal and the CIEEM Guidelines for Ecological Report Writing (CIEEM, 2017 a, b), and is in line with the British Standard BS42020:2013 'Biodiversity – Code of practice for planning and development'.

Desk Study

2.2 The aim of the desk study was to identify the presence of statutory and nonstatutory wildlife sites and any legally protected species within the search area.

2.3 The online interactive mapping tool on the NatureScot Sitelink[1] was reviewed for information on locally, nationally, and internationally designated sites of nature conservation importance (statutory sites only) within 1 km of survey site.

[1] https://sitelink.nature.scot/map

2.4 A search on the North Ayrshire Council website[1] was undertaken to identify nonstatutory designated wildlife sites within 1 km of the survey site. Areas where Tree Preservation Orders (TPOs) are in place that could potentially be impacted by the proposed works were also searched.

2.5 Information on woodlands listed on the Ancient Woodland Inventory (AWI) were sought from Scotland's environment website[2].

2.6 A search of the NBN Atlas Scotland website[3] was carried out to identify any protected and/or notable species recorded within 1 km of the survey site.

Field Survey

2.7 The extended Phase 1 Habitat survey was carried out by Sabina Ostalowska MSc BSc ACIEEM on the 4th February 2021. The weather was cold (temperature approximately 3ºC) with moderate rain and a strong wind (F6-7 Beaufort Scale).

2.8 The survey followed standard methodology (JNCC, 2010 and CIEEM, 2017b). All features of ecological significance were target noted (see Appendix B) and a colour coded map of the habitats on site has been produced (Appendix A).

2.9 This survey methodology records information on the habitats, together with any evidence of and potential for legally protected and notable fauna, in particular:

- Assessing the suitability of habitats for other notable and protected species such as bats, nesting birds (including any active or disused nests), reptiles, amphibians, water vole (*Arvicola amphibius*), otter (*Lutra lutra*), badger (*Meles meles*) and other terrestial mammals. An assessment of the suitability of bat roosting, foraging and commuting habitat was undertaken according to the Bat Conservation Trust's Good Practice Guidelines 3rd Edition (Collins, 2016); and
- Checking for the most common invasive plant species subject to strict legal control including Japanese knotweed (*Fallopia japonica*), giant knotweed (*F. sachalinensis*), hybrid knotweed (*F. x bohemica*), giant hogweed (*Heracleum mantegazzianum*), rhododendron (*Rhododendron ponticum, R. ponticum x R. maximum* and *R. luteum*) and Himalayan balsam (*Impatiens glandulifera*).

Limitations

2.10 Desk study data should not be treated as a comprehensive list of species present within a search area. Many species are under-recorded and low numbers of records can indicate a lack of survey effort in some areas, rather than confirm the absence of a species.

2.11 Ecological surveys are limited by factors that affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore,

[1] https://www.maps.north-ayrshire.gov.uk/Sites/LDP2/
[2] https://map.environment.gov.scot/sewebmap/
[3] Records from 2000 onwards are included within the data search.

the survey of the study area has not produced a complete list of plants and animals.

2.12 The timing of the Phase 1 Habitat survey was outside the optimum period for completing such a survey (April to September inclusive). However, the entire site was accessible, and the habitats present are commonly occurring and were confidently identified. As such, the survey timing is not considered to be a major limiting factor in the assessment of the habitats present and their potential to support legally protected species.

2.13 The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including aquatic habitats. The extended Phase 1 Habitat survey checked, in particular, for the presence of Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, rhododendron and Himalayan balsam. There may be other invasive plant species present on the site which were not recorded, but it is considered that this survey was sufficient to identify any significant constraints posed by invasive plants.

3. Results

Desk Study

3.1 There is one statutory designated wildlife site within 1 km of the site; the Portencross Woods Site of Special Scientific Interest (SSSI) which is located approximately 0.8 km west of the site. This designated site comprises a botanically rich mixed deciduous woodland on steep-sided maritime cliffs. It is predominantly ash (*Fraxinus excelsior*) and elm (*Ulmus* sp.) along the base, with smaller areas of oak (*Quercus* sp.) and birch (*Betula* sp.) higher up, and gorse (*Ulex europaeus*) and bracken (*Pteridium aquilinum*) on the tops of the cliffs. The nationally scarce rock whitebeam (*Sorbus rupicola*) is found within the partially vegetated cliffs.

3.2 There are three non-statutory wildlife sites within 1 km of the proposed development site:

- Goldenberry Hill Local Nature Conservation Site (LNCS) is located within the survey area, approximately 60 m and 120 m west of towers XB2 and XB3, respectively; and
- Campbelton Hill and Water-meadow LNCS is located approximately 0.2 km and 0.1 km east of towers XB2 and XB3, respectively;
- Hunterston House Wood LNCS is located approximately 0.8 km and 1 km north-east of towers XB2 and XB3, respectively.

3.3 There are no TPOs or TPO areas within the development site.

3.4 The search of Scotland's environment website identified four areas of ancient woodland listed on the AWI within 1 km of towers XB2 and XB3; the closest of which is Brackenbank Plantation, a long-established woodland of plantation origin located within the survey area, approximately 60 m and 120 m west of towers XB2 and XB3 respectively (within the Goldenberry Hill LNCS boundary).

3.5 An online search identified records of the following protected/notable species within 1 km of the proposed development site:

- Terrestrial mammals including badger (sighted on motion detection camera exiting sett) and brown hare (*Lepus europaeus*); and
- A large number of bird species including:

- Schedules 1 species of Wildlife & Countryside Act 1981 (as amended in Scotland); barn owl (*Tyto alba*), merlin (*Falco columbarius*), crossbill (*Loxia curvirostra*), and kingfisher (*Alcedo atthis*);
- Red listed species under the Birds of Conservation Concern 4 (Eaton et al 2015); cuckoo (*Cuculus canorus*), herring gull (*Larus argentatus*), linnet (*Linaria cannabina*), grasshopper warbler (*Locustella naevia*), grey wagtail (*Motacilla cinereal*), yellow wagtail (*Motacilla flava thunbergia*), house sparrow (*Passer domesticus*), shag (*Phalacrocorax aristotelis*), spotted flycatcher (*Muscicapa striata*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), mistle thrush (*Turdus viscivorus*), curlew (*Numenius arquata*), kittiwake (*Rissa tridactyla*), lesser redpoll (*Acanthis cabaret*), ringed plover (*Charadrius hiaticula*), skylark (*Alauda arvensis*), twite (*Linaria flavirostris*), whinchat (*Saxicola rubetra*), wood warbler (*Phylloscopus sibilatrix*), woodcock (*Scolopax rusticola*), white-fronted goose (*Anser albifrons flavirostris*), and lapwing (*Vanellus vanellus*).
- Amber listed species under the Birds of Conservation Concern 4 (Eaton et al 2015); teal (*Anas crecca*), mallard (*Anas platyrhynchos*), greylag goose (*Anser anser*), barnacle goose (*Branta leucopsis*), bar-tailed godwit (*Limosa lapponica*), meadow pipit (*Anthus pratensis*), water pipit (*Anthus spinoletta*), house martin (*Delichon urbicum*), reed bunting (*Emberiza schoeniclus*), snipe (*Gallinago gallinago*), oystercatcher (*Haematopus ostralegus*), common gull (*Larus canus*), black-headed gull (*Chroicocephalus ridibundus*), greater blackbacked gull (*Larus marinus*), lesser black-backed gull (Larus fuscus), Iceland gull (*Larus glaucoides*), willow warbler (*Phylloscopus trochilus*), dunnock (*Prunella modularis*), bullfinch (*Pyrrhula pyrrhula*), kestrel (*Falco tinnunculus*), mute swan (*Cygnus olor*), stock dove (*Columba oenas*), swift (*Apus apus*), pink-footed goose (*Anser brachyrhynchus*), brent goose (*Branta bernicla hrota*), wigeon (*Mareca penelope*), common sandpiper (*Actitis hypoleucos*), dunlin (*Calidris alpine*), eider (*Somateria mollissima*), gannet (*Morus bassanus*), grey plover (*Pluvialis squatarola*), guillemot (*Uria aalge*), knot (*Calidris canutus*), redshank (*Tringa nebularia*), greenshank (*Tringa nebularia*), redstart (*Phoenicurus phoenicurus*), fulmar (*Fulmarus glacialis*), sandwich tern (*Thalasseus sandvicensis*), common tern (*Sterna hirundo),* shelduck (*Tadorna tadorna*), turnstone (*Arenaria interpres*), razobill (*Alca torda*), shoveler (*Spatula clypeata*), and tawny owl (*Strix aluco*).

Habitats

3.6 The map of Phase 1 habitats recorded during the site survey is presented in Appendix A. Target notes summarising key interest features for wildlife are included in Appendix B (the location of these is shown in Appendix A). Plant species nomenclature follows Stace (2010).

<u>Semi-natural mixed woodland</u>

3.7 A small area of Brackenbank Plantation listed on the AWI, that falls within Goldenberry Hill LNCS boundary, is located with the survey area at TN1. It is a long-established woodland of plantation origin that has developed a semi-natural character. The canopy comprises Scots pine (*Pinus sylvestris*), beech (*Fagus sylvatica*), oak, sycamore (*Acer pseudoplatanus*), silver birch (*Betula pendula*) and downy birch *(Betula pubescens*). The understorey is sparse with ground flora comprising locally dominant bracken; where bracken is absent Yorkshire fog (*Holcus lanatus*), bent grass (*Agrostis* sp.) and other grasses were recorded. Small amounts of standing and fallen deadwood are present.

Scattered scrub

3.8 Hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus*) and gorse scrub was recorded scattered throughout poor semi-improved grassland. Bramble scrub is also present on a stonewall to the south of tower XB2.

Poor semi-improved grassland

3.9 Towers XB2 and XB3 are situated within fields of poor semi-improved grassland. The grassland has a very short sward due to intensive sheep grazing with bent grass, perennial ryegrass (*Lolium perenne*), crested dogs tail grass (*Cynosurus cristatus*), Yorkshire fog, buttercup (*Ranunculus* sp.), thistle (*Cirsium* sp.) and broadleaved dock (*Rumex obtusifolius*) present. Soft rush (*Juncus effusus*) is locally dominant where the ground is shallower than the surrounding area and shallow pools of water had collected (TNs 2 and 3). These pools, in particular

pool at TN2, are likely wet during winter after periods of rainfall. A small area of less intensively managed grassland dominated by soft rush is present between the existing substation and the access track (TN7).

3.10 A narrow strip of poor semi-improved grassland in a mosaic with scattered gorse and bracken occurs on sloping ground to the north of arable field (TN4). A quad bike/tractor track runs through this habitat.

Arable

3.11 An arable field of sheep-grazed beet crop is present within the central section of the survey area (TN5).

Other

3.12 Also present within the survey area are fences, stonewalls, tarmac and gravel footpath/access paths, open gravel areas at the existing substation, and a refuse-tip containing mixed soil and waste (TN6).

Species

Bats

3.13 A number of trees within the semi-natural mixed woodland contain features suitable for roosting bats. Furthermore, several bat boxes were recorded on the trees within the woodland. In accordance with Collins (2016), the woodland is considered to have a high potential for roosting bats.

3.14 The woodland and scrub provide foraging and/or commuting habitat for 'edge species' including pipistrelle and myotis species. The woodland edge also acts as a wildlife corridor connecting the site and the surrounding countryside. The grassland and arable fields are likely to provide relatively poor foraging habitat

due to limited insect prey availability. In accordance with Collins (2016), the site is considered to provide low to moderate value foraging and commuting habitat for bats.

Badgers

3.15 No badger setts were observed within the survey area; however, suitable habitat for badger sett creation is present on the areas of sloping ground with gorse scrub or woodland. Furthermore, the woodland, scrub and poor semi-improved grassland within the site and agricultural fields within the wider area provide optimal foraging habitat for badgers.

Other mammals

3.16 The woodland and scrub provide opportunities for hedgehog (*Erinaceus europaeus*) and other small mammals, including wood mouse (*Apodemus sylvaticus*), field vole (*Microtus agrestis*) and common shrew (*Sorex araneus*).

3.17 No evidence of suitable habitat for any other protected mammal was identified at the time of survey.

Birds

3.18 The woodland and scrub provide song-posts, shelter, and nesting and feeding opportunities for passerine bird species in the local area. The towers/pylons can be used for perching and nesting by corvids and raptors species. Open gravel areas within the substations offer suitable ground-nesting habitat for species such as oystercatcher whereas the less intensively managed grassland (TN7) provides sites for ground-nesting birds such as meadow pipit and skylark. Other

areas of grassland and arable fields provide a foraging resource for generalist insectivores such as corvids; however, the intensive management of these habitats render them unsuitable for ground-nesting birds.

Reptiles

3.19 The majority of the site comprises grazed grassland and arable fields that offer limited habitat for reptiles. However, woodland could provide some opportunities for reptile species that favour humid conditions and shaded areas such as slow worm (*Anguis fragilis*). The mosaic habitat at TN4, although limited in extent, has a variable structure and a mixture of vegetation heights with bare patches offering potential good basking places for reptiles, in particular common lizard (*Zootoca vivipara*). Furthermore, the crevices in stonewalls provide refuge habitat for common lizard whereas the top of stonewalls offer sites for basking.

Amphibians

3.20 The majority of the site is managed and consists of short-sward species poor grassland and an arable field that offer limited terrestrial habitat for amphibians. However, woodland, scrub, and possibly pools within poor semi-improved grassland offer suitable habitat for common amphibians such as common frog (*Rana temporaria*) and common toad (*Bufo bufo*).

Invasive non-native species

3.21 No invasive non-native species were identified within the survey area. However, some of the invasive species such as Himalayan balsam and giant hogweed may not have been visible as they die-back (their stems and leaves) during the winter.

4. Evaluation and Assessment of Potential Impacts

4.1 An assessment of effects on ecological features has been made using the available design for the planned works, information gathered from the extended Phase 1 survey, and the professional judgement of the ecologist. This includes a consideration of relevant legislation (see Appendix C).

Designated Sites

4.2 The Brackenbank Plantation, listed on the AWI, that also falls within the Goldenberry Hill LNCS, lies partially within the survey area. Although there is no legislation specifically protecting long-established woodlands, Scottish Planning Policy identifies that any such woodland has a high nature conservation value and is an important and irreplaceable national resource that should be protected and enhanced. Furthermore, this woodland qualifies as a Lowland Mixed Deciduous Woodland Priority Habitat, a habitat type included on the Scottish Biodiversity list (SBL) and therefore considered to be of principal importance for biodiversity conservation in Scotland.

4.3 Further to the above, LNCSs identify locally important natural heritage that such should be generally protected from development. The Local Development Plan for North Ayrshire (North Ayrshire Council, 2019) states that '*development adversely affecting Local Nature Reserves or Local Nature Conservation Sites will generally not be permitted unless it can be demonstrated the overall objectives of the designation and the overall integrity of the designated area would not be compromised, or any adverse effects are clearly outweighed by social, environmental or economic benefits of local importance*.'

4.4 A reduction in the size of woodland would make it less suitable as a habitat for woodland species that rely on larger areas of habitat. Any potential excavations and plant/vehicle movement within this woodland could result in damage/disturbance to the integrity of soil and associated biodiversity. In addition, there is also a risk of potential contamination (oils, fuels) of the ground.

4.5 No other statutory or non-statutory designated sites are considered to be at risk from the proposed works due to the relatively small scale of the works, low-level impacts from site clearance and construction activities, and the distance of these sites from the area of works. Therefore, they are not considered further within this report.

Habitats

4.6 The habitats within the survey area are generally of limited value for biodiversity and occur commonly within the wider landscape. The exception is the seminatural mixed woodland (Brackenbank Plantation) which is described in paragraph 4.2 above. Furthermore, the varied habitat structure of the grassland/bracken/scrub mosaic habitat at TN4 has the potential to support a range of wildlife, therefore, although common and widespread in the surrounding landscape, holds local ecological value at the site level.

Species

Bats

4.7 Bat boxes and trees within the semi-natural mixed woodland offer roosting opportunities for bats. Any impact upon the bat boxes and trees within the woodland may adversely affect the provision of roosting sites for bats within the local area and carry a risk of causing killing/harm/disturbance to roosting bats if present at the time of works. Furthermore, the potential removal of woodland and scrub may result in a reduction in the availability of bat foraging habitat.

Badgers

4.8 No immediate evidence of badger was noted during the survey. However, due to the records of badger in the area and presence of suitable habitats for badger foraging, it is possible that badger may move through the site. As such, there is potential for accidental entrapment of individuals within excavations. Furthermore, the sloping ground within the site may provide suitable habitat for sett creation, therefore, the construction of new holes cannot be ruled out.

Other mammals

4.9 Any removal of woodlands, scrub and the grassland/bracken/scrub mosaic habitat at TN4 has the potential to impact small mammals, including European hedgehog, which may hibernate/shelter in these habitats. Therefore, their removal may cause disturbance and/or direct harm to these species. Furthermore, there is potential for accidental entrapment of individuals within excavations during site clearance and construction.

Birds

4.10 Woodland, scrub, less intensively managed area of grassland at TN7, open gravel areas and the towers/pylons provide suitable nesting habitat for birds. Any works to these features undertaken during the breeding bird season (MarchAugust, inclusive), could result in killing, injuring of a nesting bird, and/or preventing/obstructing a bird from using its nest and/or destruction of eggs and nests.

Reptiles and amphibians

4.11 Some of the habitats on site, namely woodland, scattered scrub, stonewalls, the grassland/bracken/scrub mosaic habitat at TN4 and pools within poor semiimproved grassland, provide suitable habitat for common reptiles and/or amphibians that may be encountered during the works. However, the site is located in intensively managed agricultural land, and therefore there is a reduced likelihood that any reptiles and/or amphibians will be present in significant numbers. As the presence of reptiles and/or amphibians cannot be completely ruled out, any works within suitable habitats may result in the injury, killing or entrapment of a small number of reptiles and/or amphibians should they be present during works.

Invasive non-native species

4.12 No invasive non-native species were recorded within the survey area. However, given that some non-native species are difficult to identify over winter their presence on site cannot be entirely ruled out, although considered unlikely.

5. Recommendations

Designated Sites

5.1 The works should be designed to ensure that no areas of ancient woodland habitat within Brackenbank Plantation, as shown on the AWI and designated as a LNCS, are impacted. This includes site infrastructure, site compounds and storage areas. It is also recommended that a Construction Environmental Management Plan (CEMP) is developed to inform an appropriate working methodology throughout the duration of the project.

Habitats

5.2 It is recommended that a mosaic habitat at TN4 is retained. If not possible, it will be reinstated, based on the current vegetation, on completion of the works.

Species

Bats

5.3 No felling of trees should be undertaken without an inspection for bat roosting potential and, if necessary, more detailed subsequent survey, such as aerial inspections or presence/ absence surveys, could be required. Furthermore, the bat boxes within the woodland, if impacted by works, should be checked by a licensed bat ecologist for signs of occupation.

5.4 Should a roost be identified, an appropriate mitigation strategy would need to be designed, such as disturbance exclusion zones around occupied trees/bat boxes. If the works are likely to result in disturbance to or loss of a bat roost, then a licence would be required from NatureScot for the works to lawfully proceed.

5.5 If any of the bat boxes need to be removed to accommodate the works, these will be relocated to a suitable habitat (under a licence from NatureScot if roosting is confirmed) and be kept free from disturbance by on-site protection measures such as signage and fencing. The boxes should be installed at least 3 m above ground, higher if practical, at different orientations to provide a range of climatic conditions (north, south-west and south-east), fixed with aluminium nails and using hangers where appropriate.

Badger and other mammals

5.6 A pre-works check of suitable habitat will be carried out for badger setts by a suitably qualified ecologist. This is to enable checks for any new excavations that may have arisen between the time of this survey and the start of the works. Should a badger sett be identified, an appropriate mitigation strategy would need to be designed, such as disturbance exclusion zones around the sett, and a licence might be required from NatureScot.

5.7 Any excavations that need to be left overnight should be covered or fitted with mammal ramps to ensure that any animals, including badger, that enter can safely escape. Any excavations should be backfilled as soon as possible to minimise the potential for animals to become trapped.

5.8 If any small mammals are discovered during the works, they should either be allowed to leave the area naturally or be safely relocated to the perimeter of the site.

Birds

5.9 Any cutting/removal of suitable bird nesting habitat should take place outside the breeding bird season which runs from March until August inclusive, in order to prevent any impacts upon nesting birds.

5.10 Any vegetation clearance that must be carried out within the bird breeding season will be subject to a pre-clearance bird survey carried out by a suitably experienced ecologist. No works will be carried out within 5 m of an identified nest until the young have fledged and are no longer returning to the nest site. Works will only be undertaken once a scheme ecologist has declared the nest to be no longer in use.

Reptiles and amphibians

5.11 To avoid potential impacts to common amphibians and reptiles the following precautionary working methods will be undertaken:

- Before works commence, all contractors must be made aware of the potential for reptiles and amphibians to be encountered during works;
- Suitable reptile/amphibian habitat, including refuge sites, should be cleared at appropriate times of the year following destructive measures;
- Common amphibians and reptiles encountered at any time during works should be moved to a safe location away from the works and placed within a similar habitat to which they were found;
- Any holes or trial pits associated with works should be covered overnight to prevent common amphibians and reptiles from becoming trapped within them. If holes must be left open, a means of escape, such as plank should be provided; and
- All excavations left open overnight or longer will be checked for common amphibians/reptiles prior to the continuation of works or infilling.

Invasive non-native species

5.12 As a precaution, a toolbox talk on the identification of Himalayan balsam and giant hogweed should be provided to all operatives on site prior to works commencement.

Re-survey of the Site

5.13 If no works are undertaken on site within 12 months of this survey or if any changes to the proposals are made, a further ecological survey may be necessary (because of the mobility of animals and the potential for colonisation of the site).

References

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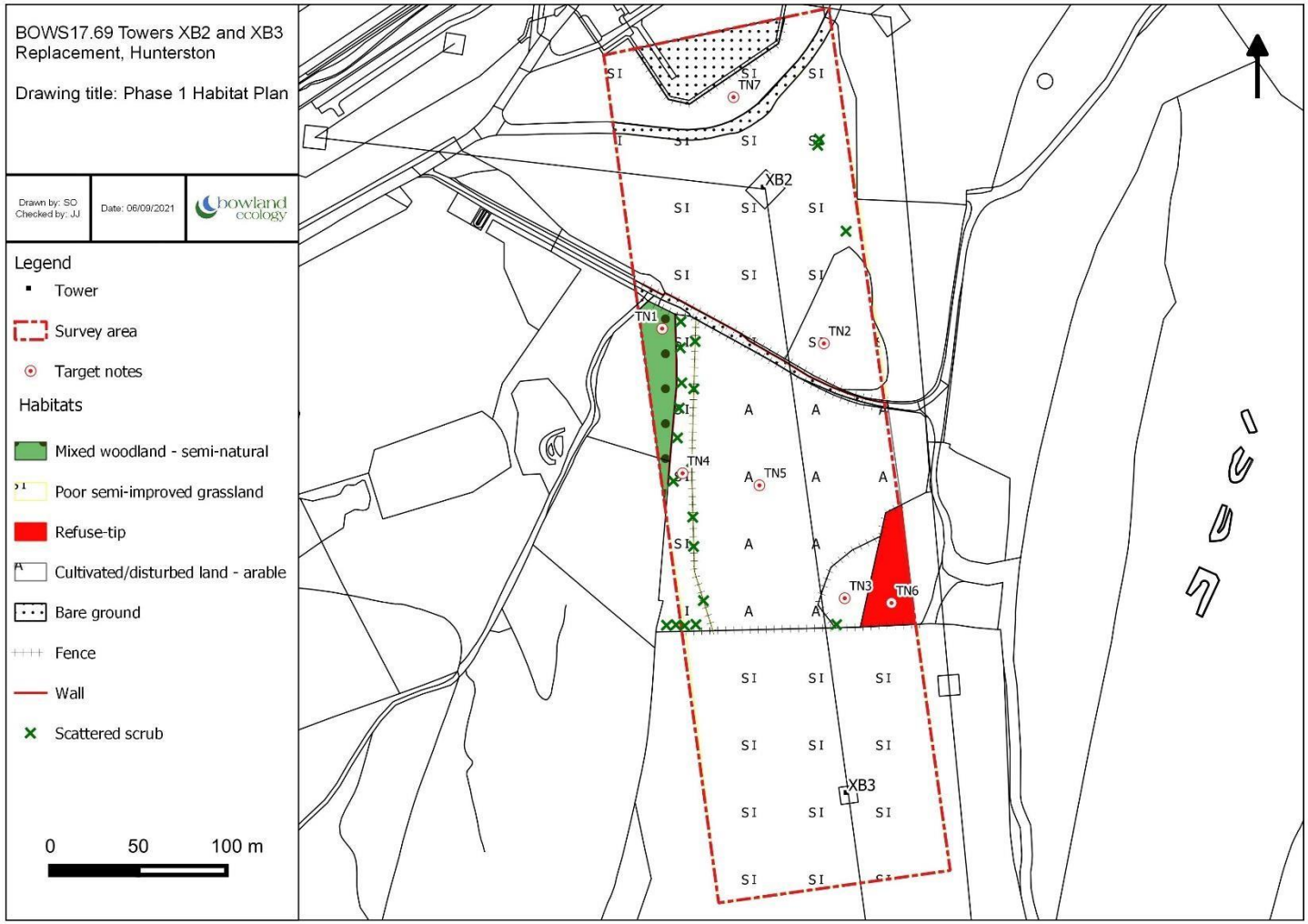
Appendix A – Phase 1 Habitat Plan


BOWS17.69 Towers XB2 and XB3 Replacement, Hunterston
Drawing title: Phase 1 Habitat Plan
Drawn by: SO
Checked by: JJ
Date: 06/09/2021
bowland ecology
Legend
Tower
Survey area
Target notes
Habitats
Mixed woodland - semi-natural
Poor semi-improved grassland
Refuse-tip
Cultivated/disturbed land - arable
Bare ground
Fence
Wall
Scattered scrub
0
50
100 m
TN1
TN2
TN3
TN4
TN5
TN6
TN7
XB2
XB3

Appendix B – Target notes

No	Description	Photograph
1	A small area of Brackenbank Plantation listed on the AWI, that falls within Goldenberry Hill LNCS boundary. It is a long-established woodland of plantation origin that developed into semi-natural. The canopy comprises Scots pine, beech, oak, sycamore, silver birch and downy birch. The understorey is largely absent with ground flora comprising locally dominant bracken; where bracken is absent Yorkshire fog, bent grass and other grasses were recorded. Standing and fallen deadwood is also present, and bat boxes are installed on the trees within the woodland.	
2	Soft rush dominated area within poor semiimproved grassland where the ground is shallower than the surrounding area. A shallow pool of water has collected here, which is likely wet only during winter after periods of rainfall.	
3	Soft rush dominated area within poor semiimproved grassland where the ground is shallower than the surrounding area. A shallow pool of water has collected here, which is predominantly wet during winter after periods of rainfall.	
4	Narrow strip of poor semi-improved grassland in a mosaic with scattered gorse and bracken on sloping ground to the north of arable field. A quad bike/tractor track runs through this habitat.	

5	Arable field of sheep-grazed beet crop within the central section of the survey area.	
6	Refuse-tip containing soil and waste within central section of the survey area.	
7	Poor semi-improved grassland dominated by soft rush.	

Appendix C – Legal Information

Species	Legislation	Offences	Licensing procedures and further advice
Bats ***European Protected Species***	Conservation (Natural Habitats &c.) Regulations 1994 Reg.39 Nature Conservation (Scotland) Act 2004	It is an offence to deliberately or recklessly: kill, injure, capture or harass a bat; disturb a bat whilst it is using any structure or place for shelter or protection (roost sites), or in any way that impairs its ability to survive or breed, or significantly affects the local distribution or abundance of the species; obstruct access to a roost site, or otherwise deny its use by bats. And whether or not deliberate or reckless: to damage or destroy a bat roost, irrespective of whether bats are present. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	An SNH licence in respect of development and certain survey techniques is required. • *Bat Mitigation Guidelines* (English Nature 2004) • *Bat Workers Manual* (JNCC 2004) • https://www.nature.scot/species-planning-advicebats
Badger	Protection of Badgers Act 1992 Nature Conservation (Scotland) Act 2004	Offences relevant to development works include: wilfully injuring or killing a badger; disturbing a badger while it is in a sett; intentionally or recklessly damaging or destroying any part of a badger sett, or obstructing access to a sett. The Protection of Badgers Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'. [It is not illegal to carry out disturbance activities in the vicinity of setts that are not occupied.]	A licence must be obtained from SNH for any work that may cause disturbance to a badger or involves the damage or destruction of a sett. What constitutes disturbance depends on the nature of the activity proposed: as a rule a licence is normally required for any works within 30 metres of a badger sett, but this distance may increase for more disruptive activities such as blasting or pile-driving. Licences are not granted from December to June inclusive because cubs may be present within setts. https://www.nature.scot/professionaladvice/safeguarding-protected-areas-and-species/licensing/species-licensing-z-guide/badgers-andlicensing

Towers XB2 and XB3 Replacement, Hunterston, Preliminary Ecological Appraisal

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Breeding birds	Wildlife and Countryside Act 1981 (as amended) S.1 Nature Conservation (Scotland) Act 2004	For any wild bird species, it is an offence to intentionally or recklessly: kill, injure or take a bird take, damage, destroy or interfere with a nest of any bird while it is in use or being built; obstruct or prevent any bird from using its nest; take or destroy an egg of any bird. For any wild bird species listed on Schedule 1, it's an offence to disturb: any bird while it is building a nest; any bird while is in, on, or near a nest containing eggs or young any bird while lekking the dependent young of any bird For any wild bird species listed on Schedule 1A, it's an offence to intentionally or recklessly harass any bird. For any wild bird species listed on Schedule A1, it's an offence to intentionally or recklessly take, damage, destroy or interfere at any time with a nest habitually used by any bird.	No licences are available to disturb any breeding birds in regard to development. Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development. General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety.
Adder Common lizard Slow worm	Wildlife and Countryside Act 1981 S.9(1) (part); S.5 Nature Conservation (Scotland) Act 2004	It is an offence to intentionally or recklessly: kill or injure any common reptile species.	There are no licensing provisions to allow the killing or injuring of reptiles and so measures must be put in place to minimise the risk of this happening and avoid an offence being committed.

[1]Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing [2] Deliberate or reckless disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to affect significantly the local distribution or abundance of the species to which they belong, or to obstruct access to a breeding site or resting place or otherwise to deny the animal use of the breeding site or resting place. Disturbance also includes disturbing an animal while it is occupying a structure or place which it uses for shelter or protection and disturbing an animal while it is rearing or otherwise caring for its young. Lower levels of disturbance, not covered by the Conservation Regulations, remain an offence under the nature Conservation Scotland Act, however a defence is available where such actions are the incidental result of a lawful activity