



# EMERGENCY SERVICES NETWORK

## Brownknowe Field

EAS0110f

Ecological Assessment March 2018

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## APPENDICES

Appendix A – Desk Based Assessment Report

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G6421.01.186 Phase 1 Habitat Plan

Heyrod Lease Demise Layout (Plan Ref: EAS0110/101 Rev F)

## Summary

1. This Ecological Assessment describes the baseline ecology of a proposed telecommunication mast site called Brownknowe Field, Greenhaugh, Hexham, Northumberland, NE48 1PS. It identifies potential impacts on biodiversity from the development and outlines any avoidance measures, mitigation and licence applications that are required to protect the ecological interest of the site and neighbouring areas.
2. A desk based assessment (DBA) was originally undertaken in December 2017 and is provided in Appendix A. The DBA was guided by the MSV report and power supply assessment (PSA) provided by Lend Lease Construction (Europe) Limited, which provided information on the proposed site location, access and how power would be delivered to site. It used national data sets, local records centre data and aerial images to identify potential impacts and mitigation requirements. The DBA should be read in conjunction with this report but recommendations made in this report supersede those made in the DBA.
3. A number of wildlife sensitive methods must be adhered to during the construction phase in order to protect the biodiversity interest of the site and surrounding area and to avoid committing an offence.
4. There is a risk that pollution from the construction activities, including the proposed mast site itself, access road and power supply route, could affect the North Pennine Dales Meadows SAC, Greenhaugh Meadow SSSI and Tarsset Burn LWS.

To avoid impacts on designated sites, pollution of the neighbouring watercourses and associated impacts on biodiversity (including brown trout, Atlantic salmon, otter and water vole), measures to prevent pollutants and runoff from site activities entering terrestrial and aquatic habitats must be included in a Construction Environmental Management Plan (CEMP).

5. The development proposals will result in the permanent loss of a small amount of upland heathland habitat of principal importance listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A habitat protection plan will be required that will set out details of how these habitat losses will be mitigated for through replacement planting in the area immediately surrounding the proposed mast site. In order to ensure any protected species are also translocated and depending upon the timing of the works, dedicated flora surveys may be required in June/July for heath species. This plan must be included in a Construction Environmental Management Plan (CEMP).  
Additionally, the location of the proposed access road should be amended to impact those areas of lower quality upland heathland.  
A hydrologist should be consulted to ensure that any drainage solutions put in place across the road maintain the current hydrological connections across the land and ensure the wet heath does not dry out in the vicinity of the proposals



6. There is the potential for retained woodland habitats to be damaged during construction activities.

As works will fall within 15m of the adjacent woodland retained habitats must be protected in line with BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

7. The site and land within 30m of the proposals has suitable habitat to support badger.

If the proposed mast site is not constructed within 12 months of this assessment a site walkover will be required to ensure badgers have not moved into the area in the intervening period.

8. The habitats within and adjacent to the site provide suitable bird nesting habitat for a range of species.

It is an offence to intentionally or recklessly, damage or destroy nests or to disturb birds while they are at the nest. This includes nest construction to fledging of the young. Construction activities at the proposed mast site should be timed to avoid the nesting season (March to August inclusive). If this is not possible a Reasonable Avoidance Measures Method Statement (RAMMS) will be required in order to avoid committing an offence. This measure must be detailed in the site's CEMP.

9. The adjacent woodland contains habitat suitable to support red squirrel.

A pre-commencement survey of the adjacent woodland for red squirrel will be required prior to any construction activities at the proposed mast site. The potential drey must be closely monitored to determine whether this is a red squirrel drey and whether it is in active use.

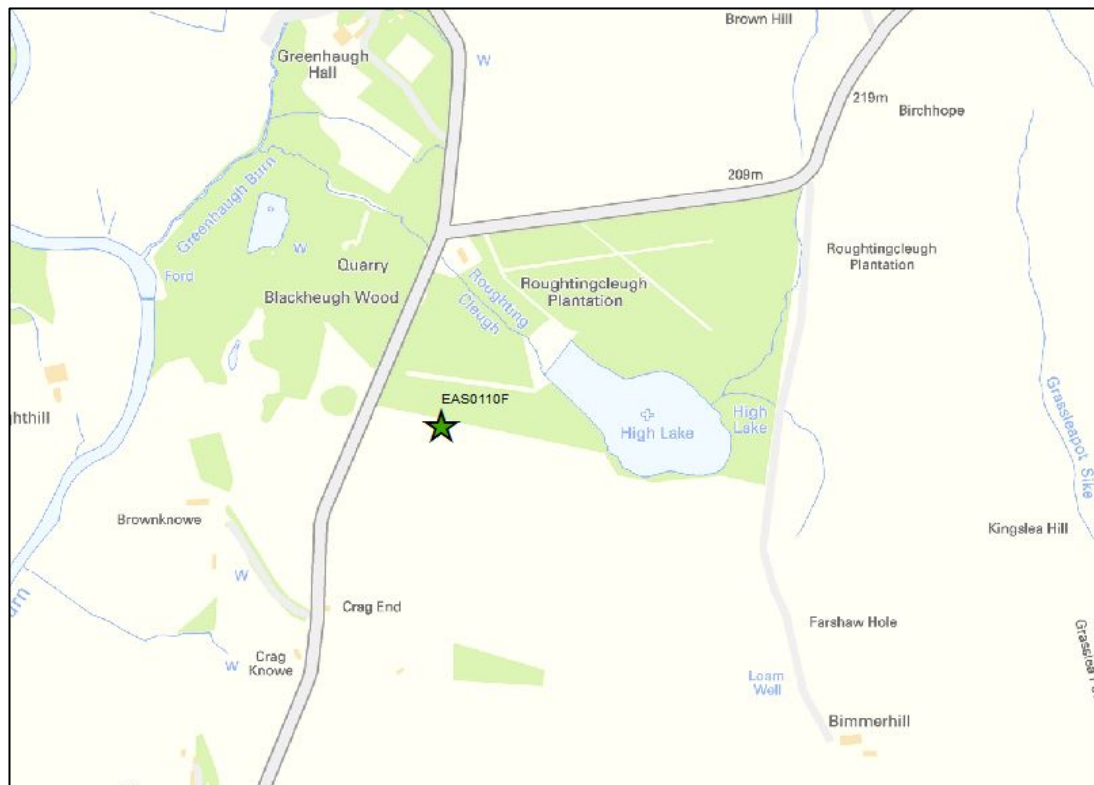
A RAMMS must also be produced which details measures during site clearance works to avoid killing or injury of red squirrel. This must be included in the CEMP.

10. The site contains habitat suitable to support reptiles.

A RAMMS must be produced which details measures during site clearance works to avoid killing or injury of reptiles. This must be included in the CEMP. The reptile RAMMS will also ensure any amphibians that may be present are suitably protected during construction of the site.

## 1.0 Introduction

- 1.1 TEP was commissioned in December 2017 to undertake a DBA to assess the feasibility of a proposed new telecommunication mast location at a site called Brownknowe Field, Greenhaugh, Hexham, Northumberland, NE48 1PS. TEP were provided with an MSV report and PSA report which provided information on the proposed location of the site, the structure to be built, how the site will be accessed and details of how power would be delivered to site.
- 1.2 The site is now being brought forward for planning and a site survey has been undertaken to support a full ecological assessment and further assess the impacts predicted in the DBA.
- 1.3 This report supersedes the findings of the DBA included at Appendix A and identifies any key changes or further issues identified.
- 1.4 The proposals for the site include a 10m x 10m compound with a hardstanding foundation supporting a 25m high mast and associated equipment. The site is accessed off an existing single track minor road and through the field.
- 1.5 Power is assumed to be delivered via a low voltage underground cable which will connect to existing transformer approximately 350m southwest of the proposed mast site. The site's location is shown in **Figure 1**.



**Figure 1:** Site location and local context

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## 2.0 Methods

### Desk Study and Consultation

- 2.1 Information regarding historic species records and protected sites within a 1km to 10km radius of the site was requested/gathered from various sources. Full details of the DBA can be found in Appendix A.

### Extended Phase 1 Habitat Survey

- 2.2 A Phase 1 habitat survey was completed by Kerry Stead Grad CIEEM FISC Level 4 on 21<sup>st</sup> February 2018, using the standard JNCC Phase 1 habitat assessment method (2010)<sup>1</sup>. This method records the habitat types present in and immediately surrounding the site, based on the JNCC descriptions. Plant species were identified in accordance with Stace (2010)<sup>2</sup> and recorded as target notes using the DAFOR<sup>3</sup> scale. Target notes were also used, where appropriate, to record incidental records of, or features that may support, protected and notable species. Weather conditions during the survey were cold but sunny.

### Bats

- 2.3 A ground based inspection of trees within and around the site that could potentially be affected by the proposed development, was carried out in conjunction with the Phase 1 habitat survey.
- 2.4 Each tree was inspected with the aid of binoculars where required. The species, age, growth form and condition were assessed for their suitability for bats to roost. Field signs which include droppings, characteristic staining and smell of bats, were also searched for. The assessment also takes into account the surrounding landscape, including the nature of vegetation, connectivity with suitable habitats in and around the site, and artificial lighting.
- 2.5 Trees were then categorised in accordance with Bat Conservation Trust (BCT) Guidelines (2016)<sup>4</sup> as Confirmed roost or having High, Moderate, Low or Negligible potential to support bats. Features that may support roosting bats include, for example, rot holes, splits, snags and flaking or lifted bark.
- 2.6 Trees were categorised based on the findings of the inspection with the aim of informing the 'next steps' i.e. recommendations for sensitive working methods or nocturnal survey as appropriate. The categories used are as listed in Table 1.

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<sup>1</sup> JNCC (2010) Handbook for Phase 1 Habitat Survey: A technique for environmental audit. Joint Nature Conservation Committee, Peterborough

<sup>2</sup> Stace, C. (2010) New Flora of the British Isles. 3rd Ed. Cambridge University Press

<sup>3</sup> DAFOR = Dominant, Abundant, Frequent, Occasional & Rare

<sup>4</sup> BCT (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Ed. Bat Conservation Trust, London

**Table 2: Bat Tree Roost Potential Categories (based on BCT Guidance 2016)**

Roost Suitability	Description of roosting habitat	Action required in respect of bat roosts in tree
<b>Negligible</b>	No PRF present.	No further action required.
<b>Low</b>	A tree of sufficient size and age to contain PRFs but with none seen from the ground, or features seen with only very limited roosting potential (as per BS 8596:2015).	Precautionary measures may be appropriate during felling or pruning activities.
<b>Moderate</b>	A tree with one or more PRF that could be used by bats due to their size, shelter, protection, conditions (i.e. temperature, light levels, humidity, height above ground or disturbance levels) and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, irrespective of species conservation status).	Presence/absence survey(s) required.  Subject to findings of presence/absence survey, roost characterisation surveys required.
<b>High</b>	A tree with one or more PRF that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Presence/absence survey(s) required.  Subject to findings of presence/absence survey, roost characterisation surveys required.

2.7 Preliminary ground level roost assessments of trees can be carried out at any time of the year but for deciduous trees they are best carried out in winter (after the leaves have fallen and before new ones replace them) around December to March inclusive. The woodland in close proximity to the site comprises coniferous plantation, however all trees could be properly assessed and there were no limitations to this survey.

### Badger

2.8 Signs of use of the site by badger were also searched for during the Phase 1 habitat survey. The standard methodology as recommended by Harris, Cresswell and Jefferies (1989)<sup>5</sup> was followed to complete a thorough search for evidence which would indicate the presence of badgers both on the site and locally. Evidence of badger occupation and activity includes:

- Setts: including earth mounds, evidence of bedding and runways between setts;
- Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
- Prints and paths or trackways;
- Hairs caught on rough wood or fencing;

<sup>5</sup> Harris S, Cresswell P and Jefferies D (1989). Surveying Badgers. Mammal Society.

- Other evidence: including snuffle holes, feeding and playing areas and scratching posts.

2.9 Badgers are active all year round, therefore a survey can be carried out at any time of year however, depending upon the level of vegetation, these surveys are often best conducted over the winter months when the vegetation has died back. Given the low density of vegetation within the survey area, there were no limitations to this survey.

### **Red Squirrel**

2.10 The site and land within 100m of the proposed mast site was assessed for its suitability to support red squirrel and evidence of the presence of red squirrel was also searched for. All accessible trees were viewed for any evidence of squirrels or their dreys and the ground was searched for any evidence of feeding remains. Red squirrels are active all year round, so a survey can be carried out at any time of year. There were no limitations to this survey.

### **Pine Marten**

2.11 The site and land within 100m of the proposed mast site was assessed for its suitability to support pine marten and evidence of the presence of pine marten was also searched for. Focus was mainly given to the nearby woodland habitats where evidence of dens, scats and feeding remains were systematically searched for. Pine martens are active all year round but are best surveyed between May and September, and ideally in June to August when scats are most abundant.

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## 3.0 Results

### Desktop Study

- 3.1 A detailed DBA was undertaken in December 2017 and is presented in Appendix A. The results are summarised below.

#### Designated sites

- 3.2 There are three internationally designated sites within 10km of the proposed mast site. These are North Pennine Dales Meadows Special Area for Conservation (SAC), Border Mires, Kielder-Butterburn SAC and Irthinghead Mires Ramsar site.
- 3.3 There is one nationally designated site within 2km of the proposed mast site. This is Greenhough Meadow Site of Special Scientific Interest (SSSI).
- 3.4 There is one locally designated site within 1km of the proposed mast site. This is Tarslet Burn Local Wildlife Site (LWS).
- 3.5 The proposed mast site falls within several Natural England SSSI Impact Risk Zones (IRZs). The proposals could fall into the category of “infrastructure” if the mast is classified as a pylon in planning terms and this is one of the categories whereby the Local Authority may consult Natural England for advice.

#### Notable habitats

- 3.6 The desktop identified that the proposed mast site lies within upland heathland and lies near to deciduous woodland. Additionally, there are other habitats present within 1km including grass moorland, lowland fens, fragmented heath, upland calcareous grassland, upland hay meadows and good quality semi-improved grassland.
- 3.7 The ancient woodland inventory data identifies ancient woodland approximately 650m northwest of the proposed mast site.

#### Protected species records

- 3.8 A number of species spread over a 1km search radius were identified through the desktop search. Species regarded as protected or notable include those listed under any of the following legislation or groupings:
- European Protected Species (EPS);
  - Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
  - Protection of Badgers Act 1992 (PBA);
  - Species of principal importance under Section 41 of the Natural Environment and Communities Act 2006 (S41); and
  - Red and Amber listed Birds of Conservation Concern (BRd/BAm).
- 3.9 For full details of the relevant species designations please refer to the desktop results in the DBA.
- 3.10 In summary, notable species recorded within the search area include:

- Adder *Vipera berus* (S41);
- Brown long-eared bat *Plecotus auritus* (EPS, S41);
- Common pipistrelle *Pipistrellus pipistrellus* (EPS);
- Noctule *Nyctalus noctula* (EPS, S41);
- Soprano pipistrelle *Pipistrellus pygmaeus* (EPS, S41);
- Whiskered/Brandt's bat *Myotis mystacinus/ brandti* (EPS);
- Red squirrel *Sciurus vulgaris* (WCA5);
- Badger *Meles meles* (PBA);
- Otter *Lutra lutra* (EPS, WCA5, S41);
- Atlantic salmon *Salmo salar* (EPS, S41);
- Brown trout *Salmo trutta* (S41).

3.11 In addition to the above, numerous records of S41 invertebrate species have been recorded along with numerous S41, BRd and BAm bird species.

3.12 No protected or invasive plant species (i.e. those listed under Schedule 8 or 9 of the Wildlife and Countryside Act 1981) were identified in the records search within 1km of the proposed mast site.

### Extended Phase 1 Habitat Survey

3.13 The results of the Phase 1 habitat survey are illustrated in drawing G6421.01.186. The habitats present within the proposed development site and access track, as well as habitats adjacent to these areas are listed below. Brief descriptions of these habitats are also given:

- Wet heath/acid grassland mosaic;
- Plantation coniferous woodland;
- Plantation broadleaved woodland;
- Semi-natural broadleaved woodland;
- Semi-improved acid grassland;
- Hardstanding; and
- Dry stone walls.

3.14 The proposed mast site is located upon an area of wet heath/acid grassland mosaic. (**Figure 2**). The access route and power supply route also cross this field. The proposed mast site lies adjacent to plantation coniferous woodland bounded by a dry stone wall.





Figure 2: Approximate location of proposed mast site

- 3.15 The field within which the proposed mast site is located comprises a wet heath/acid grassland mosaic. The field was noted to be very wet and the colouration of standing water suggests peaty soils. The field had obviously been cattle grazed recently. Species recorded within the included field purple moor-grass *Molinia caerulea*, mat grass *Nardus stricta*, heather *Calluna vulgaris*, *Sphagnum* moss species, marsh thistle *Cirsium palustre*, soft rush *Juncus effusus* and sheep's sorrel *Rumex acetosella*. The amount of heather was sparse at the proposed mast site but it was seen to become more frequent to the south and east, and down-gradient of, the proposed mast site (Figure 3).



Figure 3: View of field to the south showing greater abundance of heather



- 3.16 The adjacent plantation coniferous woodland is dominated by Scots pine *Pinus sylvestris*. The woodland groundflora was beginning to emerge with male fern *Dryopteris filix-mas* and *Polytrichum* moss species apparent (**Figure 4**). Plantation broadleaved woodland exists in a strip along the western edge and southwestern corner of the coniferous woodland. This was mainly silver birch *Betula pendula*.



**Figure 4:** Coniferous plantation woodland adjacent to the site

- 3.17 Habitats within the wider area comprise similar fields to the south along with semi-improved acid grassland to the west (**Figure 5**) and an area of semi-natural broadleaved woodland also recorded.



**Figure 5:** Surrounding fields to the west of the proposed mast site



- 3.18 Access to the proposed mast site is off an existing single track minor road which provides access to the field. There is an existing field gate which will be widened for construction access. The proposed access route leads through the field, through areas of heather (**Figure 6**).



**Figure 6:** Access to proposed mast site through field

- 3.19 The proposed power supply route is approximately 350m long and runs from the proposed mast site to an existing pole, located southwest of the proposed mast site and within an area of semi-improved acid grassland.

#### Protected and invasive plant species

- 3.20 No protected or invasive plant species were identified during the site survey. Given the time of year the survey was undertaken, protected and invasive species are unlikely to have been visible.

### **Fauna**

#### Amphibians

- 3.21 Three waterbodies were identified within 500m of the site, including High Lake located approximately 180m east which feeds into Tarsset Burn. The wet nature of the heath/grassland has led to pooling of standing water in places that could be used opportunistically for breeding by common amphibian species. The woodland adjacent to the proposed mast site could also provide suitable, albeit limited, foraging and sheltering habitat for amphibians, should these be present in the area.

#### Badger

- 3.22 There are records of badger within 1km of the site. The habitats within and surrounding the proposed mast site provide potential foraging, commuting and sett. There was, however, no evidence of badger, including setts, footprints, hairs or latrines, found during the survey.

#### Bats

- 3.23 It is likely that bat species are present in the wider area, there are desktop records of numerous bat species within 1km. The grassland on site and adjacent woodland has suitability to support foraging and commuting bat species.
- 3.24 No buildings or trees are present within the proposed mast site but there is coniferous woodland adjacent. The trees in close proximity to the proposed mast site were assessed for their potential to support roosting bats and none were found to have potential to support roosting bats.

#### Birds

- 3.25 The wet heath/grassland habitat will support a range of bird species, in particular ground nesting birds. However, it is noted that the habitats immediately within the proposed mast site will be less suitable due to predator perches provided by the adjacent woodland. In addition to this, the plantation coniferous woodland could support a range of woodland breeding species.

#### Fish

- 3.26 Records of brown trout and Atlantic salmon were returned in the data search associated with Tarsset Burn, located approximately 380m west and down-gradient of the proposed mast site. There is no suitable habitat at the proposed mast site to support either of these species.

#### Invertebrates

- 3.27 The proposed mast site lacks any significant abundance of suitable food sources that could support an important invertebrate assemblage. This species group is not discussed further in this assessment.

#### Otter and water vole

- 3.28 Records for otter but no records of water vole, were returned in the data search. The nearest watercourse to the site is Tarsset Burn 38-m west of the site and the otter records relate to this watercourse. There is no suitable habitat on site to support otter and water vole.

#### Pine marten

- 3.29 The woodland habitats adjacent to the site have potential to support breeding, foraging and sheltering pine marten. No evidence of this species such as scats, mammal holes or foraging remains were identified during the survey.

Red squirrel

- 3.30 The proposed mast site lies adjacent to plantation coniferous woodland which provides suitable habitat for red squirrel. The woodland was thoroughly searched for signs of red squirrel and a potential drey was noted in a tree close to the proposed mast site. Binoculars were used to inspect this, however, no suitable vantage point was possible. No squirrels or birds were observed close to this potential drey during the survey.

Reptiles

- 3.31 The marshy grassland at the proposed mast site and the adjacent woodland provide suitable habitat for breeding, hibernating and basking reptiles.

## 4.0 Conclusions

- 4.1 This section concludes the potential impacts on ecological receptors associated with the proposed development. Consideration is given to the 'mitigation hierarchy', i.e. that impacts are first avoided or where this is not practicable, mitigated and as a final resort, compensated (off-set).
- 4.2 The information below is based on the current fixed site design (Heyrod drawing EAS0110f/101 Rev E).

### Designated Sites

- 4.3 North Pennine Dales Meadows SAC is designated for habitats and Border Mires, Kielder-Butterburn SAC and Irthinghead Mires Ramsar site are designated for their habitats, flora and fauna. Greenhaugh Meadow SSSI is designated for its habitats and this designation covers the same footprint as North Pennine Dales Meadows SAC at this location.
- 4.4 North Pennine Dales Meadows SAC and Greenhaugh Meadow SSSI lie approximately 400m northwest of the proposed mast site and down-gradient of the site. There is potential for pollution and runoff from construction works to enter these designations which could affect the quality of the SAC/SSSI habitats and species they support.
- 4.5 Given the small size of the proposed development and distance between Border Mires, Kielder-Butterburn SAC and Irthinghead Mires Ramsar site (both over 7km away), effects on these sites are highly unlikely to arise.
- 4.6 Tarsset Burn LWS lies approximately 380m west of the site and tributaries of this lie within 140m of the proposed mast site. The topography of the site suggests that, as with the international and national designations, the proposed mast site lies at the top of an incline above the Tarsset Burn, therefore runoff from the construction works could potentially affect the quality of the LWS habitats and the species it supports.

### Habitats

- 4.7 The survey confirmed that, although appearing in unfavourable condition, the field within which the proposed mast site is located comprises upland heathland. This is a Habitat of Principal Importance listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.
- 4.8 Damaged habitat will be reinstated but some of these habitats will be permanently lost as a result of the proposals. It is estimated that 0.04ha of upland heathland (comprising wet heath/acid grassland mosaic) will be lost to accommodate the access road and demise of the proposed mast site. The proposed mast site itself was not particularly abundant in heather, however, this increased downhill away from the site and the current route of the access track passes through some of the denser areas.

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- 4.9 There is also potential for pollution and runoff from construction works to affect the more favourable areas of upland heathland located down-gradient from the proposed mast site.
- 4.10 Drainage across the access road will need to ensure the hydrological connections are maintained across the habitat. Drying out of the wet heath/acid grassland habitat would have a significant effect on this priority habitat.
- 4.11 It is unlikely that there will be any implications with regard to any invasive or protected plant species, however, the time of year that the survey was undertaken cannot conclude the absence of these species.

## Fauna

### Amphibians

- 4.12 There are three waterbodies within 500m of the site, with connectivity to the site for amphibians via the adjacent woodland. There are also areas of standing water that could opportunistically be used for breeding by common amphibian species, if these are present in the area.

### Badger

- 4.13 There is no evidence of badgers utilising the site so there are currently no implications relating to badgers from the proposed development, however, the habitats present have potential to support badger foraging in the future and habitats adjacent to the site have the potential to support sett-building.

### Bats

- 4.14 Although the grassland habitats within the proposed mast site and the adjacent woodland have some suitability to support foraging and commuting bat species, the small amount of habitat that will be impacted by the proposals is unlikely to cause a significant impact on the local bat population. The small amount of habitats lost will not cause habitat fragmentation so will not restrict commuting bats. There will be a small loss of potential foraging habitat but this loss is unlikely to be of significance given the wide breadth of similar habitat in the wider area.
- 4.15 No trees were identified within or immediately adjacent to the proposed mast site or access route which currently offer bat roosting opportunities. Development proposals will therefore not result in the loss of any tree roosts or potential tree roost habitat. There will be no implications relating to bats from the proposed development of the site.

### Birds

- 4.16 The habitats where the proposed mast site is located provides potential nesting habitat for ground nesting bird species. The nearby trees also provide suitable nesting habitat.

4.17 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally or recklessly, damage or destroy nests or to disturb birds while they are at the nest. This includes the period from nest construction through to fledging of the young.

4.18 Loss of some of the grassland habitat is unlikely to have a significant effect on the local bird populations with respect to nesting and foraging. However, removal of these features means an offence is likely to occur during the nesting season if nests are present. Therefore there will be implications for development with regard to nesting birds and clearance of the site.

#### Fish

4.19 Tarsset Burn provides suitable habitat to support brown trout and Atlantic salmon. The proposed mast site will not directly impact upon this watercourse and there are not considered to be any direct implications with regard to the development and fish. There are, however, indirect implications due to potential pollution from the construction activities affecting Tarsset Burn.

#### Otter and water vole

4.20 Records of otter were returned in the data search but no records of water vole were provided. Tarsset Burn lies down-gradient from the proposed mast site and could be impacted by runoff from construction works at the proposed mast site. It is, however, located 380m away from the proposed mast site. There may, however, be implications to development with regard to otter and water vole due to the potential for pollution incidents affecting this watercourse.

4.21 Pollution prevention measures will need to be put in place to ensure there is no negative impact from pollution on otter or water vole in the wider area.

#### Pine marten

4.22 No desktop records of pine marten were revealed within 1km of the proposed mast site. There was no evidence of pine marten identified during the survey. There will be no implications to development of the proposed mast site with regard to pine marten.

#### Red squirrel

4.23 There are multiple records of red squirrel within 1km of the site, including records for the woodland to the immediate north. No red squirrel were observed during the survey, however, a potential drey was noted and the woodland has good connectivity to the surrounding area. There could be implications to development of the proposed mast site with regard to red squirrel.

Reptiles

- 4.24 The site contains habitat suitable to support reptiles and there are records of adder within 1km of the site. Given the small scale of the works, it is considered the risk to reptiles is low, but still possible and therefore there could be implications to the development.



## 5.0 Recommendations

- 5.1 It is considered that the ecological features present within the site will not prevent development of the proposed mast site. However, a number of potential ecological constraints require further consideration so as to ensure that development does not result in either an offence being committed in respect of protected species or a net loss of biodiversity interest.

### Designated Sites

- 5.2 There is a risk that pollution from the construction activities, including the proposed mast site itself, access road and power supply route, could affect the North Pennine Dales Meadows SAC, Greenhaugh Meadow SSSI and Tarsset Burn LWS. This risk can be avoided through the production and implementation of a Construction Environmental Management Plan (CEMP). This method statement must include standard, best-practice methods on how site run-off will be controlled, how site waste will be managed, how fuel and other spillages will be prevented and must include emergency procedures for any pollution accidents.

### Habitats

- 5.3 Current proposals will result in the small permanent loss of upland heathland habitat of principal importance. Under current legislation there is a duty on local planning authorities to have due regard for maintenance of biodiversity.
- 5.4 Upland heathland at the proposed mast site appeared in unfavourable condition with very little heather evident and cattle grazing appears to have reduced its quality. It will therefore be possible to mitigate for the habitat loss by undertaking additional planting with heath species in the area immediately surrounding the proposed mast site. Replacement planting should be at least equal to, if not greater than, the areas lost in order to ensure no net loss of biodiversity.
- 5.5 The proposed access road crosses through better areas of upland heathland. It is considered that the areas to the edges of the field are those of lower quality and it is therefore considered that the location of the access road is amended to impact those areas of lower quality.
- 5.6 It will be necessary to undertake a detailed floristic survey in the appropriate time of year to ensure the quality of the upland heathland can be accurately determined and any protected plant species that may be present are identified and translocated through a targeted approach. These surveys are likely to be required in June/July for identification of heath species.
- 5.7 A hydrologist should be consulted to ensure that any drainage solutions put in place across the access road maintain the current hydrological connections across the land and ensure the wet heath does not dry out in the vicinity of the proposals.
- 5.8 All retained habitats will require protection during construction to ensure no additional degradation occurs.

- 5.9 There is the potential for adjacent woodland habitats to be damaged during construction activities. These habitats should be protected during construction in line with BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.
- 5.10 If any elements of the proposals change or any new habitats are affected, an ecologist will need to review these changes and, depending on the significance of the changes, a site visit may be required.

## **Fauna**

### Amphibians

- 5.11 There is a risk of amphibians being present on site. If, however, these are present the reptile RAMMS required for the proposed mast site will ensure any amphibians that may be present are suitably protected during construction of the site.

### Badger

- 5.12 There are currently no implications to development with regard to badger, however, if the proposed mast site is not constructed within 12 months of this assessment, a site walkover will be required to ensure badgers have not moved into the area in the intervening period.

### Birds

- 5.13 It is recommended that all vegetation clearance should be undertaken outside the bird nesting season (March to August inclusive). If this is not possible, a suitably qualified ecologist should carry out a nesting bird check a maximum of 24 hours in advance of vegetation clearance works. If nesting birds are found, an appropriate exclusion zone will need to be set up around any active nests until the young have fledged. The ecologist will carry out regular monitoring checks to advise when it is possible for clearance works to proceed. The size of the exclusion zone will depend on the species nesting.

### Fish

- 5.14 No direct impacts on fish are predicted from the development of the proposed mast site. The production of a CEMP will ensure pollution events do not affect watercourses or the species they support, should they be present in the wider area.

### Otter & water vole

- 5.15 No direct impacts on otter and water vole are predicted from the development of the proposed mast site. The production of a CEMP will ensure pollution events do not affect watercourses or the species they support, should they be present in the wider area.

Red squirrel

- 5.16 A pre-commencement survey of the adjacent woodland for red squirrel will be required prior to any construction activities at the proposed mast site. The potential drey must be closely monitored to determine whether this is a red squirrel drey and whether it is in active use. A red squirrel RAMMS will also be required to ensure any red squirrel that may be present are protected during the construction.

Reptiles

- 5.17 A Reptile RAMMS will be required to ensure any reptiles that may be present are suitably protected during construction of the site. The RAMMS will need to provide detailed working methods and protection measures to ensure there is no negative impact on both the local reptile population and the habitats which support them.



## APPENDIX A

# DESK BASED ASSESSMENT REPORT



## EMERGENCY SERVICES NETWORK

Brownknowe Field,

EAS0110F

Desk Based Ecology Assessment December 2017

TEP  
Genesis Centre  
Birchwood Science Park  
Warrington  
WA3 7BH

Tel: 01925 844004  
Email: [tep@tep.uk.com](mailto:tep@tep.uk.com)  
[www.tep.uk.com](http://www.tep.uk.com)

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall



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## APPENDICES

**Appendix A – Local Record Centre Data**

**Appendix B – Protection and Legislation**

## 1.0 Overview

### Site Information

- 1.1 Following review of the option's MSV report this ecological desk based assessment (DBA) is founded on the proposals as detailed in Table 1. At the time of writing this document the Power Supply Assessment (PSA) was not available.

*Table 1: Development Details*

<b>Site Name</b>	Brownknowe Field
<b>Site Reference</b>	EAS0110F
<b>Planning Authority</b>	Northumberland County Council
<b>Site Address</b>	Brownknowe Field, Greenhaugh, Hexham, Northumberland, NE48 1PS
<b>Eastings</b>	379658
<b>Northings</b>	586572
<b>Structure</b>	Lattice
<b>Fence Type</b>	1.2m high stock proof fence
<b>Mast Height</b>	25 m
<b>Compound Size</b>	10 m x 10 m
<b>Base Type and Size</b>	5.7 m x 5.7 m x 1.0 m reinforced concrete raft foundation to suit 30 m lattice mast. Subject to detailed design and stage 1 Geotech.

- 1.2 The proposed location of the compound is within an area of upland heath off an existing track adjacent to a coniferous woodland. High Lake is in close proximity to the proposed mast site. This lake feeds into Tasset Burn, which is a locally designated site.
- 1.3 This assessment assumes no tree or hedge works are required to facilitate construction access. It also assumes no permanent external lighting will be installed.

### Study Findings

- 1.4 The need for further ecological surveys, assessments or consultation will be determined following the site visit, Table 2 outlines further works currently anticipated.

*Table 2: Further Requirements*

<b>International Designations</b>	There is potential for pollution from construction activities to enter the North Pennine Dales Meadows SAC. Methods to prevent this must be incorporated into a CEMP.
<b>National Designations</b>	The proposals fall within the criteria for concern for several Sites of Special Scientific Interest (SSSI). The proposals could fall into the category of "infrastructure" if the mast is classified as a pylon



	in planning terms. Natural England should be consulted how to minimise potential impacts of development on these SSSIs.
<b>Local Designations</b>	There is potential for pollution from construction activities to enter the Taret Burn. Methods to prevent this must be incorporated into a CEMP.
<b>Protected Fauna</b>	Surveys are required to: <ul style="list-style-type: none"> <li>• Determine the presence/absence of badger within the influence of the works.</li> <li>• Determine the habitat suitability for amphibians, nesting birds, invertebrates, pine marten, red squirrel, hedgehog and reptiles. If the area is determined to be suitable to support these species then a method statement may be required.</li> </ul>
<b>Protected Flora</b>	Botanical surveys are required and will determine if there will be any potential implications to any priority habitats. No records of Schedule 8 protected plants were identified, but this is not conclusive of absence and will need confirming during the site survey.
<b>Arboriculture</b>	No impacts on trees are currently anticipated but if works fall within 15m of the stem of any tree then a tree survey will be required.
<b>Connection to the local power supply</b>	A PSA report was not available at the time of writing this report.

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## 2.0 Method

### Aerial Photography

- 2.1 A review of ESRI aerial imagery was undertaken in December 2017 to assist in determining the likely habitats within and surrounding the proposed mast site.

### National Data

- 2.2 All International wildlife designations within 10km of the proposed mast location were mapped using Natural England data sets in December 2017. This comprised Special Areas for Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites. Site citations were reviewed to identify qualifying features of any sites identified in the 10km search area.
- 2.3 In addition, all national wildlife designations within 2km of the proposed mast location were mapped using Natural England data sets in December 2017. This comprised National Nature Reserves (NNR), Site of Special Scientific Interest (SSSI) and Local Nature Reserves (LNR). Site citations were reviewed to identify qualifying features of any sites identified in the 2km search area.
- 2.4 Habitats present in the Natural England priority habitat index data set were mapped for a 1km search zone in December 2017.

### Local Records Centre

- 2.5 A data request was submitted to the Environmental Records Information Centre North East in December 2017 for records of protected or conservation priority species within 1km of the proposed mast location.

### Limitations / Exclusions

- 2.6 The Priority Habitat Index Data is a broad scale of habitat mapping. Categories are determined using both desk based data (including OS maps, aerial photography, existing data sets and remote sensing) and field assessments. This does not replace the field-based Phase 1 habitat survey method which will provide a greater level of detail where physical surveys have not been undertaken.

## 3.0 Results and Assessment

### Designations

#### International Wildlife Sites

- 3.1 The locations of international wildlife designations within 10km of the proposed site are presented in Figure 1. Table 3 identifies the relative location of these sites and reasons for designation.

*Table 3: International Designations within 10km*

Name	Type	Location	Reasons for Designation	
			Habitats	Species
North Pennine Dales Meadows	SAC	0.4km N	<ul style="list-style-type: none"> <li>Mountain hay meadows</li> <li>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
Border Mires, Keilder-Butterburn	SAC	7.4 km S and W	<ul style="list-style-type: none"> <li>Blanket bogs</li> <li>Transition mires and quaking bogs</li> <li>Northern Atlantic wet heaths with <i>Erica tetralix</i></li> <li>European dry heaths</li> <li>Petrifying springs with mire formation</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
Irthinghead Mires	Ramsar	10 km SW	<ul style="list-style-type: none"> <li>Undamaged blanket bog</li> </ul>	<ul style="list-style-type: none"> <li>sphagnum mosses</li> <li>rare plants</li> <li>rare spider (<i>Eboria caliginosa</i>)</li> </ul>

- 3.2 North Pennine Dales Meadows SAC lies approximately 400m north of the proposed mast site. This SAC is designated for its habitats. The topography suggests that the proposed mast site lies on higher ground than the designated site, therefore runoff from the construction works could affect the quality of the SAC habitats and the species it supports.
- 3.3 Border Mires, Keilder-Butterburn SAC and Irthinghead Mires Ramsar are designated for their habitats, flora and fauna. Given the distance between these designations and the proposals (both over 7km away), effects on these sites are highly unlikely to arise.

#### National Wildlife Sites

- 3.4 The locations of national wildlife designations within 2km of the proposed site are presented in Figure 2. Table 3 identifies the relative location of these sites and reasons for designation.

*Table 3: National Designations within 2km*

Name	Type	Location	Reasons for Designation
Greenhaugh Meadow	SSSI	0.4 km NW	<ul style="list-style-type: none"> <li><i>Geranium sylvaticum</i> grassland</li> </ul>

3.5 The proposed mast site falls within several Natural England SSSI Impact Risk Zones (IRZs). The IRZs relate to the SSSI described above and other SSSIs in the wider area. The advice states Natural England should be consulted for the following proposals in this zone:

- a. Infrastructure (“Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance)”).

3.6 The proposals could fall into the category of “infrastructure” if the mast is classified as a pylon in planning terms.

Local Wildlife Sites

3.7 The locations of local wildlife designations within 1km of the proposed site are presented in Figure 3. Table 4 identifies the relative location of these sites and reasons for designation.

*Table 4: Local Designations within 1km*

Name	Type	Location	Reasons for Designation
Tarset Burn	Northumberland Local Wildlife Site	0.4km W	No citation provided, however the site is based around the Tarset Burn watercourse and could be designated for its habitats or species.

3.8 Tributaries of Tarset Burn lie within 140m of the site. The topography of the site suggest that the proposed mast site lies at the top of an incline above the Tarset Burn, therefore runoff from the construction works could potentially affect the quality of the LWS habitats and the species it supports.

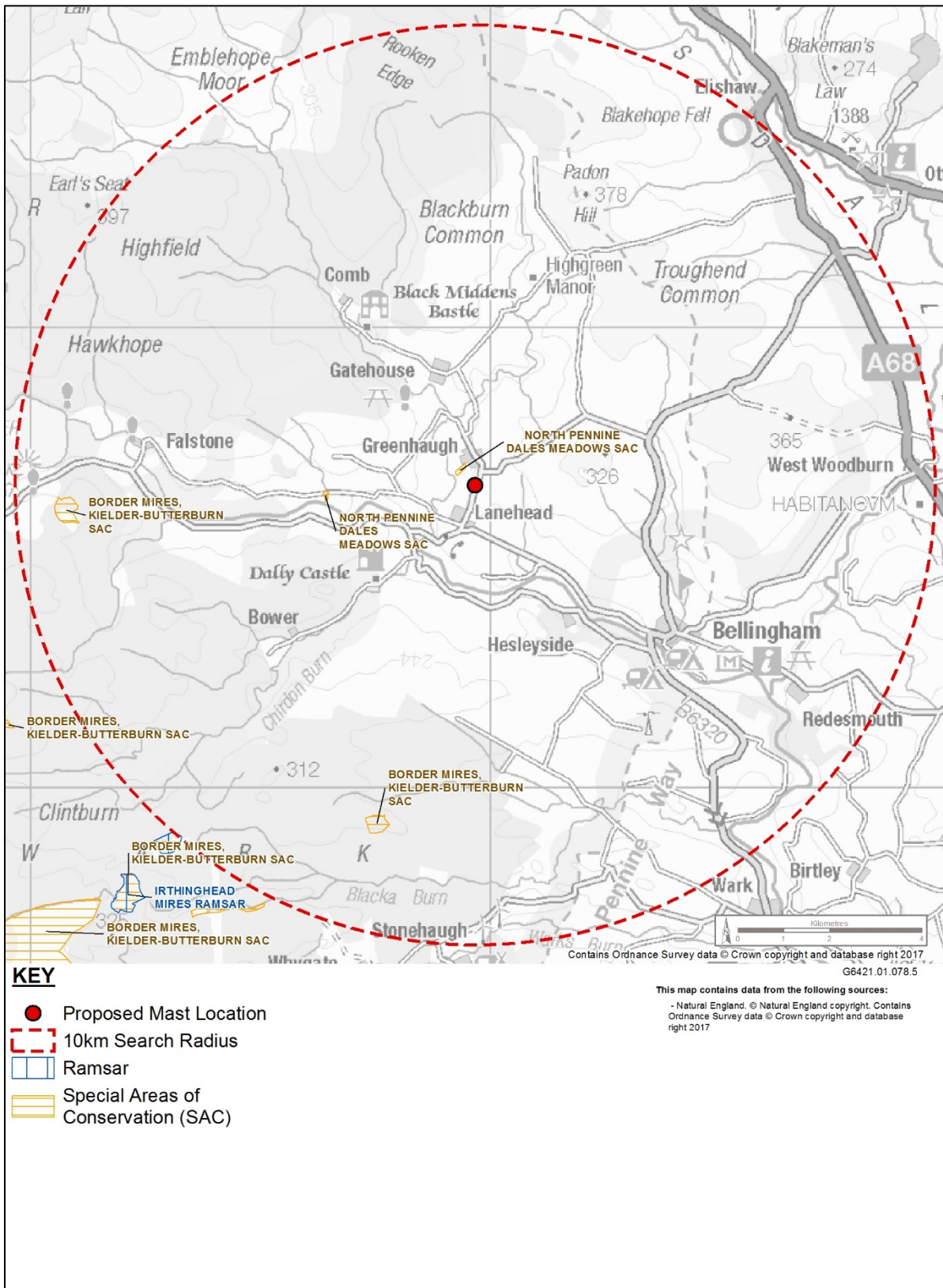


Figure 1: International Wildlife Designations within 10km

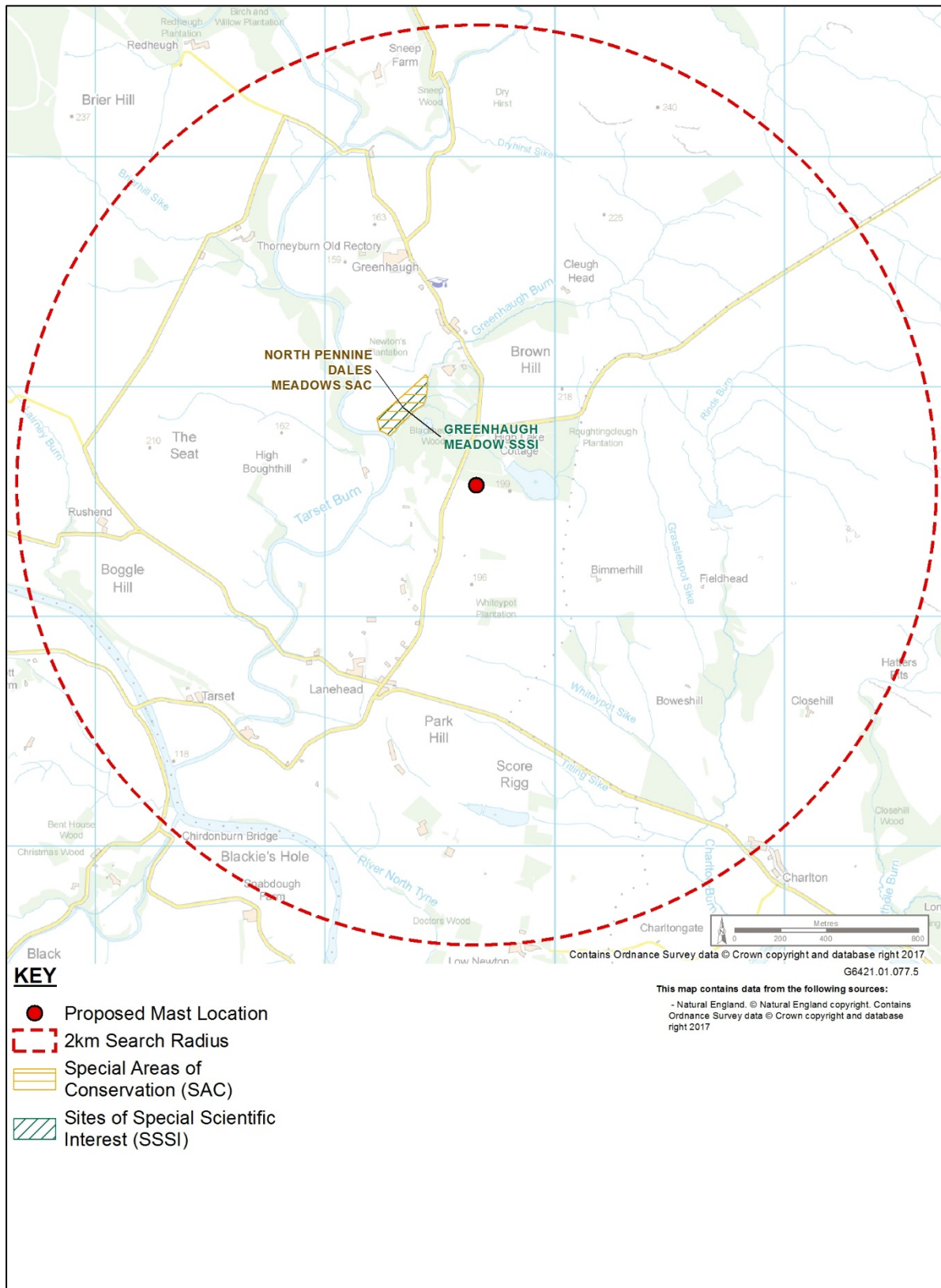


Figure 2: International and National Wildlife Designations within 2km



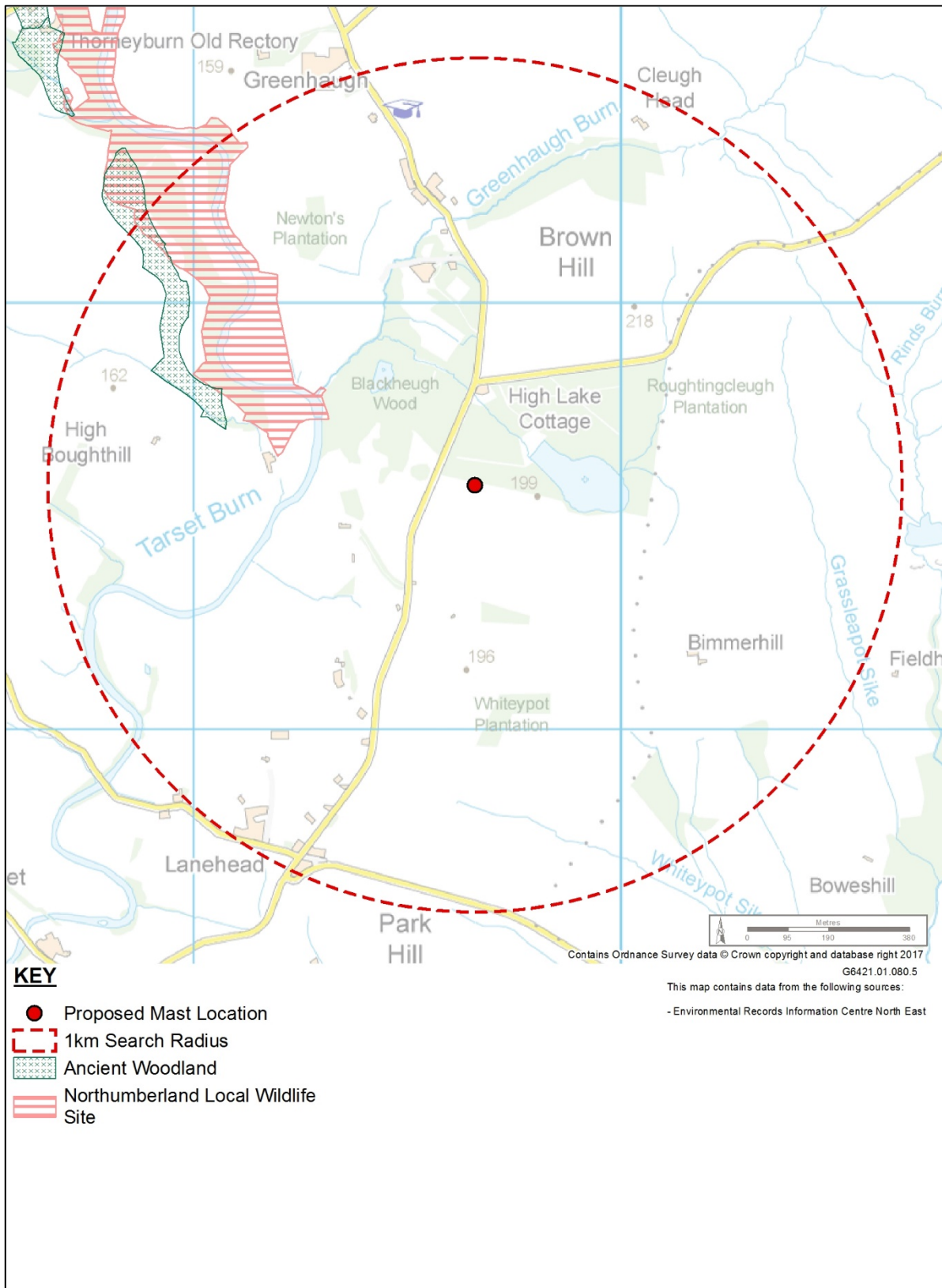


Figure 3: Local Wildlife Sites and Ancient Woodland within 1km

## Habitats

- 3.9 The Priority Habitat Index Data categories for the area are presented in Figure 4. This data identifies that the site lies within upland heathland and lies near to deciduous woodland. Additionally, there are other habitats present within 1km including grass moorland, lowland fens, upland calcareous grassland, upland hay meadows and good quality semi-improved grassland.
- 3.10 Following a review of Ordnance Survey mapping, three waterbodies were identified within 500m of the site, including High Lake which feeds into Tarsset Burn. The nearest watercourse appears to be Tarsset Burn 375m west of the site, which is a tributary of River North Tyne. There are a number of other watercourses are present across the landscape.
- 3.11 The ancient woodland inventory data displayed on Figure 3 identified ancient woodland habitat present within 1km of the site.
- 3.12 An aerial image of the site is presented in Figure 5. This indicates the site lies within an area of upland heath habitat adjacent to coniferous woodland. Photographs<sup>1</sup> of the site broadly coincide with these findings.
- 3.13 The proposed mast location is likely to be within 15m of trees within the plantation woodland and it is assumed no tree clearance will be required for construction access. However, vegetation clearance is anticipated for the final 180m (approx) of construction access, further consideration to the effects on protected or priority habitats or species will be required during the site visit.

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<sup>1</sup> Included in the MSV report



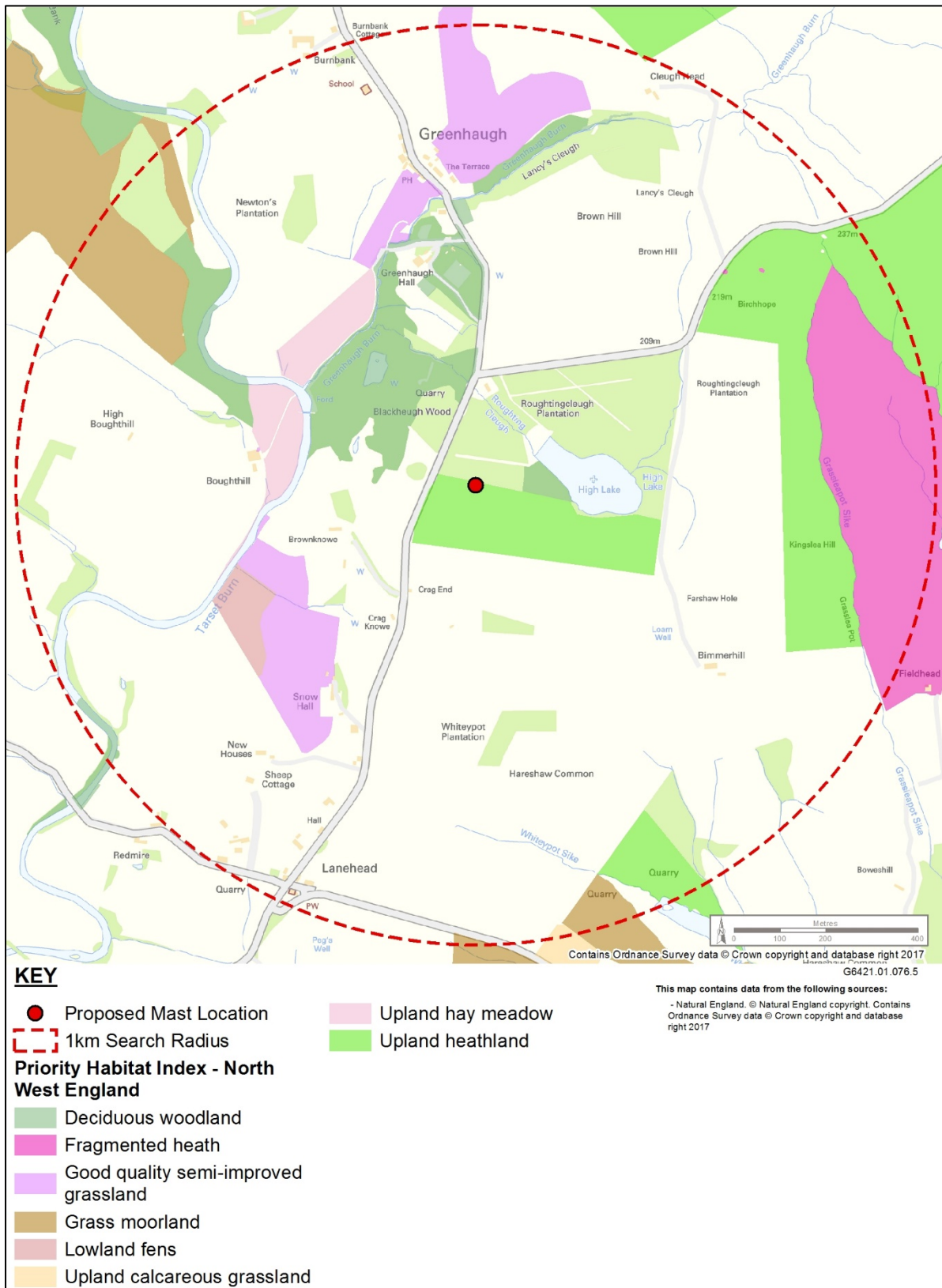


Figure 4: Priority Habitat Types within 1km

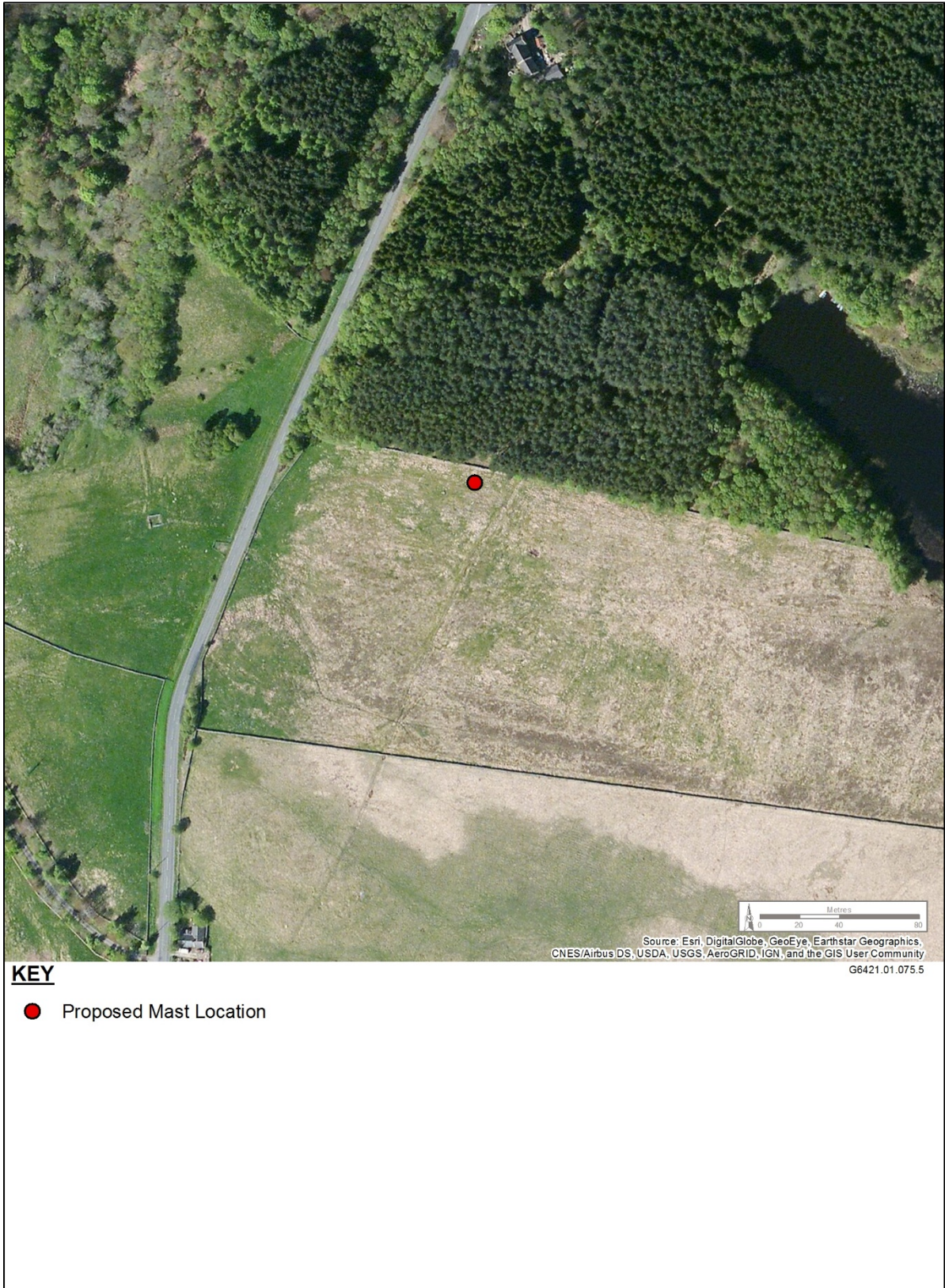


Figure 5: Aerial Image of Proposed Location



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## Species

- 3.14 Details of protected and conservation priority species records within 1km of the proposed site are provided in Appendix A.

### Flora

- 3.15 No records of protected plant species (i.e. those listed under Schedule 8 of the Wildlife and Countryside Act 1981) were identified within the data search.
- 3.16 A record of *Rhododendron ponticum*, an invasive plant species (i.e. those listed on Schedule 9 of the Wildlife and Countryside Act 1981) was identified within the data search.
- 3.17 The absence of records is not sufficient to confidently assume no protected or invasive plant species are present on site. The presence/absence of invasive and protected plant species would need to be confirmed by a site visit.

### Fauna

- 3.18 No records for any amphibians were identified in the data search. Given the upland nature of the area amphibians are unlikely to be present within the site, however there are waterbodies within the area. Further investigation of these ponds will be required following confirmation of habitats to be impacted to ensure no impacts occur to this species.
- 3.19 Records for badger were returned in the data search. The development proposals fall within a landscape type used by this species and therefore could support a badger setts.
- 3.20 Several records for bat species were returned in the data search, species included Whiskered/Brandt's bat, noctule, common pipistrelle, soprano pipistrelle and brown long-eared bats. It is likely that bats will be present in the wider area, and depending on the species of bat they will roost in trees, buildings or caves. At present none of these habitats are likely to be affected by the proposals and the small footprint of the proposed development means any impacts on foraging habitat would be negligible.
- 3.21 Several bird records were returned in the data search. The habitat will support a range of bird species. It is likely that some vegetation clearance will be required and the site appears to provide suitable nesting opportunities for ground nesting birds. Depending on the timing of the vegetation clearance and construction works there may be implications with regard to nesting birds. As the footprint of the proposed development is small any impacts on foraging habitat would be considered negligible.
- 3.22 Records for invertebrate species were identified within 1km of the site, including small heath and moss carder-bee, species of principle importance listed on Section 41 of the Natural Environment and Rural Communities Act 2006 (S41). The importance of the site for invertebrates needs further consideration during a site visit and following confirmation of the habitats being affected.

- 3.23 Records for otter and water shrew were returned in the data search, along Tasset Burn, but no records for water vole were identified. These are both a species of riparian habitats which are absent within or adjacent to the development proposals. There are no tributaries directly connected to the site, however there are watercourses in the wider landscape. Pollution control measures will need to be enforced on site to prevent pollution entering watercourses from construction activities. Given the small footprint of the proposals and small amount of habitat impacted, there will be no impacts on these species as a result of the proposals, providing pollution control measures within the CEMP are adhered to.
- 3.24 Several records of American mink, along Tasset Burn, have been returned in the data search. American mink are an invasive species (listed on Schedule 9 of the Wildlife and Countryside Act 1981) and is the probable reason no water vole have been identified in the nearby watercourse. There will be no impacts on these species as a result of the proposals.
- 3.25 No records for pine marten were returned in the data search. Although not confined to woodland habitats pine martens usually require large expanses of woodland habitats within their territory and tend to avoid open habitats. Habitats within the site comprise of grassland with the nearest woodland cover adjacent to the site. Given the small footprint of the proposals and small amount of habitat impacted, there is unlikely to be any impacts on this species as a result of the proposals. However, further investigation will be required following confirmation of habitats to be impacted to ensure no impacts occur to this species.
- 3.26 Records for red squirrel were identified in the data search. The sites lies within influencing distance of woodland habitats. Further investigation will be required following confirmation of habitats to be impacted to ensure no impacts occur to this species.
- 3.27 Records for Adder were identified within 1km of the site. The importance of the site for reptile populations needs further consideration during a site visit and following confirmation of the habitats being affected.
- 3.28 Atlantic salmon and brown trout were returned in the data search in Tasset Burn. There is potential for pollution from the construction activities to enter Tasset Burn. Providing pollution control measures are in place during construction there will be no implications with regard to these species.
- 3.29 There are records of hedgehog within 1km of the site. The grassland edge and adjacent woodland habitats provide suitability for hedgehog foraging and refuge. Further investigation will be required following confirmation of habitats to be impacted to ensure no impacts occur to this species.

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## 4.0 Further Requirements

### Additional Surveys

- 4.1 The desk based assessment (DBA) has identified potential impacts and mitigation requirements for the current development proposals. However a site walkover survey is still required to confirm the data used in the report is an accurate depiction of the current site conditions. The survey will confirm the presence/absence of protected or invasive plant species. The survey would also assess the site's potential to support those protected and priority species identified in the DBA.
- 4.2 This assessment is made without detailed information on site access requirements or the Power Supply Assessment. If any new habitats are affected by these elements of the proposals then further surveys could be required. This includes if any works to trees are required along the access route to the construction site, in which case a bat ecologist would need to undertake ground-based assessment of trees for potential bat roosting features and an arborist would need to undertake a tree survey.
- 4.3 This assessment remains valid for at least 1 year from the date of this report and potentially longer depending on the specific use of the data, local conditions and the development proposals. When data is greater than 1 year old advice should be sought from an appropriately experienced ecologist on the need for any updates.

### Licensing / Avoidance Measures / Method Statements

- 4.4 There is potential for pollution from the construction activities to enter Tasset Burn LWS. This risk can be avoided through the production and implementation of a Construction Environmental Management Plan (CEMP). This method statement must include standard, best-practice methods on how site run-off will be controlled, how site waste will be managed, how fuel and other spillages will be prevented and must include emergency procedures for any pollution accidents.
- 4.5 There is a SSSI within 400m of the proposed mast location. The proposals could fall into the category of "infrastructure" if the mast is classified as a pylon in planning terms, in which case Natural England should be consulted with regard to minimising potential impacts on SSSIs in the surrounding area. The site walkover report will confirm whether any additional measures are required.

### Additional Assessments

- 4.6 Although there are European wildlife designations in the surrounding area there is currently no requirement to undertake a Habitats Regulations Assessment. The desk based assessment is sufficient to conclude no likely significant effect will be experienced by any European designation or associated special interest features. This conclusion is dependent on the production and implementation of the aforementioned CEMP.

- 
- 4.7 There are no SSSI designations within or adjacent to the development footprint, as such there is no requirement to undertake a Potentially Damaging Operations (PDO) assessment.
- 4.8 No watercourses or waterbodies are within or immediately adjacent to the development footprint but there are watercourses in the wider area. There is no requirement from an ecological viewpoint for a Water Framework Directive assessment to be undertaken.
- 4.9 No hedgerows are present within the development footprint, as such there is no requirement to undertake a Hedgerows Regulations Assessment.
- 4.10 At present it is assumed there will be no works proposed to trees but if the proposals fall within 15m of the stem of any tree an Arboricultural Implications Assessment will be required. Similarly, if pruning or felling of trees is required to facilitate construction of the mast or for access then an Arboricultural Implications Assessment will be required.
- 4.11 This assessment is made without detailed information on site access requirements or the Power Supply Assessment. If any new habitats or designations are affected by these elements of the proposals then further assessments could be required.
- 4.12 The need for any other environmental assessments has not been considered in this report.





## APPENDIX A

# LOCAL RECORDS CENTRE DATA

## Site Ref: EAS0110F

Amphibians and Reptiles
<b>NY7955085650</b>
Adder
<b>NY795856</b>
Adder

Terrestrial Mammals
<b>NY7885</b>
Brown Long-eared Bat
Common Pipistrelle
Noctule Bat
Soprano Pipistrelle
West European Hedgehog
Whiskered/Brandt's Bat
<b>NY7886</b>
Eurasian Red Squirrel
<b>NY7887</b>
Bats
Eurasian Red Squirrel
<b>NY788865</b>
Eurasian Red Squirrel
<b>NY789858</b>
Eastern Grey Squirrel
<b>NY790870</b>
Eurasian Red Squirrel
<b>NY7913085740</b>
Eurasian Red Squirrel
<b>NY791858</b>
Eastern Grey Squirrel
Eurasian Red Squirrel
<b>NY791871</b>
Eurasian Badger
<b>NY792856</b>
Eurasian Red Squirrel
<b>NY792857</b>
Eurasian Red Squirrel
<b>NY792858</b>
Eastern Grey Squirrel
Eurasian Red Squirrel
<b>NY793867</b>
American Mink
European Otter

<b>NY794868</b>
Eurasian Red Squirrel
Eurasian Water Shrew
Roe Deer
<b>NY7950086648</b>
Eurasian Red Squirrel
<b>NY7951486712</b>
Eurasian Red Squirrel
<b>NY7951887112</b>
Eurasian Red Squirrel
<b>NY7952585627</b>
Weasel
<b>NY79538705</b>
Brown Long-eared Bat
Common Pipistrelle
Soprano Pipistrelle
<b>NY79548706</b>
Common Pipistrelle
Long-eared Bat species
<b>NY795865</b>
Eurasian Red Squirrel
<b>NY795866</b>
Eurasian Badger
<b>NY795873</b>
Common Pipistrelle
<b>NY796866</b>
Eurasian Red Squirrel
<b>NY796867</b>
Eurasian Red Squirrel
<b>NY796868</b>
West European Hedgehog
<b>NY796870</b>
Eastern Grey Squirrel
Eurasian Red Squirrel
<b>NY797873</b>
Eastern Grey Squirrel
Eurasian Red Squirrel
<b>NY7985</b>
Common Pipistrelle
Noctule Bat
Whiskered/Brandt's Bat
<b>NY7986</b>
West European Hedgehog
<b>NY7987</b>
Roe Deer

<b>NY7987387281</b>
Eurasian Red Squirrel
<b>NY798868</b>
Eurasian Red Squirrel
<b>NY801874</b>
Eastern Grey Squirrel

<b>Bird</b>
<b>NY791871</b>
Blackbird
Dipper
Great Tit
Marsh Tit
Treecreeper
Wren
<b>NY794868</b>
Carrion Crow
Common Sandpiper
Great Spotted Woodpecker
Woodpigeon
Wren

<b>Bony Fish</b>
<b>NY792868</b>
Atlantic Salmon
Brown Trout

<b>Flora</b>
<b>NY790870</b>
Common Spotted-orchid
Wood-sorrel
<b>NY791871</b>
Common Valerian
Devil's-bit Scabious
Melancholy Thistle
Narrow-leaved Everlasting-pea
Tormentil
Wood-sorrel
<b>NY792867</b>
Bitter-vetch
Common Spotted-orchid
Melancholy Thistle

<b>Flora</b>
Wood Crane's-bill
<b>NY792868</b>
Quaking-grass
Wood Crane's-bill
<b>NY79298676</b>
Downy Currant
<b>NY79338683</b>
Downy Currant
<b>NY79378687</b>
Downy Currant
<b>NY793869</b>
Northern Marsh-orchid
Quaking-grass
Wood Crane's-bill
<b>NY793870</b>
Crosswort
Northern Marsh-orchid
<b>NY79458704</b>
Downy Currant
<b>NY794868</b>
Heath Speedwell
Rhododendron ponticum
Tormentil
Wood-sorrel
<b>NY795871</b>
Common Twayblade
Quaking-grass
Soft-leaved Sedge
<b>NY7985</b>
Crosswort
Melancholy Thistle
<b>NY798873</b>
Common Spotted-orchid
Wild Strawberry
Wood-sorrel
<b>NY799866</b>
Common Cottongrass
Cross-leaved Heath
Marsh Cinquefoil
<b>NY799866</b>

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Flora
Bog Moss
<b>NY794868</b>
Scots Pine
<b>NY799866</b>
Scots Pine

Crustacean
None recorded

Insects and Spiders
<b>NY794874</b>
Small Heath Butterfly
<b>NY796866</b>
Small Heath Butterfly
<b>NY791863</b>
Moss Carder-bee

Mollusc
None recorded



## APPENDIX B

# PROTECTION AND LEGISLATION

Legislation	Details	Example species
European Protected Species (EPS)	<p>Offences include (amongst others) to deliberately or recklessly:</p> <ul style="list-style-type: none"> <li>capture, injure or kill such an animal;</li> <li>disturb an animal while it is occupying a structure or place used for shelter or protection;</li> <li>disturb an animal while it is rearing or otherwise caring for its young;</li> <li>obstruct access to a breeding site or resting place, or otherwise deny the animal use of the breeding site or resting place;</li> <li>deliberately or recklessly take or destroy its eggs (in Scotland this would be only relevant to great crested newt and natterjack toad).</li> </ul> <p>It is an offence of strict liability to:</p> <ul style="list-style-type: none"> <li>damage or destroy a breeding site or resting place of such an animal. Also, these sites and places are protected even if the animal is not there.</li> </ul>	<p>Bat species Dormouse Great crested newt Natterjack Toad Otter Sand lizard Scottish Wildcat</p>
Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1)	<p>Birds:</p> <p>All naturally occurring wild birds in Great Britain are protected from persecution. It is illegal to kill, injure or 'take' any wild bird, take or damage the nest of any wild bird whilst in use or being built. The eggs of all wild birds are also protected.</p> <p>The birds listed in Schedule 1 of the Wildlife and Countryside Act 1981 are further protected by Special Penalties all year round for those in Part 1 and during a specified closed season for those listed in Part 2.</p>	<p>Golden eagle Red kite White-tailed eagle Barn owl Kingfisher Marsh Harrier Marsh warbler Merlin Osprey Peregrine Red throated diver Redwing Scottish crossbill Wimbrel</p>
Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5)	<p>Other wildlife (apart from birds):</p> <p>The Act makes it an offence (subject to exceptions) to intentionally ([or recklessly] - only under the Nature Conservation (Scotland) Act 2004) kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also prohibits certain methods of killing, injuring, or taking wild animals.</p>	<p>Bat species Common toad Dormouse Pine marten Otter Red squirrel Reptile species Scottish Wildcat Water vole White-clawed crayfish</p>
Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8)	<p>Plants:</p> <p>The Act makes it an offence (subject to exceptions)</p> <ul style="list-style-type: none"> <li>to intentionally pick, uproot or destroy: any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant (only under the Nature Conservation (Scotland) Act 2004));</li> <li>unless an authorised person, to intentionally ([or recklessly] - only under the Nature Conservation (Scotland) Act 2004) uproot any wild plant not included in Schedule 8,</li> </ul>	<p>Bee orchid Bluebell Bog orchid Oak fern</p>



Legislation	Details	Example species
	<ul style="list-style-type: none"> <li>to sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.</li> </ul>	
Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9)	<p>Non-native invasive species:</p> <p>The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.</p> <p>In Scotland, the release offences are different and take a general 'no-release' approach. Where exceptions are needed, they are provided through secondary legislation. For a list of exempted species, please see the latest Wildlife and Countryside Act (Exceptions to Section 14) Amendment Order on the Scottish Government's website. In addition, the Code of Practice on Non-Native Species describes some circumstances which are not considered to be releasing an animal or planting in the wild.</p>	Giant hogweed Himalayan balsam Japanese knotweed
Section 41/42 species and habitats of the Natural Environment and Communities Act 2006 (S41/42)	<p>Requires competent authorities to have regard for biodiversity (generally), and for species of principal importance (S41 list England, S42 list Wales).</p> <p>The UK BAP (1994) was the Government's first response to the Rio Convention but has now been superseded by the NERC Act which actually legislates.</p>	Brown hare Common toad Hedgehog Hen harrier
Protection of Badgers Act 1992 (PBA)	<p>Badgers and their setts are comprehensively protected by the Protection of Badgers Act 1992 external site (as amended by the WANE Act 2011 external site).</p> <p>Offences include (amongst others) to:</p> <ul style="list-style-type: none"> <li>willfully kill, injure, take or attempt to kill a badger;</li> <li>to interfere with a badger sett by intentionally or recklessly causing or allowing: <ul style="list-style-type: none"> <li>damage to a sett or any part of it;</li> <li>destruction of it;</li> <li>sett access to be obstructed, or any entrance of it;</li> <li>disturbance to a badger when it is occupying it.</li> </ul> </li> </ul> <p>Note: A badger sett is defined in law as any structure or place which displays signs of current use by a badger.</p>	Badgers



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## DRAWINGS





**KEY**

- Site Location (EAS0110f)
- Access Road (EAS0110f)
- Site Location (EAS0110f) - 100m Buffer
- Access Road (EAS0110f) - 50m Buffer
- Indicative Low Voltage Underground Cable
- Fence
- Wall
- Semi-natural Broad-leaved Woodland
- Plantation Broad-leaved Woodland
- Plantation Coniferous Woodland
- Semi-improved Acid Grassland
- Wet Heath/Acid Grassland Mosaic
- Hardstanding

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Rev	Description	Drawn	Approved	Date

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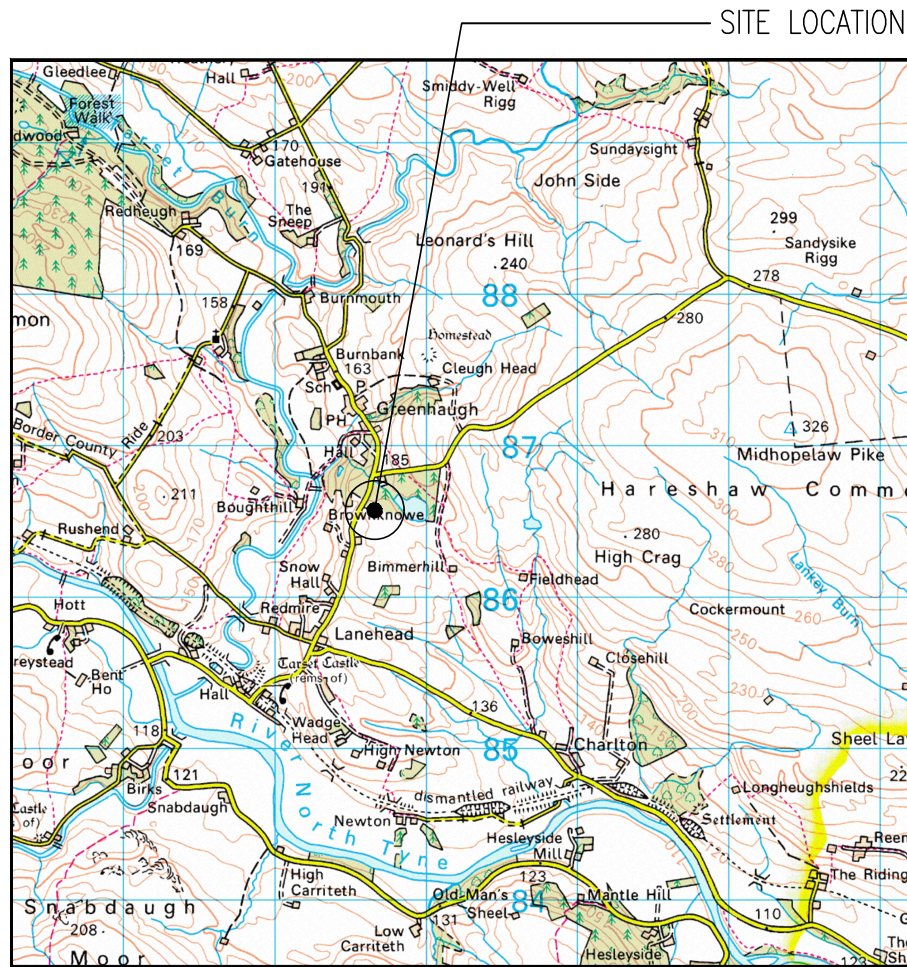
Project  
**Lendlease Environmental Services**

Title  
**Phase 1 Habitat Survey - EAS0110f (LOT 27)**

Drawing Number  
**G6421.01.186**

Drawn	Checked	Approved	Scale	Date
MK	KS	KG	1:1,250 @ A3	08/03/2018



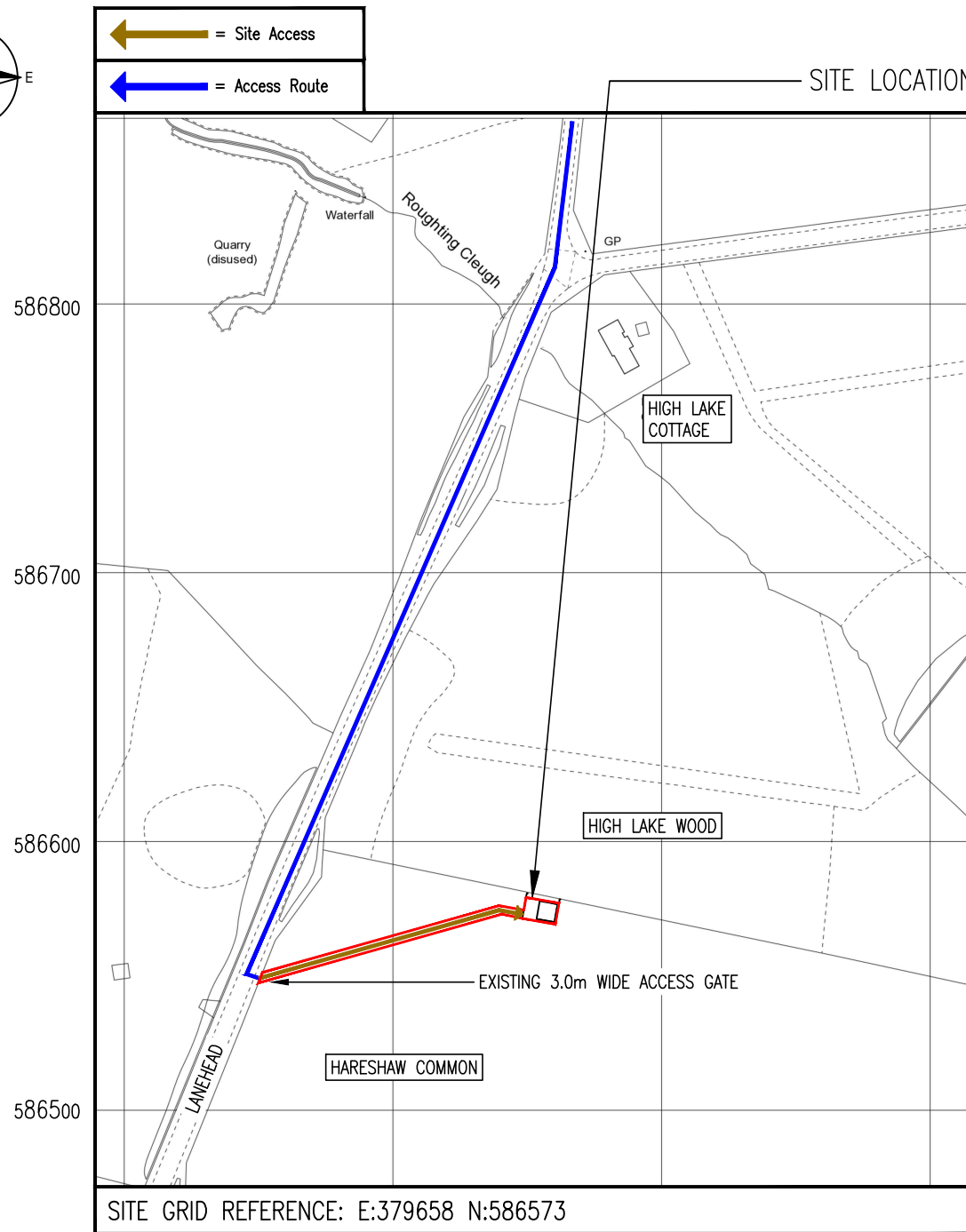


SITE LOCATION  
(Scale 1:50000)

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SITE PHOTOGRAPH



DETAILED SITE LOCATION  
(Scale 1:2500)

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ACCESS NOTES:  
FROM VILLAGE OF GREENHAUGH, TAKE THE UNNAMED ROAD HEADING SOUTH OUT OF THE VILLAGE TOWARDS 'LANEHEAD'.  
APPROXIMATELY 400m ON LEFT HAND SIDE IS THE ACCESS GATE TO THE FIELD BEFORE YOU GET TO CRAG END COTTAGE.  
ACCESS TO SITE IS THROUGH THE GATE ON FOOT.  
THEN WALK APPROXIMATELY 180m UP THE FIELD TO THE TREELINE.  
4x4 VEHICLE ONLY

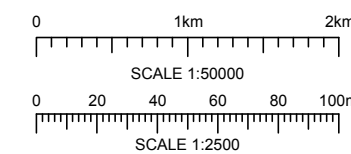


Home Office



ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

SCALE AS SHOWN WHEN PRINTED AT A3



ADB SNAPSHOT DATE: 09.08.17

DOES THE SITE DESIGN CONFORM TO RD10414  YES  NO

IF 'NO' DETAIL THE EXCEPTIONS BELOW:

- 
- 

ICNIRP DETAILS - RD10102 / GSDD008

ACCESS CLASSIFICATION	CONTROLLED
DESIGN CLASSIFICATION	PUBLIC

Rev	Modification	By	Chk.	Date
E	Major amendments	ZS	RJW	20.11.17
D	Turning circle added	SAB	RJW	26.10.17
C	Map revised	SAB	RJW	28.09.17
B	Map notes and address amended	SAB	RJW	27.09.17
A	Issued for Approval	VV	RJW	21.08.17



Designers Ref:	DWG Type:	Third Party Ref:
P1710_020	GA	N/A

Site Name	
<b>BROWNKNOWE FIELD</b>	
Site Address	
GREENHAUGH NORTHUMBERLAND NE48 1PS	

Drawing Title:  
SITE LOCATION PLAN

Drawn By / Date	Checked By / Date	Approved By / Date
VV / 21.08.17	RJW / 21.08.17	PW / 21.08.17

Site Ref:	Option:	DWG No:	Rev:
<b>EAS0110</b>	<b>F</b>	<b>101</b>	<b>E</b>



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