



ARCUS

TORRANCE WIND FARM EXTENSION II

**TECHNICAL APPENDIX 10.2:
PROTECTED SPECIES SURVEYS**

FEBRUARY 2023



Prepared By:

Arcus Consultancy Services

7th Floor
144 West George Street
Glasgow
G2 2HG

T +44 (0)141 221 9997 | **E** info@arcusconsulting.co.uk
w www.arcusconsulting.co.uk

Registered in England & Wales No. 5644976

TABLE OF CONTENTS

1	INTRODUCTION	2
1.1	Site Background	2
2	METHODS	2
2.1	Desk Study.....	2
2.1.1	Designated Sites.....	2
2.1.2	Recent Biological Records.....	3
2.2	Field Survey	3
2.2.1	Protected Mammals	3
2.2.2	Herptofauna	5
2.2.3	Limitations	5
3	RESULTS	6
3.1	Desk Study Results.....	6
3.1.1	Statutory Designated Sites.....	6
3.1.2	Non-statutory Designated Sites	6
3.1.3	Recent Biological Records.....	7
3.2	Field Survey Results	8
3.2.1	Badger.....	8
3.2.2	Otter	8
3.2.3	Water Vole.....	9
3.2.4	Pine Marten.....	9
3.2.5	Great Crested Newt	9
3.2.6	Other Herptofauna.....	10
3.2.7	Other Species.....	11
4	SUMMARY.....	12
	ANNEX A: FIGURES	13
	ANNEX B: PHOTOLOG.....	14
	ANNEX C: HSI ASSESSMENT	15

1 INTRODUCTION

This Technical Appendix (TA) describes the methods and results of the Protected Species Surveys undertaken to obtain baseline ecological information, to inform the Ecological Impact Assessment (EcIA) of the proposed Torrance Wind Farm Extension II (the Proposed Development).

The following terminology will be used throughout this TA:

- **The Proposed Development:** the whole physical process involved in the development of the land at Torrance Wind Farm Extension II, including the wind farm construction and operation (not a piece of land);
- **The site¹:** all land with the potential to support the Proposed Development (as shown in Figure 10.2.1, as the site boundary, Annex A)
- **Ecology Survey Area (ESA):** the land within which Protected Species Surveys (excluding bats) were undertaken, including all land within the site boundary¹ (shown as the area in Figure 10.2.1, Annex A) and species-specific zones of influence defined by NatureScot standing advice² (as described in Table 2).

Baseline information is reported separately for habitats (TA 10.1: Habitat Survey), bats (TA 10.3: Bat Surveys), fish (TA 10.4: Fish Habitats Surveys) and ornithology (TA 11.1: Baseline Ornithology Report; and TA 11.2: Baseline Ornithology Report Confidential Annex); are not discussed within this report.

1.1 Site Background

The site, centred on Ordnance Survey National Grid Reference (OSNGR) NS 90222 65493, is adjacent to the operational Torrance Wind Farm and is located approximately 1 kilometre (km) north of Harthill, North Lanarkshire (as shown in Figure 10.2.1, Annex A).

The site is dominated by agricultural land, much of which is used for livestock grazing. Woodland is present to the south of an unnamed tributary to the How Burn, largely consisting of commercial forestry. Several small watercourses, namely field drains, are located within the BSA, and one waterbody is located immediately east of the site, south of Torrance Farm and within the footprint of the existing Torrance Wind Farm.

The site is accessed via the B718 which bisects the site north to south. Several occupied farm dwellings lie within the site boundary, including Netherton Farm, in the south of the site and Loan Farm in the centre of the site. Hill Farm and Torrance Farm are located within the BSA to the north-west and east of the site, respectively.

2 METHODS

2.1 Desk Study

2.1.1 Designated Sites

The Desk Study aimed to identify statutory and non-statutory designated sites of ecological conservation interest within 5 km and 1 km of the site, respectively (as shown in

¹ Note: The site boundary was a lot larger at the time of the surveys and has since been reduced down. As such the Survey Areas are a lot larger as they are based on the old Site Boundary.

² NatureScot (2020) General pre-application and scoping advice for onshore wind farms. Available at <https://www.nature.scot/doc/general-pre-application-and-scoping-advice-onshore-wind-farms>

Table 1). Information relating to designated sites was obtained from NatureScot Sitelink³ as well as via the data requests to The Wildlife Information Centre (TWIC) and The North Lanarkshire Biological Records Centre.

Table 1: Search Criteria for Designation Sites of Nature Conservation Interest

Level of Protection	Designation	Search Radius from Site Boundary
Statutory	Ramsar Site	5 km
	Special Area of Conservation (SAC)	
	National Nature Reserve (NNR)	
	Site of Species Scientific Interest (SSSI)	
	Local Nature Reserve (LNR)	
Non-Statutory	Site of Interest for Nature Conservation (SINC)	1 km
	Areas of Woodland listed on the Ancient Woodland Index (AWI)	
	Local Biodiversity Sites (LBS)	
	Scottish Wildlife Trust (SWT) Reserve	

2.1.2 Recent Biological Records

To provide local context to the EcIA, recent (up to 20 years old) records of protected and/or priority species were sought up to and within a 5 km buffer of the site. This information was obtained via data requests sent to TWIC and The North Lanarkshire Biological Records Centre.

2.2 Field Survey

In accordance with NatureScot guidelines⁴, Protected Species Surveys were carried out between April and September 2021 (the Survey Season), with all survey work undertaken by Arcus. Lead Surveyors are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and of at least capable level of competence in undertaking protected species surveys; as per CIEEM's Competency Framework⁵.

2.2.1 Protected Mammals

The Protected Species Surveys included specific surveys for the following mammals:

- Badger (*Meles meles*);
- Otter (*Lutra lutra*);
- Water vole (*Arvicola amphibius*); and
- Pine marten (*Martes martes*).

³ NatureScot Sitelink (2020). Available at: <https://sitelink.nature.scot/home>. Accessed December 2021.

⁴ NatureScot. (2022) Planning and development: standing advice and guidance documents [online]. Available at: <https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-standing-advice-and-guidance-documents> (accessed December 2022).

⁵ CIEEM. (2021) Competency Framework. Chartered Institute of Ecology and Environmental Management [online]. Available at: <https://cieem.net/wp-content/uploads/2022/01/Competency-Framework-2022-Web.pdf> (accessed December 2022).

Protected Species Surveys within the ESA also took cognisance of species-specific zones of influence, defined within NatureScot standing advice for planning consultations^{5,7,9,10} (as described in Table 2).

Where evidence of other protected and priority species was encountered, this was noted. However, red squirrel, wildcat and beaver were not considered likely to be present within the ESA, based on their current range⁶, potential habitats and professional judgement.

Table 2: Protected Species Survey Areas

Species	Search Area	Indicators of Presence
Badger	Potentially suitable habitats within and up to 100 m from the site	Paths, snuffle holes, feeding signs, scratching posts, latrines (dung pits used as territorial markers), prints and guard hairs ⁷ . Setts encountered are classified as ^{8,9} : <ul style="list-style-type: none"> • Main: usually in continuous use and characterise by a large number of holes with conspicuous spoil heaps, with well-worn paths between sett entrances. Breeding typically occurs in the main sett; • Annex: normally located within 150 m of a main sett and connected by one or more well-worn paths, characterised by several holes; although may not be in use all the time; • Subsidiary: normally located more than 50 m of a main sett with no obvious paths connecting with another sett, characterised by several entrances; although may not be in use all the time; and • Outlier: characterised by one or two holes with little spoil outside entrances, and no obvious path connecting with another sett. Used sporadically and may be also used intermittently by foxes or rabbit.
Otter	Potentially suitable watercourses within and up to 200 m from the site	Spraint (droppings), prints, paths, slides and feeding remains ¹⁰ . Structures or places used for shelter or protection encountered are classified as ¹¹ : <ul style="list-style-type: none"> • Holt: an underground feature that can be situated in natural cavities or specifically dug by an individual. Normally in frequent use by otter, with an abundance of spraints and prints at the entrance, although non-breeding individuals may utilise a network of holts as they move through their territory. Breeding typically occurs in holts with extensive tunnel-systems and chambers where cubs are raised; and • Couch: an above ground feature regularly used by otter for resting, normally characterised by vegetation that has been pulled up and flattened by an individual into a nest. Specially constructed covered couches can be used for breeding.

⁶ The Mammal Society (2020) *Atlas of the Mammals of Great Britain and Northern Ireland*. Exeter: Pelagic Publishing.

⁷ NatureScot (2020) Protected Species Advice for Developers: Badger. Available at <https://www.nature.scot/species-planning-advice-badger> (accessed December 2025).

⁸ Harris, S., Cresswell, P., and Jefferies, D. (2022) *Surveying Badgers*. An occasional publication of the mammal society – No.9. The Mammal Society: London.

⁹ Scottish Badgers (2018). *Surveying for Badgers: Good Practice Guidelines (Version 1)*. Available at: <https://www.scottishbadgers.org.uk/> (accessed December 2022).

¹⁰ NatureScot (2020) Protected Species Advice for Developers: Otter. Available at: <https://www.nature.scot/species-planning-advice-otter>. Accessed December 2021.

¹¹ Harris, S., and Yalden, D.W. (2008) *Mammals of the British Isles; Handbook (4th edn)*. The Mammal Society: Southampton.

Species	Search Area	Indicators of Presence
Water vole	Potentially suitable watercourses within and up to 50 m from the site	Droppings, prints, burrows, feeding stations, runs, 'nests', lawns of short vegetation around burrow entrances and suitable habitat ¹² .
Pine marten	Potentially suitable habitats within and up to 250 m from the site	Dens, scats, sightings and prints ¹³ .

2.2.2 Herptofauna

Habitats within the ESA were searched for signs of reptiles and amphibians; and the suitability of habitats within the site were also assessed.

2.2.2.1 Great Crested Newt

Ordnance Survey (OS) mapping and freely-available aerial imagery were reviewed in March 2021 in order to identify all waterbodies within 500 m of the site; as well as to determine whether land within the site could support great crested newt (*Triturus cristatus*). Whilst this species tends to utilise suitable terrestrial habitat features within approximately 500 m from a breeding site (e.g. a suitable waterbody), the abundance of great crested newt has been found to reduce beyond distances of 200-250 m from breeding sites¹⁴.

In accordance with current Amphibian and Reptile Group United Kingdom (ARG UK) guidance¹⁵, Arcus completed a Habitat Suitability Index (HSI) assessment of one accessible pond within, and up to 250 m from, the site on 9th April 2021. The HSI is a quantitative assessment that can identify the suitability of waterbodies for breeding great crested newt. The HSI involves calculating a numerical index between 0 and 1, based on 10 habitat variables associated with potential breeding sites (e.g. geographic location, pond size, pond presence, water quality, presence of waterfowl, presence of fish, amount of vegetation, amount of shading, amount of accessible terrestrial habitat and the number of other ponds within 1 km). The suitability of waterbodies subject to HSI assessment are classified as either Poor, Below Average, Average, Good and Excellent, based on the criteria described in current ARG UK guidance¹⁵.

In accordance with current Department for Environment Food and Rural Affairs (DEFRA) guidance¹⁶, Arcus collected water samples from one waterbody, after the HSI assessment, on 12th April 2021 for subsequent eDNA analysis. This involved recovering twenty water samples from the perimeter of the waterbody, combining samples into one Whirl-Pak before extracting a sample of the mixture into six preserving tubes via pipette. Samples were couriered to Surescreen Scientifics to undertake eDNA analysis using quantitative Polymerase Chain Reaction (qPCR) methods.

¹² NatureScot (2020) Protected Species Advice for Developers: Water Vole. Available at: <https://www.nature.scot/species-planning-advice-water-vole>. Accessed December 2021.

¹³ NatureScot (2020) Protected Species Advice for Developers: Pine Marten. Available at: <https://www.nature.scot/species-planning-advice-pine-marten>. Accessed December 2021.

¹⁴ Natural England (2004) An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt (ENRR576). <http://publications.naturalengland.org.uk/publication/134002>.

¹⁵ ARG UK. (2010) *Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Group United Kingdom: Advice Note 5* [online]. Available at: <<https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file>> (accessed December 2022).

¹⁶ Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. (2014) *Analytical and methodological development for improved surveillance of the Great Crested Newt*. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

2.2.3 Limitations

Due to the dense nature of the plantation forestry, surveyors could not access the full extent of the woodland. Therefore, there is potential for signs of protected species activity to have been missed in these areas. However, inaccessible areas were generally small in scale and the perimeter around inaccessible areas was surveyed to identify any mammal paths; and binoculars were used to visually scan for field signs. In addition, underlying conditions within the plantation woodland are waterlogged; therefore, it is generally unsuitable for ground dwelling species such as badger. Furthermore, trees are generally between pre-thicket and thicket-stage and not of a size and nature for the root plates of fallen trees, or ground crevices, to be suitable for pine marten denning. The plantation woodland also lacked any mature trees with crevices for pine marten denning.

Land across the M8 motorway south of Site was not surveyed during the Protected Species Surveys due to a lack of access. This is reflected in the Ecology Survey Area shown in Figures 10.2.1 and 10.2.4 in Annex A. However, the motorway is likely to provide a major barrier to potential newt dispersal between the site and land to the south of the M8; therefore, this is not considered to be a significant constraint.

3 RESULTS

3.1 Desk Study Results

3.1.1 Statutory Designated Sites

Four statutory designated sites were recorded within 5 km of the site, which is summarised in Table 3; and shown on Figure 10.2.2, Annex A. All sites recorded are designated for their habitats, with none identifying protected species as a qualifying interest.

Table 3: Statutory Designated Sites within 5 km of the site

Name	Designation	Proximity to Site (km)	Designated Features
Blawhorn Moss	NNR, SAC, SSSI	1.85 km north	- Active raised bog - Degraded raised bog
Haddockrigg and North Shotts Mosses	SSSI	2.15 km southwest	- Raised bog
North Shotts Moss	SAC	2.62 km southwest	- Active raised bog - Degraded raised bog
Black Loch Moss	SAC and SSSI	4.62 km northwest	- Active raised bog

3.1.2 Non-statutory Designated Sites

One Local Biodiversity Site (LBS) and eight Sites of Importance for Nature Conservation (SINCs) are present within 1 km of the site (as shown on Figure 10.2.3, Annex A). Table 4 summarises these sites.

Table 4: Non-Statutory Designated Sites within 1 km of the site

Name	Designation	Approximate Distance and Direction to Site	Relevant Features
Barblues Bing	SINC	In centre/west of Site	- Scrub, woodland and marsh habitats. - Badger, bullfinch (<i>Pyrrhula pyrrhula</i>), reed bunting (<i>Emberiza schoeniclus</i>).
Loan Birch Wood	SINC	Adjacent to north of Site	- Downy birch woodland

Name	Designation	Approximate Distance and Direction to Site	Relevant Features
			- Brown hare (<i>Lepus europaeus</i>), reed bunting
Torrance Marshes	SINC	Adjacent to east of Site	- Wetland and open water habitat - Includes reed bed/sedge swamp - Brown hare, skylark (<i>Alauda arvensis</i>), reed bunting, small pearl-bordered fritillary (<i>Boloria selene</i>), emerald damselfly (<i>Lestes sponsa</i>), common frog
Eastfield Strip	SINC	50 m south of Site, over motorway	- Scrub habitat with sedge-rich pasture - Breeding birds; song thrush (<i>Turdus philomelos</i>), reed bunting
Torrance Bing	SINC	0.3 km south	- No information found
Southrigg Bog	SINC	0.8 km north-east	- Remnant bog and plantation; modified peatland, including pools (on pipeline route) - Reed bunting, common frog, small pearl-bordered fritillary, emerald damselfly
Polkemmet and River Almond to Greenrigg	LBS	0.8 km south-east	- Broadleaved and mixed plantation woodland, unimproved neutral grassland and standing water. - Otter, badger, bullfinch, starling (<i>Sturnus vulgaris</i>), song thrush, mistle thrush (<i>Turdus viscivorus</i>)
Forrestburn Bog	SINC	1 km west	- Modified intermediate bog
Forrestburn Water	SINC	1 km north-west	- No information found

There are no Ancient Woodland Inventory (AWI) sites within the site; however, one unnamed ancient woodland (of semi-natural origin), approximately 2.9 hectares (ha) in size, is located adjacent to the north of the site at Loan Birch Wood (as shown on Figure 10.2.3, Annex A). Three further AWI sites are present within approximately 1 km of the site at Treebanks Farm, Forrestburn and Greenrigg.

3.1.3 Recent Biological Records

Records of protected and priority species identified during the Desk Study are summarised in

Table 5.

Table 5: Protected and Priority Species within the Desk Study Area

Species	Conservation Status	Closest Record from ESA	Year of Record(s)
Water vole	WCA ¹⁷ , SBL ¹⁸ , LBAP ¹⁹	2 km south	2001-2020 (20 records)
Otter	HR ²⁰ , SBL, LBAP	0.9 km south-east	2003-2011 (6 records)
Badger	Protection of Badgers Act ²¹	Within the site	2004-2017 (38 records)
Pine Marten	WCA, SBL, LBAP	Within middle of Site, on B718	2017 (1 record)
Brown Hare	SBL	2.5 km south-east	2009-2014 (5 records)
West European Hedgehog (<i>Erinaceus europaeus</i>)	SBL	2.7 km north-east	2006 – 2019 (24 records)
Common Lizard (<i>Zootoca vivipara</i>)	WCA, SBL	2.3 km north	2003 (2 records)
Common Toad (<i>Bufo bufo</i>)	WCA, SBL	1 km south-east	2006-2020 (12 records)
Small pearl-bordered fritillary	SBL, LBAP	0.2 km north-east	No years mentioned (7 records)

3.2 Field Survey Results

Results of the field surveys are provided below with reference to figures provided in Annex A and photographs in Annex B.

3.2.1 Badger

Evidence of badger was recorded within the ESA.

Details of badger setts and activity levels are presented in the accompanying Confidential Annex and shown on Figure CA 1.

3.2.2 Otter

Evidence of otter activity was recorded within the ESA, to the east of Site, on the banks of Pond A (as shown on Figure 10.2.4, Annex A, and in Photograph 1, Annex B). Field signs included several spraints at three separate locations; as well as feeding remains of toads, a common food resource in spring. Pond A adjoins a small woodland area, which could provide potential cover; however, no features that could be utilised by otter as a holt or couch were recorded in that area.

How Burn, in the west of the ESA (as shown on Photograph 2, Annex B), had some suitability for foraging and commuting otter habitat, with some woodland areas nearby that

¹⁷ Wildlife and Countryside Act (1981) Available at <http://www.legislation.gov.uk/ukpga/1981/69>. Accessed December 2022.

¹⁸ Scottish Biodiversity List. Available at <http://www.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL>. [Accessed December 2022]

¹⁹ North Lanarkshire Council (2014) Local Biodiversity Action Plan. Available at <https://www.northlanarkshire.gov.uk/leisure-parks-and-culture/countryside-and-parks/countryside-management-and-biodiversity-0/our-local-biodiversity>

²⁰ The Conservation (Natural Habitats, &c.) Regulations (1994) Available at <https://www.legislation.gov.uk/uksi/1994/2716/part/III/crossheading/protection-of-animals/made>. Accessed December 2022.

²¹ Protection of Badgers Act 1992. Available online at: <https://www.legislation.gov.uk/ukpga/1992/51/contents>. (accessed December 2022)

could provide cover for animals to shelter within, but no signs were recorded. During the Habitat Survey in September 2021, a depression within bankside vegetation, near the bridge that crosses the How Burn in the south-west of the ESA, was identified as having potential to be used as a lie-up by a mammal species; however, no evidence of otter activity was recorded at this location.

Other watercourses within the ESA are generally small in scale with low water levels (as shown on Photograph 3, Annex B) or with channels overgrown by vegetation (as shown on Photograph 4, Annex B). Whilst connected to the River Almond, impassable barriers to migratory fish are present on the River Almond that will likely limit the abundance of prey within small watercourses in the upper catchment (as described in TA 10.4: Fish Habitats Survey). However, watercourses are still likely to be utilised by otter moving through their territory to forage within more suitable watercourses and wetland areas, including large reservoirs located in the wider landscape (e.g. Roughrigg, Forrestburn and Hillend).

3.2.3 Water Vole

No evidence of water vole was recorded within the ESA.

Watercourses in the ESA provide limited suitability for water vole. The How Burn running through the west of the site contains little habitat for water vole, with short marginal vegetation, gravel substrate and a moderate water flow (as shown on Photograph 2, Annex B). Field drains within the ESA are considered to be of limited potential suitability as they are heavily vegetated with rushes and little standing water (as shown on Photograph 4, Annex B). No evidence of water activity, or potential burrows, were recorded along the margins to the How Burn or field drains.

3.2.4 Pine Marten

No evidence of pine marten was observed within the ESA.

Conifer woodlands within the ESA are considered to be of limited suitability to support denning pine marten; as the prevailing ground conditions are waterlogged and not suitable for establishing tunnels²². Trees are generally between pre-thicket and thicket-stage and not of a size and nature for the root plates of fallen trees, or ground crevices, to be suitable for pine marten denning. The conifer plantation also lacks any mature trees with any natural holes or crevices that pine marten could establish dens within. Furthermore, roof voids in farm buildings could be used by denning pine marten; however, whilst no building inspections were carried out, no evidence of pine marten activity was recorded near farm buildings or the wider ESA.

Given that woodlands within the ESA are characterised by a monoculture of commercial forestry species, which adjoin open areas of pasture, habitats within the ESA are not likely to provide an abundance of prey. None-the-less, woodland areas, tree-lines and hedgerows could provide suitable cover for pine marten to move between more suitable woodland and upland habitats in the wider landscape.

3.2.5 Great Crested Newt

A total of six waterbodies were identified within approximately 500 m of the site; as described in Table 6.

²² Scottish Wildlife Trust (2016). Pine Martin Position Statement. Available at https://scottishwildlifetrust.org.uk/wp-content/uploads/2016/09/002_293__pinemarten_positionstatement_1389006309.pdf (accessed December 2022).

Table 6: Waterbodies Identified with Potential for Great Crested Newt

Pond ID	OS grid reference	Approximate distance (m) and direction from Site	Requirement for further survey
A	NS 91125 65818	130 m east	A waterbody located between the edge of conifer woodland and an unnamed tributary to the How Burn. No significant barriers present between the waterbody and habitats within the site. Scoped in for further survey.
B	NS 91055 65994	250 m east	A waterbody located within the existing Torrance Wind Farm; however, land access permission was not provided to assess this feature. Located more than 450 m from nearest Development infrastructure. Scoped out for further survey.
C	NS 89712 66511	600 m north	Located more than 250 m from the nearest Development infrastructure. Scoped out for further survey.
D	NS 89705 66455	570 m north	Located more than 250 m from the nearest Development infrastructure. Scoped out for further survey.
E	NS 89862 66284	400 m north	Located more than 250 m from the nearest Development infrastructure. Scoped out for further survey.
F	NS 90128 64867	90 m south	Surface water detention pond located within Heart of Scotland Services; isolated from wider landscape by service roads that regularly used by vehicles accessing the adjoining petrol station. As such, the road could present a significant barrier to newt dispersal.

An HSI assessment of Pond A classified the waterbody as being of 'Good' suitability for great crested newt (as described in Annex C). Subsequent eDNA analysis provided a Negative result, which indicates great crested are likely to be absent from Pond A and potential terrestrial habitats within the ESA.

3.2.6 Other Herptofauna

No incidental sightings of widespread species of reptile were recorded within the ESA. Grassy woodland rides within the ESA may provide suitable foraging and basking opportunities for widespread species of reptile (e.g. common lizard and slow-worm). Tussocky grassland and gaps around tree roost within drier areas could provide potential hibernacula. The majority of pasture within the ESA contains a short sward due to regular animal grazing, which reduces the suitability for reptiles. There is potential for rank

grassland along field margins, old railway line and roadside verges to provide suitable cover. Therefore, there is potential for widespread species of reptile are to be locally present in suitable grassland habitats within the site.

There are six waterbodies within 500 m of the site. A surface water detention pond located within Harthill Services; isolated from habitats within the site by regularly used service roads. Pond A is approximately 130 m east of the site and was found to be used for breeding by both common frog and common toad; as adults, tadpoles and toadlets/froglets encountered during other site work. In addition, remains of common frog and common toad were recorded at Pond A, which were likely a result of foraging otter in the locality. Habitats within the ESA were also considered suitable for amphibians; generally being of a wet nature with overgrown field drains throughout the ESA. Longer grassland was found to be locally present around Pond A on site, with connections to grassy forest rides and woodland also present. Tussocky grassland and gaps around tree roost within drier areas could provide potential hibernacula. Therefore, there is potential for widespread species of amphibian to be locally present in suitable grassland habitats within 250 m of Pond A.

3.2.7 Other Species

3.2.7.1 Brown Hare

A single sighting of a brown hare was recorded in a field in the centre of the ESA.

Longer grassland areas and narrow field margins could provide year-round cover, as well as suitable foraging habitat during spring and summer months. However, these habitats are not extensive within the ESA. Arable land may provide suitable foraging habitat during autumn and winter, if retained as stubble. Therefore, there is potential for brown hare to be locally present in suitable grassland habitats within the ESA.

3.2.7.2 Hedgehog

No evidence of hedgehog was recorded within the ESA.

Suitable summer nesting habitat is locally present along field boundaries, particularly where scattered broadleaved trees and hedgerows adjoin grassy field margins. However, these habitats are not extensive within the ESA; and reduced the potential for hedgehog to hibernate within the ESA. Therefore, there is potential for hedgehog to be locally present in suitable broadleaved woodland within the ESA.

3.2.7.3 Small Pearl-Bordered Fritillary

No sightings of small pearl-bordered fritillary were recorded in the ESA.

Small pearl-bordered fritillary is known to be present in Torrance Marshes SINC, adjacent to the east of the site. Habitats in the ESA such as damp grassy forest rides and marshy grassland could be suitable for the species; however, few violet species (the animal's foodplant) were recorded within these grassland areas (as described in TA10.1: Habitat Surveys). Therefore, there is potential for small pearl-bordered fritillary to be locally present.

4 SUMMARY

Terrestrial and aquatic habitats within the ESA were found to support protected species including badger and otter; as well as common toad, an SBL priority species. No incidental sightings of any other protected species were recorded during the Protected Species Survey.

There are few waterbodies within 250 m of the site. Great crested newt is likely to be absent from Pond A; however, the waterbody contains an assemblage of widespread species of amphibian including common toad and common frog.

Watercourses within the ESA are limited in size and, due to impassable barriers to migratory fish on the River Almond downstream of the site, the abundance of otter prey in suitable in-stream habitats is likely to be extremely limited. None-the-less, watercourses within the ESA adjoin suitable woodland areas that provide suitable cover was otter to move through their territory; therefore, otter could be present within the site in future-years. Field drains in the ESA provide extremely limited suitability for water, as many are overgrown with little standing water.

Woodland areas are characterised by thicket and pre-thicket stage conifer plantation that consists almost entirely of sitka spruce. Trees are not of a size or nature to contain that could be utilised by arboreal species including pine marten; and habitats within the ESA are not likely to provide an abundance of prey. However, there is potential for pine marten to use habitats within the site as cover as they move through their territory; therefore, pine marten could be present within the site in future-years.

The underlying ground conditions within woodland areas are largely waterlogged, which limits the suitability of this area for ground-dwelling species such as badger, which have established setts within other parts of the ESA.

The conifer plantation contains narrow rides that are characterised by grassland habitats. Wider rides may provide suitable basking, foraging and sheltering habitat for widespread species of reptile; as well as rank field margins and roadside verges. Pasture offers limited suitability for reptiles as these fields will likely contain a short sward all year. There are few features that could be utilised as hibernacula, other than localised areas of raised ground outside woodland areas with suitable cover (e.g. rank grassland, scrub, etc.). None-the-less, reptiles are assumed to be locally present in suitable grassland habitats.

ANNEX A: FIGURES

- Figure 10.2.1: Site Boundary and Ecology Survey Area
- Figure 10.2.2: Statutory Designated Sites within 5km
- Figure 10.2.3: Non-Statutory Designated Sites within 2km
- Figure 10.2.4: Protected Species Survey Results



Reproduced from Ordnance Survey digital map data © Crown copyright 2023. All rights reserved. License number 100048606

- Site Boundary
- Future Application Boundary
- Ecology Survey Areas
- 250m Buffer (all other species)
- 500m Buffer (GCN only)

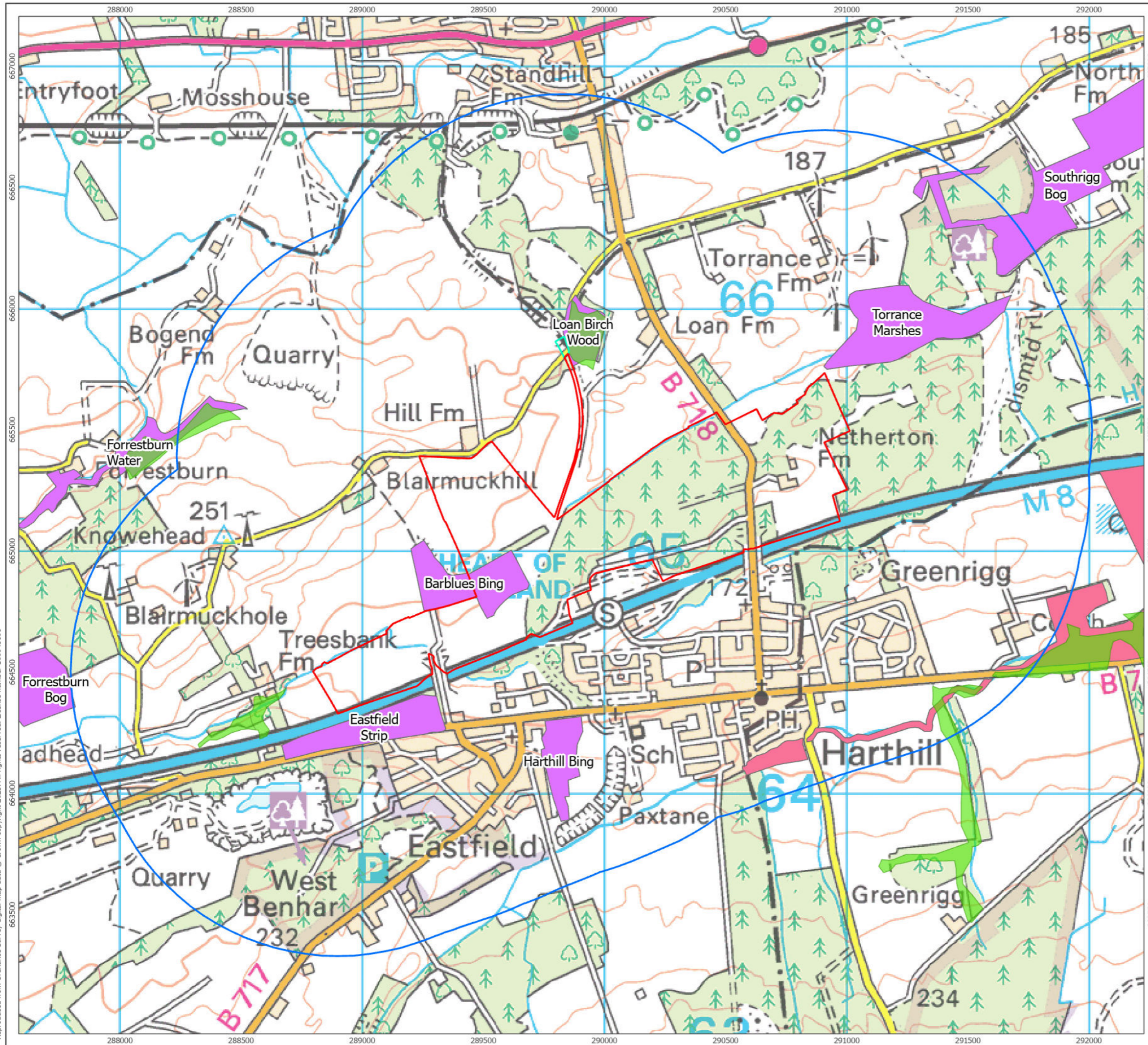
1:12,500 Scale @ A3





Produced By: ST	Ref: 3959-REP-020
Checked By: SC	Date: 2/16/2023

Site Boundary and Ecology Survey Areas
 Figure 10.2.1

Torrance Wind Farm Extension II
Technical Appendix 10.2:
Protected Species



- Site Boundary
- Future Application Boundary
- Non-Statutory Designated Sites**
- Ancient Woodland Inventory
- Sites of Importance for Nature Conservation
- Polkemmet and River Almond to Greenrigg LBS

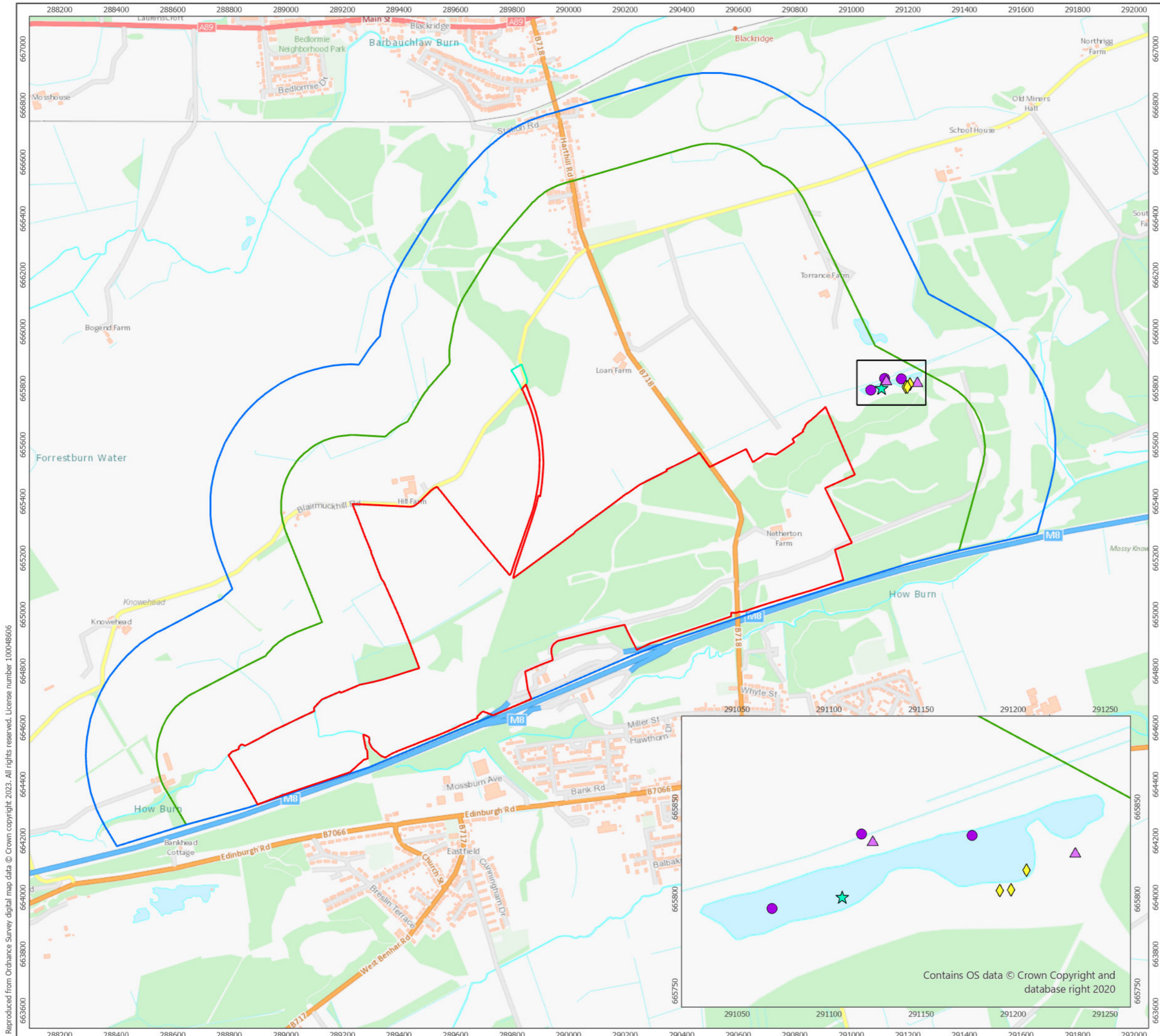
1:15,276 Scale @ A3



Produced By: ST	Ref: 3959-REP-081
Checked By: SC	Date: 2/16/2023

Non-Statutory Designated Sites
Figure 10.2.3

Torrance Wind Farm Extension II
Technical Appendix 10.2:
Protected Species

Reproduced from Ordnance Survey digital map data © Crown copyright 2023. All rights reserved. License number 100048606



Reproduced from Ordnance Survey digital map data © Crown copyright 2023. All rights reserved. License number 100048606

- Site Boundary
- Future Application Boundary
- Ecology Survey Areas
- 250m Buffer (all other species)
- 500m Buffer (GCN only)
- Protected Species
- Evidence
- ▲ Otter Feeding Remains
- Otter Spraint
- ◆ Amphibian
- ★ Pond A, Assessed for GCN

Map in the right-hand corner shows a more detailed look at the Survey results

1:13,021 Scale @ A3

0 0.3 0.6 km ▲ NORTH

Produced By: ST	Ref: 3959-REP-022
Checked By: SC	Date: 2/16/2023

Protected Species Survey Results
Figure 10.2.4

Torrance Wind Farm Extension II
Technical Appendix 10.2:
Protected Species

Contains OS data © Crown Copyright and database right 2020

ANNEX B: PHOTOLOG

	
<p>Photograph 1. Large Pond in the east of ESA, where HSI and eDNA surveys were carried out and multiple otter signs were found.</p>	<p>Photograph 2: How Burn in the west of the Survey Area with potential for otter foraging and commuting.</p>
	
<p>Photograph 3. Low flowing watercourse in the south-west of site, representative throughout the ESA of unsuitable habitat for otter and water vole.</p>	<p>Photograph 4. Watercourse overgrown with vegetation in the south of the site. Unsuitable for otter, with limited suitable habitat for water as vegetation has overgrown the channel and the water surface is generally not visible.</p>

ANNEX C: HSI ASSESSMENT

Pond Ref: A		
Suitability Index (SI) No.	SI Description	SI Value
1	Geographic location	0.5
2	Pond area	1
3	Pond permanence	0.9
4	Water quality	0.67
5	Shade	1
6	Water fowl	1
7	Fish presence	0.67
8	Pond Density	0.6
9	Terrestrial habitat	1
10	Macrophyte cover	0.8
HSI Score		0.79