Fyrish BESS

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Confidential - Preliminary Ecological Appraisal

TNEI on behalf of Field Fyrish Ltd.

January 2025

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EXECUTIVE SUMMARY

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Site Location	The proposed 200MW Battery Energy Storage System (BESS) site is located on land 650m South of Fyrish Substation, Alness, IV17 0XH. The Site comprises a mosaic of upland flush, mixed scrub, lowland meadow, and neutral grassland, bordered by broadleaved and coniferous woodland.
Proposals	The development proposals consist of the creation and operation of a Battery Energy Storage System (BESS) of up to 200 MW with associated infrastructure (including cable route to substation), access and ancillary works (including landscaping and biodiversity enhancement).
Scope of this Survey(s)	The PEA focused on identifying and evaluating potential ecological receptors, assessing constraints to the proposed development, and recommending further surveys, mitigation, or enhancements. Key areas of investigation included protected sites, habitats, and notable species within the Site and its zone of influence.
Results and Evaluation	• **Protected Sites**: Several designated sites of international, national, and local importance were identified within 10km of the Site, including the Novar Special Protection Area (SPA) and Cromarty Firth SPA and Ramsar site. • **Habitats**: The Site hosts a variety of habitats, some of which are of national importance, such as upland flushes and lowland meadows. These habitats have potential to support protected species and Groundwater Dependent Terrestrial Ecosystems (GWDTEs). • **Protected and Notable Species**: [redacted]
Recommendations	Mitigation measures include design-led avoidance of important ecological features, [redacted] habitat enhancement in a scheme of landscaping and habitat management planning, maintenance of wetland functionality, and adherence to best practice guidelines during construction to minimise ecological impacts. Targeted study on bat activity has been conducted in parallel to this appraisal in late summer 2024 and will be reported separately. [redacted] The report also recommends a shadow Habitats Regulations Appraisal (HRA) due to the proximity of the Novar SPA and potential impacts on capercaillie. Opportunities for habitat connectivity and biodiversity enhancement through native planting and sustainable drainage systems are highlighted.

	Consultation with the local authority and NatureScot may dictate the need for further targeted studies such as breeding bird surveys, dependant on landscape scale receptors plus the design and construction proposals.
Conclusion	The PEA has identified a range of ecological receptors and potential constraints associated with the Fyrish BESS project. However, with the implementation of the recommended mitigation measures and adherence to best practice guidelines, the ecological impacts of the development can be managed and minimised, and the proposed development would be compliant with current local and national planning policy and legislation. Baseline ecological results are generally considered valid for a period of eighteen months from the date of the survey. It is suggested that baseline data is maintained until pre-construction checks as recommended in Section 4 of this report. The recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on; however, it is assumed that habitats are likely to remain unchanged. [redacted]

1.0 INTRODUCTION

[redacted]

1.1 BACKGROUND

Tetra Tech was commissioned by TNEI on behalf of Field Fyrish Ltd ("the Applicant") in July 2024 to undertake a Preliminary Ecological Appraisal (PEA) of an area of land 650m South of Fyrish Substation, Alness, IV17 0XH, hereafter referred to as "the Site".

This report has been prepared by a Tetra Tech Ecologist of 'capable' competency for this type of report, as per the CIEEM Competency Framework (CIEEM, 2024), and the conditions pertinent to it are provided in Appendix A.

1.2 SITE DESCRIPTION

The Site is located approximately 1.25km west of Alness in the Scottish Highlands and is centred at Ordnance Survey National Grid Reference NH 62960 68934 (Figure 1).

The Site comprises a large, enclosed field with a mosaic of upland flush, mixed scrub, lowland meadow, and neutral grassland, bounded by broadleaved woodland and coniferous woodland. In the adjacent field to the north-east there is a field of pasture for grazing sheep. The Site contains networks of irrigation ditches, and a burn along the southern edge. To the south of the Site is a timber processing yard and heading eastward along the unnamed road is a residential property. The B9176 bounds the east of the Site and leads to Fyrish Substation in the north, with the access road leading to the substation surrounded by mixed coniferous plantation.

1.3 DEVELOPMENT PROPOSALS

The development proposals consist of the creation and operation of a Battery Energy Storage System (BESS) of up to 200 MW with associated infrastructure (including cable route to substation), access and ancillary works (including landscaping and biodiversity enhancement).

1.4 PURPOSE OF REPORT

This report does not include data concerning bats, as bat-related assessments and findings are covered in a separate, dedicated bat survey report (Tetra Tech, 2024). That report focuses exclusively on bat activity, roosting sites, and habitat use, ensuring a comprehensive evaluation of bat presence and behaviour in the area. For detailed information on bats, please refer to the dedicated bat survey report.

The purpose of this report is to:

- Undertake a desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the Site and its zone of influence.

- Present the results of an extended Habitat Classification Survey, involving a walkover of the Site to record habitat types and dominant vegetation, including any invasive species, and; evidence of protected fauna or habitats capable of supporting such species.
- Evaluate potential ecological receptors on site and within the zone of influence; identify any constraints to the Site's development and make any recommendations for further surveys, mitigation, or enhancement.

Baseline ecological results are generally considered valid for a period of eighteen months from the date of the survey (CIEEM, 2017). It is suggested that baseline data is maintained until pre-construction checks as recommended in Section 4 of this report. The recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on; however, it is assumed that habitats are likely to remain unchanged.

Scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

2.0 METHODOLOGY

2.1 HISTORIC SURVEYS

No previous reports relevant to the Site have been identified.

2.2 DESK STUDY

The desktop study comprised two elements:

- To provide additional baseline data for the ecological desk study, records of legally protected or priority species identified within 2km of the Site, within the past ten years, were sought from Highland Biological Recording Group (HBRG);
- A data search obtained from The National Biodiversity Network (NBN) Atlas in October 2024; and
- Online element including a search using: NatureScot Sitelink (https://sitelink.nature.scot), Scotland's Environment Map (https://map.environment.gov.scot/sewebmap), and Ordnance Survey (OS) and Aerial Imagery (https://www.bing.com/maps).

The geographical extent of the search area was related to the significance of sites and species and potential zones of influence. For this site the following search areas were considered appropriate:

- 10km for sites of International Importance (e.g. Special Areas of Conservation (SAC), Special Protection Area (SPA), Ramsar sites);
- 2km for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI), protected or otherwise notable species and non-statutory designated sites of County Importance (e.g. Local Wildlife Sites (LWS));
- 2km for biological records; and
- 1km for ancient woodland and mapped priority habitats.

The data search did not cover Tree Preservation Orders (TPOs); or Conservation Areas designated for their special architectural and historic interest.

2.3 FIELD SURVEYS

The following methodologies have been used to identify the ecological receptors present on or near the Site and which are relevant to the proposed development. Survey extended beyond the Site to a distance of 50m where accessible.

2.3.1 Habitats

An extended Habitat Classification Survey was undertaken on the Site on 2nd August 2024 by Tetra Tech Consultant Ecologist Ash Ronaldson BSc (Hons), assisted by Assistant Ecologist Bethany James. The weather conditions were 19°C, 60% cloud cover, dry and with moderate winds.

The habitats present on site were mapped in accordance with the UK Habitat Classification Professional Edition – Version 2.0 (UK Hab Ltd., 2023), hereafter referred to as 'UKHab'. The habitats have been classified to a minimum of 'Level 3' (in accordance with UKHab), to identify the presence of any Habitats of

Principal Importance (HPIs) listened on the Scottish Biodiversity List (NatureScot, (2020). Where habitats occur in multiple areas of the Site or are of different condition, additional polygons of the same habitat have been mapped so that their condition may be assessed independently.

The minimum recording unit for habitat is 25m^2 or 5m length for linear habitats (such as hedgerows or watercourses). Dominant plant species were recorded for each habitat present using standard nomenclature, with the scientific names for vascular (flowering) plant species follow those in the New Flora of the British Isles (Stace, 2019). Nomenclature for bryophytes follows Mosses and Liverworts of Britain and Ireland (Atherton *et al.* 2010). Relative plant species abundance was estimated using the DAFOR[1] scale.

2.3.2 Protected and Notable Species

The Site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), Schedule 5 of the Wildlife and Countryside Act (W&CA) 1981 (as amended), those given extra protection under Section 2 of the Nature Conservation (Scotland) Act 2004, and species included in the Highland Nature Biodiversity Action Plan (Highland Nature, 2021).

The presence of some species was determined using standard best practice guidance and are listed below.

[redacted]

Otter

The Site was assessed for its suitability to support otter *Lutra lutra* using standing Government advice (Chanin, 2003).

Birds

Bird Species identified at the time of survey were noted and nesting birds recorded as seen. An assessment of habitats was undertaken to determine the likely value to breeding and foraging birds.

Great Crested Newt & Common Amphibians

The Site was appraised for its suitability to support great crested newt (GCN) *Triturus cristatus* based on guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, Beckett, & Foster, 2001). This appraisal also considered waterbodies within 500m of the Site and their potential to be used for breeding newts. Each pond was assessed using the Habitat Suitability Index (HSI) (Oldham, Keeble, Swan, & Jeffcote, 2000) which assigns a value to the pond calculated from 10 pre-identified features. The HSI value gives a correlation of likely use by GCN and below 0.46 the waterbody is considered to have less likelihood of GCN presence however this metric is a guide and should be assessed on a site-by-site basis as waterbodies with low HSI have been known to support GCN.

[1] The DAFOR scale has been used to estimate the frequency and cover of the different plant species as follows: Dominant (D), Abundant (A), Frequent (F), Occasional (O), Rare (R) , The term 'Locally' (L) is also used where the frequency and distribution of a species are patchy and 'Edge' (E) is also used where a species only occurs on the edge of a habitat type

Habitat suitability and evidence of other common amphibians was recorded on site where relevant.

Reptiles

The Site was appraised for its suitability to support reptiles using guidance outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003).

Invertebrates

The Site habitats were appraised for suitability to support assemblages of invertebrates and commented on in the report as appropriate.

Other Species

The Site was also appraised for its suitability to support other protected or notable fauna with regard to the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS42020:2013 Biodiversity – Code of Practice for Planning and Development (BSI, 2013). Evidence of any current or historical presence of such species was recorded.

Invasive Species

Evidence of species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended by the Wildlife and Natural Environment (Scotland) Act 2012.) was recorded as seen as well as non-native/exotic species (perhaps not listed in legislation) which could be deemed to have a negative impact on the Site's ecology and ecosystems.

Scoped Out

Water vole are unlikely to inhabit a site with limited habitat options, such as a watercourse that dries out seasonally and which lacks sufficient prey. Water vole require specific conditions year-round, such as well-vegetated, slow-moving or still water habitats. Without these essential features, the Site cannot support their ecological needs. As such, these species are not discussed further in this report.

2.4 LIMITATIONS

Any absence of desk study records cannot be relied upon to infer absence of a species/habitat as the absence of records may be a result of under-recording within the given search area.

During the survey, dense vegetation (e.g. bracken and gorse) limited access to some areas. However, this did not significantly impact the assessment, as field signs for notable species were found outside these areas. [redacted]

To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. This survey focuses on assessing the potential of the Site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to those given protection under UK or European wildlife legislation, from only a single visit. This report cannot, therefore, be considered a comprehensive assessment of the ecological interest of the Site. However, it does provide an assessment of the ecological interest present on the day the Site was visited and highlights areas where further survey work may be recommended.

3.0 RESULTS & EVALUATION

3.1 PROTECTED SITES

European and National designated sites identified within 10km of the proposed development are presented in Table 1 with the designation, qualifying features and proximity from the development Site also indicated in Figure 2.

Table 1. Statutory and non-statutory designated sites identified during the desk study

Site Name	Designation	Distance and direction from Site	Reasons for designation
Novar	SPA	270m NW	The Novar SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie *Tetrao urogallus*.
Cromarty Firth	SPA	0.96km SE	Cromarty Firth SPA qualifies under Article 4.1 by regularly supporting populations of European importance of the Annex 1 species: osprey *Pandion haliaetus*; common tern *Sterna hirundo*; whooper swan *Cygnus cygnus* and bar-tailed godwit *Limosa lapponica*. Cromarty Firth SPA further qualifies under Article 4.2 by regularly supporting a population of European importance of the migratory species: greylag goose *Anser anser*, and by regularly supporting in excess of 20,000 individual waterfowl.
Cromarty Firth	Ramsar	0.96km SE	Cromarty Firth Ramsar site qualifies under Ramsar Criterion 1 by virtue of it containing a variety of wetland types: • Intertidal mudflats (with extensive eelgrass beds), the largest expanse in the Moray Basin ecosystem. • At the mouth of the River Conon, a rare surviving example of a transition from estuarine alder woodland, through open water transition fen and finally, where salinity and tidal influences increase, to saltmarsh. Cromarty Firth RAMSAR also qualifies under: • Ramsar Criterion 2 by supporting osprey, common tern, and whooper swan. • Ramsar Criterion 4 by supporting several waterbird species at a critical stage in their life cycles. • Ramsar Criterion 5 by regularly supporting waterbirds in numbers of 20,000 individuals or more. • Ramsar Criterion 6 by regularly supporting 1% or more of the individuals in a population of waterbirds.
Cromarty Firth	SSSI	0.96km SE	The Cromarty Firth is a large estuary within the Moray Firth in north-east Scotland. It stretches for 25 kilometres from the mouth of the River Conon at Conon Bridge to Nigg and Cromarty in the east. The SSSI contains a range of estuarine habitats including sand and mud flats and saltmarsh. The extensive sand and mud flats support internationally important numbers of wintering wildfowl and wading birds.

Loch Achnacloich	SAC	5.25km NE	Loch Achnacloich is an example of a high quality naturally eutrophic loch with a profuse and diverse growth of aquatic plants, particularly on its southern and western edges. It is found towards the top of a small catchment which drains into the Balnagowan River, and then into the Cromarty Firth. Many of the species found in Loch Achnacloich are more commonly associated with more southern and lowland parts of the UK. The loch supports six pondweed Potamogeton species as well as the nationally scarce least water-lily *Nuphar pumila*. Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation is an Annex I habitat.
Morangie Forest	SPA	5.44km NE	The Morangie Forest SPA qualifies under Article 4.1 by regularly supporting a breeding population of European importance of the Annex I species capercaillie.

Ancient Woodland and Priority Habitats

There are four ancient woodland habitats within 1km of the Site; Toll Belt, and three unnamed woodland parcels. Of these ancient woodland sites, one is classified as ancient (of semi-natural origin), and three as long-established (of plantation origin). The closest of these woodlands lies directly adjacent to the northern boundary of the Site.

3.2 HABITATS

The following habitats have been identified through our assessment. A UKHab map can be found in Figure 3, with detailed Target Notes and Photographic Plates included in Appendix B, as appropriate.

Table 2. Habitats

Habitat (UKHab Code) Habitat	**Result**	**Importance assessment**
f2c – Upland flushes fens and swamps Secondary codes: -	An area of upland flush was recorded (TN7, TN10), with soft rush *Juncus effusus,* horsetail *Equietum sp*., marsh pennywort *Hydrocotyle vulgaris*, duckweed *Lemna minor*, meadowsweet *Filipendula ulmaria*, and marsh pennywort *Hydrocotyle vulgaris,* broad-leaved Dock *Rumex obtusifolius,* broad-leaved willowherb *Epilobium montanum,* marsh Woundwort *Stachys palustris,* meadow buttercup *Ranunculus acris,* meadowsweet *Filipendula ulmaria* and bird's-foot *Ornithopus perpusillus* (R), located between the timber yard and previously discussed area of dense g1c bracken. Another area of Juncus-dominated flush habitat is located at the lower elevations of Other broadleaved woodland.	National – Scottish Biodiversity List (SBL) habitat This habitat has a high potential to support GWDTEs
g1c - Bracken Secondary codes: -	A large area of inaccessible dense bracken (TN17, TN27) is located within the field of g3c Other neutral grassland.	Local
g3a – Lowland meadows Secondary codes: 521 unmanaged	There are small parcels of Lowland meadow habitat (TN5) located within the larger area of Other natural grassland, species comprised of crested dog's tail *Cynosurus cristatus,* Yorkshire-fog *Holcus lanatus,* creeping bent *Agrostis stolonifera,* creeping thistle *Cirsium arvense,* broad-leaved Dock, common ragwort *Jacobaea vulgaris,* meadow vetchling *Lathyrus pratensis,* tufted hair-grass *Deschampsia cespitosa,* and white clover *Trifolium repens*.	National – SBL habitat

Habitat (UKHab Code) Habitat	**Result**	**Importance assessment**
g3c – Other neutral grassland Secondary codes: 81 Ruderal or ephemeral	The main parcel of land located directly north of the timber yard comprises Other neutral grassland, with large swathes of Yorkshire-fog *Holcus lanatus* (TN9, TN19, TN20, TN25, TN26, TN31), with a mosaic of scattered tall ruderal and ephemeral plant species present, such as broad-leaved dock, Yorkshire-fog, creeping buttercup, creeping thistle, soft rush, white clover, and common mouse-ear *Cerastium fontanum* TN2, TN4, TN6, TN8).	Local This habitat has a moderate potential to support Groundwater Dependent Terrestrial Ecosystems (GWDTE).
g4 – Modified grassland Secondary codes: 102 Sheep grazed 106 Mown 108 Frequently mown	There is an area of modified grassland, which is a private garden within the survey area boundary of the residential property, and it is subject to frequent mowing.	Local
h3d – Bramble Secondary codes: -	Sited towards the centre of the large field enclosure, an earthen mound comprised of dense bramble *Rubus fruticosus* at the base (TN21).	Local
h3h – Mixed scrub Secondary codes: -	Several areas of mixed scrub (TN16, TN29, TN32) were recorded throughout the Site, and the dominant species were broom *Cytisus scoparius* and gorse *Ulex europaeus*.	Local
r1f6 – Other temporary ponds and scrapes Secondary codes:	Located near the northern survey area boundary of the Other neutral grassland, there is a small area of standing water and stream, which is fed by ditch to the east (TN30).	Local

Habitat (UKHab Code) Habitat	**Result**	**Importance assessment**
502 Seasonally wet		
r2 – River and streams Secondary codes: -	A slow-flowing burn between 1-3m wide was recorded as running east to west along the northern survey area boundary of the timber yard (TN1).	Local
u1b – Developed land, sealed surface Secondary codes: 800 Road 804 Carpark	Several areas of hardstanding were recorded, primarily in the form of access roads and equipment/storage laydown areas (TN14).	Negligible
u1b5 – Buildings Secondary codes: 817 Industrial building	A residential building with associated garden is present within the Site, and a timber yard with several industrial buildings lies within the 50m buffer to the south.	Negligible
w1g – Other broadleaved woodland Secondary codes: -	Two areas of what is considered to be self-set Other broadleaved woodland (TN23, TN28) comprised of scattered trees are located within the Other neutral grassland, one at the northeast of the Site, and one in the south.	Local – Highland Nature Biodiversity Action Plan (BAP) 2021 priority habitat
w1g – Other broadleaved woodland (Line) Secondary codes:	A line of planted young to semi-mature Other broadleaved woodland (TN11, TN15) runs adjacent to the farm road and acts as a screen of trees between the timber yard and the parcel of land to the north.	Local – Highland Nature Biodiversity Action Plan (BAP) 2021 priority habitat

Habitat (UKHab Code) Habitat	**Result**	**Importance assessment**
-	A separate short line of trees is present on the southern edge of the Site towards the east (TN24).	
w2c – Other coniferous woodland <u>Secondary codes:</u> -	A line of planted Other coniferous woodland comprised of Sitka *Picea sitchensis* and Leyland cypress *Cupressus* × *leylandii* (TN12) runs adjacent to the west side of the timber yard road.	Local

3.3 PROTECTED AND NOTABLE SPECIES

Data retrieved from the National Biodiversity Network (NBN) Atlas confirmed the presence of a number of protected and notable species within 2km of the Site. Relevant data are discussed in Table 3 below.

[redacted]

Table 3. Species

Species	Legal protection	Result	Importance assessment
[redacted]	[redacted]	[redacted]	Local
Pine marten	Conservation (Natural Habitats, &c.) Regulations 1994 (as	The data search did not return any records of pine marten within 2km of the Site.	National – SBL species

Species	Legal protection	Result	Importance assessment
	amended); Wildlife and Countryside Act 1981 (as amended) Schedule 5.	The HBRG desk study returned a single record for pine marten within 2km of the Site, however, due to the sensitive nature of pine marten dens, an exact location was not provided. Nonetheless this record indicates that the species is present within the area. Survey results During the survey a scat typical of pine marten was recorded just north of the timber yard (TN3). Suitable den setting habitat and optimal foraging resource was recorded in the woodland habitat, timber yard buildings, and pile of boulder (TN22), located both in and around the Site.	
Red squirrel	Wildlife and Countryside Act 1981 (as amended) Schedules 5 and 6.	The data search returned 17 records of red squirrel within 2km of the Site. The closest record was located in an area of woodland 100m north of the Site at Grid Reference NH632700. Survey results At the time of the survey no dreys were recorded, but similar to pine marten, suitable drey habitat and optimal foraging resource was recorded in the woodland habitat surrounding the Site.	National – SBL species
Other notable terrestrial mammals	Wildlife and Countryside Act 1981 (as amended).	The HBRG desk study returned a single record for wildcat within 2km of the Site. Due to the sensitive nature of wildcat dens, an exact location was not provided by HBRG. European hedgehog *Erinaceus europaeus* and weasel *Mustela nivalis* were also recorded within 2km of the Site.	National – SBL species (wildcat and hedgehog)
Otter	Conservation (Natural Habitats, &c.) Regulations 1994 (as amended); Wildlife and Countryside Act 1981 (as amended) Schedules 5 and 6.	The HBRG desk study returned one record of otter within 2km of the Site, located approximately 900m south. Survey results The burn along the southern edge of the Site and drainage channels throughout the Site have potential to host foraging and commuting otter due to connectivity with a similar network of watercourses in the wider landscape. At the time of survey, areas of dense vegetation were inaccessible and so the Site could not be thoroughly searched for signs of otter.	National – SBL species

Species	Legal protection	Result	Importance assessment
Birds	Wildlife and Countryside Act 1981 (as amended).	The data search returned 107 records of birds comprising 22 species within 2km of the Site. Of the species recorded, three are W&CA Schedule 1, seven are Birds of Conservation Concern (BoCC5) red listed, and eight BoCC Amber listed. Notable species which may use habitats on or directly adjacent to the Site include lapwing *Vanellus vanellus* and curlew *Numenius arquata*. The HBRG desk study returned records of 45 notable bird species within 2km of the Site, including black grouse *Tetrao tetrix* and capercaillie lekking sites. <u>Survey results</u> The following bird species were recorded during the survey: buzzard *Buteo buteo*, chiffchaff *Phylloscopus collybita*, goldfinch *Carduelis carduelis*, great tit *Parus major*, house martin *Delichon urbicum*, jay *Garrulus glandarius*, osprey *Pandion haliaetus*, reed bunting *Emberiza schoeniclus*, sparrowhawk *Accipiter nisus*, woodpigeon *Columba palumbus*, and yellowhammer *Emberiza citronella*.	National – SBL species (yellowhammer, reed bunting, osprey)
GCN and Common Amphibians	*GCN:* Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). *Common amphibians:* Wildlife and Countryside Act 1981 (as amended).	The data search returned one record of common toad *Bufo bufo* and no records of GCN within 2km of the Site. The HBRG desk returned a single record for common toad within 2km of the Site. <u>Survey results</u> Habitat suitability guidance (O'Brien *et al*, 2017) scores the location of the Site as 'unsuitable' to support GCN. MagicMap indicates that there are two ponds within the survey area and no other ponds within 500m of the Site. However, at the time of the survey the ponds were overgrown with dense vegetation dominating the entirety of the pond area and no discernible body of water, and the second pond has been backfilled with aggregate and removed entirely. The habitats within the survey area are not considered suitable for GCN (i.e. lack of connectivity to suitable habitat in the wider area, ephemeral in nature, lack of suitable bankside vegetation).	National – SBL species

Species	Legal protection	Result	Importance assessment
		Coupled with the lack of connectivity and the presence of major barriers to dispersal (i.e. intensively managed farmland and roads), it is considered highly unlikely that GCN are present within the Site. However, the occasional presence of common amphibians cannot be discounted.	
Reptiles	Wildlife and Countryside Act 1981 (as amended).	The data search did not return any records of reptiles within 2km of the Site. <u>Survey results</u> Suitable basking habitat was recorded in locations where ephemeral plant species gave way to bare ground along access tracks, and the adjoining scrub habitat afforded suitable cover and foraging resource. An area considered to offer suitable hibernacula was recorded in a pile of boulders (TN22) in the centre of the field of Other neutral grassland.	National – SBL species
Invertebrates	Some invertebrates are protected under the Wildlife and Countryside Act 1981 (as amended).	The data search returned 40 records of invertebrates comprising 30 species within 2km of the Site. The HBRG returned 23 records for eight invertebrate species within 2km of the Site, of which two species were on the International Union for Conservation of Nature (IUCN) red list, three were listed on the SBL, and three are notable. <u>Survey results</u> The following invertebrate species were recorded during the survey: carder bee *Bombus pascuorum*, orange-tip *Anthocharis cardamines*, peacock butterfly *Aglais io*, and white-tailed bumblebee *Bombus lucorum*.	National – SBL and IUCN species
Invasive species	Wildlife and Countryside Act 1981 (as amended) Schedule 9; Environmental	The data search did not return any records of invasive species within 2km of the Site. <u>Survey results</u> At the time of the survey no invasive non-native plant/animal species were recorded within the Site.	-

Species	Legal protection	Result	Importance assessment
	Protection Act 1990.		

4.0 RECOMMENDATIONS

4.1 MITIGATION AND FURTHER SURVEY

All of the works outlined below in Table 4 should be assumed as likely requirements for the pre-planning stage to inform a planning application, unless otherwise stated.

Table 4. Mitigation and Further Survey / Assessment

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
Designated sites	The Habitats Regulations provide strict protection to sites of European and/or international importance and includes a requirement for projects or plans to be screened for likely significant effects. Therefore, due to the close proximity of Novar SPA, and the potential risk to the qualifying Annex I species capercaillie (e.g. through human disturbance, habitat loss and fragmentation impacts), the proposed development must be screened by the competent authority (The Highland Council) to determine whether significant effects are likely to result from construction and operation of the proposed development. If the competent authority is unable to conclude that no likely significant effects or identify the requirement for mitigation, the proposed development must be subject to an	• A HRA may be required for the proposed development and further mitigation may be required upon completion of this assessment. • Impacts to the surrounding area, including the Novar SPA, must be considered as part of an Ecological Method Statement (EcMS) / Construction Environmental Management Plan (CEMP). • The CEMP/EcMS must ensure that construction and operation of the development causes no damage/destruction to the surrounding woodland habitat to reduce the risks of disturbance, habitat loss and fragmentation impacts.	The Highland Council will advise of any required enhancement measures following appropriate mitigation.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
	Appropriate Assessment in accordance with the Habitats Regulations. This process (encompassing both screening and appropriate assessment) is referred to as a Habitats Regulations Appraisal (HRA).		
Ancient Woodland and Priority Habitats	An area of long-established ancient woodland (of planted origin), lies directly adjacent to the survey area in the north, which is not a constraint, rather an opportunity to improve connectivity to similar habitat within the Site.	• It is understood that in these areas land take/loss of this habitat will not be required to facilitate the proposed development. As such proposed development will not affect these woodlands.	• Improve connectivity to similar habitat within the Site through a regime of native tree and shrub planting.
Habitats	A Hydrogeological Assessment was undertaken by Fluid (November 2024) which concluded that the f2c habitats on the site are likely to be dependent on sustained groundwater and surface water flow. Mitigation measures are proposed in their assessment. No further assessment is recommended.	Mitigation measures proposed in Fluid's hydrogeological assessment report must be followed. Additionally, the below measures are recommended: • If GWDTE are present, avoid disturbing these areas or severing groundwater flows. Establish buffer zones to protect these areas and to maintain the natural groundwater flow and prevent contamination. • Limit deep excavations near GWDTE. Deep excavations can disrupt groundwater flows, so keeping ground disturbance to a minimum is advised. • Implement Sustainable Drainage Systems (SuDS) to manage surface water runoff in a way that mimics	• Establish habitats with appropriate native flowering plants to support pollinators such as bees and butterflies. These habitats can enhance biodiversity and contribute to the overall health of the ecosystem. • Should green screens/facades be used around the development to reduce visual impacts, native tree, shrub and climbing plant species should be used. • Trees to be felled to accommodate the proposed development could be used to create decaying fallen or standing wood habitat.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		natural processes. This helps to maintain the hydrological balance of GWDTE. • The development will result in the loss of ecologically valuable habitats discussed in Table 2; as such, any removed vegetation must be replaced elsewhere on-site using wildlife friendly planting and native plant species to increase the ecological value of the Site. • Woodland planting can be introduced to the proposed Site to compensate for the potential loss of trees during construction. This must be replaced with diverse native species and where possible. • All works must follow best practice working methods as detailed in the EcMS/CEMP to minimise any impacts to habitats both on site and in the surrounding area. • Removed topsoil should be reused during landscaping where possible to minimise soil disturbance and retain soil biota. • Any woodchip/timber obtained from tree felling on site should be used as biomass for invertebrates and fungi. • If the proposed development requires	

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		construction works to be undertaken within close proximity to the watercourses, then general waste management procedures for pollution prevention and construction activities should comply with best practice guidelines and should comply with the Scottish Environment Protection Agency's (SEPA) Guidance for Pollution Prevention (GPP) series (NetRegs, 2024). The SEPA GPPs should be adhered to at all times regardless of proximity to watercourses.	
[redacted]	[redacted]	[redacted]	[redacted]

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		[redacted]	[redacted]

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
Pine marten	The Proposed Development has the potential to disturb, damage/destroy or obstruct access to a pine marten den, as such, a targeted protected species survey for pine marten is required. Construction within 250m of pine marten presence or potential den sites will need to be assessed.	Good practice working methods (as [redacted]) must be followed throughout the works to minimise the likelihood of any disturbance, injury, or mortality of protected or notable mammals.	Due to the nature of the site and lack of permitted access to woodland habitat in the adjacent land, there are no opportunities for enhancement for pine marten.
Red squirrel	A targeted protected species survey for red squirrel is required. Construction near to trees containing red squirrel dreys will need to be assessed: • within 50m during red squirrel breeding season (February to September inclusive). • within 5m or one tree's distance during non-breeding season.	• Good practice working methods should adopted throughout the works as a precautionary approach. • Pre-works surveys must check for any new dreys that may have arisen between survey and the start of construction. • If there is confirmed presence of red squirrel dreys, vegetation clearance/tree removal must take place during the non-breeding season of red squirrels (February to September inclusive). • If this is not possible, further licensing and survey may be required.	Where possible, newly planted trees should include native conifer species such as Scots pine, yew *Taxus baccata*, juniper *Juniperus communis,* hazel *Corylus avellana*, holly *Ilex aquifolium* and rowan to benefit red squirrels.
Otter	A targeted protected species survey for otter is required. All suitable otter habitat within 200m of the proposed works will need to be assessed.	• Pre-works surveys must check for any potential otter holts which may have arisen between survey and the start of construction. If so, seek confirmation from an ecologist. • A work exclusion zone must be implemented around any otter holts or	Augmenting riparian habitat with appropriate planting will increase the robustness of a connected sheltered corridor for otter to move and rest freely along the river corridor.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		shelters (200m for breeding sites, 30m for non-breeding/resting sites). • Construction works must avoid working in the vicinity of potential otter habitat during hours of darkness (within two hours after sunrise and two hours before sunset). • Any temporarily exposed open pipe system should be capped in a way as to prevent otter or other mammals from gaining access. • Back-filling or coverage of excavations overnight or sloping the sides to 45° or less to provide an exit to any animal entering the excavation. • Unnecessary lighting at night should be avoided and not illuminate riparian or river habitat. • Otter-proof fences must be used to ensure otters will not access the development Site during and after works.	
Birds	A data collection and consultation exercise should be undertaken with NatureScot, the Royal Society of Protection of Birds, and the local Raptor Study Group to identify the presence of known Schedule 1 bird nest sites/territories within the Site and wider area, and records of grazing by wintering birds.	• Vegetation clearance must take place outside of the bird nesting season (March-August inclusive). • If this is not possible, a nesting bird check must be conducted by an experience ecologist no more than 24 hours before vegetation clearance.	• The installation of bird boxes onto the new infrastructure (as directed by an ecologist) is recommended to enhance the development area for birds. • Introducing fruiting native species into new hedgerows is recommended to

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
	An adapted Common Bird Census should be conducted on four separate visits between April-July inclusive (following Gilbert *et al.*, 1998). Any requirement for non-breeding season surveys would be established through the desk study and consultation described above.	• Should a nest be found, an appropriate buffer must be implemented which may constrain works.	provide foraging and nesting opportunities for birds.
GCN and Common Amphibians	No further survey or assessment is recommended.	• Good practice working methods are recommended as a precautionary approach during works to reduce the likelihood of disturbance, injury, and/or mortality of common amphibians occurring. • Should the work be undertaken during spring, summer or autumn, or mild temperatures occur during any winter works, and active amphibians are found, they should be lifted by gloved hand and moved to a sheltered area (preferably scrub or woodland) away from areas of works.	• Any retained rock piles should be kept free from encroaching vegetation to provide habitat for amphibians.
Reptiles	NatureScot recommends that 'a reptile survey should be carried out if they could be found within or close to a development site'. Surveys can be carried out from April to September, though the best months are April, May, and September when reptiles are most active above ground.	• If vegetation clearance is to be undertaken during the winter and should a hibernating common amphibian be encountered, they should be left undisturbed.	• Any retained rock piles should be kept free from encroaching vegetation to provide habitat for reptiles.

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
	Surveys would involve a careful search of the Site for individuals basking in the open (common lizard *Zootoca vivipara*, adder *Vipera berus*) or under debris (slow worms *Anguis fragilis*). To make reptiles easier to find (especially slow worms), artificial refuges (such as corrugated iron sheets, carpet tiles or similar) can be put out in advance of the survey for them to bask on or hide under. Four to five visits would be required as a minimum to confirm the presence or absence of reptiles across the Site (Sewell *et al*. 2013).		
Invertebrates	The habitats recorded on site, and the proposed landscape and habitat management plan should be subject to consultation with an entomologist to determine the impact of habitat loss, the need for any targeted study for notable species, and the input to future habitat management.	• To reduce risks to invertebrates, the EcMS/CEMP must be followed, limiting pollution both within the Site and across the surrounding landscape.	• It is recommended that any loss of vegetation is reinstated with suitable nectar-rich plants.
Invasive species	No further survey or assessment is recommended.	During works, appropriate biosecurity measures should be adopted, including but not limited to: • Pre-construction checks and risk assessments carried out for INNS.	• Continual monitoring and recording of any INNS species during construction and operation is encouraged to assist the control efforts of the Scottish Invasive Species Initiative (Scottish Invasive Species Initiative, n.d.).

Ecological Receptor	Further survey / Assessment	Mitigation required	Opportunity for enhancement
		• Toolbox talks ensuring site workers are aware of what the species look like. • Maintaining good site hygiene, with personnel working on or between sites ensuring clothing and footwear are cleaned where appropriate to prevent spread. • Ensuring disposal of contaminated wash water, silt and other solids is dealt with in a responsible manner to avoid pollution and spread of INNS.	

4.2 ENVIRONMENTAL BEST PRACTICE

In addition, general environmental protection measures must be implemented during the construction phase of the proposed development to comply with the Environmental Liability (Scotland) Regulations 2009. Such measures include environmental best practice guidance outlined in the SEPA Guidelines for Pollution Prevention and those outlined by CIRIA guidance (CIRIA, 2015). The following minimum standards must be adhered to in order to prevent environmental impacts beyond the construction footprint:

- Measures must be taken to prevent dust and other emissions from construction affecting land beyond the Site.
- Chemicals and fuels must be stored in secure containers located a minimum of 50m away from watercourses or water bodies. Spill kits must be available.
- Emergency response protocols in the event of an environmental incident must be clearly defined and understood by all works personnel during construction.
- Excavations must be covered or securely fenced (with no potential access points beneath fencing) when the construction site is closed (e.g. overnight) to prevent entrapment of animals.
- Retained trees must be protected in accordance with BS5837 (BSI, 2012).
- Noise and vibration must be controlled and kept to the minimum necessary.
- Lighting used for construction must be switched off when not in use and positioned so as not to spill on to adjacent land or retained vegetation within the construction site.

5.0 CONCLUSIONS

The Preliminary Ecological Appraisal (PEA) for the Fyrish Battery Energy Storage System (BESS) project has provided a comprehensive assessment of the Site's ecological value and potential constraints. The Site, located in the Scottish Highlands, supports a diverse range of habitats and species, some of which are of national and international importance. Key findings include the identification of several protected sites within 10km of the development, such as the Novar SPA and Cromarty Firth SPA and Ramsar site, which support significant populations of species such as capercaillie, osprey, and whooper swan.

The Site itself comprises a mosaic of habitats, including upland flushes, mixed scrub, lowland meadow, and neutral grassland, which are valuable for biodiversity. These habitats have the potential to support GWDTEs and various protected and notable species. [redacted]

Other notable species identified include pine marten, red squirrel, otter, various bird species, reptiles, and invertebrates. The Site provides suitable habitats for these species, and further targeted surveys are recommended to confirm their presence and inform appropriate mitigation strategies. The report also highlights the need for habitat enhancement measures, such as native planting, creation of wildlife corridors, and implementation of sustainable drainage systems (SuDS), to mitigate the ecological impacts of the development and enhance biodiversity.

To ensure the ecological integrity of the Site is maintained, the report recommends adhering to best practice guidelines during construction. This includes measures to prevent pollution, control noise and vibration, and protect retained trees and habitats. The development can proceed in an environmentally responsible manner, provided that the recommended actions are implemented. These actions will help to manage and minimise the ecological impacts of the development, ensuring the protection and enhancement of the Site's ecological value.

[redacted]

Baseline ecological results are generally considered valid for a period of eighteen months from the date of the survey. It is suggested that baseline data is maintained until pre-construction checks as recommended in Section 4 of this report. The recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on; however, it is assumed that habitats are likely to remain unchanged.

By following the outlined recommendations, the Fyrish BESS project can achieve a balance between development and conservation, contributing to sustainable energy goals while protecting the natural environment.

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FIGURES

Survey Area Plan

Fyrish BESS

TNEI on behalf of Field

Legend

Survey Area

Notes:

Drawn by: lily.dunwell

Checked by: Bethany James

Figure No. 1

Revision No. A

27 January 2025

0 100 200 300 400 Meters

Scale 1:10,000 @A3

British National Grid

NGR: 262963E 869000N

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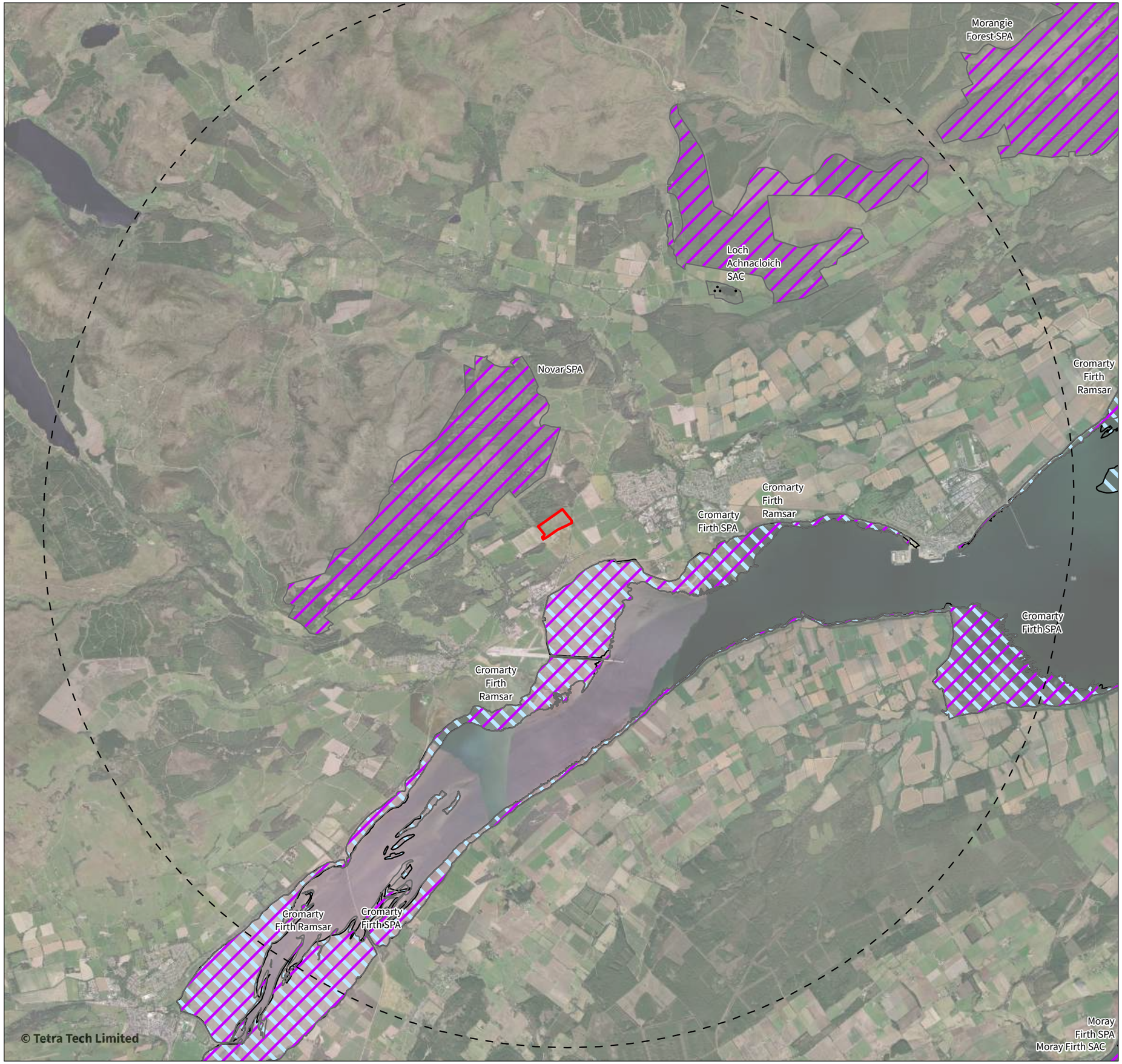

Statutory Designated Sites within 10 km

Fyrish BESS

TNEI on behalf of Field

Legend

- Survey Area
- Survey Area buffer (10 km)
- Special Protection Area (SPA)
- Special Area of Conservation (SAC)
- Ramsar

Data Sources:
Ramsar
Special Protection Areas
Special Areas of Conservation

Notes:
Symbology similar to that used within the MAGIC Application

Drawn by: lily.dunwell
Checked by: Ash Ronaldson

Figure No. 2a
Revision No. A
27 January 2025

0 1 2 3 Kilometers
Scale 1:75,000 @A3

British National Grid
NGR: 263119E 868765N

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