AtkinsRéalis

Ecological Impact Assessment

Sellafield Ltd

April 2024

DRILLING OF SIX BOREHOLES TO SUPPORT SELECTION OF AN IN-GROUND TESTING AREA

Notice

This document and its contents have been prepared and are intended solely as information for Sellafield Ltd and use in relation to ground investigation works at Tarn Head Farm and Mid Tarn Farm immediately west of the Sellafield Site, in association with the drilling of six boreholes to support selection of an in-ground testing area.

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Baseline habitat classification and mapping undertaken for this assessment has used the UK Habitat Classification 2.0 system under licence (*© UKHAB Ltd, under licence. No onward licence implied or provided. All rights reserved [https://ukhab.org/register/]*).

This document has 53 pages including the cover.

Document history

Document title: Ecological Impact Assessment

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1.0	Issue	AB	DW	LMG	ARD	04/04/2024
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Client signoff

Client	Sellafield Ltd
Project	Drilling of Six Boreholes to Support Selection of an In-ground Testing Area
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Contents

Non-technical Summary

Report purpose	This report describes the ecological baseline and evaluates the nature conservation importance of ecological features present within the zone of influence for the Proposed Scheme. The assessment identifies impacts (both positive and negative) on important ecological features, sets out agreed avoidance and mitigation measures. This report forms part of the technical information lodged with the planning application submission.
Proposed Scheme	The development comprises temporary ground investigations with six boreholes proposed in total. It is understood that that a planning application is required to allow the works to take place.
Desk studies and field surveys	A desk study was undertaken on 7 March 2024. A walkover survey was undertaken on 8 March 2024.
Ecological features	Following an assessment of the baseline conditions of the Application Site, the following important ecological features were considered relevant within the impact assessment: • Sellafield Tarn County Wildlife Site; • roosting bats; • foraging and commuting bats; • amphibians; • reptiles; and • breeding birds.
Potential impacts and effects	The Proposed Scheme has potential to result in the following impacts[1]: • Temporary habitat loss (e.g. land used during borehole construction that is subsequently to be re-instated); • injury or mortality of protected and priority species; • disturbance including noise and vibration to protected and priority species; and • spread of invasive non-native plant species (INNPS) across the Application Site, and into adjacent areas.
Significance of residual effects	Provided the avoidance and mitigation measures below are followed, there will be no residual effects of the Proposed Scheme on important ecological features.
Avoidance and mitigation measures	An Ecological Clerk of Works should be present at the start of the ground investigation, who will ensure the below mitigation measures are in place: • Works will adhere to the Guidance for Pollution Prevention and Construction Industry Research and Information Association C762 Environmental good practice. • During borehole construction, trees will be protected in line with guidelines provided in BS 5837 Trees in relation to Construction. • Locations of boreholes and access route will avoid areas containing INNPS, to avoid tracking over and potentially spreading INNPS.

[1] These ground investigations have not been split into construction impacts and operational impacts. The impacts from the process of borehole construction, sampling, and ground re-instatement (once sampling has been completed) have been assessed together.

	• Vegetation clearance (not anticipated, but if required) will be confined to areas of poor-quality dense scrub and modified grassland. If required, vegetation clearance will be minimised and undertaken outside the core bird nesting season (the core bird nesting season is 1 March – 31 August) to avoid damage or destruction of occupied nests or harm to breeding birds. If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for breeding birds and their occupied nests by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. • Ahead of any ground investigation works, or tracking of plant and equipment, a visual check will be performed for priority plant species, widespread reptile species and amphibians. • Any excavations will be filled or covered overnight. If this is not possible, one side of the excavations will be graded so that they provide an escape ramp to prevent any animals becoming entrapped. • Ground investigations between dusk and dawn (taken to be from 30 minutes before sunset to 30 minutes after sunrise) will be avoided where possible. It is understood that works will not take place at night, however if avoidance is not possible, any lighting required will be directed downwards at the ground investigation works and light spill to adjacent habitats (particularly the hedgerows and line of trees) will be avoided.
Biodiversity Net Gain	Due to the very small areas of land impacted by the Proposed Scheme required, and the lack of any significant permanent loss of habitats within the Site (i.e. less than 25 m^2), the Proposed Scheme is considered to be exempt from the requirements of Biodiversity Net Gain, in line with Defra guidance. The Proposed Scheme is therefore exempt under Regulation 4 of The Biodiversity Gain Requirements (Exemptions) Regulations 2024. See Section 7 for further details.

Report Validity

In the event of scope or programme changes or if works do not commence within twelve months of the date of this report, then updates to the surveys may be required to ensure the validity of the data, as per CIEEM guidance[2].

[2] CIEEM (2019) *Advice Note on the Lifespan of Ecological Reports and Surveys*.

1. Introduction

1.1 Terms of Reference

1.1.1. AtkinsRéalis was commissioned by Sellafield Ltd to undertake an Ecological Impact Assessment (EcIA) in connection with a planning application for temporary ground investigations comprising six discrete borehole locations (hereafter referred to as the Proposed Scheme), in association with future offsite remediation trials associated with the Sellafield Magnox Swarf Storage Silo programme.

1.1.2. The Proposed Scheme is immediately west of the Sellafield Site, Seascale, Cumbria as identified by the planning red line boundary provided with the planning application submission and shown in Appendix A (hereafter referred to as the Application Site).

1.1.3. This report presents the results of the EcIA for the Proposed Scheme and considers both terrestrial and aquatic ecological receptors, which include statutory and non-statutory designated sites for nature conservation, terrestrial and freshwater habitats, plants, and species. The assessment has been informed by a desk study and field survey data. This EcIA describes the ecological baseline and evaluates the nature conservation importance of ecological features present within the Zone of Influence[3] for the Proposed Scheme, characterises the impacts on Important Ecological Features[4], sets out agreed avoidance, mitigation, compensation and enhancement measures, and assesses the significance of the residual effects of the Proposed Scheme on the Important Ecological Features.

1.1.4. This EcIA has been undertaken with reference to current good practice[5] and forms part of the technical information lodged with the planning application submission. The ecological specialists who have authored this report are committed environmental professionals who are appropriately qualified and have a demonstrable knowledge, experience, and competence in the field of nature conservation. The production of this EcIA report has been overseen by competent experts that are full members of the Chartered Institute of Environmental and Ecological Management (CIEEM).

1.2 The Application Site

1.2.1. The Application Site is located to the west of the Sellafield Site. Sellafield is located on the West Cumbrian coast, approximately 3.5 km to the north-west of Seascale and approximately 2.5 km south-east of Calder Bridge and the A595.

1.2.2. The Application Site comprises two small sites (as shown on within Appendix A), as described below:

- Site 1 – Located at Tarn Head Farm, the northernmost of the two sites, centred at Ordnance Survey National Grid reference (OSNGR) NY 02058 04358; and
- Site 2 – Located at Mid Tarn Farm, the southernmost of the two sites, centred at OSNGR NY 02145 04052.

[3] Zone of Influence is the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities.
[4] An important ecological feature is a species, habitat, ecosystem and/or their function/service that is considered to be important and potentially affected by the project. A full definition is provided in Section 2
[5] CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. *Version 1.2*. CIEEM, Winchester.

1.2.3. Site 1 is approximately 4,658 m^2 and comprises farmyard urban infrastructure (i.e. footpaths and roads), grassland and minor areas of scrub and woodland.

1.2.4. Site 2 is approximately 2,877 m^2 and comprises farmyard urban infrastructure (i.e. footpaths and roads), grassland and minor areas of scrub.

1.2.5. Both Sites are in ownership of the Nuclear Decommissioning Authority (NDA), the parent company of Sellafield Limited.

1.3 The Proposed Scheme

1.3.1. The development comprises temporary ground investigations with six boreholes proposed in total. It is understood that that a planning application is required to allow the works to take place. Ground investigations will inform future works in the area, which are yet to be confirmed.

1.3.2. Indicative borehole locations have been located appropriately such that the Proposed Scheme seeks to avoid any direct impact upon priority habitats or other ecological features, with locations placed in low value habitat only.

1.3.3. Ground investigations will be temporary and, following borehole sampling, the ground will be reinstated to the previous condition/habitat.

1.3.4. Ground investigations are programmed to take place in June 2024.

1.3.5. Cumberland Council have issued prior approval for demolition of all buildings on Mid Tarn Farm (Cumberland Council reference 4/23/2301/0F1) and Tarn Head Farm (4/23/2300/0F1). Demolition of these buildings does not fall within the remit of the Proposed Scheme and, therefore, is not considered within this report. All buildings are excluded from the red line boundaries of Site 1 and Site 2.

1.4 Scope of Assessment

1.4.1. This report presents ecological information obtained during the following:

- A desk study undertaken on 7 March 2024.
- A walkover survey undertaken on 8 March 2024.

1.4.2. It was considered that no further survey effort is required in order to complete this EcIA.

2. Methodology

2.1 Zones of Influence

2.1.1. The project Zone of Influence (ZoI) is defined as the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. The size and shape of the ZoI will depend on the ecological features present at the Application Site and the nature of the proposals and predicted impacts. The ZoI typically extends beyond the project boundaries (for example where there are ecological or hydrological links beyond Application Site boundaries), and takes into account both on-site impacts, and impacts that may occur to adjacent and/or more distant ecological features. In order to determine the ZoI, the size, location, and nature of a project needs to be considered alongside the likely impacts, sensitivities of ecological features, and potential for in combination effects.

2.1.2. For each ecological feature within the ZoI, the individual zone of sensitivity of that feature will vary depending on their susceptibility to an environmental change or effect. Where there is overlap between the project ZoI and the receptors zone of sensitivity, impacts may occur.

2.1.3. The Proposed Scheme is not likely to result in effects beyond the extents of the Application Site due to the nature of works, the existing land use of the Application Site and the likely effects of the Proposed Scheme.

2.2 Desk Study

2.2.1. The geographical area for obtaining ecological data through desk studies (hereafter referred to as the Desk Study Search Area) has been informed by the project ZoI and zones of sensitivity for ecological features using best practice guidance and professional judgement. Baseline data have been gathered from a range of sources through data requests and using online resources, as outlined below. This included data gathering in relation to statutory and non-statutory designated sites for nature conservation and protected and priority habitats and species (as defined by CIEEM[6]). The study areas used for the data gathering are detailed in Table 2-1.

2.2.2. The following reports were reviewed to inform this assessment:

- Biome Consulting (2023) *Tarn Head Farm, Sellafield, Cumbria – Update Ecological Constraints Study*[7]; and
- Biome Consulting (2023) *Mid Tarn Farm, Sellafield, Cumbria – Update Ecological Constraints Study*[8].

2.2.3. The desk study was undertaken on 7 March 2024. For species records collected, only those within 10 years of the data collection date (hereafter referred to as 'recent records') have been considered within the assessment unless deemed relevant.

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[6] As set out in Box 1 on Page 4 of: CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, Second Edition*.
Priority habitats and species include those listed as a national priority for conservation (i.e. a Habitat of Principle Importance or Species of Principle Importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (as amended); and/or local priority for conservation (e.g. in the local Biodiversity Action Plan [BAP]), International Union for the Conservation of Nature (IUCN) Red List or Amber List, Nationally Rare or Nationally Scarce, or endemic to a country or geographic location.
[7] Biome Consulting (2023) *Tarn Head Farm, Sellafield, Cumbria – Update Ecological Constraints Study.*
[8] Biome Consulting (2023) *Mid Tarn Farm, Sellafield, Cumbria – Update Ecological Constraints Study.*

2.2.4. The following online resources were accessed:

- Defra's *Multi-Agency Geographic Information for the Countryside (MAGIC)* website[9]; and
- The Woodland Trust's *Ancient Tree Inventory*[10].

2.2.5. Ordnance Survey maps and Grid Reference Finder[11] were used to identify the presence of waterbodies within 500 m of the Application Site boundary, in order to establish if the land within and immediately surrounding the Application Site could be used as terrestrial habitat for great crested newts. This species typically uses suitable terrestrial habitat up to 500 m from a breeding pond[12]. However, there is a notable decrease in great crested newt abundance beyond a distance of 250 m from a breeding pond[13].

2.2.6. Cumbria Biodiversity Data Centre (CBDC) was contacted to request records of protected and priority species and habitats and details of non-statutory designated sites for nature conservation.

Table 2-1 - Desk study search areas

Data type	Search area – distance from Proposed Scheme boundary
Statutory designated sites for nature conservation	2 km
Non-statutory designated sites for nature conservation	1 km
Irreplaceable habitats[14] and priority habitats[6]	1 km
Protected and priority species[6]	1 km (extended to 2 km for bats)
Waterbodies	500 m

2.3 Planning Policy Review

2.3.1. A review of national and local planning policy relevant to the Proposed Scheme was undertaken as part of the data gathering. The following policy documents were subject to review (with further detail provided in Appendix B):

- National Planning Policy Framework[15];
- Cumberland Council's *Copeland Local Plan*[16]; and
- Cumberland Council's *Revised Copeland Local Plan 2021 – 2038 (Publication Draft)*[17].

[9] Defra. *MAGIC.* [Online]. Available at: https://magic.defra.gov.uk/ [Accessed 07/03/2024].
[10] Woodland Trust. *Ancient Tree Inventory* [Online]. Available at: https://ati.woodlandtrust.org.uk/ [Accessed: 07/03/2024].
[11] UK Grid Reference Finder (2011) [Online]. Available at: https://gridreferencefinder.com/ [Accessed: 07/03/2024].
[12] English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.
[13] English Nature (2004) *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt (ENRR576)* [Online]. Available at: http://publications.naturalengland.org.uk/publication/134002 [Accessed: 07/03/2024].
[14] As defined within the NPPF: *"Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."*
[15] Ministry of Levelling Up, Housing and Communities (2023) *National Planning Policy Framework*. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed: 07/03/2024].
[16] Cumberland Council. *Copeland Local Plan*. Available at: https://www.copeland.gov.uk/content/copeland-local-plan [Accessed: 07/03//2024]
[17] Cumberland Council. Revised *Copeland Local Plan (Publication Draft).* Available at: https://www.copeland.gov.uk/sites/default/files/attachments/localplanpublicationdraft.pdf [Accessed: 11/04/2024]

2.4 Ecological Field Surveys

2.4.1. The geographical area for undertaking ecological field surveys has been determined using the current survey guidance, professional judgement, and the project ZoI, which have been determined based on the nature of the impacts arising from the Proposed Scheme.

Surveyor Competencies

2.4.2. All the surveys were led by surveyors who have been assessed[18] to be at least of capable experience following the CIEEM competency framework[19] and hold a Field Identification Skills Certificate[20] (FISC) Level 4.

Walkover Survey

2.4.3. A walkover survey of areas within the Application Site was undertaken on 8 March 2024.

2.4.4. Habitats within the Survey Area were mapped (see UK Habitat Classification Survey section below). The walkover survey also included a search for evidence of, and the potential of each habitat to support, priority and protected species as recommended by CIEEM[21].

UK Habitat Classification Survey

2.4.5. Habitats were mapped using the UK Habitat Classification (UKHab) 2.0 system[22]. UKHab is a comprehensive and hierarchical habitat classification system for the UK that has been developed to benefit from recent changes in habitat categorisation, recording and analysis, and is suitable for digitally recording in the field using GIS. It is fully compatible with other major existing classifications, including priority habitat types and Habitats Directive Annex I habitat types[23] .

2.4.6. All habitats were recorded to at least Level 3 of the UKHab hierarchy, i.e., broad habitats such as neutral grassland or dense scrub. Any Level 4 habitats and Level 5 habitats have also been recorded. In addition, 'Essential Secondary Codes' have been recorded to describe habitat mosaics, complexes and their origins. All habitat features have been digitally mapped, using QGIS, as either polygons, lines or points and assigned to a UKHab Primary Habitat Code.

2.4.7. An assessment of the possible presence of priority habitats (as defined by CIEEM[6]) was also undertaken during the walkover survey.

2.4.8. Vascular plant names recorded during this survey follow nomenclature used by Stace (2019)[24].

[18] Assessment undertaken by AtkinsRéalis' ecological technical leadership team in accordance with CIEEM competency criteria.
[19] CIEEM's Competency Framework. Available at: https://www.cieem.net/competency-framework [Accessed 07/03/2024].
[20] BSBI. *Field Identification Skills Certificate.* Available at: https://bsbi.org/field-skills [Accessed 07/03/2024].
[21] CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal. Second Edition*. CIEEM, Winchester.
[22] UKHab Ltd (2023) *UK Habitat Classification Version 2.0 (at https://ukhab.org)* [Accessed 07/03/2024].
[23] Council Directive 92/43/EEC (1992) on the conservation of natural habitats and of wild fauna and flora (known as the 'Habitats Directive').
[24] Stace (2019) *New Flora of the British Isles. Fourth Edition.*

2.4.9. Target notes (TNs) were used to record specific details on the plant species composition of the habitats, current management, and quality. TNs were also used to record features of ecological importance (e.g., ponds, veteran trees, and complex habitat mosaics).

Protected and Priority Species Walkover

2.4.10. In addition to mapping the habitats within the Survey Area, the survey also included an assessment of the potential presence of protected or priority species. This included recording any incidental sightings or field signs from such species. The survey comprised assessing the suitability of the habitats present for, and recording any evidence of the following species (in line with current guidance):

- Amphibians (terrestrial and aquatic habitats)[25];
- Badgers[26];
- Bats[27];
- Breeding and non-breeding birds[28];
- Otters[29,30];
- Priority invertebrates[31,32];
- Priority plants[33] and fungi[34];
- Red squirrels[35,36];
- Reptiles[37];
- Water voles[38]; and
- White-clawed crayfish[39].

2.4.11. Evidence of the presence of invasive species was recorded where seen, including but not limited to the following:

- Evidence of animal species as listed on the Invasive Alien Species (Enforcement and Permitting) Order 2019; Egyptian geese, ruddy duck, muntjac deer and grey squirrel; and

[25] Gent T and Gibson S (2003). Herpetofauna Workers Manual. JNCC, Peterborough
[26] Harris S., Cresswell P. and Jefferies D. (1989) *Surveying badgers*. Mammal Society, London.
[27] Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines. Fourth Edition.* The Bat Conservation Trust, London.
[28] Bird Survey & Assessment Steering Group (2023) *Bird Survey Guidelines for assessing ecological impacts, v.1.1.1*. Available at: https://birdsurveyguidelines.org [Accessed: 20/03/2024].
[29] Chanin and Smith (2003) *Monitoring the otter Lutra lutra*. *Conserving Natura 2000 Rivers Monitoring Series No 10.* English Nature, Peterborough.
[30] Liles G. (2003) *Otter Breeding Sites. Conservation and Management*. *Conserving Natura 2000 Rivers Conservation Techniques Series No. 5.* English Nature, Peterborough.
[31] Buglife. *Good planning practice for invertebrates: Surveys.* Available at: https://www.buglife.org.uk/resources/planning-hub/good-practice-planning-for-invertebrates/ [Accessed: 20/03/2024].
[32] English Nature. *Organising surveys to determine site quality for invertebrates.* Available at: https://publications.naturalengland.org.uk/publication/69045 [Accessed: 20/03/2024].
[33] Hill, D.A. (ed.) (2005) *Handbook of biodiversity methods: survey, evaluation and monitoring. Chapter 15.* Cambridge University Press.
[34] At the present time there is no current survey guidance for fungi. However, the SSSI selection guidelines for non-licenced fungi provide some survey methodologies for some groups. Available at: https://hub.jncc.gov.uk/assets/d1fcb171-8086-4f5b-ade5-a34c5edc78c5. [Accessed: 20/03/2024].
[35] Birks J.D.S, Bullion S., Cresswell W.J. and Dean M. (eds.) (2012) *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. Mammal Society, Southampton.
[36] Gurnell J., Lurz P., McDonald R. and Pepper H.W. (2009) *Practical techniques for surveying and monitoring squirrels*.
[37] Froglife (1999) *Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard* conservation. Froglife.
[38] Dean, M. *et al.* (2016) *The Water Vole Mitigation Handbook*. Mammal Society, London.
[39] Peay S. (2003) *Monitoring the White-clawed Crayfish Austropotamobius pallipes. Conserving Nature 2000 Rivers Monitoring Series No. 1.* English Nature, Peterborough.

- Evidence of the presence of the following invasive non-native plant species (INNPS): Japanese knotweed, giant knotweed, hybrid knotweed[40], giant hogweed, Himalayan balsam, rhododendron[41], cotoneaster species[42], giant rhubarb, Japanese rose, and three-cornered garlic. These are listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and subject to strict legal control.

Survey Limitations

2.4.12. This section identifies any limitations to the surveys or assessment and provides an explanation as to the effect of these on the assessment.

2.4.13. The field survey was undertaken in March, which is a sub-optimal time of year to undertake such surveys as many plant species (including some invasive non-native species) are often not readily identifiable or visible. However, due to the habitats identified on the Site being common and widespread, this is not considered to be a significant constraint.

2.4.14. The field survey extent was limited to comprise the red line boundary provided only, with no additional survey area buffer (which typically would be the surrounding 50 m). This approach was requested by the NDA and the land agent, with specific request for the surveyors to avoid accessing the surrounding fields from the Application Site. However, given the very localised impact of the Proposed Development, it is not considered likely that the works will impact upon any habitats outside of the Application Site boundary. Therefore, this is not considered to be a significant constraint.

2.4.15. The buildings associated with Tarn Head Farm and Mid Tarn Farm were not included within the Application Site boundary. These buildings are due to be demolished and have been assessed separately (refer to the Biome Consulting Update Ecological Constraints Studies[7,8] for these assessments and specific mitigation required in relation to demolition for these buildings). Therefore, the buildings were not subject to a preliminary bat roost assessment (PBRA) as part of this EcIA.

2.4.16. The search for waterbodies within 500 m of the Application Site was undertaken by using Ordnance Survey plans and aerial photographs only. These sources may not show all waterbodies within 500 m of the Application Site boundary and, therefore, some waterbodies may not have been identified.

2.4.17. The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including aquatic habitats. The UKHab extended walkover survey checked for the presence of Japanese knotweed, giant knotweed, hybrid knotweed, giant hogweed, Himalayan balsam, rhododendron, cotoneaster, giant rhubarb, Japanese rose, and three-cornered garlic, Other invasive species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) may not have been recorded.

2.4.18. The desk study reviewed the Woodland Trust's Ancient Trees Inventory. This provides records of ancient/ veteran trees, but is not an exhaustive list, and other ancient/veteran trees may be present in the area. The preliminary ecological walkover survey aimed to identify such features and as such this is not considered a constraint.

[40] Hybrid knotweed species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) include *Fallopia japonica* x *Fallopia sachalinensis*
[41] Although there are approximately 1,200 species of rhododendron, just one species and one of its hybrids are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): *Rhododendron ponticum* and *Rhododendron ponticum* x *Rhododendron maximum*.
[42] There are approximately 100 species of cotoneaster found in the UK, but only five are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended): *Cotoneaster horizontalis*, *Cotoneaster integrifolius*, *Cotoneaster simonsii*, *Cotoneaster bullatus* and *Cotoneaster microphyllus*.

2.4.19. CBDC records are not exhaustive, and the absence of records does not necessarily demonstrate the absence of a species.

2.4.20. Many cryptic taxa particularly including apomictic species of plant, invertebrates and fungi, could not be adequately surveyed at the time of the survey. These groups require specialist survey and survey windows are generally highly restrictive, particularly for plants across the genera *Taraxacum*, *Rubus* and *Hieracium*. However, attributable to the nature of the habitats present at the Application Site and surrounding landscape, this is not considered to be a significant limitation.

2.4.21. Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore, the ecological surveys undertaken to support this EcIA have not produced a complete list of plants and animals, and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. The above limitation(s) has/have been addressed through taking the precautionary approach within the appraisal.

2.5 Identifying Important Ecological Features

2.5.1. A number of criteria have become accepted as a means of assessing the nature conservation importance of a feature which are set out in A Nature Conservation Review[43] and the CIEEM Guidelines for EcIA[5] and include diversity, rarity, and naturalness.

2.5.2. The nature conservation importance or potential importance of an ecological feature is determined within the following geographic context:

- International;
- National;
- Regional;
- County;
- Local;
- the Application Site and its immediate environs; and
- Negligible.

2.5.3. A number of resources have been used to determine importance and these are referenced, where relevant, within the baseline results.

2.5.4. This EcIA has undertaken a detailed assessment of ecological features considered to be 'important' (Important Ecological Features [IEF]). The baseline information and nature conservation evaluation have been used to identify IEFs. IEFs are sites, habitats, species, ecosystems and/or their functions/processes considered to be important and potentially affected by the project.

2.5.5. Features that have been identified to be of less than Local importance or features outside the Project ZoI are not considered to be IEF and have not been considered within the impact assessment. Where mitigation is required for these features for legal reasons, this is detailed in Section 5.

[43] Frazer J.F.D. (1977) *A Nature Conservation Review, Edited by D. A. Ratcliffe.* Cambridge University Press, Cambridge, England (on behalf of the Nature Conservancy Council and the Natural Environment Research Council): Vol. 1 s.

2.6 Impact Assessment

2.6.1. The assessment of the potential effects of the Proposed Scheme takes into account both on-site impacts, and impacts that may occur to adjacent and/or more distant ecological features.

2.6.2. Where impacts have been identified, details are provided within the assessment to characterise these in terms or their extent and magnitude, duration, frequency and timing, and reversibility. Both positive and negative impacts are discussed. Impacts were also characterised in terms of how they occur, i.e., direct, indirect secondary or cumulative. Impacts can be permanent or temporary and can include:

- direct loss and degradation of wildlife habitats;
- fragmentation and isolation of habitats;
- mortality and injury to species;
- disturbance to species from noise, light or other visual stimuli;
- changes to key habitat features; and
- changes to the local hydrology, water quality and/or air quality.

2.6.3. For designated sites for nature conservation, effects are considered significant when a Proposed Scheme and associated activities is likely to either undermine or support the conservation objectives or condition of the site(s) and its features of interest.

2.6.4. For habitats, effects are considered significant when a Proposed Scheme and associated activities is likely to result in a change in habitat structure and function.

2.6.5. Consideration is given to whether:

- any processes or key characteristics will be removed or changed;
- there will be an effect on the nature, extent, structure and function of component habitats;
- there is an effect on the average population size and viability of component species; and
- functions and processes acting outside the formal boundary of a designated site have also been considered, particularly where a site falls within a wider ecosystem e.g. wetland sites.

2.6.6. Some habitats can tolerate a degree of minor changes, such as localised or temporary disturbance or changes in physical conditions, without such changes harming their function or importance. For this EcIA, ecological effects have been considered in the light of any information available about the capacity of habitat to accommodate change. Significant effects have been determined as being either negative or positive.

2.6.7. The conservation importance of undesignated habitats and species within a defined geographical area (International to Local) has been used in this assessment to determine whether the effects of the proposals are likely to be significant:

- for habitats, conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area; and
- for species, conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

2.6.8. When assessing potential effects on nature conservation importance, the known or likely background trends and variations in status have been taken into account. The level of ecological resilience or likely level of ecological conditions, that would allow the population of a species or area of habitat to continue to exist at a given level or continue to increase along an existing trend or reduce a decreasing trend, has been estimated where appropriate to do so.

2.6.9. The avoidance, mitigation, compensation and/or enhancement measures described within the EcIA have been incorporated into the design and operational phasing programme and taken into account in the assessment of the significance of effects. These mitigation measures include those required to achieve the minimum standard of established good practice together with additional measures to further reduce any negative impacts of the Proposed Scheme. The mitigation measures include those required to reduce or avoid the risk of committing legal offences.

2.6.10. If the design changes or the agreed mitigation cannot be implemented, the effects will need to be reassessed and further surveys may be required. In this event, the conclusion of this EcIA may no longer be valid.

2.7 Mitigation Hierarchy

2.7.1. The principles of the mitigation hierarchy[5] have been adopted and used when considering impacts and subsequent effects on IEF within the ZoI.

2.7.2. The mitigation hierarchy consists of the following sequential steps:

- Avoidance: Seek options that avoid harm to ecological features (for example, by locating on an alternative site);
- Mitigation: Negative effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation; and
- Compensation: Where there are significant residual negative ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

2.7.3. Additionally, projects should seek to provide enhancements which are net benefits for biodiversity over and above the requirements for avoidance, mitigation or compensation.

3. Baseline Conditions and Importance

3.1.1. This section provides details of the ecological baseline relevant to the Proposed Scheme recorded during the desk study and field surveys undertaken to inform this EcIA.

3.1 Statutory and Non-statutory Designated Sites

3.1.1. One statutory designated site for nature conservation was located within 2 km of the Application Site, this is Low Church Moss Site of Special Scientific Interest (SSSI). No other statutory designated sites for nature conservation, including Local Nature Reserves (LNR), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), or Ramsar sites are present. Four non-statutory designated sites for nature conservation were located within 1 km of the Application Site. Sellafield Tarn County Wildlife Site (CWS) is immediately adjacent to Site 2, and 25 m south-east of Site 1. One further CWS, and two Sites of Invertebrate Significance (SoIS) are present.

3.1.2. Table 3-1 details the statutory and non-statutory designated sites for nature conservation identified though the desk study. The locations of these sites are shown in Appendix C.

Table 3-1 – Statutory designated sites for nature conservation within 2 km of the Application Site and Non-statutory designated sites for nature conservation within 1 km of the Application Site

Site name	Designation	Location of designated site[44]		Features of interest[45]	Importance level
		From Site 1	From Site 2		
Low Church Moss	SSSI	Approx 1.07 km north	Approx 1.40 km north	Broadleaved, mixed and yew woodland – lowland fen, marsh and swamp	National
Sellafield Tarn	CWS	Approx 25 m south-east	Immediately adjacent to the east of Site	A fen and carr community, including patches of royal fern	County
Starling Castle	CWS	Approx 520 m west	Approx 570 m west	Mosaic of habitats including species-rich dune grassland, open dune, and shingle.	County
Braystones, R. Ehen	SoIS	Approx 530 m south-west	Approx 390 m south-west	Invertebrate assemblages	County
Sellafield Disused Railway Line	SoIS	Approx 340 m west	Approx 400 m west	Invertebrate assemblages	County

[44] Where designated sites are situated outside of the Application Site boundary, the distance and direction is given to the closest point that the designated site is from the Application Site.
[45] Including qualifying features of internationally designated sites and reasons for designation for SSSIs.

Site 1 – Tarn Head Farm

3.1.3. Sellafield Tarn CWS is located approximately 25 m south-east of Site 1. Given the proximity of this Site from the Proposed Scheme, there is potential that the CWS could be impacted by indirect effects such as pollution. Therefore, Sellafield Tarn CWS may pose a constraint to the Proposed Scheme and is scoped in for further assessment.

3.1.4. All other statutory or non-statutory designated sites for nature conservation are located >340 m from the Site 1, with no hydrological connections present. There, all other statutory or non-statutory designated sites for nature conservation are scoped out for further assessment and are not considered further.

Site 2 – Mid Tarn Farm

3.1.5. Sellafield Tarn CWS is located immediately adjacent to the east of the Site 2. Given the proximity of this Site from the Proposed Scheme, there is potential that the CWS could be impacted by pollution. Therefore, Sellafield Tarn CWS may pose a constraint to the Proposed Scheme and is scoped in for further assessment.

3.1.6. All other statutory or non-statutory designated sites for nature conservation are located >390 m from the Site 2, with no hydrological connections present. There, all other statutory or non-statutory designated sites for nature conservation are scoped out for further assessment and are not considered further.

3.2 Priority and Irreplaceable Habitats

Irreplaceable Habitats

3.2.1. No parcels of irreplaceable habitats were identified within 1 km of the Application Site.

Priority Habitats

Site 1 – Tarn Head Farm

3.2.2. Forty-one parcels of priority habitat were identified within 1 km of Site 1. Of these 41 parcels:

- 21 comprised coastal and floodplain grazing marsh;
- 15 comprised deciduous woodland (listed on the National Forest Inventory); and
- five comprised good quality semi-improved grassland.

3.2.3. The closest parcel of priority habitat to Site 1 is deciduous woodland, which is located within Site 1.

3.2.4. The River Ehen is located approximately 520 m south west of Site 1 at its closest point.

Site 2 – Mid Tarn Farm

3.2.5. Twenty-seven parcels of priority habitat were identified within 1 km of Site 2. Of these 27 parcels:

- 13 comprised coastal and floodplain grazing marsh;

- 13 comprised deciduous woodland (listed on the National Forest Inventory); and
- one comprised good quality semi-improved grassland.

3.2.6. The closest parcel of priority habitat to Site 2 is deciduous woodland, which is located approximately 70 m east of Site 2.

3.2.7. The River Ehen is located approximately 400 m south west of Site 2 at its closest point.

3.3 Habitats

3.3.1. Habitats are mapped on the UKHab survey plan in Appendix D, with specific features highlighted by TNs on the figure. TN descriptions and photographs are provided in Appendix D.

Site 1 – Tarn Head Farm

3.3.2. Site 1 comprises a farmyard and the immediate surrounding habitats. These habitats comprise, urban infrastructure (i.e., farmyard tracks and paths), grassland, scrub and a minor area of broadleaved woodland.

3.3.3. The surrounding habitat in the wider area to the north, south and west generally consists of arable cropland and grassland fields. The Sellafield Site is located to the east, which predominantly consists of urban habitat types. Wetland habitat is located east, in between Site 1 and the Sellafield Site. The Irish Sea is located approximately 650 m south-east of Site 1.

3.3.4. Table 3-2 lists all of the UKHab habitats present within the Site 1. The table also provides details of the area[46] of each habitat within Site 1 and the proportion of Site 1 this makes up.

Table 3-2 - Habitat types within Site 1

UKHab habitat category	Location of habitat	Area of habitat/ distance of linear feature M^2/M (% of Site)	Priority habitat Yes/No	Secondary codes[47]	Importance level	Rationale for valuation
g4 – modified grassland	In the west of Site 1	1,769 m^2 (38.0%)	No	32 (scattered trees)	Negligible	Widespread habitat of limited ecological value
h3d – bramble scrub	Two parcels in the centre of Site 1	1,068 m^2 (22.9%)	No	N/A	Application Site	Offers some opportunities for wildlife, but relatively common in the wider area.

[46] Measurements are calculated using QGIS measurement tool..
[47] Secondary codes allow the recording of additional information, linked to the Primary Habitats (for example, scattered scrub can be linked with primary habitats such as grassland and heathland).

UKHab habitat category	Location of habitat	Area of habitat/ distance of linear feature M^2/M (% of Site)	Priority habitat Yes/No	Secondary codes[47]	Importance level	Rationale for valuation
w1g – other broadleaved woodland	In the east of Site 1	156 m^2 (3.3%)	Yes	N/A	Local	Offers some opportunities for wildlife, but relatively common in the wider area.
u1b – developed land; sealed surface	In the west and centre of Site 1	237 m^2 (5.1%)	No	N/A	Negligible	Widespread habitat of limited ecological value
u1c – artificial unvegetated sealed surface	In the centre of Site 1	194 m^2 (4.2%)	No	N/A	Negligible	Widespread habitat of limited ecological value
u1e – built linear features	In the east and centre of Site 1	1232 m^2 (26.5%)	No	N/A	Negligible	Widespread habitat of limited ecological value
h2a6 – other native hedgerow	In the south of Site 1	15 m	No	N/A	Application Site	Contains one woody species (hawthorn), therefore does not meet criteria for priority or important hedgerow. Offers some opportunity for wildlife, but common in the wider area.

3.3.5. Features that have been identified to be of less than local importance are not considered to be important ecological features. Therefore, the following habitats have not been considered within the impact assessment:

- g4 – modified grassland;
- h3d – bramble scrub;
- u1b – developed land; sealed surface;
- u1c – artificial unvegetated sealed surface
- u1e – built linear features; and
- other native hedgerow.

Site 2 – Mid Tarn Farm

3.3.6. Site 2 comprises a farmyard and the immediate surrounding habitats. These habitats comprise, urban infrastructure (i.e. farmyard tracks and paths), grassland and scrub.

3.3.7. The surrounding habitat in the wider area to the north, south and west generally consists of arable cropland and grassland fields. Wetland habitats are present immediately to the north and east of Site 2. The Sellafield Site is located to the east, which predominantly consists of urban habitat types. The Irish Sea is located approximately 510 m south east of Site 2.

3.3.8. Table 3-3 lists all of the UKHab habitats present within the Site 2. The table also provides details of the area[48] of each habitat within Site 2 and the proportion of Site 2 this makes up.

Table 3-2 - Habitat types within Site 2

UKHab habitat category	Location of habitat	Area of habitat (% of Site)	Priority habitat Yes/No	Secondary codes[49]	Importance level	Rationale for valuation
g4 – modified grassland	In the north and south of Site 2	1598 m^2 (55.5%)	No	32 (scattered trees)	Negligible	Widespread habitat of limited ecological value
h3 – dense scrub	Scattered in three discrete parcels across Site 2	21 m^2 (0.7%)	No	523 (non-native)	Application Site	Offers some opportunities for wildlife, but relatively common in the wider area.
h3d – bramble scrub	Towards the east of Site 2	472 m^2 (16.4%)	No	N/A	Application Site	Offers some opportunities for wildlife, but relatively common in the wider area.
u1e – built linear features	In the centre of Site 2	786 m^2 (27.3%)	No	N/A	Negligible	Widespread habitat of limited ecological value

3.3.9. Features that have been identified to be of less than local importance are not considered to be important ecological features. Therefore, the following habitats have not been considered within the impact assessment:

- g4 – modified grassland;
- h3 – dense scrub;
- h3d – bramble scrub; and
- u1e – built linear features.

[48] Measurements are calculated using QGIS measurement tool..
[49] Secondary codes allow the recording of additional information, linked to the Primary Habitats (for example, scattered scrub can be linked with primary habitats such as grassland and heathland).

3.4 Protected and Priority Species

3.4.1. This section provides a summary of the results of the desk study and UKHab extended walkover survey, and the further surveys, along with the nature conservation importance for each species or species group.

3.4.2. Where constraints and recommendations are uniform across the Application Site (within both Site 1 and Site 2), these have been discussed in combination. Where constraints and recommendations differ between Site 1 and Site 2, these have been broken down and discussed separately.

Amphibians (including great crested newts and natterjack toads)

3.4.3. CBDC provided no recent amphibian records within 1 km of the Application Site. No European Protected Species (EPS) licences (for either great crested newts or natterjack toads) were recorded within 1 km of the Application Site.

3.4.4. Natterjack toads are known to be present along the Cumbrian Coast, in close proximity to the Sellafield Site. However, there is no suitable habitat for this species within the Application Site. The Application Site is at least 400 m from any habitats which may support natterjack toads and the River Ehen is present between the suitable habitats and the Application Site. Therefore, this species is not considered to pose a constraint to the assessment and is not considered further in this report.

3.4.5. One waterbody was identified within 250 m of the Application Site during the desk study. This waterbody is located approximately 190 m south-west of Site 1 and 190 m north-west of Site 2. The waterbody was not subjected to a Habitat Suitability Index (HSI) assessment. Therefore, suitability for great crested newts cannot be ruled out.

3.4.6. No other waterbodies were located within 250 m of the Application Site.

Site 1 – Tarn Head Farm

3.4.7. The field study identified no evidence of amphibians within Site 1. No breeding habitat for amphibians was present within Site 1.

3.4.8. Terrestrial habitat suitable for amphibians was present within Site 1. Suitable terrestrial habitat included bramble scrub, other native hedgerow and broadleaved woodland, which amphibians may use for shelter. The bramble scrub offered opportunity for refuge, but was not dense enough to provide hibernacula opportunity. No suitable hibernacula was identified within Site 1.

3.4.9. An area of wetland habitat was located approximately 30 m south-east of Site 1. It is possible that, were amphibians present in the area, they may pass through Site 1 when travelling from this wetland area to the potential breeding pond located 190 m from Site 1.

Site 2 – Mid Tarn Farm

3.4.10. The field study identified no evidence of amphibians within Site 2. No breeding habitat for amphibians was present within Site 2.

3.4.11. Terrestrial habitat for amphibians was present within Site 2. Suitable terrestrial habitat included bramble scrub and dense scrub, which amphibians may use for shelter, but was not considered dense enough to provide hibernacula opportunity. No suitable refugia/ hibernacula was identified within Site 2.

3.4.12. An area of wetland habitat was located approximately 10 m east, north and west of Site 2. It is possible that, were amphibians present in the area, they may pass through Site 2 when travelling from this wetland area to the potential breeding pond located 190 m from Site 2.

Further Consideration

3.4.13. Although no records of great crested newts were returned during the desk study, given the presence of a potential breeding pond within 190 m from the Application Site, and the presence of wetland habitats within proximity to the Application Site, taking a precautionary approach, it is possible that great crested newts (and other common species of amphibians) could commute through the Application Site or seek refuge in the woodland and scrub areas, however more suitable habitat is widespread in the wider area. Therefore, great crested newts and common species of amphibians and considered to be IEFs, and recommendations are provided in Section 4 of this report.

Badgers

3.4.14. CBDC provided one recent badger record within 1 km of the Application Site. This record was located approximately 0.9 km south-west of the Site.

3. 4. 15. The field survey assessed the Application Site for evidence of badgers (setts, latrines, feeding signs and mammal track) and potential habitats to support badgers. The field survey identified no evidence of badgers.

3. 4. 16. Grassland, hedgerow, scrub and a minor area of woodland was present within the Application Site. However, this habitat was restricted to offering suitability for foraging and commuting only. Given the profile of the slope of land (i.e. flat), the habitat was considered unsuitable for sett building. Small lengths of hedgerow were present to the south of Site 1. These hedgerows are well connected to further hedgerow in the wider area. The hedgerow is considered to provide suitable commuting habitat for badgers.

3. 4. 17. More suitable habitat for badger is widespread in the wider area (i.e. arable fields, hedgerows, woodland, grassland). This more suitable habitat is located further away from urban habitats and, therefore, is subject to lower levels of anthropogenic disturbance.

3. 4. 18. Considering the above, it is likely that badgers (if present) would only utilise the Application Site opportunistically for foraging or commuting.

3.4.19. Badgers are not included as a priority species in the UK. Due to the protection afforded to badgers, they are considered here as a legal constraint. Recommendations in relation to badgers are provided within Section 4 of this report.

Bats

3.4.20. CBDC provided 94 recent bat records within 2 km of the Application Site, comprising common pipistrelle, soprano pipistrelle, noctule, Daubenton's bat, and *Myotis* species. The closest non-roost record was 1.2 km north-east of the Application Site. The closest roost record was 1.3 km east of the Application Site.

3.4.21. No recent records of EPS licences for bats were recorded within 1 km of the Application Site.

3.4.22. Buildings adjacent to Application Site were not subjected to PBRA or included within this assessment (see Limitations section). Details of the suitability of these buildings for bats can be found within the *Biome Consulting Update Ecological Constraints Studies*[7,8].

Site 1 – Tarn Head Farm

3.4.23. Three scattered sycamore trees and a small area of broadleaved woodland were identified on Site 1. No potential roosting features (PRFs) were recorded on/within any trees located within Site 1. No buildings were located within Site 1. In summary, no roosting habitat was identified within Site 1.

3.4.24. The grassland, scrub habitat, small area of woodland, and hedgerow are considered to provide suitable foraging habitat for bats.

3.4.25. The edge of the woodland habitat and the small area of hedgerow is considered to provide suitable commuting habitat for species of bat. This hedgerow and woodland is well connected to further suitable commuting habitat in the wider area.

Site 2 – Mid Tarn Farm

3.4.26. One sycamore tree was identified on Site 2, located on top of modified grassland. Multiple knotholes were present on this sycamore tree and it is considered to provide Moderate suitability for roosting bats.

3.4.27. The grassland, scrub habitat, and hedgerow located on Site 2 are considered to provide suitable foraging habitat for species of bat.

Further Consideration

3.4.28. Given that suitable foraging and commuting habitat for bats is present within the Application Site, and suitable roosting habitat is present within Site 2, bats are considered to be an IEF, and recommendations in relation to foraging, commuting and roosting bats are provided later within this report.

Breeding Birds

3.4.29. CBDC provided no recent bird records within 1 km of the Application Site.

3.4.30. No bird species were recorded within or adjacent to the Application Site during the field survey.

Site 1 – Tarn Head Farm

3.4.31. Site 1 contained habitat suitable for nesting birds. Suitable habitat comprised three scattered sycamore trees, three minor areas of dense scrub, and a minor area of broadleaved woodland habitat and hedgerow. In addition, buildings adjacent to Site 1 were considered to be suitable for nesting birds (such as swift, swallow, house martin, barn owl and pigeon), given open access into these buildings.

Site 2 – Mid Tarn Farm

3.4.32. Site 2 contained habitat suitable for nesting birds. Suitable habitat comprised one single sycamore tree, areas of dense scrub, and the minor area of bramble scrub. In addition, buildings adjacent to Site 2 were considered to be suitable for nesting birds (such as swift, swallow, house martin, barn owl and pigeon), given open access into these buildings.

Further Consideration

3.4.33. Given that suitable nesting habitat for birds has been recorded within the Application Site, breeding birds are considered to be IEFs, may pose a constraint to the Proposed Scheme, and recommendations are provided in Section 4 of this report.

Otters

3.4.34. CBDC provided no recent otter records within 1 km of the Application Site. No recent EPS licences for otters were recorded within 1 km of the Application Site.

Site 1 – Tarn Head Farm

3.4.35. The closest watercourse to Site 1 is the River Ehen, located approximately 520 m south-west. At this location, the River Ehen runs almost parallel with the coastline and enters into the Irish Sea. The River Ehen may provide suitable aquatic habitat for otters. However, there is no hydrological connection between the River Ehen and Site 1.

Site 2 – Mid Tarn Farm

3.4.36. The closest watercourse to Site 2 is the River Ehen, located approximately 400 m south-west. At this location, the River Ehen runs almost parallel with the coastline and enters into the Irish Sea. The River Ehen may provide suitable aquatic habitat for otters. However, there is no hydrological connection between the River Ehen and Site 2.

Further Consideration

3.4.37. The Application Site offers little suitability for otters. Given that the Application Site is located within active farmyard, regular disturbance is likely to occur. More suitable terrestrial habitat for otters is located in between the Application Site and the River Ehen and, given the distance between the Application Site and the River Ehen, it is highly unlikely that otters would utilise the Application Site. Therefore, this species is not considered to be an IEF and as such is not discussed further within this report.

Priority Invertebrates

3.4.38. CBDC provided five recent priority invertebrate records within 1 km of the Application Site. The species included within these records were, small heath, wall butterfly, cinnabar moth, and dingy skipper. The closest record was of small heath and wall butterflies, approximately 0.5 km south-west of the Site.

3.4.39. The habitats within the Application Site are common, widespread and of limited value for invertebrates. Important habitat features for invertebrates, such as aquatic features, standing deadwood and fallen deadwood were absent from within the Application Site. Floral diversity was low.

3.4.40. Given the limited extent of suitable habitat for priority invertebrates within the Application Site, they are not considered to be IEFs and, therefore, are not discussed further within this report.

Priority Plants

3.4.41. CBDC provided no recent priority plant records within 1 km of the Application Site.

3.4.42. The field survey identified no priority plants within the Application Site.

3.4.43. Although there was a lack of records of priority plants within 1 km of the Application Site, and no priority plants identified during the Survey, given the time of year (the survey being undertaken in early March, out of the flowering season) on the Application Site, priority plants may be present within the Application Site and therefore are discussed in Section 4 of the report.

Red Squirrels

3.4.44. CBDC provided no recent red squirrel records within 1 km of the Application Site.

3.4.45. Habitat within the Application Site has limited suitability as foraging habitat for red squirrels and no suitable nest-building was present within the Application Site. A minor area of broadleaved woodland was present within the Application Site, however, this comprised only semi-mature trees, and as such is considered unsuitable for squirrel dreys.

3.4.46. The minor area of broadleaved woodland constitutes a small section of a larger woodland parcel. However, this woodland parcel is isolated in nature. Therefore, it is unlikely that populations of red squirrels from the wider area would be present here.

3.4.47. Given the lack of records of red squirrels within 1 km of the Application Site, and the limited suitable habitat for red squirrels in the Application Site, and the isolated nature of suitable habitat in the wider area, red squirrels are not considered to be an IEF and are not discussed further within this report.

Widespread Reptile Species

3.4.48. CBDC provided no recent reptile records within 1 km of the Application Site. However, widespread species of reptiles are known to be present in the area surrounding the Sellafield Site. Adders, slow worms and common lizards are known to be present to the south of the Sellafield Site, occupying habitats near to the Calder tip and the neighbouring golf course.

Site 1 – Tarn Head Farm

3.4.49. The field study identified no evidence of reptiles within Site 1. Suitable refuge opportunity was present on Site 1 in the form of scrub. Suitable basking habitat was present on Site 1 in the form of urban habitat, sealed surface (i.e. roads and tracks). Suitable foraging habitat was present in the form of grassland, scrub, hedgerow and woodland.

3.4.50. An area of wetland habitat was located approximately 30 m south-east of Site 1. This habitat would be present suitable habitat for grass snakes.

Site 2 – Mid Tarn Farm

3.4.51. The field study identified no evidence of reptiles within Site 2. Suitable refuge opportunity was present on Site 2 in the form of scrub. Suitable basking habitat was present on Site 2 in the form of urban habitat, sealed surface (i.e. roads and tracks). Suitable foraging habitat was present in the form of grassland and scrub.

3.4.52. An area of wetland habitat was located approximately 10 m east, north and west of Site 2. This habitat would be present suitable habitat for grass snakes.

Further Consideration

3.4.53. Although no records of reptiles were returned during the desk study, given the known presence of reptiles in the wider area, and the suitable habitat located within the Application Site, it is possible that widespread species of reptiles could commute through the Application Site or seek refuge in the woodland and scrub areas, however more suitable habitat is widespread in the wider area. Therefore, widespread reptile species and considered to be IEFs, and recommendations are provided within Section 4 of this report.

Water Voles

3.4.54. CBDC provided no recent water vole records within 1 km of the Application Site.

Site 1 – Tarn Head Farm

3.4.55. The closest watercourse to Site 1 is the River Ehen, located approximately 520 m south west. At this location, the River Ehen runs almost parallel with the coastline and enters into the Irish Sea. The River Ehen may provide suitable aquatic habitat for water voles. However, there is no hydrological connection between the River Ehen and Site 1.

Site 2 – Mid Tarn Farm

3.4.56. The closest watercourse to Site 2 is the River Ehen, located approximately 400 m south west. At this location, the River Ehen runs almost parallel with the coastline and enters into the Irish Sea. The River Ehen may provide suitable aquatic habitat for water voles. However, there is no hydrological connection between the River Ehen and Site 2.

Further Consideration

3.4.57. The Application Site offers no suitability for water voles. Given that the Application Site is located within an active farmyard, regular disturbance is likely to occur. Therefore, this species is not considered to be an IEF and as such is not discussed further within this report.

3.5 Summary of Important Ecological Features

3.5.1. The following features have been valued at less that Local importance for nature conservation and are not considered to be important ecological features within the context of this assessment. These features have been scoped out of detail impact assessment. Where mitigation is required for legal reasons, this is detailed in Section 5.

- On-site habitats (i.e. modified grassland, developed land, sealed surface, artificial unvegetated sealed surface, built linear features, bramble scrub, dense scrub, scattered trees, hedgerow);
- Otters;
- Priority invertebrates;
- Red squirrels; and
- Water voles.

3.5.2. In addition, the following features have also been scoped out of the impact assessment, the rational for which is discussed in the Baseline section above:

- Badgers.

3.5.3. Table 3-3 below provides a summary of the IEFs which are considered to fall within the Proposed Scheme's ZoI and scoped into the impact assessment. Full details in relation to the determination of importance are provided within the Baseline section above.

Table 3-3 - Summary of Important Ecological Features

Ecological Feature	Summary of baseline	Importance level
Non-statutory designated sites	Sellafield Tarn CWS located immediately adjacent to the Application Site.	County
Priority habitats (deciduous woodland)	The small area of other broadleaved woodland within the Application Site is part of a larger area of deciduous woodland.	Local
Priority plants	Habitats within site could contain priority plants. Given the seasonal restriction of the survey, the presence of these species cannot be ruled out.	Local
Amphibians	One pond within 250 m of the Application Site that has potential suitability for breeding amphibians (including great crested newts). Suitable commuting and foraging habitat within the Application Site. Species rare and localised in county.	Local
Roosting Bats	Sycamore tree in Site 2 is suitable for roosting bats. Buildings adjacent to Site 1 and Site 2 contain suitable bat roosting habitat.	Local
Foraging and Commuting Bats	Habitats (i.e. scrub, hedgerow, woodland, scattered trees, grassland) within Application Site is suitable for foraging and commuting bats.	Local
Breeding Birds	Habitats (i.e. scrub, hedgerow, woodland, scattered trees) within Application Site is suitable for nesting birds.	Local

Ecological Feature	Summary of baseline	Importance level
Reptiles	Habitats (i.e., scrub, hedgerow, woodland, grassland, urban sealed and unsealed surface) within Application Site is suitable for widespread reptile species, and adders, slow worms, and common lizards are known to be present in wider area.	Local

3.6 Invasive Non-native Plant Species

3.6.1. CBDC provided no recent INNPS records within 1 km of the Application Site.

3.6.2. A stand of Japanese knotweed was noted on the approach to Site 2 at OSNGR NY 02118 04166, which is fenced off and undergoing active management (with signposting confirming this). This stand is approximately 70 m north of Site 2.

3.6.3. Potential presence of Japanese knotweed was recorded 47 m north of Site 2, in a small stand along the boundary fence at OSNGR NY 02114 04159. Species confirmation was, however, difficult due to the seasonal constraints of the timing of the walkover survey. The stand of suspected species is present on the opposite site of the access track leading into Site 2.

3.6.4. INNPS were not recorded anywhere within Site 1, or anywhere else within or adjacent to Site 2.

3.6.5. Due to potential close proximity of Japanese knotweed to Site 2, INNPS are discussed within this report and recommendations are provided in Section 4 of this report.

4. Potential Impacts

4.1 Impacts Prior to Mitigation

4.1.1. The Proposed Scheme has potential to result in the following impacts:

- Pollution of habitats and the adjacent Sellafield Tarn CWS;
- Temporary habitat loss (e.g. land used during construction that is subsequently to be immediately re-instated);
- injury or mortality of protected and priority species;
- disturbance (including visual, noise and vibration) to protected and priority species; and
- spread of INNPS across the Application Site, and into adjacent areas.

4.2 Design Features and Mitigation Measures

4.2.1. This section details the features that have been incorporated into the design in order to minimise the impact upon biodiversity, and the mitigation measures which will be implemented during the Proposed Scheme to reduce ecological impacts. In developing the mitigation, the mitigation hierarchy has been followed, looking to avoid in the first instance followed by mitigation and compensation.

4.2.2. Features that have been valued at less than Local importance for nature conservation are not considered to be IEFs and as such, have not been considered within the impact assessment. However, if mitigation is required for these features for legal reasons it is detailed within this section.

Design Features

4.2.3. The following measures have been incorporated into the Proposed Scheme design:

- Advancement of boreholes will take place only on widespread habitats of low intrinsic ecological value (i.e. bare ground, modified grassland, or poor quality scrub).
- Access routes leading to borehole locations will not impact upon high value habitats, and will only be present on top of widespread habitats of low intrinsic ecological value (i.e. bare ground, urban sealed surface, urban unsealed surface, and modified grassland).
- Positioning of boreholes and access routes will avoid any INNPS, to ensure that tracking over and potentially spreading INNPS is avoided.
- No tree felling or removal of hedgerow will be required to facilitate the Proposed Scheme.

Mitigation Measures

General

4.2.4. The following general measures will be implemented during the construction phase of the Proposed Scheme:

- An Ecological Clerk of Works (ECoW) should be present when ground investigation works are initiated. The ECoW will ensure the below mitigation measures are in place.
- Works will adhere to the Guidance for Pollution Prevention (GPPs)[50] and Construction Industry Research and Information Association (CIRIA) C762 Environmental good practice[51].
- During construction, trees will be protected in line with guidelines provided in BS 5837 Trees in relation to design, demolition and construction- Recommendations[52].
- Vegetation clearance, if required, will be confined to areas of poor-quality dense scrub and modified grassland, will be minimised, and will be undertaken outside the core bird nesting season (the core bird nesting season is 1 March to 31 August) to avoid damage or destruction of occupied nests or harm to breeding birds. If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for breeding birds and their occupied nests by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any nesting birds are identified during the survey they will be left in situ for their entire nesting period and alternative approaches to the work proposed. This may include leaving an exclusion zone around the nests to avoid disturbance.
- Ahead of any ground investigation works, or tracking equipment, a visual check will be performed by the EcoW for the following species: priority plants, widespread species of reptiles and amphibians. Should any priority plants be identified at the site of a potential borehole location, the EcoW will discuss with the team an appropriate replacement location. Should any reptiles or amphibians be identified, the EcoW will relocate these to a suitable location.
- Any excavations will be filled or covered overnight. If this is not possible, one side of the excavation will be graded so that it provides an escape ramp to prevent any animals becoming entrapped.
- Ground investigations between dusk and dawn (taken to be from 30 minutes before sunset to 30 minutes after sunrise) will be avoided where possible. It is understood that works will not take place at night, however, if avoidance is not possible any lighting required will be directed downwards at the construction works and light spill to adjacent habitats (particularly the hedgerows and line of trees) avoided.

Invasive Non-native Plant Species

4.2.5. The following general measures will be implemented during the construction phase of the Proposed Scheme:

- The area noted as suspected Japanese knotweed will be subject to an updated check prior to works commencing, to confirm species identification. If the species is confirmed to be Japanese knotweed (or another INNPS), the landowner will be informed along with a recommendation that a management plan is produced by an INNPS specialist.

[50] The GPPs provide environmental good practice guidance for the whole UK, and environmental regulatory guidance directly to Northern Ireland, Scotland and Wales only. For businesses in England, regulatory guidance is available from GOV.UK instead.
[51] CIRIA C762 Environmental good practice provides advice on the management of a range of environmental issues that may be encountered on site and presents good practice to reduce the environmental impacts due to construction.
[52] British Standards Institute (2012) BS 5837:2012 Trees in relation to design, demolition and, construction- Recommendations.

- If the presence of Japanese knotweed is confirmed, a minimum of a 7 m buffer will be required around the stand in which no plant or personnel are permitted to enter. If this is not possible then an INNPS specialist will be contacted to establish any required mitigation measures to avoid the spread of Japanese knotweed.
- Ahead of any ground investigation works, or tracking equipment, a visual check will be performed by the ECoW for the INNPS.

5. Impact Assessment

5.1.1. This section characterises the impacts and the subsequent effects (both positive and negative) of the Proposed Scheme on the IEFs within the project ZoI and assesses the significance of the residual effects (both positive and negative) based on the mitigation measures detailed in Section 5.

5.1.2. Based on the mitigation detailed above, the project ZoI remains unchanged.

5.1 Residual Effects

5.1.1. No residual effects are anticipated as a result of the Proposed Scheme.

5.1.2. A summary of the impact assessment, the proposed mitigation, and the residual effects during construction and operation are provided in Table 5-1.

5.1.3. If the design changes or the agreed mitigation cannot be implemented the effects will need to be reassessed and further surveys may be required. In this event, the conclusion of this EcIA may no longer be valid.

Table 5-1 - Summary of construction impacts, mitigation and residual effects on Important Ecological Features

Important Ecological Feature	Importance level	Impact description	Mitigation	Residual effects
Sellafield Tarn CWS (Non-statutory designated sites)	County	Habitat degradation.	Works will adhere to the GPPs and CIRIA C762 Environmental good practice.	No
Priority Habitat (deciduous woodland)	Local	Habitat degradation	Works will adhere to the GPPs and CIRIA C762 Environmental good practice.	No
Amphibians	Local	Injury or mortality of great crested newts and other amphibian species. Disturbance to great crested newts and other amphibian species.	Ahead of any ground investigation works, or tracking equipment, a visual check will be performed for amphibians. Any excavations will be filled or covered overnight. If this is not possible, one side of the excavation will be graded so that it provides an escape ramp to prevent any animals becoming entrapped.	No
Roosting Bats	Local	Disturbance to roosting bats.	Ground investigations between dusk and dawn will be avoided where possible. It is understood that works will not take place at night, however, if avoidance is not possible, any lighting required will be directed downwards at the construction works and light spill to adjacent habitats (particularly the hedgerows and line of trees) avoided.	No
Foraging and Commuting Bats	Local	Disturbance to foraging and commuting bats.	Ground investigations between dusk and dawn will be avoided where possible. It is understood that works will not take place at night, however if avoidance is not possible, any lighting required will be directed downwards at the construction works and light spill to adjacent habitats (particularly the hedgerows and line of trees) avoided.	No
Breeding Birds	Local	Injury or mortality of nesting birds, or active nests with eggs or young.	Vegetation clearance, if required, will be confined to areas of poor-quality dense scrub and modified grassland. If required, vegetation clearance will be minimised and undertaken outside the core bird nesting season to avoid damage or destruction of	No

Important Ecological Feature	Importance level	Impact description	Mitigation	Residual effects
		Disturbance to breeding birds.	occupied nests or harm to breeding birds. If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for breeding birds and their occupied nests by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken.	
Widespread species of reptiles	Local	Injury or mortality of reptiles. Disturbance to reptiles.	Ahead of any ground investigation works, or tracking equipment, a visual check will be performed for reptiles. Any excavations will be filled or covered overnight. If this is not possible, one side of the excavation will be graded so that it provides an escape ramp to prevent any animals becoming entrapped.	No

6. Conclusion

6.1.1. The Proposed Scheme temporary ground investigations with six boreholes proposed in total. It is understood that that a planning application is required to allow the works.

6.1.2. This EcIA is based on desk study and ecological survey data collected in 2024. The scope of surveys included:

- A desk-study was undertaken on 7 March 2024.
- A walkover survey was undertaken on 8 March 2024.

6.1.3. Following an assessment of the baseline conditions of the Application Site, the following IEFs were considered within the impact assessment:

- Sellafield Tarn CWS;
- priority plants;
- priority habitat (deciduous woodland);
- roosting bats;
- foraging and commuting bats;
- amphibians;
- reptiles; and
- breeding birds.

6.1.4. Following an assessment of the Proposed Scheme, the following impacts on IEF within the ZoI were identified during the Proposed Scheme:

- Temporary habitat loss (e.g. land used during construction that is to be immediately re-instated following sampling);
- injury or mortality of protected and priority species;
- disturbance including noise and vibration to protected and priority species; and
- spread of INNPS across the Application Site, and into adjacent areas.

6.1.5. The Proposed Scheme has sought to minimise impact on biodiversity through the general mitigation measures identified in Section 5.2. Taking into account the avoidance, mitigation and compensation, the Proposed Scheme conforms to NPPF and local planning policy. It is concluded that the Proposed Scheme will not result in residual effects on any IEF.

7. Biodiversity Net Gain

7.1.1. No Biodiversity Net Gain (BNG) Assessment has been undertaken to support the Proposed Scheme, or this EcIA. This is due to the understanding that the Proposed Scheme is exempt from BNG under Defra guidance on exempt developments[53], based on Regulation 4 of The Biodiversity Gain Requirements (Exemptions) Regulations 2024[54].

7.1.2. Defra guidance states:

> *"The developments listed in this guide are exempt from BNG rules. […] A development that does not impact a priority habitat and impacts less than:*
>
> *25 square metres (5m by 5m) of on-site habitat;*
> *5 metres of on-site linear habitats such as hedgerows".*

7.1.3. The six bore holes to be undertaken will lead to a loss of negligible areas of land within non-priority habitats only, below the 25 m^2 threshold across the entire application site. Footprints of each individual bore hole would not exceed more than 1 m^2 per bore hole (total of 6 m^2).

7.1.4. Any impacts not associated with direct loss of habitats caused by the bore holes (i.e. tracking of machinery, trampling effects) will be limited to hard standing or bare ground/farm track access areas where possible, or lead to only temporary damage to grassland habitats (modified grassland of low habitat distinctiveness) that would recover in a short period of time, leading to no loss or degradation of such habitat. It can also be confirmed that no linear habitats (including hedgerows) would be impacted by the works.

7.1.5. Undertaking a BNG Assessment would therefore likely lead to the assessment stating no change to biodiversity units of the application site, due to the negligible impacts associated with the works. A BNG Assessment is not considered proportionate to the anticipated level of impact as a result of the works; it is considered that the above rationale exempts the Proposed Scheme under Regulation 4 of The Biodiversity Gain Requirements (Exemptions) Regulations 2024.

7.1.6. It should be noted however, that any further works at the Site of a more permanent nature (i.e. actual development of the Site) is likely to be subject to BNG.

[53] Defra (2024) *Biodiversity net gain: exempt developments.* Available: https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments
[54] The National Archives. *The Biodiversity Gain Requirements (Exemptions) Regulations 2024. Regulation 4.* Available: https://www.legislation.gov.uk/uksi/2024/47/regulation/4/made

APPENDICES

Appendix A. Site Location Plan and Borehole Location Plan Figures

A.1 Site Location Plan

A.2 Borehole Location Plan

AtkinsRéalis

Legend

Site Boundary

Site 1 - Tarn Head Farm

Site 2- Mid Tarn Farm

0 50 100 150 m

AtkinsRéalis
Albany Court
Monarch Road
Newcastle Business Park
Newcastle upon Tyne
NE4 7YB

Project: Sellafield MSSS

Client: Sellafield Ltd

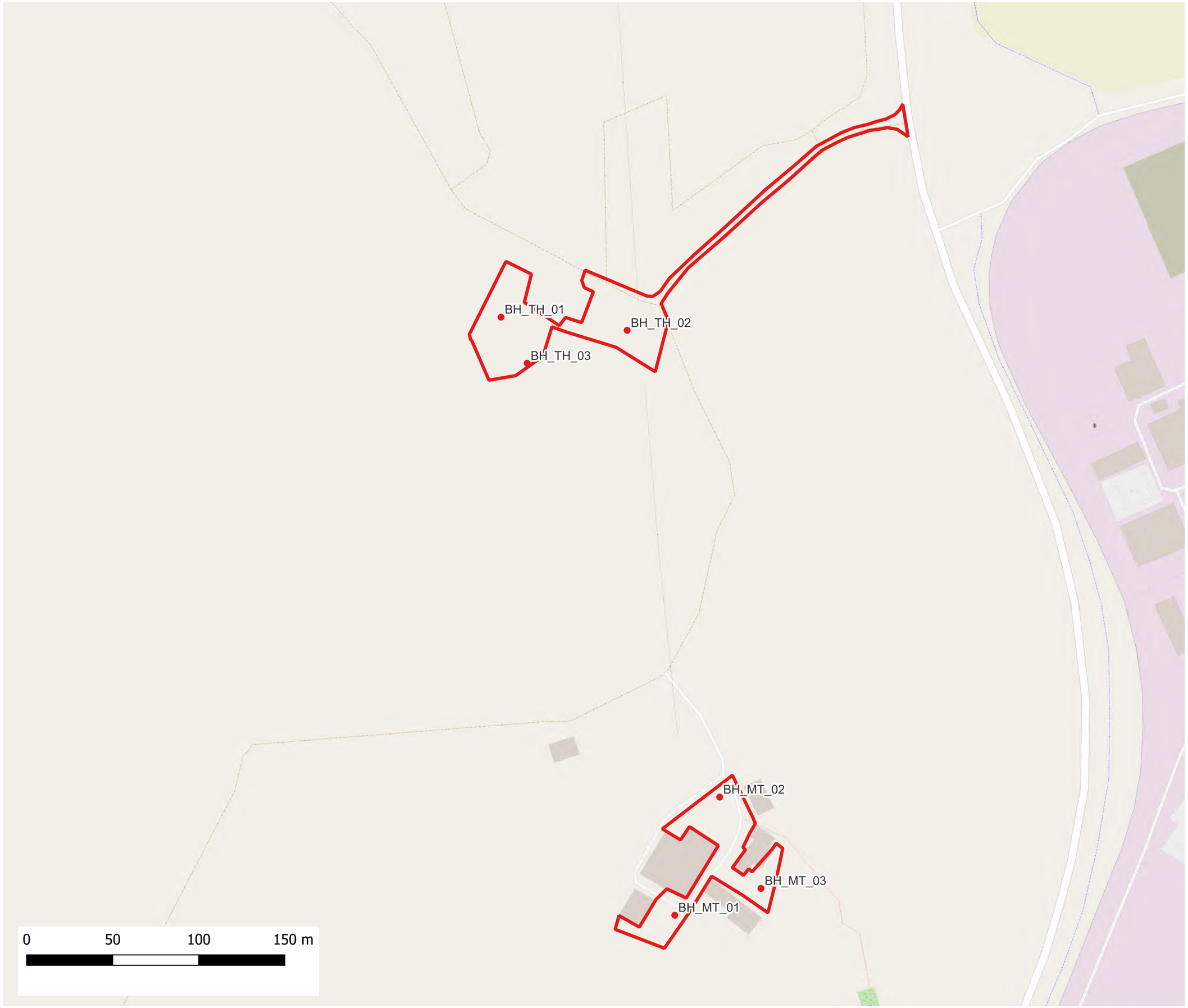
Title: Site Location Plan

Drawing number: Appendix A.1

Original scale 1:2,000

PAGE 1/1

Drawn:	Checked:	Reviewed:	Approved:
AB	DW	LMG	TBC
Date: Mar 2024	Date: Apr 2024	Date: Apr 2024	Date: Apr 2024



AtkinsRéalis

Legend

- Borehole Location
- Site Boundary

AtkinsRéalis
Albany Court
Monarch Road
Newcastle Business Park
Newcastle upon Tyne
NE4 7YB

Project: Sellafield MSSS

Client: Sellafield Ltd

Title: Borehole Location Plan

Drawing number: Appendix A.2

Original scale 1:2,000

PAGE 1/1

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Date: Mar 2024	Date: Apr 2024	Date: Apr 2024	Date: Apr 2024

Appendix B. National and Local Planning Policy

B.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the Governments planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF). The revised National Planning Policy Framework was published in December 2023.

Chapter 15 of the NPPF 'Conserving and enhancing the natural environment' sets out the requirements to consider biodiversity in planning decisions.

The paragraphs within Chapter 15 are relevant to the Scheme, the key information from which is detailed below:

Para 180: Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Para 181: Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework[55]; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

Para 182: Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads[56]. The scale and extent of development within these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

[55] Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a high quality.
[56] *English National Parks and the Broads: UK Government Vision and Circular 2010* provides further guidance and information about their statutory purposes, management and other matters.

Para 183: When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development[57] other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

Para 184: Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 182), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

Habitats and biodiversity

Para 185: To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity[58]; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation[59]; and
b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Para 186: When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons[60] and a suitable compensation strategy exists; and
d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

[57] For the purposes of paragraphs 176 and 177, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.
[58] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
[59] Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.
[60] For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

Para 187: The following should be given the same protection as habitats sites:

a) Potential Special Protection Areas and possible Special Areas of Conservation;
b) Listed or proposed Ramsar sites[61]; and
c) Sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

Para 188: The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

B.2 Levelling Up and Regeneration Act 2023

This act introduces wide-ranging reforms to the planning system including the introduction of National Development Management Policy (NDMP), amendments to the local and neighbourhood planning Nationally Significant Infrastructure (NSIP) process, and the Infrastructure Levy.

Relevant sections on biodiversity planning include:

Section 136 - Ancient woodland

A requirement that the Secretary of State vary the Town and Country Planning (Consultation) (England) Direction 2021 so that it applies in relation to applications for planning permission for development affecting ancient woodland within three months of the Act being passed.

This amendment to the Act will require local planning authorities to consult the Secretary of State, prior to granting planning permission for developments that affect ancient woodland.

Section 135 - Biodiversity Net Gain (BNG), Pre-development biodiversity value

This provides a clause to ensure that habitats assessed for BNG during pre-development calculations are taken at their highest value on site prior to any proposed clearance that could have been undertaken during a previous activity (e.g., a previous planning application). This is to reduce incentives to clear habitats on potential BNG sites or off-site contributions to BNG.

Please note - key legislation relating to BNG is contained within the Environment Act 2021 and the secondary legislation that is currently under Parliamentary process.

Section 95, 98, 15C - Local Nature Recovery Strategies

This strengthens Local Nature Recovery Strategies (LNRS) from the Environment Act 2021, that the local plan must take account of any LNRS that relate to the local planning authority's area, this includes neighbourhood areas and spatial development strategies.

[61] Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.

The LNRS which will map biodiversity priorities for given authority should be used during the BNG planning and design process, such as in determining the Strategic Significance (SS) factor for the statutory metric calculation or in providing suitable location for BNG off-site contributions.

Part 6 - Environmental Outcome Reports

This section of the Act, set outs the framework for the replacement of Environmental Impact Assessments (EIA), Sustainability Appraisals (SE) and Strategic Environmental Assessments (SEA), with Environmental Outcome Reports (EOR).

There are two categories of plans and developments that will require an Environmental Outcome Report; consents which will require an assessment in all circumstances and consents which will require an assessment if the criteria set out in Act are met, which at the time of writing are not produced. An EOR must assess:

- Reasonable alternatives and compliance with the mitigation hierarchy during early development of the project.
- Assessment of contribution towards achieving an outcome supported by the indicators set out in future guidance.
- Residual effects on the environment identified through the underlying technical work, with relevant conclusions in technical disciplines.
- Current baseline and relevant data.
- Proposed mitigation and monitoring proposals.
- Cumulative effects of the project as a whole on outcomes and how this relates to the conclusions of any strategic or plan level assessment.

The Act states that future EOR regulations may provide interaction with existing environmental assessment legislation, including the Habitats Regulations.

Outcomes would need to be set by secondary legislation with a supporting suite of ‘indicators’ for each outcome stated in Government guidance, which at the time of writing are not produced.

B.3 Local Planning Policy (Copeland Local Plan 2013 – 2028)

The Copeland Local Plan 2013 – 2028 was published In 2013. Chapter 7 of the Copeland Local Plan ‘Environmental Protection and Enhancement’ sets out the policies relating biodiversity.

Relevant policies to the Proposed Scheme are detailed below:

Policy DM25 – Protecting Nature Conservation Sites, Habitats and Species

All development proposals should:

- Protect the biodiversity value of land and buildings
- Minimise fragmentation of habitats
- Maximise opportunities for conservation, restoration, enhancement and connection of natural habitats and creation of habitats for species listed in UK and Cumbria Biodiversity Action Plans. Special consideration should also be given to those European habitats that lie outside the boundaries of European designated sites

Development proposals that would cause a direct or indirect adverse effect on locally recognised sites of biodiversity and geodiversity importance, including County Wildlife Sites, Local Nature Reserves and Regionally Important Geological/Geomorphological Sites or protected species will not be permitted unless:

- The benefits of the development clearly outweigh the impacts on the features of the site and the wider network of natural habitats, and;
- Prevention, mitigation and/or compensation measures are provided. An appropriate long-term management plan will be sought and arrangements to provide adequate funding will be made in accordance with a formal planning agreement or obligation

Where compensatory habitat is created, it should be of equal or greater size than the area lost as a result of the development. Development proposals where the principal objective is to conserve or enhance biodiversity or geodiversity interests will be supported in principle

Where there is evidence to suspect the presence of protected species any planning application should be accompanied by a survey assessing their presence and, if present, the proposal must be sensitive to, and make provision for, their needs

All development proposals must take into account any likely significant effects on the internationally important sites both within the Borough and within a 20km radius of the Borough boundary as well as those that are hydrologically linked to the development plan area

Policy ENV3 – Biodiversity and Geodiversity

The Council will contribute to the implementation of the UK and Cumbria Biodiversity Action Plan within the plan area by seeking to:

- Improve the condition of internationally, nationally and locally designated sites
- Ensure that development incorporates measures to protect and enhance any biodiversity interest
- Enhance, extend and restore priority habitats and look for opportunities to create new habitat
- Protect and strengthen populations of priority or other protected species
- Boost the biodiversity value of existing wildlife corridors and create new corridors, and stepping stones that connect them, to develop a functional Ecological Network
- Restrict access and usage where appropriate and necessary in order to conserve an area's biodiversity value

B.4 Local Planning Policy (Revised Copeland Local Plan 2021 – 2038 (Publication Draft))

Cumberland Council are in the process of producing a revised Local Plan for the Copeland area which is at a very advanced stage. It is understood that this publication draft holds more weight in terms of decision making within the Local Planning Authority than the 2013 – 2028 edition. Therefore, this document has been included as a consideration as part of this assessment.

Relevant policies to the Proposed Scheme are detailed below:

Strategic Policy N1PU – Conserving and Enhancing Biodiversity and Geodiversity

The Council is committed to conserving the borough's biodiversity and geodiversity including protected species and habitats.

Potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage.

Proposals must demonstrate, to the satisfaction of the Council, that the following mitigation hierarchy must have been undertaken:

- Avoidance – Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects
- Mitigation – Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.
- Compensation – Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for.

Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.

Where harm remains to a National Site Network or Ramsar site, or functionally linked land, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected. Planning permission will be refused for any development if significant harm cannot be avoided, mitigated or compensated for. A Construction Environmental Management Plan should be submitted where appropriate and sustainable construction methods must be used where possible.

Development proposals where the principal objective is to conserve or enhance biodiversity and geodiversity interests will be supported in principle.

Strategic Policy N3PU – Biodiversity Net Gain

All development, with the exception of that listed in the Environment Act must provide a minimum of 10% biodiversity net gain over and above existing site levels, following the application of the mitigation hierarchy set out in Policy N1PU above. This is in addition to any compensatory habitat provided under Policy N1PU.

Net gain should be delivered on site where possible. Where on-site provision is not appropriate, provision must be made elsewhere in order of the following preference:

1. Off site in an area identified as a Local Nature Recovery Network;
2. Off site on an alternative suitable site within the borough;
3. Through the purchase of an appropriate amount of national biodiversity units/credits.

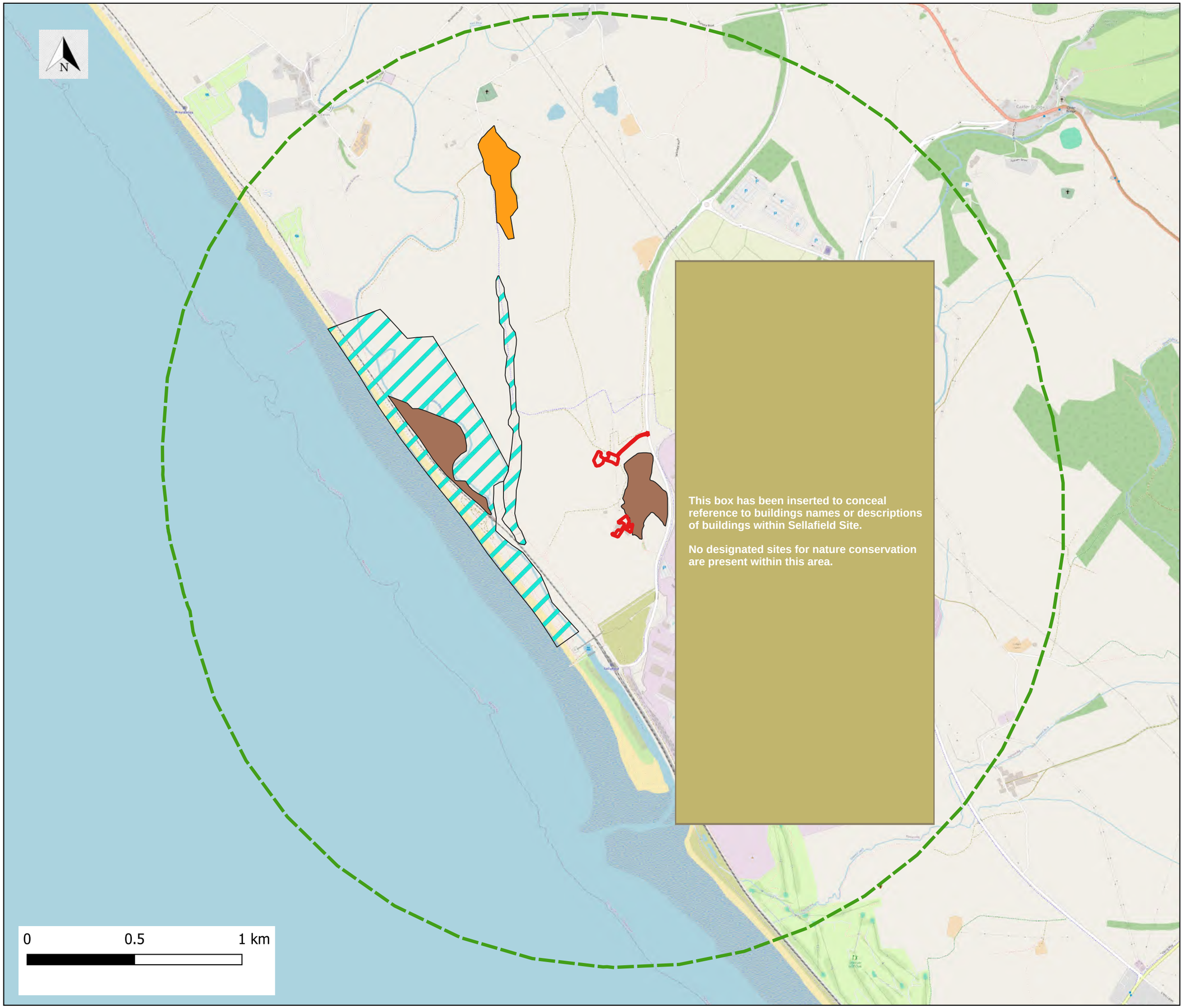
Planning applications must include a Biodiversity Gain Plan which will identify the biodiversity merit of onsite habitats both prior to and after development (using the relevant Metric system), set out details to reduce or prevent adverse effects and demonstrate how net gains will be obtained.

Sites where net gain is provided (on or off site) must be managed and monitored by the applicant or an appropriate body funded by the applicant for a minimum period of 30 years. Annual monitoring reports detailing the sites condition post-enhancement must be submitted to the Council each year over this period.

Where there is evidence of deliberate neglect or damage to any of the habitats on development sites in order to reduce its biodiversity value their deteriorated condition will not be taken into consideration and previous ecological records of the site and/or the ecological potential of the site will be used to decide the acceptability of any development proposals.

Appendix C. Designated Sites Location Plan

C.1 Designated Sites Location Plan



AtkinsRéalis

Legend

- Application Site Boundary
- 2 km Buffer
- County Wildlife Site
- Site of Invertebrate Significance
- Site of Special Scientific Interest

AtkinsRéalis
Albany Court
Monarch Road
Newcastle Business Park
Newcastle upon Tyne
NE4 7YB

Project: Sellafield MSSS

Client: Sellafield Ltd

Title: Designated Sites Location Plan

Drawing number: Appendix C.1

Original scale 1:16,000

PAGE 1/1

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Appendix D. Habitat Survey Plan and Target Notes

D.1 Habitat Survey Plan

AtkinsRéalis

Legend

- Application Site Boundary
- Target Notes
- h2a6 - other native hedgerow

UKHab Polygons_REVISED

- g4 - modified grassland
- w1g - other woodland-broadleaved
- h3d - bramble scrub
- u1b - developed land. sealed surface
- u1c - artificial unvegetated unsealed surface
- u1e - built linear features

AtkinsRéalis ©
Albany Court
Monarch Road
Newcastle Business Park
Newcastle upon Tyne
NE4 7YB

Project: Sellafield MSSS

Client: Sellafield Ltd

Title: Habitat Survey Plan

Drawing number: Appendix D.1

Original scale 1:900

PAGE 1/2

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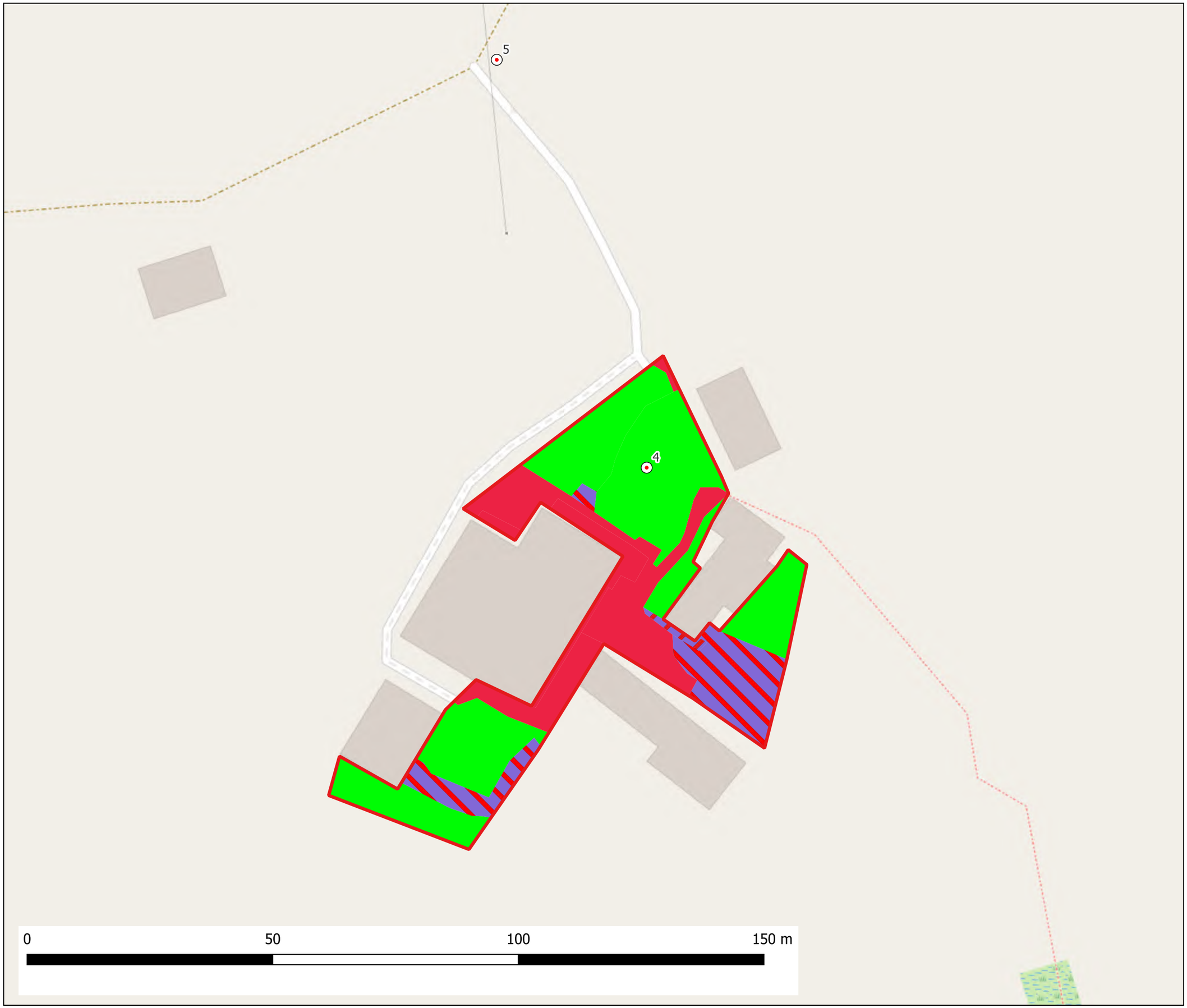

AtkinsRéalis

Legend

Application Site Boundary

UKHab

Target Notes

g4 - modified grassland

h3 - dense scrub

h3d - bramble scrub

u1e - built linear features

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Albany Court
Monarch Road
Newcastle Business Park
Newcastle upon Tyne
NE4 7YB

Project: Sellafield MSSS

Client: Sellafield Ltd

Title: Habitat Survey Plan

Drawing number: Appendix D.1

Original scale 1:700

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Drawn:	Checked:	Reviewed:	Approved:
AB	DW	LMG	TBC
Date: Mar 2024	Date: Apr 2024	Date: Apr 2024	Date: Apr 2024

D.2 Target Notes and Photographs

Table D-1 - Target notes and photographs

Target Note	Description	Photograph
1 – 3	Three scattered sycamore trees (negligible bat roosting potential)	
4	One scattered sycamore tree containing knotholes (moderate bat roosting potential)	

Target Note	Description	Photograph
5	Potential stand of Japanese Knotweed (located outside of the Application Site)	

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