Biodiversity Net Gain Assessment

Hilts Quarry, Crich, Derbyshire, DE4 5NL

MPP Group

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Industry Guidelines and Standards

This report has been written with due consideration to:

- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management, Construction Industry Research and Information Association & Institute of Environmental Management and Assessment (2019). Biodiversity Net Gain – Good Practice Principles for Development.

Proportionality

> The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.
>
> The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.
>
> (BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by MPP Group to undertake a Biodiversity Net Gain (BNG) Assessment at Hilts Quarry, Crich, Derbyshire, DE4 5NL (hereafter referred to as "the site"). The assessment was required to inform the process of soils nail works and slope stabilisation within a priority habitat (hereafter referred to as "the proposed development").

The baseline habitat value onsite site is 42.83 area-based habitat units and 38.79 area-based units offsite with the proposed development resulting in a 7.87% area-based net gain with a 0.90 unit deficit to satisfy trading rules. The proposed development is therefore not anticipated to surpass the minimum target of 10% biodiversity net gain and thus is not compliant with legislation (Environment Act 2021).

To achieve the net gain on site, the following habitat creation and enhancements have been implemented:

- Woodland enhancement
- Creation of additional priority habitat grassland
- Enhancement of existing medium distinctness grassland

The habitats present on site have been enhanced insofar as possible to generate the net gain target. Due to the nature of the proposed works it is unlikely the remaining 0.90 units can be provided within the site boundary or wider ownership boundary without compromising further priority or good condition habitats, therefore the remaining units should be sourced through a registered offsite unit provider.

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by MPP Group to undertake a Biodiversity Net Gain (BNG) Assessment at Hilts Quarry, Crich, Derbyshire, DE4 5NL (hereafter referred to as "the site"). The assessment was required to inform the process of soils nail works and slope stabilisation within a priority habitat (hereafter referred to as "the proposed development"). A plan showing the proposed development is provided in Appendix 1.

This report should be read in conjunction with the following documents:

- Defra Statutory Biodiversity Metric
- Preliminary Ecological Appraisal (Peak Ecology, August 2024)
- Arboricultural Survey to BS5837:2012 (Arbtech Consulting Ltd, April 2025).

1.2 Site Location, Geology and Landscape Context

The site is located at National Grid Reference SK 35214 54298 and has an area of approximately 6ha comprising buildings, hardstanding, woodland, grassland, inland rock, scrub and a pond. It is surrounded by residential dwellings to the north, west and south with a rural setting comprising grassland, woodland and scrub to the east. The wider landscape is largely rural interspersed with small villages and individual dwellings. The underlying soil type of the site is a slowly permeable but seasonally wet, acid, loamy and clayey soil with impeded draining, indicative of wet pastures and woodlands. The site is situated within the Derbyshire Peak Fringe and Lower Derwent National Character Area. A site location plan is provided in Appendix 2.

1.3 BNG Informative

BNG is a specific, measurable outcome of project activities that deliver demonstrable and quantifiable benefits to biodiversity compared to the baseline situation. In order to achieve BNG, a project must be able to demonstrate that it has followed all 10 of the Principles of Biodiversity Net Gain (as outlined in the British Standard 8683:2021 Process for Designing and Implementing Biodiversity Net Gain).

The legalised Environment Act (2021) requires developments in England to demonstrate a measurable net gain in biodiversity and sets a target of a minimum of 10% BNG for all developments. It also stipulates that a management plan with a minimum 30-year term, should be adopted to ensure biodiversity net gain can be delivered. The requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2024). The DEFRA Statutory Biodiversity Metric is the widely accepted tool used to calculate BNG. It enables the calculation of habitat value pre- and post-development in order to determine the overall change in biodiversity value as a result of the proposed development. The Biodiversity Metric has separate BNG assessments for areas of habitat, hedgerows and watercourses. The biodiversity value of a site should be maximised. However, it may not always be possible to achieve a 10% biodiversity net gain within a site and therefore the Statutory Biodiversity Metric can also account for offsite habitat creation, where land is available. Alternatively, developers can seek to provide an agreed financial contribution to an appropriate third party (such as the Local Authority, the UK Government or another landowner) to deliver the required biodiversity net gain elsewhere on their behalf.

2.0 Methodology

2.1 Baseline Biodiversity Value

The baseline BNG Calculation was informed by the Preliminary Ecological Appraisal (Peak Ecology, August 2024) and the Arboricultural Survey (Arbtech Consulting Ltd, April 2025). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The Preliminary Ecological Appraisal classified the habitats on site according to The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023).

Habitat Area/Length

The area or length of each habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of a similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or lost (i.e. destroyed by proposed development).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2023).

Strategic Significance

Strategic significance was assigned for each habitat based upon a review of the following:

- Ecological value
- Function within the landscape
- Any site or habitat allocations under the Amber Valley Borough Local Plan 2022-2040 (Pre-submission February 2024)

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by the Development Plan which is included in Appendix 1. A post development habitat plan is provided in Appendix 4.

Habitat Classification

Proposed habitats were translated to their equivalents in the UK Habitat Classification using The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023) and the information provided within the Development Plan.

Habitat Area/Length

The area or length of each proposed habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or newly created.

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2023).

Habitat Condition

Target habitat condition for each proposed habitat was determined assessed using the Temporal Multipliers Tool and the Enhancement Temporal Multipliers Tool included in the Statutory Biodiversity Metric spreadsheet as well as the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2023). This is based on the assumption that a 30-year management plan will be adopted for the site.

Strategic Significance

Strategic significance was assigned for each proposed habitat based upon a review of the following:

- Likely ecological value
- Function within the landscape
- Any site or habitat allocations under the Amber Valley Borough Local Plan 2022-2040 (Pre-submission February 2024).

2.3 Limitations

No limitations identified.

3.0 Results

3.1 Baseline Habitats

Table 1 details the baseline habitats present within the site along with their area/length, condition and strategic significance. A full condition assessment for each habitat (where relevant) is provided in Appendix 5a. Given the nature of the proposed works, the only habitat expected to be lost is section of the lowland mixed deciduous woodland with other habitats impacted during asbestos encapsulation.

Table 1: Total Baseline Biodiversity Value Onsite

Habitat Onsite	Area / Length	Description	Condition Assessment	Strategic Significance
Developed land; sealed surface – u1b and u1b5 (buildings and hardstanding)	0.008ha	There was a small area of concreted hardstanding sealed surface within the area of bramble scrub towards the eastern end of the quarry, within the larger woodland habitat. Two built structures were present on site; a pre-fabricated wood store, and a storage container utilised as an office and site welfare point.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.
Artificial unvegetated; unsealed surface – u1c	0.097ha	An artificial unsealed track composed of permeable stone chipping and partially vegetated in places, ran along from the site entrance in the southeastern corner through to the northwestern corner of the site. It also encompassed parking areas around both built structures present.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.
Lowland mixed deciduous woodland (priority habitat) – w1f	2.07ha	There were three distinct parcels of deciduous woodland on site, with each identified on MAGIC as Priority Habitat Lowland Mixed Deciduous Woodland. The first parcel ran along the south eastern boundary of the site from the site entrance, separated from the second woodland parcel running along the north and eastern area of the site by the access track. These areas shared connectivity with the area of Priority Habitat deciduous woodland located to the southeast outside the redline boundary. A third parcel of woodland was located in the very centre of the site. Dense and overgrown vegetation restricted surveyor access in places across all of the woodland present on site.	Moderate – scores 27/39. Assessed using the 'woodland' habitat condition assessment.	High strategic significance. Formally identified in local strategy under policy EN11.
Modified grassland – g4	0.065ha	A small section of grassland is present to the north of the woodland. This area of grassland was not assessed during the baseline survey and therefore a	Good – precautionary approach.	Low strategic significance. Area/compensation not in

		precautionary approach has been used to determine condition. To determine the grassland type, historical aerial imagery and google street view were utilised.		local strategy. No ecological value.
Lowland calcareous grassland (priority habitat) – g2a	0.13ha	A large area of lowland calcareous grassland with a high concentration of forb species, and a high proportion of trees planted intentionally in recent years as a plantation, towards the northern and northwestern end of the quarry. A notable number of log piles were scattered throughout the area, believed to have originated from trees felled as part of previous remedial rockface measures along the northwestern edge of the quarry, while a mown grass path ran a few metres in from the quarry rockface. Small patches of the adjacent mixed scrub habitat had also spread into small scattered areas.	Good – passes 6/6. Assessed using the 'grassland medium, high and very high' habitat condition assessment.	Medium strategic significance. Location ecologically desirable but not in local strategy. High ecological value (priority), not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Other neutral grassland – g3c	1.202ha	An area of other neutral grassland, characterised by a tall and tussocky sward, with both scattered and denser patches of hard rush, located towards the centre and southeast of the site. Localised areas of scattered scrub and scattered trees – mostly self-set willow – within the sward were also present, as well as a number of anthills. It is understood that this area of grassland is subject to a mowing regime and cut at least annually.	Moderate – passes 5/6 criteria failing essential criteria F. Assessed using the 'grassland medium, high and very high' habitat condition assessment.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, but not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Vegetated garden - 828	0.09ha	Rear gardens of surrounding residential dwellings are present within the site boundary to the north.	Condition assessment N/A	Low strategic significance. Area/compensation not in local strategy. No ecological value.
Bramble scrub – h3d	0.044ha	An area of dense bramble scrub surrounding a small area of concreted hardstanding towards the north eastern end of the site within the woodland, and adjacent to the parking area and office/welfare unit.	Condition assessment N/A	Low strategic significance. Area/compensation not in local strategy. Limited ecological value.

Table 2: Total Baseline Biodiversity Value Offsite (wider boundary)

Habitat Offsite	Area / Length	Description	Condition Assessment	Strategic Significance
Lowland calcareous grassland (priority habitat) – g2a	1.42ha	See description in Table 1.	Good – passes 6/6. Assessed using the 'grassland medium, high and very high' habitat condition assessment.	Medium strategic significance. Location ecologically desirable but not in local strategy. High ecological value (priority), not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Mixed scrub – h3h	0.211ha	There were two large areas of dense mixed scrub without a dominant species located along almost the entirety of the western end of the quarry, adjacent to the calcareous grassland/plantation. These areas were inaccessible in parts due to the dense vegetation, dominated by a species mix of bramble, nettle and buddleja, with frequent willow sp., and greater willowherb and hoary willowherb *Epilobium parviflorum*. Other species present and occurring occasionally to locally abundant, included red valerian *Valeriana rubra*, oxeye daisy *Leucanthemum vulgare*, knapweed, rose sp., tufted vetch, bush vetch *Vicia sepium,* ragwort, dock sp. *Rumex sp*., and self-set silver birch, elder, ash and oak. Two semi-mature trees, a field maple and a hazel, were also located within the northern most patch of mixed scrub.	Moderate – passes 3/5 criteria. Assessed using the 'scrub' habitat condition assessment.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Willow scrub – h3j	0.045ha	A small area of scrub with young trees located towards the southeastern corner of the site, adjacent to, and a partial continuation of, the exposed rock bed and area of partially vegetated habitat, and surrounded by neutral grassland on all other sides. Young silver birch and willow sp. saplings dominated, with frequent buddleja and occasional self-set young sycamore also present. The ground flora	Poor – passes 2/5 criteria. Assessed using the 'scrub' habitat	Low strategic significance. Area/compensation not in local strategy. Limited ecological value.

		was dominated by the grass species present in the adjacent neutral grassland habitat, alongside small patches of bare ground and exposed rock bed.	condition assessment.	
Pond (non-priority) – r1g	0.013ha	A small pond within the area of exposed rock bed, considered likely to retain water throughout the year, located towards the southeast corner of the site. Emergent and marginal aquatic vegetation included bulrush, soft rush, and at least two species of willow sp., likely goat willow and white willow *Salix alba*. Surveyors observed a number of aquatic invertebrates present within the water, as well as an abundance of dragonflies and damselflies, indicating that the water quality was likely at least moderate.	Moderate – passes 6/9 criteria. Assessed using the 'pond' habitat condition assessment.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Other inland rock and scree	0.644ha	Layers of exposed rock bed with young self-set trees and scattered grasses and forbs located in the southeastern corner of the site. In conjunction with the immediately adjacent habitats of pond and scrub, this contributed towards an area with characteristics indicative of open mosaic habitat. Species growing amongst the rock bed and scattered grass and forbs included abundant mosses, buddleja, and evening primrose, with frequent dogrose *Rosa canina*, rosebay and greater willowherb, bird's-foot-trefoil, creeping cinquefoil *Potentilla reptans*, and self-set elder and silver birch. Occasionally occurring species of note included centaury, smooth hawksbeard *Crepis capillaris*, hogweed, knapweed, wood avens, *stonecrop sp*., and occasional to locally abundant cock's foot, false oat-grass and buckler fern. Rarely occurring species included self-set ash, sycamore, oak and willow, as well as common vetch, St John's wort, yellow wort *Blackstonia perfoliata*, and mullein *Verbascum thapsus*.	Good – passes 4/4 criteria. Assessed using the 'sparsely vegetated land' habitat condition assessment.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Developed land; sealed surface – u1b and u1b5 (buildings and hardstanding)	0.002ha	See description in Table 1.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.

Artificial unvegetated; unsealed surface – u1c	0.089ha	See description in Table 1.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.

3.2 Post Development Habitats

Table 2 details the post development habitats present within the site along with their area/length, condition and strategic significance. An assessment of the anticipated condition for each habitat (where relevant) is provided in Appendix 5b, which is based on the assumption that a 30-year management plan will be implemented for the site. The proposed development will result in the loss of approximately 46 category B trees, 12 category C trees and 5 groups of smaller trees, totalling 63 trees to be removed within the lowland mixed deciduous woodland, though this is not definitive at this stage. Further works include the encapsulation of asbestos across the site, and while habitats within the decontamination area will be impacted, they wont be fully destroyed and are expected to undergo temporary disturbance and be replanted and managed back to its original habitat and condition.

Table 3: Post Development Biodiversity Value Onsite

Habitat Onsite	Area / Length	Description	Condition Assessment	Strategic Significance
Developed land; sealed surface – u1b and u1b5 (buildings and hardstanding)	0.008ha	Buildings and hardstanding will be retained.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.
Artificial unvegetated; unsealed surface – u1c	0.097ha	The track running through the site will be retained.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.
Lowland mixed deciduous woodland (priority habitat) – w1f	1.866ha retained and enhanced	The majority of the woodland on site will be retained and enhanced through good management practices to increase condition criteria C, F, L, and M. Detailed management recommendations are described in section 4.2.	Good – expected to score 35/39.	High strategic significance. Formally identified in local strategy under policy EN11.
Modified grassland – g4	0.065ha	Retained modified grassland.	Good – no change expected.	Low strategic significance. Area/compensation not in

				local strategy. No ecological value.
Lowland calcareous grassland (priority habitat) – g2a	0.13ha 0.204ha created	Retained grassland. Where woodland is lost within the cliff stabilisation area, calcareous grassland will be seeded on the replaced top soil. The grassland will be sown with high density seed mix containing species indicative of this habitat and likely to thrive in conditions and within steep cliff environment. While woodland replantation would be the preferred replacement habitat, recent soil disturbance, felling and placement of the nails would likely represent a major barrier to woodland creation.	Good – no change expected to retained grassland. Poor – created grassland is expected to pass the same condition criteria as retained grassland, however grassland condition score higher than "poor" is not required to demonstrate a net gain on site.	Medium strategic significance. Location ecologically desirable but not in local strategy. High ecological value (priority), not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Other neutral grassland – g3c	1.202ha	Neutral grassland will be enhanced to achieve good condition. After previously failing on species density (condition F), the grassland will be reseeded with a suitable seed mix whilst controlling the spread of undesirable species (such as nettle, thistle and clover) to increase the abundance of native flowering species and forbs.	Good – expected to pass 6/6 criteria.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, but not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Vegetated garden - 828	0.09ha	Retained gardens.	Condition assessment N/A	Low strategic significance. Area/compensation not in

				local strategy. No ecological value.
Bramble scrub – h3d	0.044ha	Retained scrub.	Condition assessment N/A	Low strategic significance. Area/compensation not in local strategy. Limited ecological value.

Table 4: Post Development Biodiversity Value Offsite (wider boundary)

Habitat Offsite	Area / Length	Description	Condition Assessment	Strategic Significance
Lowland calcareous grassland (priority habitat) – g2a	1.42ha	Retained grassland.	Good – no change expected.	Medium strategic significance. Location ecologically desirable but not in local strategy. High ecological value (priority), not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Mixed scrub – h3h	0.211ha	Retained scrub.	Moderate – no change expected.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Willow scrub – h3j	0.045ha	Retained scrub.	Poor – no change expected.	Low strategic significance. Area/compensation not in local strategy. Limited ecological value.

Pond (non-priority) – r1g	0.013ha	Retained pond.	Moderate – no change expected.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Other inland rock and scree	0.644ha	Retained inland rock.	Good – no change expected.	Medium strategic significance. Location ecologically desirable but not in local strategy. Moderate ecological value, not identified within a LWS or greenbelt zone, previous site usage limits functionality and diversity.
Developed land; sealed surface – u1b and u1b5 (buildings and hardstanding)	0.002ha	Retained building.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.
Artificial unvegetated; unsealed surface – u1c	0.089ha	Retained track.	N/A - Other	Low strategic significance. Area/compensation not in local strategy. No ecological value.

3.3 Change in Biodiversity Value of the Site

Full details are provided in the Defra Statutory Biodiversity Metric. The headline results are presented in Appendix 6.

Areas of Habitat Onsite

The baseline habitat value of the site is 42.48 units, comprising buildings, hardstanding and unsealed surface (all containing no value), 28.56 units of lowland mixed deciduous woodland, 2.57 units of lowland calcareous grassland, 10.58 units of other neutral grassland, 0.19 units of bramble scrub, 0.39 units of modified grassland and 0.18 units of vegetated garden.

The post development habitat value of the site is 45.83 units, comprising the retention of buildings, hardstanding and unsealed surface (all containing no value), enhancement of 27.83 units of woodland, creation of 0.37 units of calcareous grassland, retention of 2.57 units of calcareous grassland, enhancement of 14.28 units of other neutral grassland, 0.39 units of modified grassland, 0.19 units of bramble scrub and 0.18 units of vegetated gardens.

This results in a net change in biodiversity of +3.34 units and +7.87% (i.e. a net loss), with a 0.90-unit deficit, of which 0.73 units are high distinctiveness woodland units, required to meet trading rules.

Areas of Habitat Offsite

The baseline habitat value of the offsite area is 38.79 units, comprising unsealed surface and buildings (no value), 28.12 units of lowland calcareous grassland, 8.50 units of other inland rock and scree, 1.86 units of mixed scrub, 0.20 units of willow scrub and 0.11 units of non-priority pond.

The post development habitat value offsite is 38.79 units, comprising the retention of 28.12 units of calcareous grassland, 1.86 units of mixed scrub, 0.20 units of willow scrub, 0.11 units of non-priority ponds, and 8.50 units of inland rock and scree.

4.0 Recommendations to Deliver BNG

4.1 Discussion

The current landscaping proposal generates a net gain of area-based habitat units (+7.87%). However, the proposal has resulted in unmet trading conditions. In line with the Statutory Biodiversity Metric User Guide (2024), any loss of a habitat must be replaced on a like-for-like or like-for-better principle. At present, trading conditions are not satisfied for the loss of 0.204ha of lowland mixed deciduous woodland (high distinctiveness). With unmet trading conditions, the proposal fails principal Rule 1 of BNG and is not compliant with current legislation (Environment Act 2021) and planning policies (National Planning Policy Framework, 2024).

To satisfy trading rules, a minimum of 0.90 units must be provisioned, of this 0.73 units should be of lowland mixed deciduous woodland.

4.2 Landscaping

- The existing areas of neutral grassland on site will be enhanced to reach good condition through appropriate management and reseeding. Light raking of the topsoil followed by reseeding with a high-density seed mix, selected to suit the site's soil conditions, will help improve species diversity. Recommended species include oxeye daisy (*Leucanthemum vulgare*), meadow buttercup (*Ranunculus acris*), lady's bedstraw (*Galium verum*), common knapweed (*Centaurea nigra*), common bent (*Agrostis capillaris*), and fescue grasses (*Festuca spp*.). Undesirable species which are indicative of suboptimal condition (e.g., common nettle (*Urtica dioica)*, white clover (*Trifolium repens)*, spear thistle (*Cirsium vulgare) and* broad-leaved dock (*Rumex obtusifolius)*) will be controlled.
- The remaining lowland mixed deciduous woodland can be brought to good condition through a targeted and strong management practices. Damaged ground will be reduced through the proposed works as cliff stabilisation will limit the further collapse and erosion of surrounding soils. Himalayan balsam and other invasive species will be removed and controlled throughout the woodland parcels. Trees that are to be removed and pollarded to facilitate the works will be repurposed and disturbed throughout the remaining woodland parcels to increase the abundance of deadwood. Further management such as coppicing and thinning will generate temporary open spaces. The introduction of woodland wildflowers and herbs, such as lords and ladies (*Arum maculatum*), wood avens (*Geum urbanum*), meadowsweet (*Filipendula ulmaria*), primrose (*Primula vulgaris*), and red campion (*Silene dioica*), will improve ground flora diversity. Ongoing management will focus on the removal of invasive species, the promotion of tree health, and overall habitat value enhancement.
- To establish a species-rich calcareous grassland, initial site preparation should focus on reducing soil fertility, which will be undertaken to facilitate cliff stabilisation. The soil will then be seeded with a suitable seed mix containing key target species such as kidney vetch (*Anthyllis vulneraria)*, wild thyme (*Thymus polytrichus),* horseshoe vetch (*Hippocrepis comosa)*, common rock-rose (*Helianthemum nummularium)*, and crested hair-grass (*Koeleria macrantha)*. Establishment should be supported by low-intensity mowing, with arisings removed to maintain low nutrient levels and encourage floral diversity. Long-term management should aim for structural variety, with 5-10% bare ground, and a high proportion of characteristic

calcareous species to achieve favourable habitat condition. While the grassland is expected to achieve moderate or good condition within the 30-year timeframe, this has been entered as poor condition within the biodiversity metric due to account for the difficulty of habitat creation.

- Additional biodiversity enhancements can be achieved through the installation of faunal features across the site. These may include bat boxes, bird boxes, and refugia for reptiles and invertebrates, contributing to the overall ecological value and supporting a wider range of species.

4.3 Biodiversity Offsetting

According to the Defra Statutory Biodiversity Metric there is a unit deficit of 0.90 habitat units required to meet trading rules, this will need to be provided to offset the loss in biodiversity be complaint with legislation.

The mechanism for securing this off-setting will need to be proposed to, and confirmed by the LPA e.g., purchasing conservation credits though a registered provider, habitat creation directly through the client owned or LPA offered land or a financial contribution towards another provider such as a local nature reserve or park. As well as the creation of new habitats, this should also secure the management of the proposed habitats to help achieve the desired condition for at least 30 years. This would be linked to the application through a planning obligation Section 106 (S106) agreement. The proposed habitat compensation should be of an appropriate distinctiveness to meet the trading rules of BNG. An ecology survey of the baseline habitat of any off-site land will be required to inform the baseline conditions of any land subject to off-site compensation measures.

- The costs of BNG compensation using statutory credits have been issued by the government as outlined here: https://www.gov.uk/guidance/statutory-biodiversity-credit-prices
- Statutory prices are not guideline prices for biodiversity units sold in the off-site private market. Credit prices are set high to ensure they do not compete with the development of the private market.
- These units may be cheaper to source in the local third party BNG unit market, or in collaboration with the LPA.
- If you buy statutory credits, a 'spatial risk multiplier' (SRM) will apply, which doubles the number of statutory credits you need.
- For each habitat type in the table, you can see its 'tier'. Statutory credits are priced in tiers according to habitat type for area-based biodiversity units.
- For the units required for this development, this would equate to:

Area units

- 0.73 High Tier A4 (woodland) units at £125,000 per credit = £91,250
- 0.17 Any Tier or Distinctiveness units

These prices do not include VAT. You will see VAT in the invoice for any statutory credit purchase.

Please note, statutory credits should only be purchased as a last resort, with the preferred method of obtaining biodiversity units through the private market, where costs are often substantially lower and credits are more readily available.

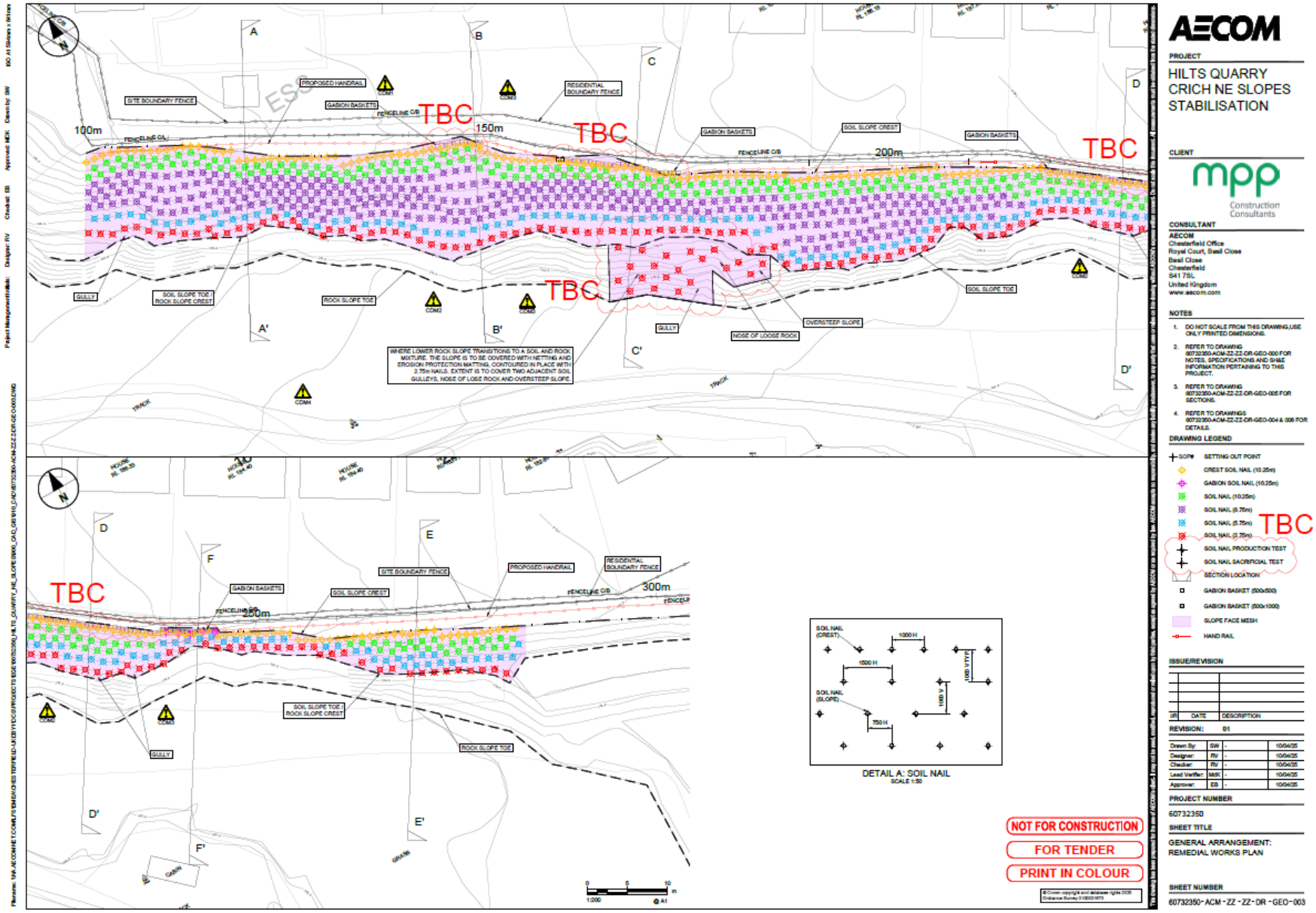
4.4 Post Development

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years.

5.0 Bibliography

- Amber Valley Borough Local Plan 2022-2040 (Pre-submission February 2024) https://www.ambervalley.gov.uk/planning/planning-policy/local-plan/
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- CIEEM-CIRIA-IEMA (2019) Biodiversity Net Gain – Good Practice Principles for Development.
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Natural England (2023). The Statutory Biodiversity Metric (JP039).
- Natural England (2023). The Statutory Biodiversity Metric User Guide (JP039).
- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 2 – Technical Information (JP039).
- Preliminary Ecological Appraisal (August 2024) Peak Ecology. Hilts Quarry, Crich.
- The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023)

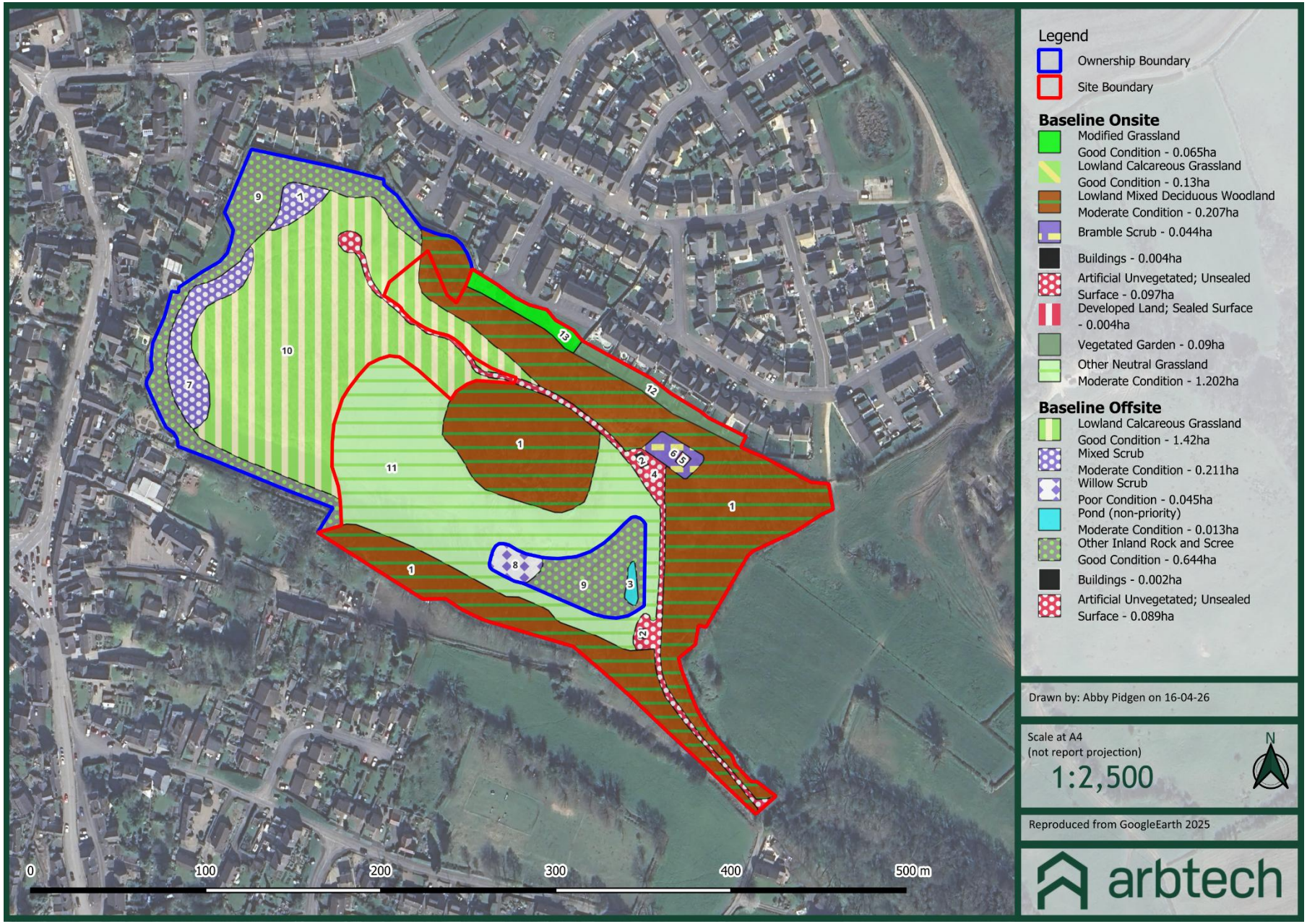
Appendix 1: Proposed Development Plan



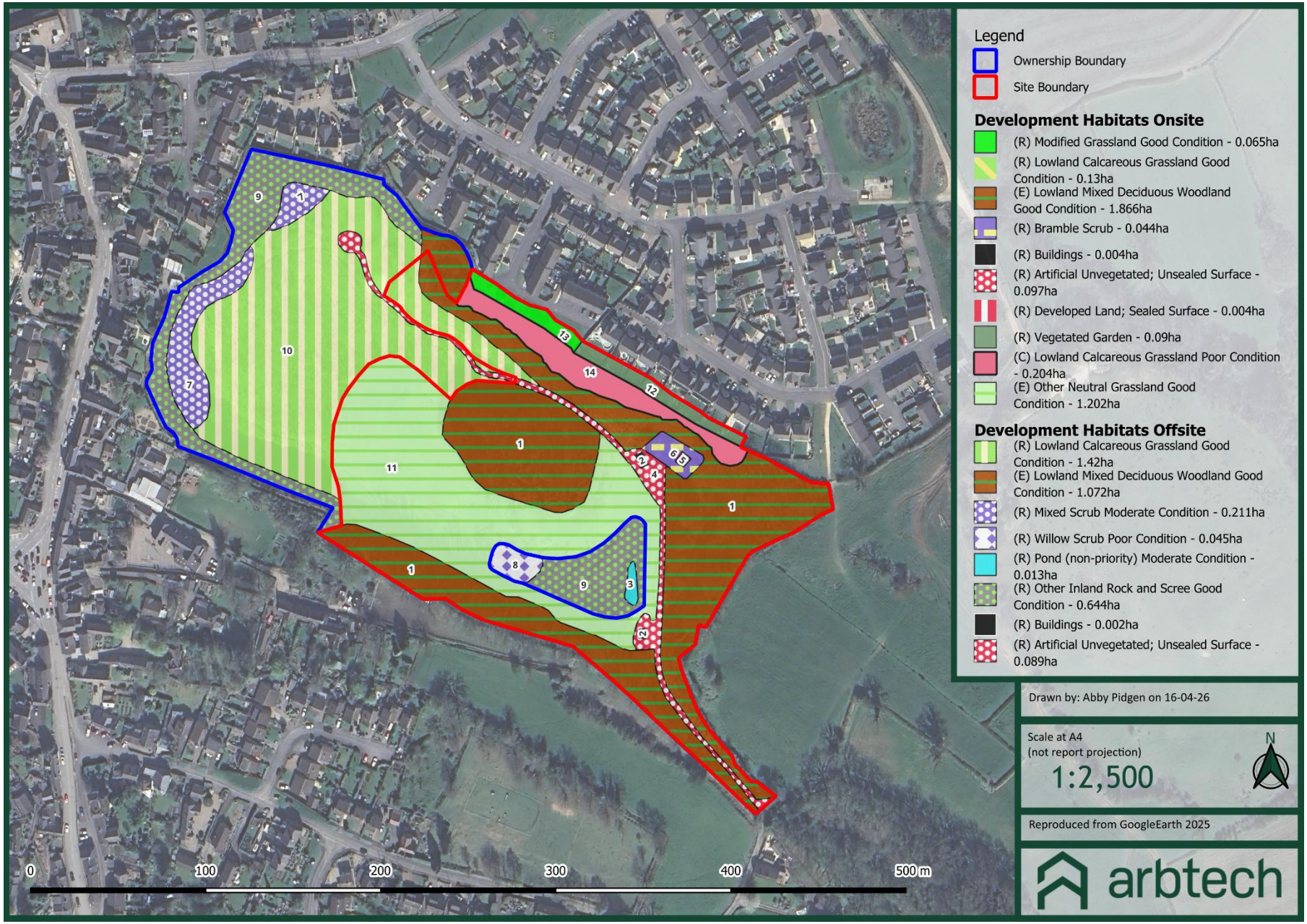
Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



Appendix 4: Post Development Habitat Plan



Appendix 5a: Habitat Condition Assessment Sheets - Baseline

Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

There were three distinct parcels of deciduous woodland on site, with each identified on MAGIC as Priority Habitat Lowland Mixed Deciduous Woodland. The first parcel ran along the south eastern boundary of the site from the site entrance, separated from the second woodland parcel running along the north and eastern area of the site by the access track.

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here: Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	29/08/2024 PeakEcology
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Baseline
Grid reference	SK 35204 54289	**Habitat parcel reference**	Lowland Mixed Deciduous Woodland

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	3	Three age classess present
B	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2].	Evidence of significant browsing pressure is present in less than 40% of whole woodland[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].	3	No browsing damage
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	2	Himalayan Balsam present in <10%
D	**Number of native tree species**	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	3	More than 5 native species present
E	**Cover of native tree and shrub species**	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	3	>80% of canopy and scrub is native
F	**Open space within woodland**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	21 - 40% of woodland has areas of temporary open space[6].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	1	No open spaces in woodland
G	**Woodland regeneration**	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	3	All three age classes present
H	**Tree health**	Tree mortality 10% or less, no pests or diseases and no crown dieback[9].	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].	2	Tree mortality 11-25% with some dieback observed
I	**Vegetation and ground flora**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.	2	NVC community not characterised by ancient woodland flora.
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	2	Two storeys present
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	1	No veteran trees present
L	**Amount of deadwood**	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	1	No deadwood observed within woodland
M	**Woodland disturbance**	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground[14].	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground[14].	1	Damaged ground present throughout woodland due to cliffface location and erosion.
				Total Score (out of a possible 39)	27	

Condition Assessment Result	Condition Assessment Score	Result Achieved
Total score >32 (33 to 39)	Good (3)	Moderate
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	

Condition Sheet: POND Habitat Type

Habitat Type

Lakes - Ponds (priority habitat)
Lakes - Ponds (non-priority habitat)
Lakes - Temporary lakes ponds and pools (H3170) [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes]
Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]

Habitat Description

A small pond within the area of exposed rock bed, considered likely to retain water throughout the year, located towards the southeast corner of the site. Emergent and marginal aquatic vegetation included bulrush, soft rush, and at least two species of willow sp., likely goat willow and white willow Salix alba. Surveyors observed a number of aquatic invertebrates present within the water, as well as an abundance of dragonflies and damselflies, indicating that the

ukhab – UK Habitat Classification

For ponds (non-priority) – see the Statutory Biodiversity Metric Technical Annex 2.

On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	29/08/2024 PeakEcology
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Baseline
Grid reference	SK 35204 54289	**Habitat parcel reference**	Pond

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
Core Criteria - applicable to all ponds (woodland[1] and non-woodland):			
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Yes	Low turbidity
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	No	Partially vegetated surroundings
C	Less than 10% of the water surface is covered with duckweed *Lemna* spp. or filamentous algae.	Yes	No duckweek present
D	The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	Yes	No artificial connection
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams[2], pumps or pipework.	Yes	No dams, pumps or pipework
F	There is an absence of listed non-native plant and animal species[3].	Yes	No non-native plants or animals observed
G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Yes	No fish present
Additional Criteria - must be assessed for all non-woodland ponds:			
H	Emergent, submerged or floating plants (excluding duckweed)[4] cover at least 50% of the pond area which is less than 3 m deep.	No	No emergengt, submergent or floating plants
I	The pond surface is no more than 50% shaded by adjacent trees and scrub.	No	More than 50% shading
	Number of criteria passed	6	

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Results for woodland ponds which require assessment of 7 core criteria		
Passes 7 criteria	Good (3)	
Passes 5 or 6 criteria	Moderate (2)	
Passes 4 or fewer criteria	Poor (1)	
Results for non-woodland ponds which require assessment of 9 criteria		
Passes 9 criteria	Good (3)	
Passes 6 to 8 criteria	Moderate (2)	x
Passes 5 or fewer criteria	Poor (1)	

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	29/08/2024 PeakEcology
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Baseline
Grid reference	SK 35204 54289	**Habitat parcel reference**	Other Neutral Grassland

Habitat Description

An area of other neutral grassland, characterised by a tall and tussocky sward, with both scattered and denser patches of hard rush, located towards the centre and southeast of the site. Localised areas of scattered scrub and scattered trees – mostly self-set willow – within the sward were also present, as well as a number of anthills. It is understood that this area of

ukhab – UK Habitat Classification

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes	High species composition, lacking in suboptimal species.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Yes	Sward height varied due to minimal management and species composition.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Yes	Bare ground was between 1-5%
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Yes	No bracken present.
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Yes	Physical damage and species of suboptimal condition is less than 5%.
Additional Criterion - must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m[2] present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	No	~8 species present per m2, with 20 species identified throughout.
	Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	No	
	Number of criteria passed	5	

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Acid grassland types (Result out of 5 criteria)		
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	
Non-acid grassland types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	x
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	29/08/2024 PeakEcology
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Baseline
Grid reference	SK 35204 54289	**Habitat parcel reference**	Lowland Calcareous Grassland

Habitat Description

A large area of lowland calcareous grassland with a high concentration of forb species, and a high proportion of trees planted intentionally in recent years as a plantation, towards the northern and northwestern end of the quarry. A notable number of log piles were scattered throughout the area, believed to have originated from trees felled as part of previous remedial

ukhab – UK Habitat Classification

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes	High species composition, lacking in suboptimal species.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Yes	Sward height varied due to minimal management and species composition.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Yes	Bare ground was between 1-5%
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Yes	No bracken present.
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Yes	Physical damage and species of subopotimal condition is less than 5%.
	Additional Criterion - must be assessed for all non-acid grassland types		
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	Yes	More than 15 species per m2
	Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	Yes	
	Number of criteria passed	6	

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Acid grassland types (Result out of 5 criteria)		
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	
Non-acid grassland types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	x
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	

Condition Sheet: SPARSELY VEGETATED LAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Sparsely vegetated land - Inland rock outcrop and scree habitats
Sparsely vegetated land - Other inland rock and scree

Habitat Description

Layers of exposed rock bed with young self-set trees and scattered grasses and forbs located in the southeastern corner of the site. In conjunction with the immediately adjacent habitats of pond and scrub, this contributed towards an area with characteristics indicative of open mosaic habitat. Species growing amongst the rock bed and scattered grass and forbs included

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	29/08/2024 PeakEcology
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Baseline
Grid reference	SK 35204 54289	**Habitat parcel reference**	Other Inland Rock and Scree

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its specific sparsely vegetated habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with characteristic indicator species consistently present.[1]	Yes	Closesly matches UKHab description
B	The cover of bracken *Pteridium aquilinum* , scrub and trees is less than 25%.	Yes	No bracken present
C	There is an absence of invasive non-native plant species[2] (as listed on Schedule 9 of WCA[3]) and species indicative of suboptimal condition[4] make up less than 5% of vegetated ground cover.	Yes	No schedule 9 or invasive species
D	Vegetation cover of vascular and non-vascular plants is between 5 and 50%.	Yes	Vegetatation cover is between 5-50%
		Number of criteria passed	4

Condition Assessment Result (out of 4 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 4 criteria	Good (3)	x
Passes 3 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	

Condition Sheet: SCRUB Habitat Type			
Habitat Types			
Heathland and shrub - Blackthorn scrub **Heathland and shrub - Gorse scrub** **Heathland and shrub - Hawthorn scrub** **Heathland and shrub - Hazel scrub** **Heathland and shrub - Mixed scrub** **Heathland and shrub - Dunes with sea buckthorn (H2160)** **Heathland and shrub - Willow scrub**			
Habitat Description			
There were two large areas of dense mixed scrub without a dominant species located along almost the entirety of the western end of the quarry, adjacent to the calcareous grassland/plantation. These areas were inaccessible in parts due to the dense vegetation, dominated by a species mix of bramble, nettle and buddleja, with frequent willow sp., and greater willowherb and hoary willowherb Epilobium parviflorum. Other species present and			
For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	29/08/2024 PeakEcology
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Baseline
Grid reference	SK 35204 54289	**Habitat parcel reference**	Mixed scrub

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	Yes	Closely resembles UKHabs type
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	No	Young and semi mature shrubs and trees only
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Yes	No schedule 9 species
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Yes	Scrub has a well defined edge
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	No	No clearing, glades or rides
	Number of criteria passed	3	

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	x
Passes 2 or fewer criteria	Poor (1)	

Condition Sheet: SCRUB Habitat Type			
Habitat Types			
Heathland and shrub - Blackthorn scrub **Heathland and shrub - Gorse scrub** **Heathland and shrub - Hawthorn scrub** **Heathland and shrub - Hazel scrub** **Heathland and shrub - Mixed scrub** **Heathland and shrub - Dunes with sea buckthorn (H2160)** **Heathland and shrub - Willow scrub**			
Habitat Description			
A small area of scrub with young trees located towards the southeastern corner of the site, adjacent to, and a partial continuation of, the exposed rock bed and area of partially vegetated habitat, and surrounded by neutral grassland on all other sides. Young silver birch and willow sp. saplings dominated, with frequent buddleja and occasional self-set young sycamore also present. The ground flora was dominated by the grass species present in the adjacent neutral			
For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	29/08/2024 PeakEcology
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Baseline
Grid reference	SK 35204 54289	**Habitat parcel reference**	Willow scrub

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	Yes	Closely resembles UKHabs type
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	No	Young trees and shrubs only
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Yes	No schedule 9 species
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	No	Scrub does not have a well-defined edge
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	No	No clearing, glades or rides
	Number of criteria passed	2	

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	x

Appendix 5b: Habitat Condition Assessment Sheets - Proposed

Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

There were three distinct parcels of deciduous woodland on site, with each identified on MAGIC as Priority Habitat Lowland Mixed Deciduous Woodland. The first parcel ran along the south eastern boundary of the site from the site entrance, separated from the second woodland parcel running along the north and eastern area of the site by the access track.

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here: Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Enhanced
Grid reference	SK 35204 54289	**Habitat parcel reference**	Lowland Mixed Deciduous Woodland

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	3	Three age classess present
B	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2].	Evidence of significant browsing pressure is present in less than 40% of whole woodland[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].	3	No browsing damage
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	Himalayan Balsam and other invasives will be controlled and removed
D	**Number of native tree species**	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	3	More than 5 native species present
E	**Cover of native tree and shrub species**	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	3	>80% of canopy and scrub is native
F	**Open space within woodland**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	21 - 40% of woodland has areas of temporary open space[6].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	3	Temporary open spaces will be created through coppicing and thinning
G	**Woodland regeneration**	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	3	All three age classes present
H	**Tree health**	Tree mortality 10% or less, no pests or diseases and no crown dieback[9].	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].	2	Tree mortality 11-25% with some dieback observed
I	**Vegetation and ground flora**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.	2	NVC community not characterised by ancient woodland flora.
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	2	Two storeys present
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	1	No veteran trees present
L	**Amount of deadwood**	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	3	Pollarded and felled trees will be repurposed as deadwood
M	**Woodland disturbance**	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground[14].	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground[14].	3	Damaged will be reduced throughout the woodland
				Total Score (out of a possible 39)	35	

Condition Assessment Result	Condition Assessment Score	Result Achieved
Total score >32 (33 to 39)	Good (3)	Good
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

On-site or off-site, site name and location	Onsite	**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	Enhacements
Grid reference	SK 35204 54289	**Habitat parcel reference**	Other Neutral Grassland

Habitat Description

Enhanced neutral grassland

ukhab – UK Habitat Classification

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes	High species composition, lacking in suboptimal species.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Yes	Sward height varied due to minimal management and species composition.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Yes	Bare ground was between 1-5%
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Yes	No bracken present or expected.
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Yes	Physical damage and species of subopotimal condition is less than 5%.
	Additional Criterion - must be assessed for all non-acid grassland types		
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	Yes	Reseeding with a good seed mix to produce higher abudance of target species.
	Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	Yes	
	Number of criteria passed	6	

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Acid grassland types (Result out of 5 criteria)		
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	
Non-acid grassland types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	x
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	

Appendix 6: Headline BNG Results

The Defra Statutory Biodiversity Metric is provided as a separate excel spreadsheet.

Total:

FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	3.34	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	7.87%	Total net gain achieved is less than target set ▲
	Hedgerow units	0.00%	
	Watercourse units	0.00%	
Trading rules satisfied?		No - Check Trading Summaries ▲	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	42.48	46.73	0.90	
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓