

## File Note

<b>Project title</b>	Cannop Ponds Biodiversity Net Gain
<b>Job number</b>	29242700
<b>File reference</b>	4-50
<b>Date</b>	20 <sup>th</sup> October 2023
<b>Subject</b>	Options Biodiversity Net Gain Technical Note

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### Executive Summary

Biodiversity Net Gain (BNG) is an approach to development, and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand. BNG is assessed using a standard calculator developed by Natural England and considers Habitat units, River units and Hedgerow units.

Inspections under the Reservoirs Act 1975 at both sites identified a number of issues with the dams at Cannop Ponds which need to be resolved in order to ensure the safety of the two reservoirs. Four concept options for potential remedial works at the sites were presented at public consultation events held in March 2023. A detailed appraisal of the four options was carried out considering many factors including biodiversity.

This technical note has been prepared to inform the options appraisal process and presents the results of the BNG calculations of each of the four options. To inform the options appraisal process, the results for each option do not include enhancement of habitats not directly affected by a respective option; this allows the design of each option to be compared objectively in terms of BNG unit loss and gain.

Based on BNG analysis of the concept design options presented at consultation, Option 2, Option 3, and Option 4 deliver Habitat percentage gains of +3.18 %, +1.49% and +3.12 % respectively. Option 1 results in minor Habitat percentage loss of -1.31 %. There is no change in River units as a result of Option 1. All other options deliver percentage gains in River units of +2.83% (Option 2), +5.65% (Option 3) and +21.52% (Option 4) respectively. Hedgerows units have not been assessed as part of the assessment as this habitat type was not recorded during the baseline and does not form a component of any of the concept design options.

The results presented here will be used during the next phase of design to maximise the BNG potential of the final solution. A further BNG assessment will then be produced of the final design incorporating any additional enhancements that may be required to achieve 10% BNG.

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## 1. Background

### 1.1 Project Background

Ove Arup and Partners (Arup) was commissioned by Forestry England to undertake Biodiversity Net Gain (BNG) assessment in relation to the proposed engineering works on the reservoirs within the Forest of Dean, also referred to as ‘Cannop Ponds’. The most recent inspections for Cannop Ponds identified measures that must be undertaken to ensure the dams are in safe condition and fit for purpose, as per The Reservoirs Act 1975.<sup>1</sup> If the reservoirs are to be kept, legally enforceable measures will need to be taken through the Measures in the Interests of Safety (MITIOS) to ensure the safety of the dams. These include the following:

- Lower Cannop Pond’s spillway must be replaced.
- Upper Cannop Pond must be recipient to upgrade works to ensure the flood capacity of the reservoirs meet legal guidance. Permanent pipework must also be installed to ensure the water in the reservoir can be lowered in the event of an emergency.
- The watertightness of both dams must be improved to alleviate the cause of the dams’ weakening.

The legal requirement of the Reservoirs Act 1975 would not need to be met if the dams were removed or adapted to ensure that water can be held back, as they would no longer pose a risk to downstream communities. No decisions have been made on the way forward for Cannop Ponds and Forestry England are currently developing and appraising options for how to meet these requirements.

### 1.2 BNG Policy Context

BNG is an approach to development, and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand. The value of habitats within a site are quantified through the use of the Natural England Biodiversity Net Gain Metric 3.1.<sup>2</sup> This allows for baseline habitat value to be objectively compared against changes in habitats after a development, which informs the level of habitat enhancement and/or creation required in order to achieve the mandatory BNG targets. The Environment Act (2021) is a key mechanism for delivering the improvements set out within Environment Plan. The Environment Act (2021) includes the mandatory requirement for new developments to provide a BNG. This will require planning applicants to demonstrate that proposals will achieve at least a 10% increase in the level of biodiversity after the development, when compared to the level of biodiversity pre-development. This mandate will come into effect in England only by amending the Town & Country Planning Act (TCPA)<sup>3</sup> (1990) which is expected in January 2024.

### 1.3 Methodology and Application

To achieve BNG, the baseline value of habitats present within the red line boundary must first be established. This is achieved through a combination of field studies and desk-based assessment to produce a quantitative value of biodiversity for a given area. All vegetated habitats have an ecological value. The biodiversity value of an area was calculated using the Natural England Biodiversity Metric 3.1<sup>4</sup> and measured in Habitat Units,

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<sup>1</sup> The Reservoirs Act 1975. Accessible at: <https://www.legislation.gov.uk/ukpga/1975/23/contents>. Accessed August 2023

<sup>2</sup> Natural England (2021). Biodiversity Metric 3.1 – Auditing and accounting for biodiversity calculation tool. Available at: <https://publications.naturalengland.org.uk/publication/6049804846366720>. Accessed August 2023

<sup>3</sup> <https://www.legislation.gov.uk/ukpga/1990/8/contents/enacted>

<sup>4</sup> The Biodiversity Metric 3.1 was produced in partnership with Defra.

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Hedgerow Units and River Units. The number of units assigned to a particular habitat area is based upon a range of factors, including habitat type, area, condition, and distinctiveness.

The Biodiversity Metric enables a valuation of all semi-natural habitats within the site, and allows a biodiversity baseline to be established, against which the effects of design decisions can be assessed i.e. the value of habitats lost or retained, and the area required to offset losses in order to achieve a net gain in biodiversity. Terrestrial habitat surveys within the red line boundary were conducted by suitably experienced ecologists as part of the Preliminary Ecological Appraisal (PEA) in June 2022 using the UKHab Classification system methodology<sup>5</sup>. BNG compliant River Condition (MoRPh) surveys within the site were conducted by freshwater ecologists trained and certified to undertake MoRPh surveys in September 2022.

In order to support the options appraisal, a BNG calculation was carried out for the four proposed design options for Cannop Ponds. This enabled the number of habitat units associated with of potential habitat losses and creation to be quantified. The BNG analysis was based on the respective concept plans for each option which were used to calculate the biodiversity units delivered, compared to the baseline<sup>6</sup>.

#### 1.4 Objectives

The objectives of this note are to provide:

- An overview of the biodiversity unit gains/losses for each option, which is intended to help guide selection of the preferred option and scheme design (note: enhancement of habitats not directly affected by a respective option have not been included to assess the raw value of each option); and
- Details of the ecological opportunities and constraints within the current site boundary with regards to BNG.
- Recommendations to maximise the biodiversity value of the site to enable achievement of BNG targets.

#### 1.5 Limitations and Assumptions

All option results are indicative and based on the concept plans presented at consultation; the BNG calculations will be subject to revision once a preferred option is selected and detailed design has commenced.

At the time of writing, no areas of works access, storage compounds, or temporary works spaces are defined within the site. Similarly, once a planning boundary and preferred option are defined, the BNG Metric and report will require an update to reflect any changes to the status of BNG onsite. The BNG Metric 3.1 has been used to calculate the 2022 survey data as this was the most up to date version at the time of the survey. In spring 2023, Natural England released Biodiversity Net Gain Metric 4.0. Consultation with Natural England and the Local Planning Authority will determine which metric will be used during further design and the planning application.

To enable a comparative appraisal of the design options; the BNG calculations in this technical note do not include the enhancement of habitats not directly affected by a respective option. Such enhancements would be required to achieve the mandatory 10% net gain, but are not required to compare the respective design options.

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<sup>5</sup> Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). *The UK Habitat Classification User Manual Version 1.1* at <http://www.ukhab.org/>

<sup>6</sup> Arup (2023) Cannop Ponds Biodiversity Net Gain Baseline Assessment

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Ecological surveys are limited by factors that affect the presence of plants and animals, such as the time of year, migration patterns and behaviour. Therefore, 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. However, professional judgement allows for the likely presence of these species to be predicted with sufficient certainty to not significantly limit the validity of these findings.

## 1.6 Mitigation Hierarchy

When considering any proposed developments, the mitigation hierarchy should be implemented at the earliest stages to avoid or reduce potential impacts upon biodiversity. This includes, but is not limited to, site placement.

The mitigation hierarchy is as follows:

- **Avoid:** Where measures should be taken to avoid creating impacts from the onset of the project. For example, this includes placing development outside of protected or sensitive habitats to avoid damage and loss of these habitats. Avoidance is often the easiest and most effective way to reduce potential impacts, but requires biodiversity to be considered at the initial stages of a project;
- **Minimise:** Where measures are put in place to reduce the duration, intensity, significance and/or extent of impacts that cannot be completely avoided;
- **Remediate:** Where measures are put in place to repair degradation or damage to specific biodiversity features and ecosystem services of concern (which might be species or ecosystems/habitats) following project impacts that cannot be completely avoided and/ or minimised; and
- **Compensate:** Measurable conservation outcomes, resulting from actions applied to areas not impacted by the project, that compensate for significant, adverse impacts of a project that cannot be avoided, minimised and/or restored.

## 2. Results

### 2.1 Protected and Irreplaceable Habitats

An area of ancient and semi-natural woodland, Crabtree Ption (East), was identified north of Upper Cannop within the site using the Natural England Ancient Inventory<sup>7</sup>, and Nagshead SSSI (Unit 2) was identified south of Lower Cannop spillway within the site. Further details are available within the Preliminary Ecological Appraisal<sup>8</sup>. Therefore, any habitats retained, created, or enhanced that are within protected and/or irreplaceable habitats are designated as having high strategic significance within the Biodiversity Metric 3.1. Similarly, any losses of either the ancient woodland or SSSI on site will require bespoke compensation agreed with Natural England. Where habitats within the metric occur within the SSSI or areas of ancient woodland, this is noted in the Metric within the assessor comments column.

It should be noted that the wet woodland, lowland mixed deciduous woodland, and reedbed are categorised as high distinctiveness habitats within the Metric. This required that any loss of these habitats are replaced at a like for like basis. This may not be feasible for all options for Cannop Ponds and therefore will need to be discussed with Natural England as part of future design iterations.

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<sup>7</sup> Natural England (2023). Ancient Woodland (England) <https://naturalengland-defra.opendata.arcgis.com/maps/a14064ca50e242c4a92d020764a6d9df>

<sup>8</sup> Arup (2022) Cannop Ponds: Preliminary Ecological Appraisal.

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## 2.2 Options Results

The UKHab habitats for each of the proposed options are shown in the following drawings:

- Drawing 1: Option 1 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 1: Option 1 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.
- Drawing 2: Option 2 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 2: Option 2 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.
- Drawing 3: Option 3 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 3: Option 3 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.
- Drawing 4: Option 4 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 4: Option 4 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.

An overview of each option in terms of BNG gains/losses is then provided in Table 2.1.

**Table 2.1: Overview of BNG gains/losses for each Option in relation to the baseline assessment.**

Habitat (Units)	Baseline Units	Option 1 Units	Option 1 Unit change	Option 2 Units	Option 2 Unit change	Option 3 Units	Option 3 Unit change	Option 4 Units	Option 4 Unit change
Grassland	1.92	2.82	+0.90	1.33	-0.59	11.07	+9.16	26.66	+24.74
Heathland and Shrub	1.27	1.21	-0.06	1.15	-0.12	1.15	-0.12	1.15	-0.12
Lakes	19.95	19.45	-0.11	14.24	-5.72	9.96	-9.99	0.22	-19.73
Urban	0.00	0	0	0	0	0	0	0	0
Wetland	20.68	20.68	0	36.83	+16.15	26.87	+6.18	24.73	+4.05
Woodland and Forest	246.46	242.31	-4.15	245.97	-0.49	245.57	-0.89	246.58	+0.12
<b>Total Habitat Units / Unit Change</b>	<b>290.29</b>	<b>286.47</b>	<b>-3.81</b>	<b>299.52</b>	<b>+9.24</b>	<b>294.62</b>	<b>+4.34</b>	<b>299.34</b>	<b>+9.06</b>
<b>Total River Units / Unit Change</b>	<b>20.99</b>	<b>20.99</b>	<b>0</b>	<b>21.58</b>	<b>+0.59</b>	<b>22.18</b>	<b>+1.19</b>	<b>25.51</b>	<b>+4.52</b>
<b>% Change Habitats</b>	-	-	<b>-1.31%</b>	-	<b>+3.18%</b>	-	<b>+1.49%</b>	-	<b>+3.12%</b>
<b>% Change River</b>	-	-	<b>0.00%</b>	-	<b>+2.83%</b>	-	<b>+5.65%</b>	-	<b>+21.52%</b>

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## Option 1

### Losses

Necessary embankment upgrades at Upper Cannop would result in a loss to existing 0.13ha of bracken, 0.35ha of lowland mixed deciduous woodland, and 0.02ha of wet woodland for the establishment of grassland for embankment maintenance and access purposes. The construction of the spillways at Upper and Lower Cannop would result in a slight loss of area to each pond and wet woodland habitats on the periphery of both ponds, however overall there would be minimal change to open water habitat. The spillway at Lower Cannop would also impact existing lowland mixed deciduous woodland habitat, mixed scrub habitat, with other neutral grassland, being replaced by modified grassland for embankment access and maintenance purposes. There would be no further impacts to any other habitats on-site.

### Gains

0.52ha of grassland at Upper Cannop spillway and 0.098ha of grassland at Lower Cannop spillway would deliver insufficient units to mitigate the loss of existing woodland and grassland habitats in this area. Option improvements for biodiversity through further design are limited for this option and as such additional enhancements (not included in Table 2.1) would need to be considered to deliver the mandatory 10% net gain should this option be selected. Potential additional enhancements are provided in Section 2.3 below.

## Option 2

### Losses

There would be a reduction in open water at both Upper and Lower Cannop; Upper Cannop would experience approximately 1.15ha loss of open water, and Lower Cannop would experience 0.70ha; loss of pond habitat contributes to the majority of unit loss for this option. Existing 0.03ha of mixed scrub habitat at the southern edge of Lower Cannop would be lost. Spillway improvements would impact and reduce the area of wet woodland, lowland mixed deciduous woodland, and other woodland; mixed areas totalling 0.04ha.

### Gains

The series of ponds in the Upper Cannop would allow narrow channels to form, contributing to increased river units for this option. Implementation of soft-engineering at Upper Cannop through the use of rip-rap, coir rolls and flex MSE bags would allow green-colonisation in the long-term, and is reflected with small units gained in grassland and wetland habitats. Riparian edge enhancements at Lower Cannop would build on the existing aquatic marginal vegetation on the perimeter, and would replace mixed scrub habitat currently at the southern edge of the pond with approximately 0.52ha of wetland habitat. The spillway at Lower Cannop is the same as Option 1 (albeit with a reduced non-flood water level), with managed grassland needed for embankment access and maintenance purposes. This would deliver marginal habitat units that are insignificant to mitigate losses to woodland. Option improvements for biodiversity through further design are limited for Lower Cannop, but there is potential for biodiversity improvements for Upper Cannop which would work toward delivering the mandatory 10% net gain. Additional enhancements to existing habitats may still be required, and these are detailed in Section 2.3

## Option 3

### Losses

Reduced area of approximately 0.49ha and 1.91ha at Upper and Lower Cannop respectively contributes to the majority of unit loss onsite at 15.44 habitat units. The lowering of the water level at Lower Cannop

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would result in the loss of existing 0.18ha of reedbed on the periphery of the pond, and spillway improvements would impact and reduce wet woodland, lowland mixed deciduous woodland, and other woodland; mixed areas totalling 0.04ha.

### Gains

The series of smaller ponds at Upper Cannop would allow conditions for 0.43ha of reedbed habitat to form to complement existing reedbed habitat. Wet conditions at Lower Cannop would allow 1.19ha of wet species rich grassland with associated aquatic marginal vegetation to replace areas of existing pond lost. Small narrow channels would form, which contributes to the increase in river units. Community tree planting at Lower Cannop would deliver units through copses of woodland, with planting of species such as willow *Salix* spp., alder *Alnus glutinosa* and/or birch *Betula* spp. The designs at Upper and Lower Cannop would be implemented through soft-engineering approach, as outlined for Option 2. There is potential for option improvements for biodiversity through further design for both Upper and Lower Cannop, which would work toward delivering the mandatory 10% net gain for this option. However, additional enhancements would likely also be required, and these are detailed in Section 2.3.

### Option 4

#### Losses

There would be a significant loss of habitat units of open water as a result of removing the ponds which would be replaced with re-naturalised river channel. The reduction in water level would result in the loss of 0.17ha of existing reedbed at Lower Cannop and a parcel of 0.03ha of mixed scrub. There would be a slight loss of existing lowland mixed deciduous woodland, wet woodland, and other woodland; mixed at Upper Cannop to accommodate riprap installation and an associated embankment.

#### Gains

There is opportunity at Upper Cannop to create 1.2ha wet meadow and species rich grassland in place of the pond area lost, with 0.32ha of aquatic marginal vegetation forming an ecotone between the wet meadow and species rich grassland and the newly formed river. Planting of 0.18ha of wet woodland at Lower Cannop adjacent to the proposed river would deliver units and complement the riparian zone and connected floodplain. 0.4ha of aquatic marginal vegetation is expected to persist in an ecotone between the river and wet species-rich grassland. There is a significant gain in river units for Option 4. Option improvements for biodiversity through further design are possible for both Upper and Lower Cannop to gain further habitat units, which would work toward delivering the mandatory 10% net gain for this option. However, additional enhancements would likely also be required, and these are detailed in Section 2.3.

## 2.3 Option Improvements for Biodiversity and Enhancements

All the option's BNG results are indicative and based on the concept plans presented at consultation. As described above in Section 2.2, all the options have potential for option improvements for biodiversity through further design which would increase the BNG units (and thus percentages) to move towards delivering the mandatory 10% net gain, although some more than others. Once the preferred option is selected, the further design stages will seek opportunities within the option design to provide biodiversity design improvements which will both benefit biodiversity and improve the BNG results.

Nevertheless, additional enhancements to existing habitats within the scheme and surrounding area may be required to achieve the mandatory 10% net gain. Existing baseline condition data collected during the PEA survey in 2022 was consulted and informed the feasibility of habitat enhancements on site.

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Enhancements (not included in Table 2.1 to allow a true comparison of the options) could be proposed in the lowland mixed deciduous woodland parcels to enhance them from a current condition score of poor to moderate. According to the existing conditions and Biodiversity Metric Guidance, management approaches such as invasive non-native species removal, nutrient enrichment treatment, open space and glade creation, and enabling deadwood to naturally occur within the woodland would allow the parcels to improve condition. One parcel of wet woodland situated between Upper and Lower Cannop could also be proposed to be subject to enhancements. Actions could include creating open space and glades, enabling deadwood to naturally occur, nutrient enrichment treatment, and allowing three or more age classes of appropriate trees to proliferate to improve condition. The spatial scale of enhancements differs between the options, however approximately 18ha of lowland mixed deciduous woodland, and 1ha of wet woodland could be targeted for BNG condition improvement, corresponding to 168 habitat units delivered onsite.

Two parcels of modified grassland, situated south of Upper Cannop could be proposed for enhancements to other neutral grassland habitat. A mixture of forb and tall sward height species could be planted to create a mixture of vegetation communities in the parcels. Changing mowing regimes in grassland parcels would be recommended to allow for varied sward height and increased species diversity. It is considered feasible that a condition of moderate can be achieved for these parcels given limited amenity use of the areas. The potential proposed area for enhancement is 0.15ha, corresponding to 0.85 habitat units.

One parcel of mixed scrub, located on the western edge of Lower Cannop, could be proposed for enhancement to improve condition from poor to moderate. Diversification of the species present and age classes, invasive non-native species removal, and developing a tall grass and herb edge on the perimeter of the parcel could be proposed to improve condition. A total of 0.31ha could be proposed for enhancement, corresponding to 2.10 habitat units.

Enhancements would need to be designed and re-assessed following further design iterations. Created and enhanced habitats would also need to be subject to a Management and Monitoring Plan (MMP). These plans would be documented within the Landscape and Biodiversity Management Plan (LBMP) which would be completed prior to construction. The MMP would stipulate requirements for monitoring including method, timing and auditing requirements. As the lifetime of the Proposed Scheme would exceed 30 years, the MMP of habitats would be for a 30-year duration in accordance with BNG best practice. Responsibilities for implementing this plan would also be documented within the LBMP.

### **Disclaimer**

This technical note is the result of survey work in June and September 2022. This note refers, within the limitations stated, to the condition or proposed developments of the site at the time of the inspections. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. It is also advised that if there is a delay of over a year in undertaking the works, a re-survey may be required. No warranty is given as to the possibility of future changes in the condition of the site.

This report is produced solely for the benefit of Forestry England and no liability is accepted for any reliance on it by any other party. This report is prepared for the proposed uses stated in the report and should not be used in a different context.

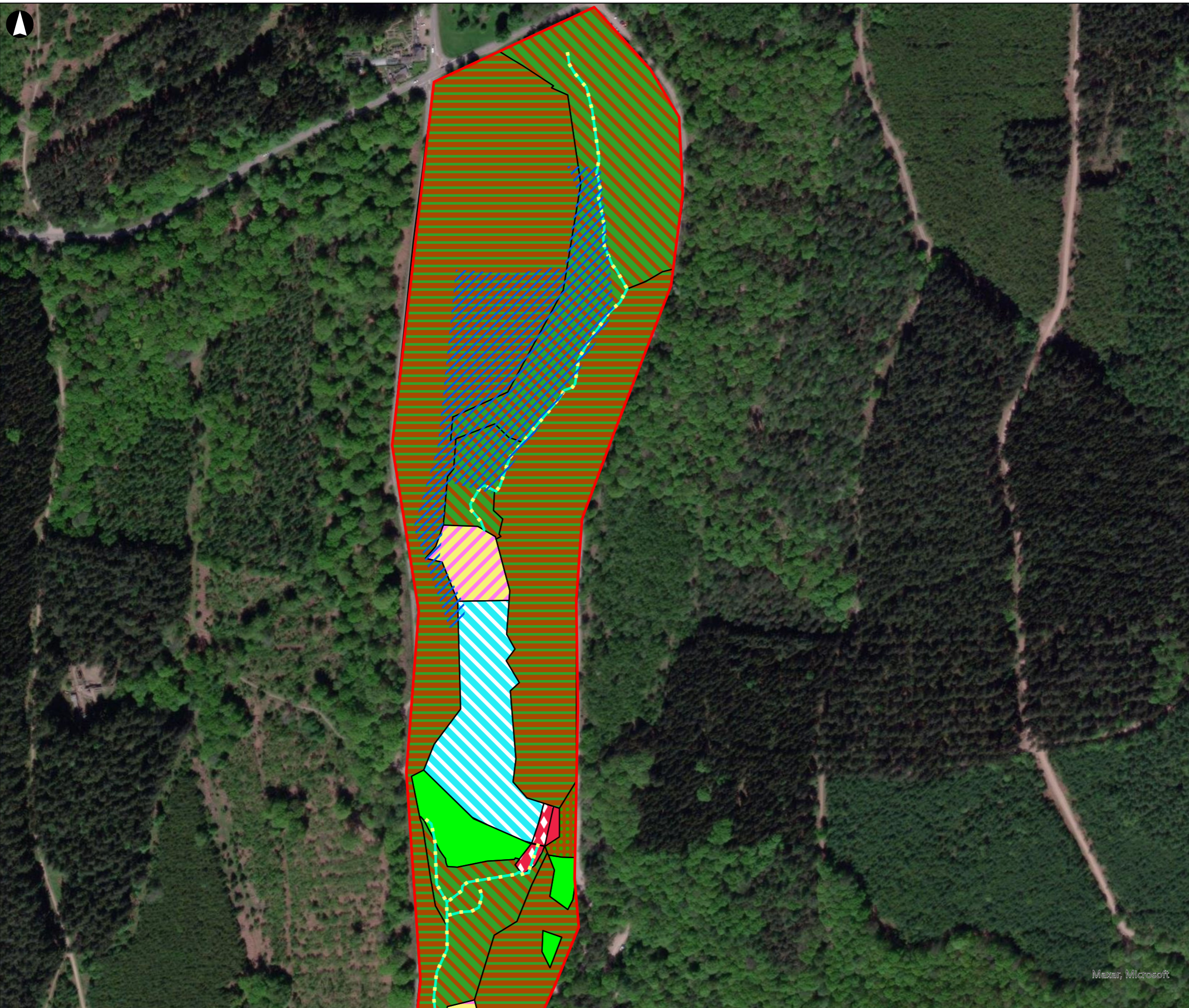


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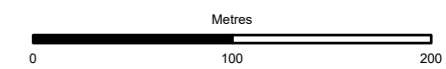
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## **Drawings:**

- Drawing 1: Option 1 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 1: Option 1 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.
- Drawing 2: Option 2 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 2: Option 2 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.
- Drawing 3: Option 3 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 3: Option 3 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.
- Drawing 4: Option 4 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2.
- Drawing 4. Option 4 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2.



- Site boundary
- Ancient Woodland
- r2b - other rivers and streams
- f2 - fen, marsh and swamp
- f2e - reedbeds
- g4 - modified grassland
- r1a eutrophic standing water
- u - urban
- u1b6 - other developed land
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland
- w1h - other woodland, mixed



Coordinate System: British National Grid

P01	12-09-23	JS	TH	DS	
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Rev	Date	By	Chkd	Appd	Authd



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Client  
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Project Name  
**Cannop Ponds**

Drawing Title  
**Drawing 1: Option 1 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2**

Scale at A3  
**1:3,800**

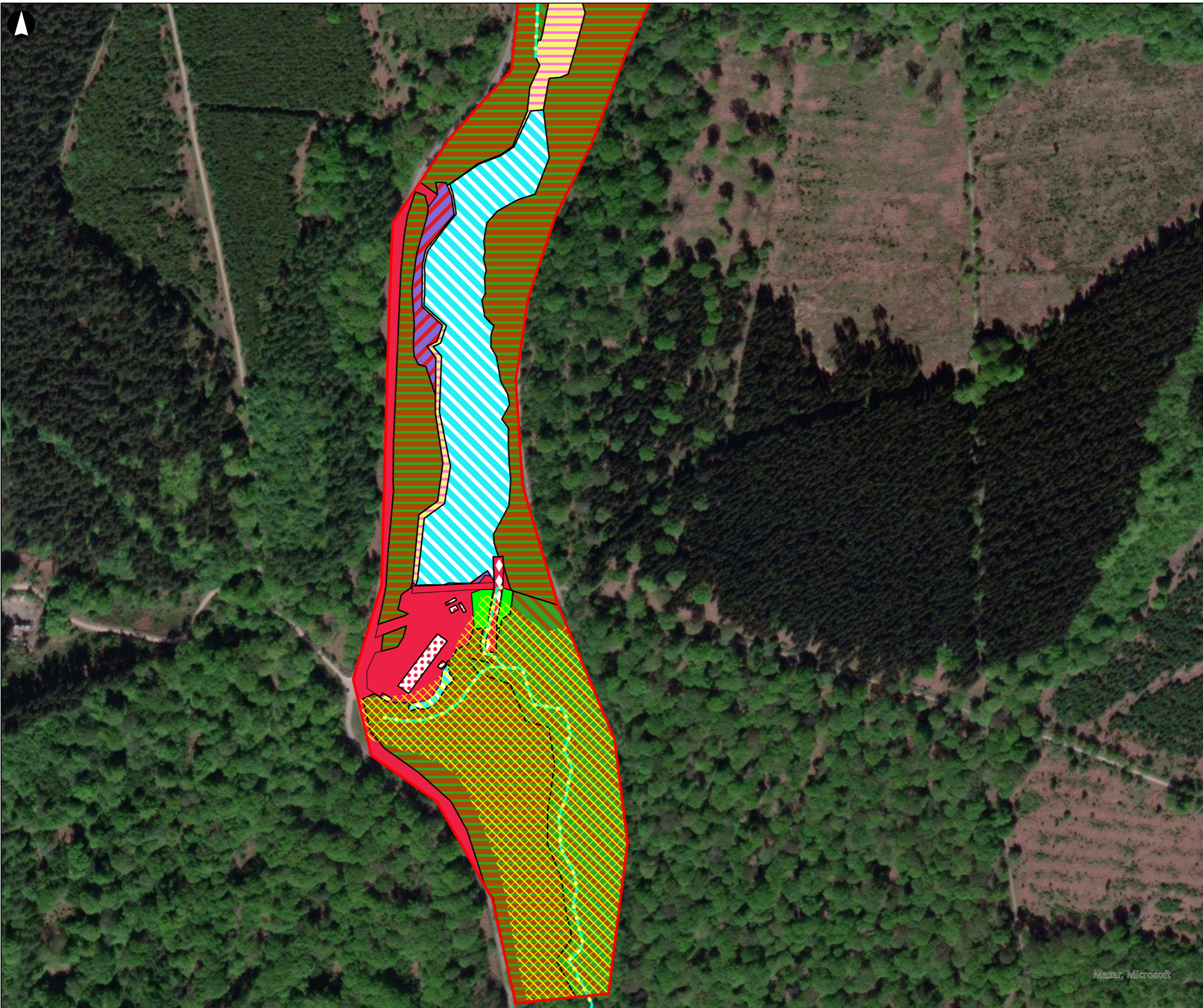
Role  
**BNG**

Suitability  
**Issue**

Project Number	Rev
<b>286412-00</b>	<b>P01</b>

Drawing Number  
**Drawing 1**

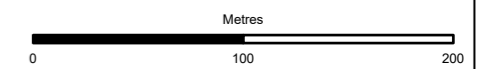
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- Site boundary
- Site of Special Scientific Interest
- r2b - other rivers and streams
- f2e - reedbeds
- g3c - other neutral grassland
- g4 - modified grassland
- h3 - dense scrub
- r1a - eutrophic standing water
- u - urban
- u1b5 - buildings
- u1b6 - other developed land
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland

A3

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Project Name  
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Drawing Title  
**Drawing 1: Option 1 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2**

Scale at A3  
**1:3,600**

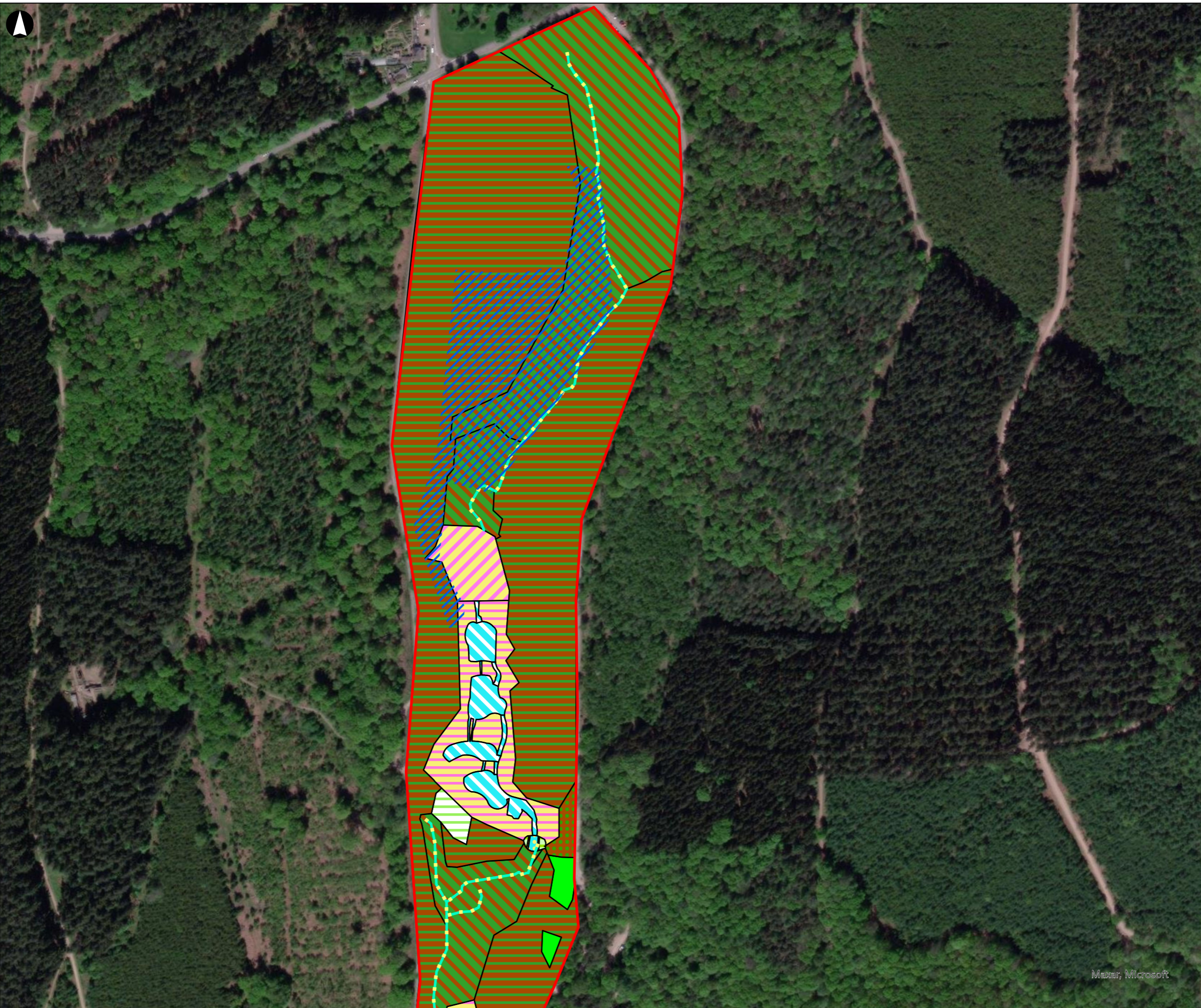
Role  
**BNG**

Suitability  
**Issue**

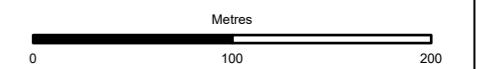
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Drawing Number  
**Drawing 1**

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- Site boundary
- Ancient Woodland
- r2b - other rivers and streams
- f2 - fen, marsh and swamp
- f2d - aquatic marginal vegetation
- f2e - reedbeds
- g1c - bracken
- g3c - other neutral grassland
- g4 - modified grassland
- r1a - eutrophic standing water
- r2 - rivers and lakes
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland
- w1h - other woodland, mixed



Coordinate System: British National Grid

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Project Name  
**Cannop Ponds**

Drawing Title  
**Drawing 2: Option 2 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2**

Scale at A3  
**1:3,800**

Role  
**BNG**

Suitability  
**Issue**

Project Number	Rev
<b>286412-00</b>	<b>P01</b>

Drawing Number  
**Drawing 2**

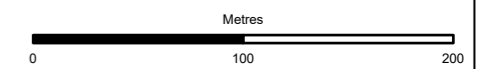
Maxar, Microsoft



- Site boundary
- Site of Special Scientific Interest
- r2b - other rivers and streams
- f2e - reedbeds
- g3c - other neutral grassland
- g4 - modified grassland
- h3 - dense scrub
- r1a - eutrophic standing water
- u - urban
- u1b5 - buildings
- u1b6 - other developed land
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland

A3

12/09/2023 17:22



Coordinate System: British National Grid

P01	12-09-23	JS	TH	DS	
Rev	Date	By	Chkd	Appd	Authd

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Client  
**Forestry England**

Project Name  
**Cannop Ponds**

Drawing Title  
**Drawing 2: Option 2 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2**

Scale at A3  
**1:3,600**

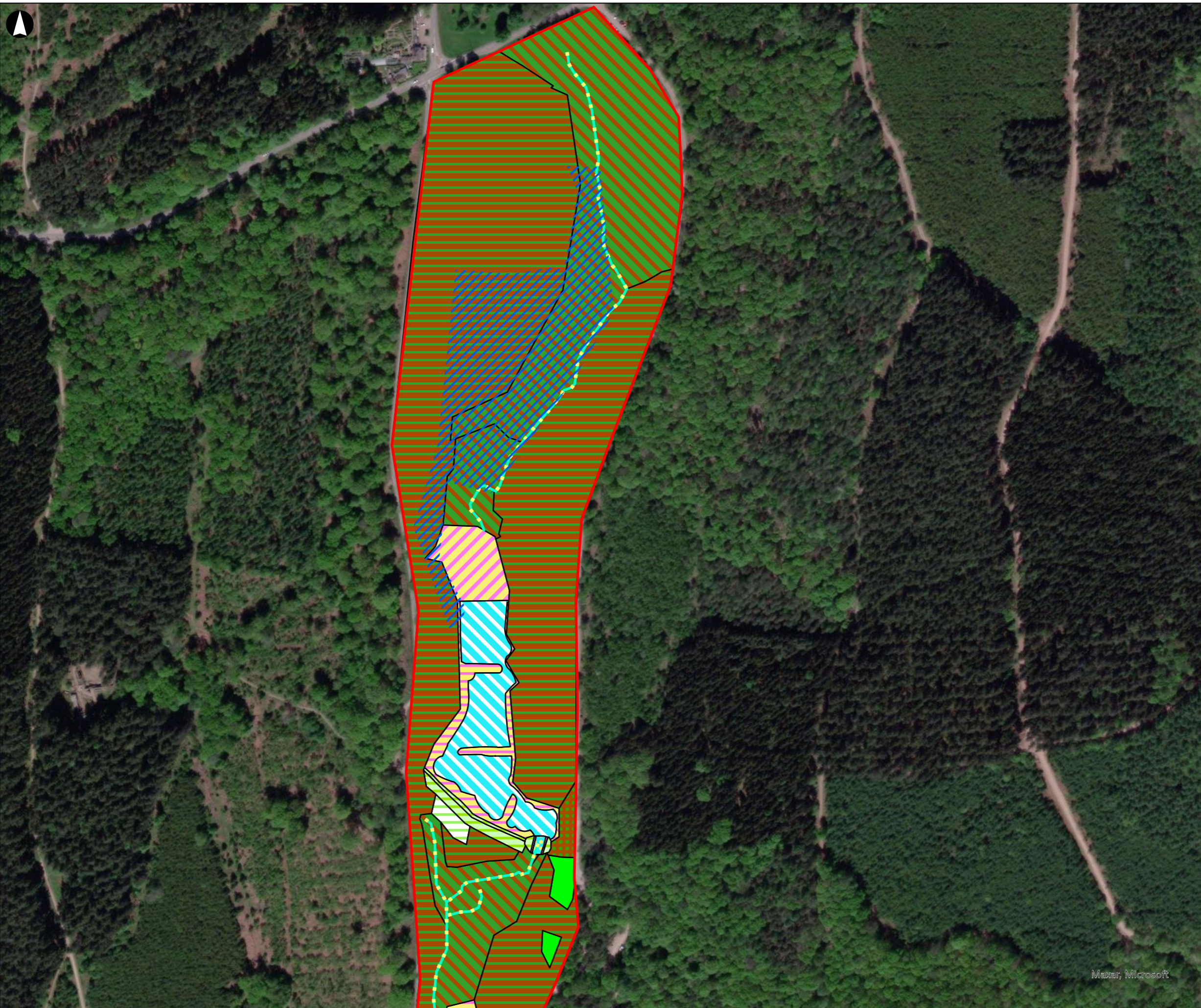
Role  
**BNG**

Suitability  
**Issue**

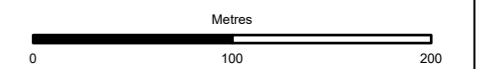
Project Number	Rev
<b>286412-00</b>	<b>P01</b>

Drawing Number  
**Drawing 2**

Maxar, Microsoft



- Site boundary
- Ancient Woodland
- r2b - other rivers and streams
- f2 - fen, marsh and swamp
- f2d - aquatic marginal vegetation
- f2e - reedbeds
- g1c - bracken
- g3c - other neutral grassland
- g4 - modified grassland
- r1a - eutrophic standing water
- r2 - rivers and lakes
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland
- w1h - other woodland, mixed



Coordinate System: British National Grid

P01	12-09-23	JS	TH	DS	
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Project Name  
**Cannop Ponds**

Drawing Title  
**Drawing 3: Option 3 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2**

Scale at A3  
**1:3,800**

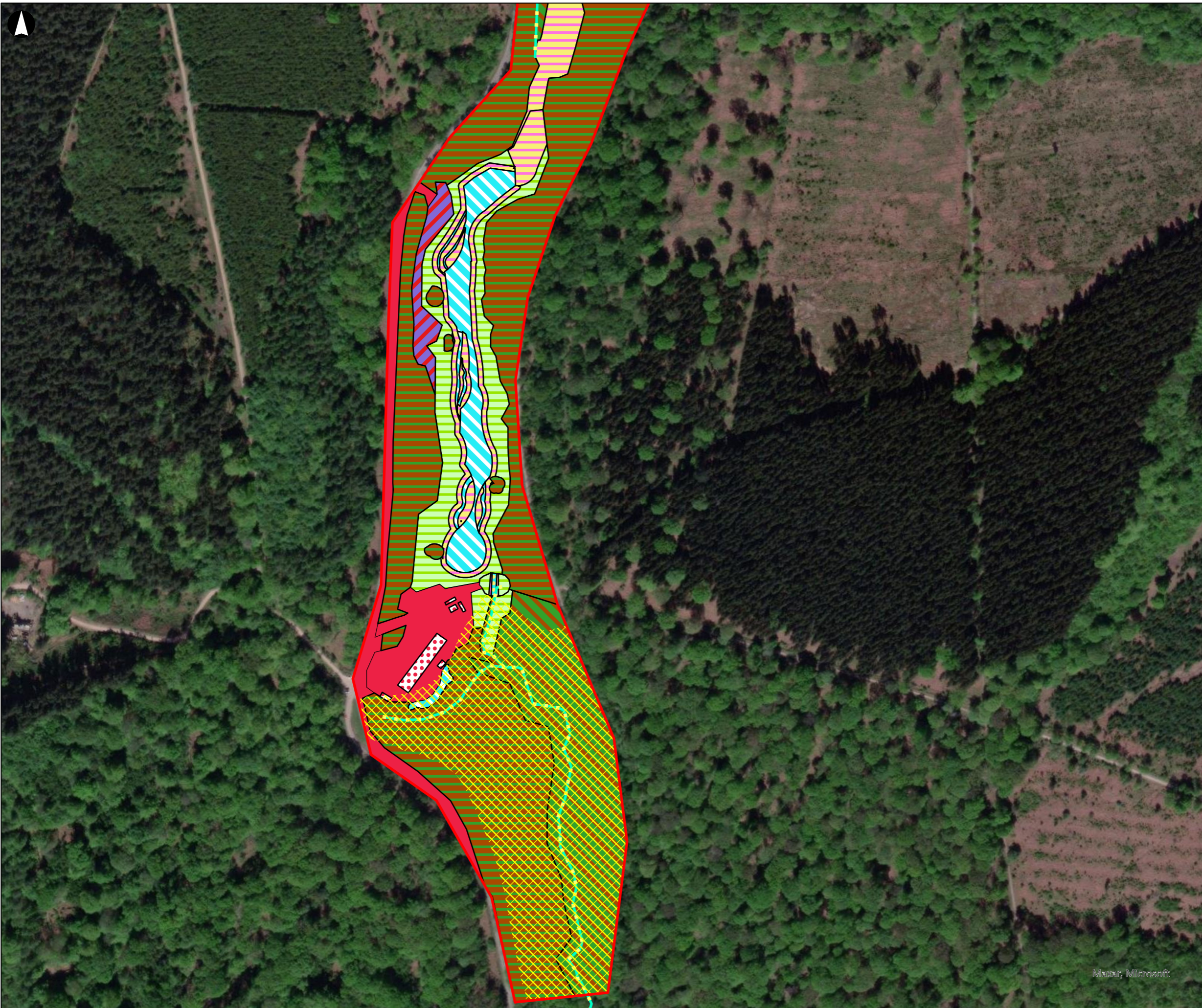
Role  
**BNG**

Suitability  
**Issue**

Project Number <b>286412-00</b>	Rev <b>P01</b>
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Drawing Number  
**Drawing 3**

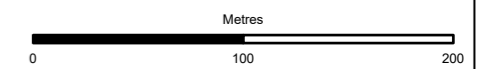
Muxar, Microsoft



- Site boundary
- Site of Special Scientific Interest
- r2b - other rivers and streams
- f2d - aquatic marginal vegetation
- f2e - reedbeds
- g3c - other neutral grassland
- h3 - dense scrub
- r1a - eutrophic standing water
- r2 - rivers and lakes
- u - urban
- u1b5 - buildings
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland

A3

12/09/2023 17:31



Coordinate System: British National Grid

P01	12-09-23	JS	TH	DS	
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**Forestry England**

Project Name  
**Cannop Ponds**

Drawing Title  
**Drawing 3: Option 3 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2**

Scale at A3  
**1:3,600**

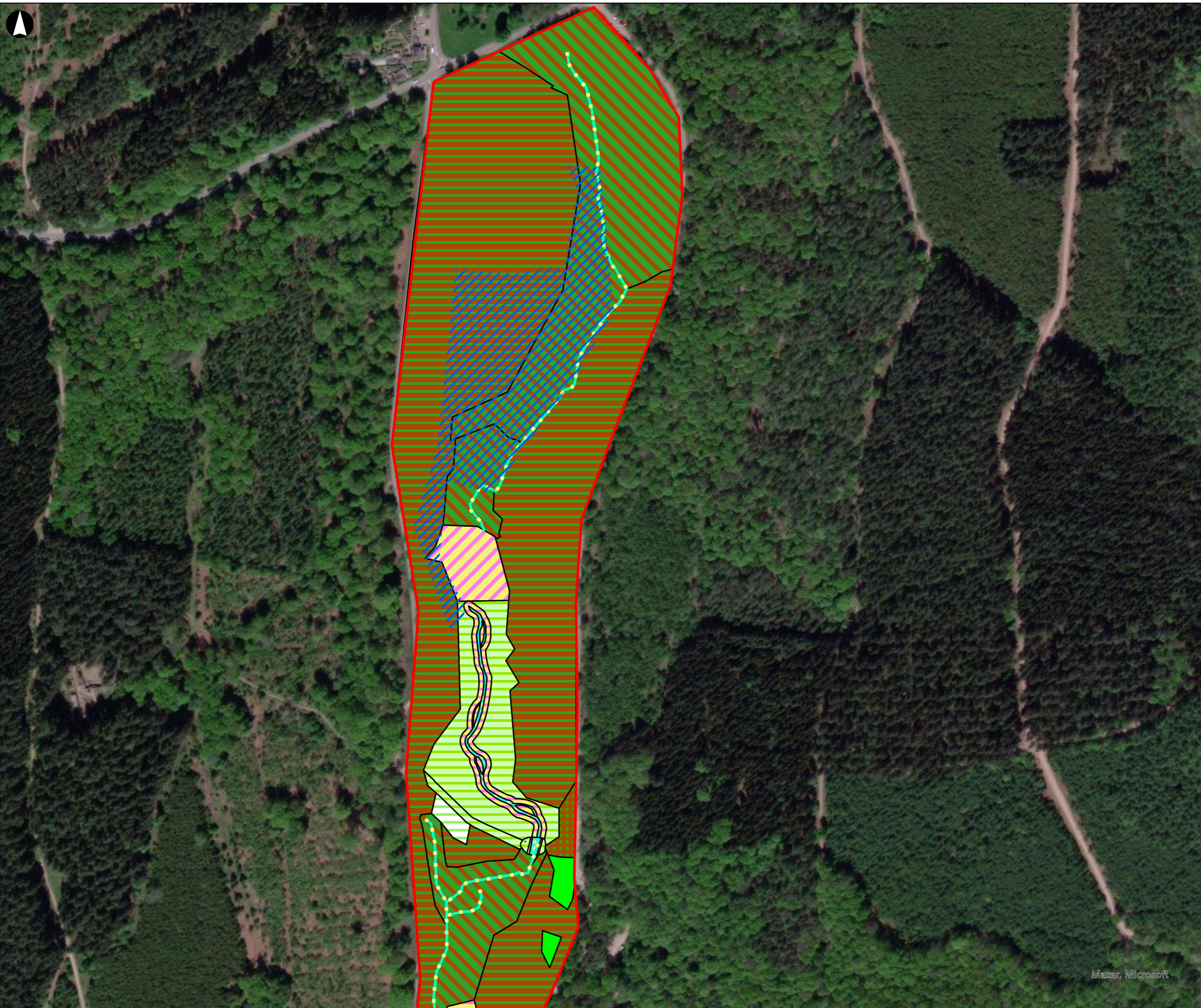
Role  
**BNG**

Suitability  
**Issue**

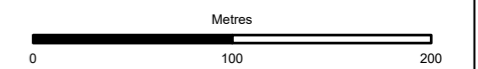
Project Number	Rev
<b>286412-00</b>	<b>P01</b>

Drawing Number  
**Drawing 3**

Maxar, Microsoft



- Site boundary
- Ancient Woodland
- r2b - other rivers and streams
- f2 - fen, marsh and swamp
- f2d - aquatic marginal vegetation
- f2e - reedbeds
- g1c - bracken
- g3c - other neutral grassland
- g4 - modified grassland
- r2 - rivers and lakes
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland
- w1h - other woodland, mixed



Coordinate System: British National Grid

P01	12-09-23	JS	TH	DS	
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Project Name  
**Cannop Ponds**

Drawing Title  
**Drawing 4: Option 4 UK Habitat Classification (UKHab) Mapping Upper Cannop Sheet 1 of 2**

Scale at A3  
**1:3,800**

Role  
**BNG**

Suitability  
**Issue**

Project Number <b>286412-00</b>	Rev <b>P01</b>
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Drawing Number  
**Drawing 4**

Muxar, Microsoft

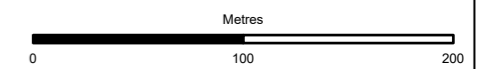




- Site boundary
- Site of Special Scientific Interest
- r2b - other rivers and streams
- f2d - aquatic marginal vegetation
- f2e - reedbeds
- g3c - other neutral grassland
- h3 - dense scrub
- r1a - eutrophic standing water
- r2 - rivers and lakes
- u - urban
- u1b5 - buildings
- w1d - wet woodland
- w1f - lowland mixed deciduous woodland

A3

12/09/2023 17:37



Coordinate System: British National Grid

P01	12-09-23	JS	TH	DS	
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**Forestry England**

Project Name  
**Cannop Ponds**

Drawing Title  
**Drawing 4: Option 4 UK Habitat Classification (UKHab) Mapping Lower Cannop Sheet 2 of 2**

Scale at A3  
**1:3,600**

Role  
**BNG**

Suitability  
**Issue**

Project Number <b>286412-00</b>	Rev <b>P01</b>
Drawing Number <b>Drawing 4</b>	

Maxar, Microsoft