

Biodiversity Metric Report

Redwood SEN/ Land off Heywood Old Road, Middleton

Reference: 82-893-R2-1

Date: June 26





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QUALITY ASSURANCE

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EXECUTIVE SUMMARY

Site Address	Redwood SEN/ Land off Heywood Old Road, Middleton, OL10 2QN
Co-ordinates	E 385329, N 407526
Site Area	3.31 ha
Current Site Use	The site is comprised of two fields with a single building present at the northern end of the site. The northern site boundary directly abuts Whittle Brook. The western site boundary is comprised of the Edgar Wood Academy Secondary School.
Proposed Development	Development proposals comprise the construction of a school with sensory gardens with associated utilities, access routes and parking facilities.
Results	Based on the Landscape Masterplan, the biodiversity metric results show a gain of 6.10 (84.17%) habitat units, a gain of 0.37 hedgerow units, and a gain of 0.04 (3.36%) watercourse units on-site. The trading rules have been satisfied.
Conclusions and Recommendations	A gain of 6.10 (+84.17%) habitat units, a gain of 0.37 hedgerow units, and a gain of 0.04 (+3.36%) watercourse units will be incurred as a result of the development proposals. Based on the current plans, a deficit of 0.09 watercourse units on the 10% requirement will be incurred as a result of the development. Since a net gain in habitat units has not been achieved, off-site compensation will therefore be required for the development to proceed. Additional species enhancements could be provided on-site, which could include bat and bird boxes and hedgehog houses.



TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
1.INTRODUCTION	4
1.1. Background.....	4
1.2. Previous Surveys	4
1.2.1. E3P (2025).....	4
1.3. Site Location	4
1.4. Objectives.....	5
2.METHODOLOGY	6
2.1. Biodiversity Metric.....	6
2.2. On-Site Habitat Baseline Data.....	6
2.3. River Condition Assessment.....	6
2.3.1. MoRPh Survey.....	6
2.3.2. River Type Desk Study	7
2.4. Post Development Habitat Creation.....	7
2.5. Limitations	7
3.RESULTS.....	8
3.1. On-Site Baseline Condition Assessment Results	8
3.2. On-Site Habitat Enhancement.....	9
3.3. On-Site Habitat Creation Condition Assessment	10
3.4. Baseline River Condition Assessment Results	14
3.5. Watercourse Enhancement.....	15
3.6. Watercourse Creation Condition Assessment	15
3.7. Strategic Significance	16
3.8. Biodiversity Unit Result	16
4.CONCLUSIONS AND RECOMMENDATIONS	17
4.1. Conclusions	17
4.2. Recommendations	17
5.REFERENCES.....	19
APPENDIX I UKHAB HABITAT BASELINE PLAN.....	20
APPENDIX II LANDSCAPE PROPOSAL.....	21
APPENDIX III POST DEVELOPMENT PLAN	22
APPENDIX VI RIVER CONDITION ASSESSMENT.....	23
APPENDIX VII MORPH SURVEY PLAN.....	27
APPENDIX VIII WATERCOURSE ENHANCEMENT PLAN.....	28



1. INTRODUCTION

1.1. BACKGROUND

E3P were commissioned by Equilibrium Architects Limited to undertake a Biodiversity Metric Calculation at Land off Heywood Old Road, Middleton, hereafter referred to as “the site”.

This report has been prepared by Toby Leverett BSc (Hons) MSc, Consultant Ecologist at E3P. Toby holds a qualifying CIEEM membership, a Level 3 Field Identification Skills Certificate (FISC) and has experience undertaking Preliminary Ecological Appraisals, protected species surveys and ecological mitigation for a wide variety of projects across the UK.

This report should be read in conjunction with ‘The Statutory Metric 1.0.4 – Redwood SEN Land off Heywood Old Road, Middleton’.

1.2. PREVIOUS SURVEYS

1.2.1. E3P (2025)

E3P undertook a Preliminary Ecological Appraisal (PEA) on-site in January 2026 (Report reference: 82-893-R1). The survey included a Condition Assessment of the on-site habitats. During the survey, the site was found to comprise other neutral grassland, modified grassland, bramble scrub, tall forbs and a building.

1.3. SITE LOCATION

The site is located at the northwestern edge of Middleton in the village of Birch. Whittle Brook forms the northern site boundary, with the southwestern boundary being demarked by the Edgar Wood Academy. Land use to the east and south is primarily given over to residential properties, the exception to this is the Bowlee Community Park, which is situated along the southeastern boundary of the site. Agricultural land expands to the north and west of the site until it meets the M62, which is located approximately 480 m northwest of the site at its closest point. Please refer to Figure 1 for the approximate site location

Figure 1 **Approximate Site Location**





1.4. OBJECTIVES

The objectives of the Biodiversity Metric are as follows:

- ✦ Identify percentage change in on-site habitat.
- ✦ Identify the number of habitat units lost/gained on-site; and
- ✦ Determine the need for a conservation offset payment or off-site habitat creation.



2. METHODOLOGY

2.1. BIODIVERSITY METRIC

Department for Environment, Food and Rural Affairs' (DEFRA) Statutory Biodiversity Metric 2024 was used to undertake the metric calculation. The metric was undertaken following guidance as detailed within the Statutory Biodiversity Metric: User Guide (DEFRA, 2024).

This report has been produced by Toby Leverett. Toby has attended internal training courses focusing on Biodiversity Net Gain and using the Biodiversity Metric Calculation Tool, and has experience undertaking Biodiversity Net Gain and Condition Assessments on a variety of projects across the UK.

This metric was reviewed by Director Celia Kenyon, BSc (Hons) MSc MEnvSc CEnv MCIEEM. Celia has undertaken a number of online training courses with CIEEM, including 'Calculating and Using Biodiversity Units with Metric 2.0' and 'Biodiversity Net Gain Through Development'. Celia has also completed Condition Assessments on a number of sites across the UK and holds a Level 3 Field Identification Skills Certificate (FISC).

2.2. ON-SITE HABITAT BASELINE DATA

The baseline data used to inform the condition assessment was collected on 07th January 2026 during the PEA (Report reference: 82-893-R1). The Statutory Biodiversity Metric Condition Assessment Sheets (DEFRA, 2024) were used to undertake the condition assessment. The methodology follows the Statutory Biodiversity Metric: User Guide (DEFRA, 2024).

On-site baseline habitats were measured off the UKHab Habitat Plan using QGIS and input into the metric. Please see Appendix I for the UKHab Habitat Baseline Plan.

2.3. RIVER CONDITION ASSESSMENT

2.3.1. MORPH SURVEY

A Modular River Physical (MoRPh) Survey was undertaken on the watercourse (WC1) on 07th January 2026 by Max McCormick BSc (Hons), Consultant Ecologist at E3P.

Max has attended internal training courses focusing on Biodiversity Net Gain and using the Biodiversity Metric Calculation Tool, and has experience undertaking Biodiversity Net Gain and Condition Assessments on a variety of projects across the UK. He has also undertaken the Modular River Survey training course hosted by Cartographer Studios, focusing on generating River Condition outputs for Natural England's Biodiversity Metric calculations, for which he is accredited.

This was undertaken following the methodology detailed within 'The MoRPh Survey – Technical Reference Manual' (Modular River Survey, 2022).

The average river width of the watercourse was less than 5 m, and as such, five contiguous modules of 10 m in length were used during the MoRPh5 survey, resulting in a total length of 50 m. The length of these has been included within the metric. Please see Appendix VII for the survey area



2.3.2. RIVER TYPE DESK STUDY

A desktop River Type Survey was undertaken, following guidance in 'A Guide to Assessing River Condition – Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric' (Gurnell et al., 2020). This assessment assigns a watercourse one of 13 river types, based upon a homogenous 'reach' that contains the area of interest. Two alternative river types can be assigned to a river by the surveyor for those that are too large or deep for the riverbed to be adequately surveyed (Large River) or for too heavily modified to conform to one of the other river types (Navigable Rivers and Canals).

The start and end points of the reach are identified using satellite imagery and defined where one of the following is encountered:

- 📍 A major tributary (e.g., likely to contribute > 10% flow in the river/stream).
- 📍 A major artificial barrier (e.g., > 5m tall - likely to significantly change flow or sediment movements).
- 📍 A distinct and persistent change in planform (e.g., meandering to straight / slightly sinuous).

The results of the MoRPh5 survey and River Type Survey were then combined using Cartographer, which generated a Final Condition Score for input into the Biodiversity Metric.

2.4. POST DEVELOPMENT HABITAT CREATION

The Landscape Masterplan (Trevor Bridge Associates, 2026, Drawing Reference: 7660.01A) was used to measure habitat creation within the site. The areas of proposed habitat were measured using QGIS from the PDF drawing.

A post-development plan has been produced to inform detailed landscape plans on optimal biodiversity improvements based on E3P's biodiversity enhancements and recommendations within the areas of 'Retained habitat enhanced for BNG'.

The RPAs of proposed trees were calculated using the metric's tree helper. All newly planted trees are assumed to be small (<30cm diameter at breast height (DBH) when planted) in line with the guidance.

Please see Appendix II for the Landscape Masterplan and Appendix III for the Post Development Plan.

2.5. LIMITATIONS

Some areas on the site are double-counted, including root protection zones and areas of habitat, where overlap is shown. This means areas of habitat pre- and post-development do not total to the same area. However, this is accounted for within the metric.

The baseline data was collected in January, which is not an appropriate time of the year to undertake a survey. This is due to seasonal vegetation dieback meaning that, it is possible that some species of flora may have been missed or misidentified, including some invasive/non-native species. The floral diversity onsite was limited even when the time of year was taken into consideration, as such it is not considered to be a significant impact.



3. RESULTS

3.1. ON-SITE BASELINE CONDITION ASSESSMENT RESULTS

Table 1 shows the details of the habitat condition assessment used for input into the metric calculation tool.

Table 1 Habitat Baseline Condition Assessment Results

HABITAT TYPE (UKHAB)	AREA (HA) / LENGTH (KM)	CONDITION ASSESSMENT	DESCRIPTION
Urban – Developed Land, Sealed Surface	0.0482	N/A	N/A
Urban – Developed Land, Sealed Surface	0.0018	N/A	N/A
Sparsely Vegetated Urban Land – Tall Forbs	0.0023	N/A	Passes 1 out of 3 condition assessment criteria: Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% pf the total vegetated area)
Heathland and Shrub – Bramble Scrub	0.0225	N/A	N/A
Grassland – Other Neutral Grassland	0.3391	Poor	Passes 3 of 6 condition assessment criteria and fails essential criterion A: ⚠ 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. ⚠ Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens. ⚠ Cover of bracken (<i>Pteridium aquilinum</i>) is less than 20%, and cover of scrub (including bramble) is less than 5%.
Grassland – Modified Grassland	2.8975	Poor	Passes 4 out of 6 condition assessment criteria and fails essential criterion A:



HABITAT TYPE (UKHAB)	AREA (HA) / LENGTH (KM)	CONDITION ASSESSMENT	DESCRIPTION
			- Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub, such as bramble (<i>Rubus fruticosus agg.</i>), may be present) - Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) - Cover of bracken (<i>Pteridium aquilinum</i>) is less than 20% - There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA)

3.2. ON-SITE HABITAT ENHANCEMENT

Table 2 outlines the areas of habitat to be enhanced. This includes areas of modified grassland enhanced to other neutral grassland.

Table 2 **Habitat Enhancement**

HABITAT TYPE (UKHAB)	AREA (HA)	CONDITION ASSESSMENT	TARGET HABITAT TYPE (UKHAB)	TARGET CONDITION	DESCRIPTION	TARGET TIME TO CONDITION
Grassland – Modified Grassland	1.337	Poor	Grassland – Other Neutral Grassland	Moderate	Passes 4 of 6 condition assessment criteria 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.	Ten Years



HABITAT TYPE (UKHAB)	AREA (HA)	CONDITION ASSESSMENT	TARGET HABITAT TYPE (UKHAB)	TARGET CONDITION	DESCRIPTION	TARGET TIME TO CONDITION
					- 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. - Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens. - Cover of bracken (<i>Pteridium aquilinum</i>) is less than 20%, and cover of scrub (including bramble) is less than 5%.	

3.3. ON-SITE HABITAT CREATION CONDITION ASSESSMENT

As per the Landscape Proposal, the site will comprise a school and associated hardstanding, with grassland, scrub, a SuDS feature, trees, and hedgerows. Table 3 shows the details of the target condition assessment and total areas of habitat creation. It has been assumed that there will be no significant delay in the creation of the proposed habitat features, as such, the delay in starting habitat creation has been set to zero. It has also been assumed that the proposed small trees are all native.



Table 3 Habitat Creation Condition Assessment Results

HABITAT TYPE (LANDSCAPE PROPOSAL)	HABITAT TYPE (UKHAB)	AREA (HA) / LENGTH (KM)	TARGET CONDITION	DESCRIPTION	TIME TO TARGET CONDITION
Buildings and Hardstanding	Urban – Developed Land; Sealed Surface	0.964	N/A	N/A	N/A
Ornamental Shrubs	Urban – Introduced Shrub	0.0103	N/A	N/A	One Year
SuDS within Ecology Area	Urban – Sustainable Drainage System	0.0710	Moderate	Passes 4 out of 5 condition assessment criteria: - Habitat parcel contains different plant species that are beneficial for wildlife, for example, flowering species providing nectar sources for a range of invertebrates at different times of the year. - Invasive non-native plant species (listed on Schedule 9 of the WCA) and others, which are to the detriment of native wildlife (using professional judgment), cover less than 55 of the total vegetated area. - Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife. - The vegetation is comprised of plant species suited to wetland or riparian situations.	Three years
Native Tree / Shrub Planting	Heathland and Shrub – Mixed Scrub	0.1899	Moderate	Passes 4 of 5 condition assessment criteria: - The parcel represents a good example of its habitat type (At least 80% of scrub is native, at least three native woody species, no single species comprises more than 75% cover). - Seedlings, saplings, young shrubs, and mature shrubs are all present.	Five years



HABITAT TYPE (LANDSCAPE PROPOSAL)	HABITAT TYPE (UKHAB)	AREA (HA) / LENGTH (KM)	TARGET CONDITION	DESCRIPTION	TIME TO TARGET CONDITION
				- There is an absence of invasive non-native plant species, and species indicative of suboptimal condition make up less than 5%. - There are clearings, glades or rides present within the scrub, providing sheltered edges	
Close Mown Grass	Grassland – Modified Grassland	0.7449	Poor	Fails essential criterion A, and as such, the condition is fixed at Poor.	One year
Proposed Tree Planting	Individual Trees – Urban Trees	0.7044 (173x small trees)	Moderate	Passes 4 of 6 condition assessment criteria: - The tree is a native species (or at least 70% within the block are native species). - The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion). - There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height. - More than 20% of the tree canopy area is oversailing vegetation beneath.	27 years
Ornamental Hedge Planting	Non-native and Ornamental Hedgerow	0.113	Poor	Condition assessment score fixed at Poor condition.	One year
Native Hedge Planting	Native Hedgerow	0.072	Moderate	No more than 4 failures in total, and does not fail both attributes in more than one functional group.	Five years



HABITAT TYPE (LANDSCAPE PROPOSAL)	HABITAT TYPE (UKHAB)	AREA (HA) / LENGTH (KM)	TARGET CONDITION	DESCRIPTION	TIME TO TARGET CONDITION
within Ecology Area				 A1: Average height of woody growth >1.5 m along the length.  A2: Average width of woody growth >1.5 m along the length.  B1: Gap between ground and base of canopy <0.5 m for 90% of length.  B2: Gaps make up <10% of total length, and no canopy gaps of >5 m.  C1: >1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: measured from the outer edge of the hedgerow, and is present on one side of the hedge (at least)  D1: >90% of the hedgerow and undisturbed ground is free of invasive nonnative plant species (including those listed on Schedule 9 of WCA) and recently introduced species.	



3.4. BASELINE RIVER CONDITION ASSESSMENT RESULTS

Whittle Brook (WC1) is located off-site to the north. A section of WC1 lies within 10 m of the site boundary; within this section, an outfall is proposed. As such, 100 m of the watercourse length has been input into the metric. This is to consider the impacts to 10 m either side of the proposed outfall. Please see Table for a summary of the watercourse and Appendix VI for the full River Condition Assessment.

Table 4 Baseline River Condition Assessment Results

WATERCOURSE REFERENCE	HABITAT TYPE (UKHAB)	LENGTH (KM)	PRELIMINARY CONDITION SCORE	FINAL CONDITION CLASS	WATERCOURSE ENCROACHMENT	RIPARIAN ENCROACHMENT
Whittle Brook	Other Rivers and Streams	0.061	1.320	Fairly Good Please see Appendix IV for the full River Condition Assessment.	No encroachment There is no encroachment along the channel length.	Major/ Minor Encroachment A housing development was present on the left-hand bank top, and right-hand bank top habitat comprised woodland and a strip of grazed land.
Whittle Brook	Other Rivers and Streams	0.039	1.320	Fairly Good Please see Appendix IV for the full River Condition Assessment.	No encroachment There is no encroachment along the channel length.	Minor/ Minor Encroachment No encroachment within 10 metres of left-hand and right-hand bank top as habitat comprised woodland and a strip of grazed land.



3.5. WATERCOURSE ENHANCEMENT

While the Final Condition Class will not be improved by the development, there will be a reduction in the Riparian Encroachment present, see Table 5. As part of the development, the right bank of the river will no longer be grazed and will instead be planted up with other neutral grassland and mixed scrub. This will effectively act to enhance the watercourse and result in an increase in watercourse units for the river from 1.32 units to 1.37 units.

Table 5 Watercourse Enhancement

WATERCOURSE REFERENCE	HABITAT TYPE (UKHAB)	LENGTH (KM)	CONDITION	WATERCOURSE ENCROACHMENT	RIPARIAN ENCROACHMENT
Whittle Brook	Other Rivers and Streams	0.06	Fairly Good	No encroachment	Major/ No Encroachment
Whittle Brook	Other Rivers and Streams	0.039	Fairly Good	No encroachment	No Encroachment/ No Encroachment

3.6. WATERCOURSE CREATION CONDITION ASSESSMENT

As part of the development, an outlet for the onsite drainage will be installed into Whittle Brook. This drainage outlet will be in the form of a culvert in the southern bank of the watercourse, see Table 6.

Table 6 Watercourse Creation

WATERCOURSE REFERENCE	HABITAT TYPE (UKHAB)	LENGTH (KM)	CONDITION	DESCRIPTION	TARGET TIME TO CONDION
Whittle Brook	Culvert	0.001	Poor	N/A	One Year



3.7. STRATEGIC SIGNIFICANCE

The site is not defined within the Draft Rochdale Local Plan October 2025 (Rochdale Borough Council, 2025) or the Greater Manchester Local Nature Recovery Strategy (Greater Manchester Ecology Unit, 2025). The strategic significance of the site was defined as 'Area/compensation not in local strategy/ no local strategy' due to its low ecological value.

3.8. BIODIVERSITY UNIT RESULT

The headline results of the metric show a total gain of 6.10 habitat units, a gain of 0.37 hedgerow units, and a gain of 0.04 in watercourse units as a result of development. Table 3 shows the headline results detailed within the Biodiversity Metric. Table 4 shows the deficit results.

Table 3 Headline Results

HEADLINE	CATEGORY	RESULT
Total Net Unit Change	Habitat Units	+6.10
	Hedgerow Units	+0.37
	Watercourse Units	+0.04
Total Net % Change	Habitat Units	+84.17%
	Hedgerow Units	0.00%
	Watercourse Units	+3.36%

Table 4 Unit Deficit on a 10% Gain

CATEGORY	TARGET	BASELINE UNITS	UNITS REQUIRED	UNIT DEFICIT
Habitat Units	10%	7.25	7.97	0.00
Hedgerow Units	10%	0	0	0.00
Watercourse Units	10%	1.32	1.46	0.09

The trading rules of the metric have been satisfied.

Based on the current plans, a deficit of 0.09 watercourse units on the 10% requirement will be incurred as a result of the development.



4. CONCLUSIONS AND RECOMMENDATIONS

4.1. CONCLUSIONS

The Landscape Masterplan shows a total gain of 6.10 (84.17%) habitat units, a gain of 0.37 hedgerow units, and a gain of 0.04 (3.36%) watercourse units as a result of development. The trading rules have been met.

Based on the current plans, a deficit of 0.09 watercourse units on the 10% requirement will be incurred as a result of the development.

Since a net gain in watercourse units has not been achieved, off-site compensation will be required for the development to proceed.

4.2. RECOMMENDATIONS

Due to the deficit of 0.09 watercourse units on the 10%, it is not possible or practicable to get a net gain in watercourse units on-site. As such, off-site compensation or conservation offset payment will be required for the development to proceed.

The Biodiversity Metric does not take account for additional species enhancements within the site, and to further increase the site's value for wildlife, the following could be provided:

- ✿ Creation of hibernacula (following guidance set out within Froglife, 2001) for common amphibians.
- ✿ Hedgehog houses may be installed to enhance the site for hedgehogs.
- ✿ Bat and bird boxes could be integrated within the building or installed onto proposed individual trees.



PLANNING APPLICATION INFORMATION

Please provide the pre-development biodiversity value of onsite habitats on the date of calculation.

7.25 habitat units

0.00 hedgerow units

1.37 watercourse units

Please provide the date the onsite pre-development biodiversity value was calculated:

07/01/2026

If an earlier date, to the date of the planning application, has been used, please provide details why this date has been used:

N/A

When was the version of the biodiversity metric used published?

July 2025

Has there been any loss (or degradation) of any onsite habitat(s), resulting from activities carried out before the date the onsite pre-development biodiversity value was calculated. Either:

- - on or after 30 January 2020 which were not in accordance with a planning permission; or
- - on or after 25 August 2023 which were in accordance with a planning permission?

No

Does the development site have irreplaceable habitats (corresponding to the descriptions in column 1 of [Schedule to the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2023)] which are:

- i. on land to which the application relates; and
- ii. exist on the date of the application for planning permission, (or an earlier agreed date)

No



5. REFERENCES

- ✿ A. Gurnell, J. England, S. Scott, and L. Shuker (2020) A Guide to Assessing River Condition – Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric.
- ✿ DEFRA (2024). The Statutory Biodiversity Metric: User Guide
- ✿ DEFRA (2024). Statutory Biodiversity Metric Condition Assessments
- ✿ E3P (2026). Preliminary Ecological Appraisal – Land off Heywood Old Road (Report Reference: 82-893-R1).
- ✿ Greater Manchester Ecology Unit (2025) – Greater Manchester Local Nature Recovery Strategy.
- ✿ Modular River Survey (2022) The MoRPh Survey – Technical Reference Manual.
- ✿ Rochdale Borough Council (2025). Draft Rochdale Borough Local Plan, Regulation 18 Consultation Version 2025.
- ✿ Trevor Bridge Associates (2026). Landscape Masterplan. (Drawing Reference: 7660.01A).
- ✿ Wildlife and Countryside Act (2010) Schedule 9 of the Wildlife and Countryside Act 1981.

END OF REPORT

APPENDIX I

UKHAB HABITAT

BASELINE PLAN





Key:

- Red Line Boundary
- Other rivers and streams
- Bramble scrub
- Buildings
- Developed land; sealed surface
- Modified grassland
- Other neutral grassland
- Tall forbs

Notes

Issue: 1	Revision: 1	Date: 26/01/2026	Drawn: TL	Authorised: CK
Client: Equilibrium Architects Ltd			Job No. 82-893	Date: 05/05/2026
			Drawing No. 82-893-002	Scale: 1:1400 @ A3
Job title: Land off Heywood Old Road, Middleton (Redwood SEND)			Drawing title: UKHab Habitat Plan	

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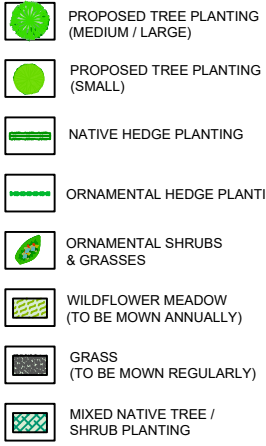
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APPENDIX II

LANDSCAPE PROPOSAL



KEY



TREES

Species	Height	Girth	Specification	Pot Size
Acer campestre	350-425cm	12-14cm	Heavy Standard: 3x RB	
Acer campestre 'Street Wise'	350-425cm	12-14cm	Heavy Standard: 3x RB	
Acer ginnala	350-425cm	12-14cm	Heavy Standard: 3x RB	
Acer platanoides 'Drummondii'	350-425cm	12-14cm	Heavy Standard: 3x RB	
Alnus glutinosa	350-425cm	12-14cm	Heavy Standard: 3x RB	
Betula pendula	350-425cm	12-14cm	Heavy Standard: 3x RB	
Betula utilis jacquemontii	350-425cm	12-14cm	Heavy Standard: 3x RB	
Carpinus betulus	350-425cm	12-14cm	Heavy Standard: 3x RB	
Carpinus betulus 'Frans Fontaine'	350-425cm	12-14cm	Heavy Standard: 3x RB	
Sorbus aria	350-425cm	12-14cm	Heavy Standard: 3x RB	
Tilia cordata	350-425cm	12-14cm	Heavy Standard: 3x RB	
Tilia cordata 'Green Spire'	350-425cm	12-14cm	Heavy Standard: 3x RB	

NATIVE HEDGES

Species	Specification	Height	Pot Size	Density	Mix Species Contribution
Corylus avellana	Transplant 1+1	60-80cm	B	6/m	20%
Crataegus monogyna	Transplant 1+1	60-80cm	B	6/m	20%
Ilex aquifolium	Container	60-80cm	SL	6/m	10%
Prunus spinosa	Transplant 1+1	60-80cm	B	6/m	20%
Rosa arvensis	Transplant 1+1	60-80cm	B	6/m	5%
Rosa canina	Transplant 1+1	60-80cm	B	6/m	1%
Viburnum opulus	Transplant 1+1	60-80cm	B	6/m	10%
Total					100%

ORNAMENTAL HEDGES

Species	Pot Size	Specification	Height	Density
Carpinus betulus	B	Double staggered row	60-80cm	6/m

GRASSES

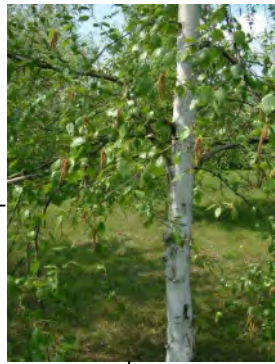
Species	Specification	Density
Hedyscistrum sempervirens	Full Pot: C	6/m ²
Stipa arundinacea	Full Pot: C	6/m ²
Stipa tenuissima 'Pony Tail'	Full Pot: C	6/m ²
Carex oshimensis 'Evergold'	3L	6/m ²

ORNAMENTAL SHRUBS

Species	Specification	Density	Height	Pot Size
Bergenia cordifolia		6/m ²	25-30cm	3L
Canadensis thymifolius repens		6/m ²	25-30cm	3L
Choisya ternata		3/m ²	40-60cm	10L
Choisya ternata		6/m ²	30-40cm	3L
Erica carnea 'Vivellii'		6/m ²	25-30cm	3L
Hebe 'Autumn Glory'		6/m ²	30-40cm	3L
Hebe 'Green Globe'		6/m ²	30-40cm	3L
Hebe 'Red Edge'		6/m ²	30-40cm	3L
Levandula angustifolia 'Munstead'		3/m ²	40-60cm	10L
Photinia x fraseri 'Red Robin'		3/m ²	60-80cm	10L
Rosmarinus officinalis		6/m ²	40-60cm	5L

NATIVE TREE / SHRUB MIX

Abbreviation	Species	Pot Size	Height	Specification	Density
BP	Betula pendula	B	60-80cm	Transplant 1+1	1/m ²
CORAV	Corylus avellana	B	60-80cm	Transplant 1+1	1/m ²
CRAMON	Crataegus monogyna	B	60-80cm	Transplant 1+1	1/m ²
LEX	Ilex aquifolium	SL	60-80cm	Container	1/m ²
PRUSP	Prunus spinosa	B	60-80cm	Transplant 1+1	1/m ²
ROSAR	Rosa arvensis	B	60-80cm	Transplant 1+1	1/m ²
ROSCA	Rosa canina	B	60-80cm	Transplant 1+1	1/m ²
ROSAI	Sorbus aucuparia	B	60-80cm	Transplant 1+1	1/m ²
VIBOP	Viburnum opulus	B	60-80cm	Transplant 1+1	1/m ²



TREE PLANTING

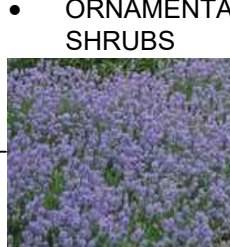
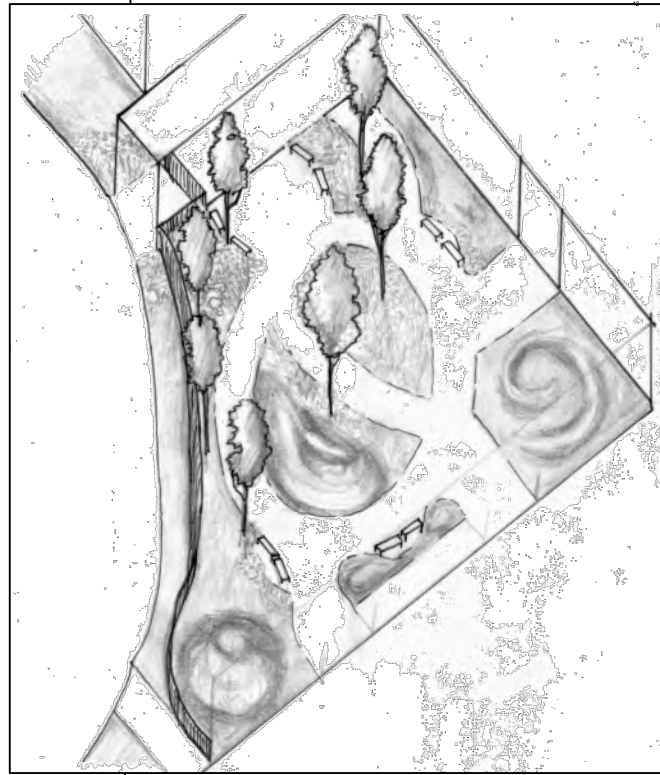


GRASSES



SENSORY COURTYARD

- COMPRISING:
- ORNAMENTAL SHRUBS
- GRASSES
- TREE PLANTING
- CLOSE MOWN GRASS AREAS
- LOW GRASS MOUNDS
- SEATING AREAS



ORNAMENTAL SHRUBS

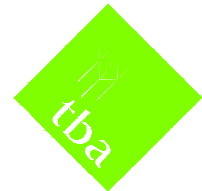
NATIVE HEDGE PLANTING



ORNAMENTAL HEDGE PLANTING



Amendments to building	06.07.20	NC	B
Amendments to drainage layout & constraints	16.03.20	NC	A
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Project	Redwood SEN School, Rochdale
Client	Rochdale Borough Council
File	Landscape Masterplan

Date	March/26	Scale(s)	Varies @ A0	Dwg no	7660.01	Rev	B
Drawn	NC	Checked	JW				

APPENDIX III

POST DEVELOPMENT PLAN





Key:

-  Red Line Boundary
-  Proposed small urban tree
-  Proposed native hedgerow
-  Proposed non-native and ornamental hedgerow
-  Proposed culvert
-  Enhanced other rivers and streams
-  Other rivers and streams
-  Proposed Developed land; sealed surface
-  Proposed Introduced shrub
-  Proposed Mixed scrub
-  Proposed Modified grassland
-  Proposed Other neutral grassland
-  Proposed Sustainable drainage system
-  Enhanced habitats

Notes

Issue: 1	Revision: 1	Date: 06/03/2026	Drawn: TL	Authorised: CK
Client: Equilibrium Architects Ltd			Job No. 82-893	Date: 06/05/2026
			Drawing No. 82-893-004	Scale: 1:1400 @ A3
Job title: Land off Heywood Old Road, Middleton (Redwood SEND)			Drawing title: Post Development Plan	



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APPENDIX VI RIVER CONDITION ASSESSMENT





WHITTLE BROOK

GRID REFERENCE OF MORPH5	SD 85341 07606	RIVER SECTION LENGTH:	50 m
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RCA RIVER TYPE AND HABITAT DESCRIPTION

The average river width was less than 5 m. As such, module lengths of 10 m were used during the MoRPh5 survey, and a total length of 50 m was surveyed. The riparian zone habitats on both banks comprised broadleaved woodland.

UPSTREAM GRID REFERENCE	SD 85490 07609	DOWNSTREAM GRID REFERENCE	SD 85137 07594
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PHOTOGRAPHS



RESULTS

CONDITION ASSESSMENT CRITERIA		RCA INDEX VALUES	NOTES/JUSTIFICATION
RCA INDEX ID	RCA INDEX NAME		

BANK TOP

B1	Bank top vegetation structure	2	The brook ran through areas of broadleaved woodland within the survey area.
B2	Bank top tree feature richness	3	An abundance of fallen, leaning and large wood were located upon the bank ops as the riparian zone habitat consisted of woodland.
B3	Bank top water-related features	0	No bank-top water-related features were present along the surveyed area.
B4	Bank top Invasive Non-Native Species (INNS) cover	0	No invasive plant species were identified along the bank tops during the survey.
B5	Bank top managed ground cover	0	The bank tops were not managed as they comprised naturalised habitats.

BANK FACE



C1	Bank face riparian vegetation structure	1	The bank faces were colonised by tall herbs and grasses with the occasional scrub.
C2	Bank face tree feature richness	1	A small number of leaning trees were identified along the banks of the brook.
C3	Bank face natural bank profile extent	3	The bank profile was natural and comprised steep banks.
C4	Bank face natural bank profile richness	3	The natural bank face varied throughout the survey, including gentle, vertical with overhang and vertical with undercut.
C5	Bank face natural bank material richness	1	Bank face natural material comprised of earth, silt and clay.
C6	Bank face bare sediment extent	1	Small areas of bare ground were present along both banks.
C7	Bank face artificial bank profile extent	0	The bank faces lacked any artificial reinforcement.
C8	Bank face reinforcement extent	0	
C9	Bank face reinforcement material	0	
C10	Bank face INNS cover	0	No invasive non-native species were noted along the bank faces.

CHANNEL MARGIN

D1	Channel margin aquatic vegetation extent	1	Small areas of emergent broadleaved were identified at the bank-water margin.
D2	Channel margin aquatic morphotype richness	0	
D3	Channel margin physical feature extent	3	Natural features such as benches were found to be present within the surveyed area.
D4	Channel margin physical feature-richness	1	
D5	Channel margin artificial features	0	No artificial channel margin features were identified.

CHANNEL BED



E1	Channel aquatic morphotype richness	0	The riverbed was bare throughout.
E2	Channel bed tree features richness	1	A small number of trees were identified within the channel bed during the survey.
E3	Channel bed hydraulic features richness	1	Water surface flow types included unbroken standing waves, upwelling and rippled.
E4	Channel bed natural features extent	1	No channel bed natural features were identified.
E5	Channel bed natural features richness	1	
E6	Channel bed material richness	3	Channel bed material varied, comprising sand, silt, clay and organic matter.
E7	Channel bed siltation	-2	Some channel bed siltation was identified during the survey.
E8	Channel bed reinforcement extent	0	No channel bed reinforcement was present.
E9	Channel bed reinforcement materials severity	0	
E10	Channel bed artificial features severity	0	No channel bed artificial features were identified.
E11	Channel bed INNS extent	0	No INNS were identified within the channel bed during the survey.
E12	Channel bed filamentous algae extent	0	No filamentous algae was identified during the survey.

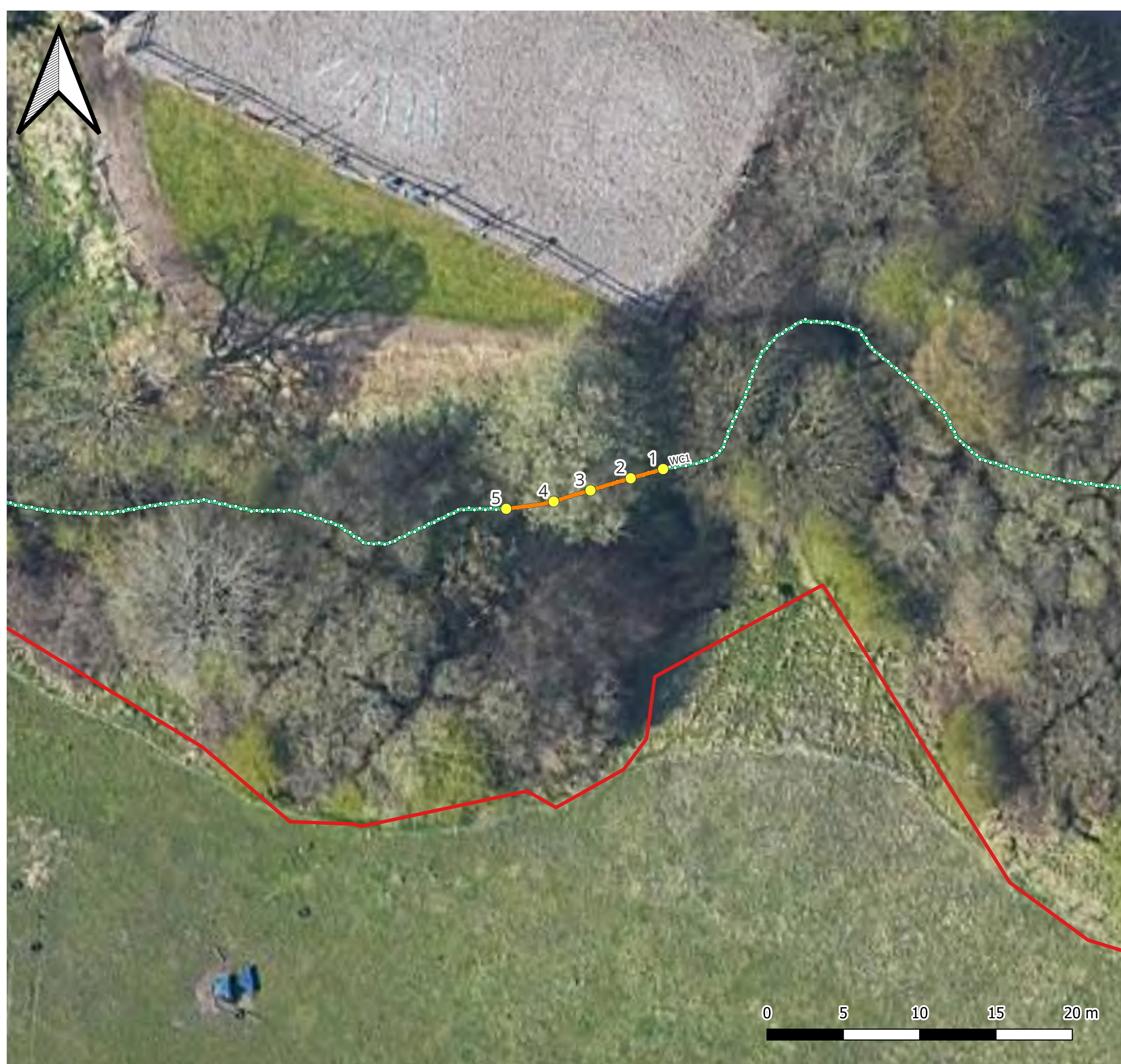
OVERVIEW

PRELIMINARY CONDITION SCORE	1.320	RIVER TYPE	K – Straight/sinuuous, coarsest SA, average SI
RIVER SHAPE INDEX	2.339	IS THE RIVER CHANNEL OVERDEEP?	No.
FINAL CONDITION CLASS	Fairly Good	IS THE RCA FINAL CLASS MODIFIED?	No.

APPENDIX VII

MORPH SURVEY PLAN





Key:

-  Red Line Boundary
-  Other rivers and streams
-  MoRPH Survey Length
-  MoRPH Module Points

Notes

Issue: 1	Revision: 1	Date: 06/03/2026	Drawn: MM	Authorised: CK
Client: Equilibrium Architects Ltd			Job No. 82-893	Date: 06/03/2026
			Drawing No. 82-893-005	Scale: 1:236 @ A3
Job title: Land off Heywood Old Road, Middleton (Redwood SEND)			Drawing title: MoRPH Survey Plan	



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APPENDIX VIII WATERCOURSE ENHANCEMENT PLAN





- Key:
- Red Line Boundary
 - Proposed culvert
 - Enhanced other rivers and streams
 - Other rivers and streams

Notes

Issue: 1	Revision: 1	Date 05/05/26	Drawn: TL	Authorised: CK
Client: Equilibrium Architects Ltd			Job No. 82-893	Date: 05/05/2026
			Drawing No. 82-893-0026	Scale: 1:1400 @ A3
Job title: Land off Heywood Old Road, Middleton (Redwood SEND)			Drawing title: Watercourse Enhancement Plan	