



Biodiversity Metric Report

Land at Ferry Moor Lane, Barnsley

Reference: 81-523-R1-3

Date: September 2024



BIODIVERSITY METRIC REPORT

Land at Ferry Moor Lane
Barnsley

Prepared for:
Oakland Golf and Leisure (UK) Ltd

Report Ref: 81-523-R1-3
Date Issued: 05/09/2024

E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

+ 44 (0) 161 707 9612
<https://e3p.co.uk/>

Registered in England
CRN: 08725262

QUALITY ASSURANCE

PROJECT NUMBER	81-523		
VERSION	Version 1	Version 2	Version 3
REMARKS	Draft	Final	Minor Amendments
DATE	December 2023	December 2023	September 2024
PREPARED BY	C. Jones	C. Jones	C. Jones
QUALIFICATIONS	BSc (Hons), QCIEEM, Consultant Ecologist	BSc (Hons), QCIEEM, Consultant Ecologist	BSc (Hons), QCIEEM, Consultant Ecologist
CHECKED BY	C. Bass	C. Bass	C. Bass
QUALIFICATIONS	BSc (Hons), QCIEEM, Consultant Ecologist	BSc (Hons), QCIEEM, Consultant Ecologist	BSc (Hons), QCIEEM, Consultant Ecologist
AUTHORISED BY	C. Kenyon	C. Kenyon	C. Kenyon
QUALIFICATIONS	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM, Associate Director	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM, Associate Director	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM, Associate Director



EXECUTIVE SUMMARY

Site Address	Land off of Ferry Moor Lane, Grimethorpe, Barnsley, S72 8RL				
Co-ordinates	E 439889, N 408573				
Site Area	Approximately 11.8 ha				
Current Site Use	The site comprised a historically remediated colliery that has gone through a period of natural regeneration. The site now uses an open green space and is used by members of the public.				
Proposed Development	Development proposals include the importation of material to level off and further remediate the site to create a suitable open green space.				
Results	<p>The biodiversity metric results show a gain of habitat and watercourse units as follows:</p> <table> <tr> <td>Habitat Units</td> <td>7.85</td> </tr> <tr> <td>Watercourse Units</td> <td>2.15</td> </tr> </table> <p>A gain of 7.98% in habitat units and 65.36% in watercourse units will be incurred on-site as a result of development.</p>	Habitat Units	7.85	Watercourse Units	2.15
Habitat Units	7.85				
Watercourse Units	2.15				
Conclusions and Recommendations	<p>The proposed scheme and landscape plan show a total gain of 7.85 habitat units and 2.15 watercourse units as a result of the development.</p> <p>Please note, that the proposed scrub planting would need to comprise at least three woody species to achieve a Good condition.</p> <p>Furthermore, the proposed other neutral grassland (proposed wildflower meadow) would need to feature consistent indicator species for the specific grassland habitat type (as listed by UKHabs) and have 10 or more vascular plant species per m² (this can include forbs) to achieve a Good condition. Please see Appendix V for more information on indicator species of other neutral grassland from the UK Habitat Classification Version 2.0.</p> <p>Additional species enhancements could be provided on-site, which could include bat and bird boxes, hedgehog houses and hibernacula.</p>				



Table of Contents

EXECUTIVE SUMMARY	2
1.INTRODUCTION	4
1.1. Background	4
1.2. Previous Surveys	4
1.2.1. Environmental Business Solutions, 2022	4
1.3. Site Location	4
1.4. Objectives	5
2.METHODOLOGY	6
2.1. Vegetation and Habitats	6
2.2. Biodiversity Metric	6
2.3. On-Site Habitat Baseline Data	6
2.4. Post Development Habitat Creation	7
2.5. Limitations	7
3.SITE WALKOVER	8
3.1. Habitats	8
3.1.1. Hardstanding	8
3.1.2. Neutral Semi-improved Grassland	8
3.1.3. Dense Scrub	9
3.1.4. Scattered Scrub	10
3.1.5. Bare Ground	10
3.1.6. Tall Ruderal	11
3.1.7. Broadleaved Woodland	11
3.1.8. Waterbodies	12
3.1.9. Ditches	12
4.RESULTS	14
4.1. On-Site Baseline Condition Assessment Results	14
4.2. Habitat Retention	18
4.3. Habitat Creation Condition Assessment	19
4.4. Strategic Significance	24
4.5. Biodiversity Unit Result	24
5.CONCLUSIONS AND RECOMMENDATIONS	25
6.REFERENCES.....	26
APPENDIX I PHASE 1 HABITAT PLAN	27
APPENDIX II LANDSCAPE PLAN REV E	28
APPENDIX III POST DEVELOPMENT PLAN	29
APPENDIX IV WOODLAND CONDITION ASSESSMENT	30
APPENDIX V INDICATOR SPECIES OF OTHER NEUTRAL GRASSLAND	0



1. INTRODUCTION

1.1. BACKGROUND

E3P has been instructed by Oakland Golf and Leisure (UK) Ltd to undertake a Biodiversity Metric Calculation at Land at Ferry Moor Lane, Barnsley, hereafter referred to as “the site”.

This report has been prepared by Consultant Ecologist Carlin Jones, BSc (Hons), QCIEEM. Carlin has experience conducting condition assessments and has completed biodiversity metric calculations for projects across the UK. Carlin has completed internal training on Biodiversity Net Gain and using the Biodiversity Metric calculation tool. Carlin also holds a Level 3 Field Identification Skills Certificate (FISC).

This report should be read in conjunction with ‘Biodiversity Metric 4.0 Calculation Tool – Land at Ferry Moor Lane, Barnsley’.

1.2. PREVIOUS SURVEYS

1.2.1. ENVIRONMENTAL BUSINESS SOLUTIONS, 2022

Environmental Business Solutions (EBS) undertook a Preliminary Ecological Appraisal (PEA) on-site in August 2022 (report reference: Grim/0922/PEAR Preliminary Ecological Appraisal). During the PEA, the site was found to comprise semi-improved grassland, areas of broadleaved woodland, scrub, tall ruderal, young trees, and waterbodies.

1.3. SITE LOCATION

The site is located between Cudworth and Grimethorpe approximately 1.6 km east of Barnsley, within a predominantly residential area. Access to the site is off of A6195 to Ferry Moor Lane which is located within the site boundary. To the north, south, and west features agricultural land and green open space with residential housing associated with Cudworth located beyond. Industrial buildings are located to the east of the site with further residential housing associated with Grimethorpe located beyond. Grimethorpe Nature Reserve is located approximately 915 m south-east of the site. Please refer to Figure 1.1 for the approximate site location.



FIGURE 1.1 APPROXIMATE SITE LOCATION



1.4. OBJECTIVES

The objectives of the Site Walkover are to:

- 📍 Identify the baseline habitats present on-site.
- 📍 Complete a detailed condition assessment of the on-site habitats

The objectives of the Biodiversity Metric are to:

- 📍 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.

The findings of the calculation are detailed within this report, along with recommendations.



2. METHODOLOGY

2.1. VEGETATION AND HABITATS

A Habitat Condition Assessment of the proposed site was undertaken during a Site Walkover undertaken by Carlin Jones on 05th October 2023. The weather was dry with intermittent sunshine.

The walkover survey was undertaken to the standard methodology as detailed by the JNCC Handbook for Phase 1 Habitat Survey, 2010. The assessment follows the methodology as per “Guidelines for Preliminary Ecological Appraisal” (CIEEM, 2017).

A vegetation and habitat plan has been produced for the proposed development site and the immediate surrounding area (please refer to Appendix I). The mapping is based on the Joint Nature Conservation Committee Phase I Habitat Survey Methodology (JNCC, 2010).

Searches were made for uncommon, rare, and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act 1981 (as amended) and species which are indicators of important and uncommon plant communities. All plant nomenclature follows Stace (2019).

Searches were carried out for the presence of invasive species, including those listed on the revised (April 2010) Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) including Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*), and giant hogweed (*Heracleum mantegazzianum*).

2.2. BIODIVERSITY METRIC

Department for Environment, Food and Rural Affairs (DEFRA) Biodiversity Metric 4.0 2023 version was used to undertake the metric calculation. The metric was undertaken following guidance as detailed within The Biodiversity Metric 4.0 User Guide (Natural England, 2023), the Biodiversity Metric 4.0 Technical Supplement (Natural England, 2022) and the Summary of Changes Biodiversity Metric 3.1 to 4.0 (2023).

This metric was calculated by Consultant Ecologist Carlin Jones, BSc (Hons), QCIEEM. Carlin has completed calculations and has undertaken internal training on Biodiversity Net Gain and using the Biodiversity Metric calculation tool. Carlin has also completed Condition Assessments on a number of sites across the UK and holds a Level 3 Field Identification Skills Certificate (FISC).

This metric was reviewed by Associate Director Celia Kenyon, BSc (Hons) MSc MIEnvSc 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).

2.3. ON-SITE HABITAT BASELINE DATA

The baseline data used to inform the condition assessment was collected on 05th October 2023 during the Site Walkover. The Biodiversity Metric 4.0 – Technical Annex 1 – Condition Assessment Sheets and Methodology (Natural England 2023) was used to undertake the condition assessment. The methodology follows the Biodiversity Metric 4.0 – User Guide (Natural England 2023).



On-site baseline habitats were measured off the Phase 1 Habitat Plan using QGIS. Please see Appendix I for the Phase 1 Habitat Plan.

Phase 1 habitat types were translated into UKHab habitat types using the metrics Technical Data Translation Tool.

2.4. POST DEVELOPMENT HABITAT CREATION

The Landscape Plan was used to measure potential habitat creation on-site (Weller Designs Limited, 2024, Drawing Reference 901.04 Revision E). The PDF drawing was digitised on QGIS and used to measure the areas of retained habitat and create a Post Development Plan. The Root Protection Areas (RPAs) of scattered trees were calculated using the Biodiversity Metric Street Tree Helper.

The following assumption was made, any areas not clearly defined within the landscape plan around the boundaries of the site were classified as retained habitat.

Please see Appendix II for the Grimethorpe - Landscape Plan Rev E and Appendix III for the Post Development Plan.

2.5. LIMITATIONS

The site walkover and condition assessments were undertaken in October and as a result of differing flowering times and seasonal vegetation dieback, it is possible that some species of flora may have been missed or misidentified, including some invasive/non-native species.

The broadleaved woodland condition assessment was undertaken in October as such, there is a possibility that some NVC indications could have been missed. However, the highest scores of the NVC indicators would not change the overall condition score of the woodland.

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.



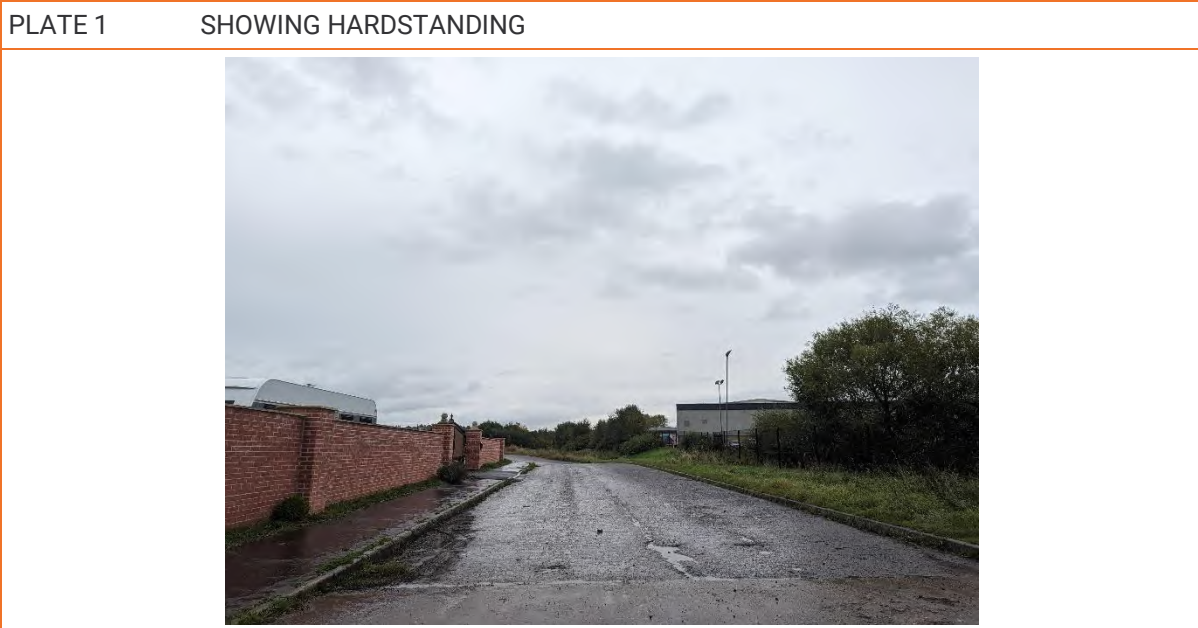
3. SITE WALKOVER

3.1. HABITATS

E3P undertook a Site Walkover on-site in October 2023. The survey included a Condition Assessment of the on-site habitats. During the site walkover, the site was found to comprise hardstanding, neutral semi-improved grassland, dense scrub, scattered scrub, bare ground, tall ruderal, broadleaved woodland, three waterbodies, and three ditches. The main habitats encountered during the survey are described in the following subsections. Please refer to Appendix I for the Phase 1 Habitat Plan.

3.1.1. HARDSTANDING

Areas of hardstanding were present associated with Ferry Moor Lane and public paths circling the site.



3.1.2. NEUTRAL SEMI-IMPROVED GRASSLAND

A large area of the site comprised neutral semi-improved grassland with field horsetail (*Equisetum arvense*) present.



PLATE 2 SHOWING NEUTRAL SEMI-IMPROVED GRASSLAND



Field horsetail was also identified during the survey, and it is recommended that this be eradicated due to the damage it can cause to areas of hardstanding. Field horsetail is not listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and therefore does not require removal.

3.1.3. DENSE SCRUB

One area of dense scrub was present within the site located within the north-west corner of the site.

PLATE 3 SHOWING DENSE SCRUB



3.1.4. SCATTERED SCRUB

The site mainly comprised scattered scrub comprised of young trees with a scrub and grassland understorey.

PLATE 4 SHOWING SCATTERED SCRUB



3.1.5. BARE GROUND

Small areas of bare ground were located north-east, south-east and through the centre of the site associated with well-worn paths created by members of the public.

PLATE 5 SHOWING BARE GROUND



3.1.6. TALL RUDERAL

An area of tall ruderal was present in the north-east where the site was accessed off of Ferry Moor Lane.

PLATE 6 SHOWING TALL RUDERAL



3.1.7. BROADLEAVED WOODLAND

A small area of adjacent broadleaved woodland was located within the site along the western site boundary.

PLATE 7 SHOWING BROADLEAVED WOODLAND



3.1.8. WATERBODIES

Three waterbodies were located within the centre of the site with New Zealand pygmyweed (*Crassula helmsii*) present in all of the waterbodies.

PLATE 8 SHOWING WATERBODIES



New Zealand pygmyweed was identified within the waterbodies on-site during the site walkover. As such, it is recommended, if works are to affect the waterbodies, prior to the development, that these species should be eradicated following the most current guidance set out by the Environment Agency by a qualified contractor. If disturbance to the New Zealand pygmyweed cannot be avoided, it should be eradicated.

3.1.9. DITCHES

Three ditches were present on-site located around the western, northern, and eastern site boundaries. With one wet ditch and the other two comprising wet and dry areas.



PLATE 9

SHOWING DITCHES




4. RESULTS

4.1. ON-SITE BASELINE CONDITION ASSESSMENT RESULTS

Table 3.1 shows the details of the habitat condition assessment used for input into the metric calculation tool.

TABLE 3.1 HABITAT BASELINE CONDITION ASSESSMENT RESULTS

HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	CONDITION ASSESSMENT	DESCRIPTION
HARDSTANDING	Urban – Developed Land; Sealed Surface	0.8137	N/A - Other	N/A – Other – Condition automatically assigned by the metric.
BARE GROUND	Urban – Bare Ground	0.1329	Poor	Passes 1 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% of the total vegetated area.
TALL RUDERAL	Sparsely Vegetated Land – Ruderal/Ephemeral	0.112	Poor	Passes 1 of 3 condition assessment criteria. Invasive non-native species cover less than 5% of total vegetated area.
NEUTRAL SEMI-IMPROVED GRASSLAND	Grassland – Other Neutral Grassland	5.248	Moderate	<p>Passes 3 of 6 condition assessment criteria:</p> <ul style="list-style-type: none">  The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.



HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	CONDITION ASSESSMENT	DESCRIPTION
				<ul style="list-style-type: none"> ✦ 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.
DENSE SCRUB	Heathland and Shrub – Bramble Scrub	0.1981	N/A	N/A – Condition automatically assigned by the metric.
SCATTERED SCRUB	Heathland and Shrub – Willow Scrub	4.8206	Moderate	<p>Passes 4 of 5 condition assessment criteria:</p> <ul style="list-style-type: none"> ✦ Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present. ✦ There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover. ✦ The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat. ✦ There are clearings, glades or rides present within the scrub, providing sheltered edges.
BROADLEAVED WOODLAND	Woodland and Forest – Other Woodland; Broadleaved	0.1428	Moderate	Passes 27 of 39 condition assessment criteria. See Appendix IV for a full woodland condition assessment.



HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	CONDITION ASSESSMENT	DESCRIPTION
WATERBODIES (WB1, WB2 AND WB3)	Lake – Ponds (Non-Priority Habitats)	0.3266	Moderate	<p>Passes 8 of 9 condition assessment criteria:</p> <ul style="list-style-type: none"> ✦ 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. ✦ There is a semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter. ✦ Less than 10% of the water surface is covered with duckweed species (<i>Lemna spp.</i>) or filamentous algae. ✦ The pond is not artificially connected to other waterbodies, e.g. agricultural ditches, or artificial pipework. ✦ Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps, or pipework. ✦ The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities. ✦ Emergent, submerged, or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep. ✦ The pond surface is no more than 50% shaded by adjacent trees and scrub.
DITCH 1 (D1)	Watercourses – Ditches	0.0648	Poor	Passes 3 of 8 condition assessment criteria:



HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	CONDITION ASSESSMENT	DESCRIPTION
				<ul style="list-style-type: none"> ✦ The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. ✦ There is less than 10% cover of filamentous algae and or duckweed <i>Lemna spp.</i> (these are signs of eutrophication). ✦ There is an absence of non-native plant and animal species. <p>Watercourse Encroachment – Minor (5% to 20% of the bank length comprises an engineered bank revetment or there is channel encroachment across up to 10% of the channel width).</p> <p>Riparian Encroachment – Major/No Encroachment (Buildings and roads were present within 0.4 m of both bank tops).</p>
DITCH 2 (D2)	Watercourses – Ditches	0.4671	Poor	<p>Passes 2 of 8 condition assessment criteria:</p> <ul style="list-style-type: none"> ✦ The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. ✦ There is less than 10% cover of filamentous algae and or duckweed <i>Lemna spp.</i> (these are signs of eutrophication). <p>Watercourse Encroachment – Minor (5% to 20% of the bank length comprises an engineered bank revetment or there is channel encroachment across up to 10% of the channel width).</p> <p>Riparian Encroachment – Major/No Encroachment (Buildings and roads were present within 0.4 m of both bank tops).</p>



HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	CONDITION ASSESSMENT	DESCRIPTION
DITCH 3 (D3)	Watercourses – Ditches	0.5374	Poor	<p>Passes 4 of 8 condition assessment criteria:</p> <ul style="list-style-type: none"> ☒ The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. ☒ There is less than 10% cover of filamentous algae and or duckweed <i>Lemna spp.</i> (these are signs of eutrophication). ☒ Less than 10% of the ditch is heavily shaded. ☒ There is an absence of non-native plant and animal species. <p>Watercourse Encroachment – Minor (5% to 20% of the bank length comprises an engineered bank revetment or there is channel encroachment across up to 10% of the channel width).</p> <p>Riparian Encroachment – Major/Moderate (Buildings and roads were present within 0.4 m of both bank tops).</p>

4.2. HABITAT RETENTION

Table 3.2 outlines the areas of habitat to be retained. The majority of habitats are to be lost with only areas of hardstanding and neutral semi-improved grassland and small areas of other habitats to be retained within the current development proposals.

TABLE 3.2 HABITAT RETENTION

HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA (HA)	CONDITION ASSESSMENT
HARDSTANDING	Urban – Developed Land; Sealed Surface	0.6353	N/A - Other



HABITAT TYPE (PH1)	HABITAT TYPE (UKHAB)	AREA (HA)	CONDITION ASSESSMENT
BARE GROUND	Urban – Bare Ground	0.022	Poor
TALL RUDERAL	Sparsely Vegetated Land – Ruderal/Ephemeral	0.0285	Poor
NEUTRAL SEMI-IMPROVED GRASSLAND	Grassland – Other Neutral Grassland	0.506	Moderate
DENSE SCRUB	Heathland and Shrub – Bramble Scrub	0.0157	Condition Assessment N/A
SCATTERED SCRUB	Heathland and Shrub – Willow Scrub	0.0483	Moderate
BROADLEAVED WOODLAND	Woodland and Forest – Other Woodland; Broadleaved	0.0234	Moderate

4.3. HABITAT CREATION CONDITION ASSESSMENT

Habitats are indicated on the Landscape Plan Revision E, which includes the removal of the majority of habitats present on-site to allow for the importation of material to level off the ground and following this the creation of a recreation area. Table 3.3 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.

TABLE 3.3 HABITAT CREATION CONDITION ASSESSMENT RESULTS

HABITAT TYPE (LANDSCAPE PLAN)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	TARGET CONDITION/DESCRIPTION	TARGET TIME TO CONDITION
HARDSTANDING	Urban – Developed Land; Sealed Surface	0.1852	N/A – Other Condition automatically assigned by the metric.	N/A.
PROPOSED WILDFLOWER MEADOW	Grassland – Other Neutral Grassland	4.4691	Good Passes 5 of 6 condition assessment criteria:	Target time to condition will be ten years.



HABITAT TYPE (LANDSCAPE PLAN)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	TARGET CONDITION/DESCRIPTION	TARGET TIME TO CONDITION
			<ul style="list-style-type: none"> ✦ The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only. ✦ 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. ✦ Cover of bracken is less than 20%. ✦ There are 10 or more vascular plant species per m² present, including forbs that are characteristic of habitat type. 	
PROPOSED WILDFLOWER MEADOW	Grassland – Other Neutral Grassland	0.8816	<p style="text-align: center;">Moderate</p> <p>Passes 4 of 6 condition assessment criteria:</p> <ul style="list-style-type: none"> ✦ The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note 	Target time to condition will be five years.



HABITAT TYPE (LANDSCAPE PLAN)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	TARGET CONDITION/DESCRIPTION	TARGET TIME TO CONDITION
			<p>- this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</p> <ul style="list-style-type: none"> 🌱 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. 🌱 Cover of bracken is less than 20%. 	
PROPOSED SCRUB PLANTING	Heathland and Shrub – Mixed Scrub	4.9796	<p style="text-align: center;">Good</p> <p>Passes 5 of 5 condition assessment criteria:</p> <ul style="list-style-type: none"> 🌱 Habitat is representative of UKHabs description with at least three woody species and no one species comprising more than 75% of the cover. 🌱 There is a good age range. 🌱 There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of sub-optimal conditions make up less than 5% of ground cover. 🌱 The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitats. 	Target time to condition will be ten years.



HABITAT TYPE (LANDSCAPE PLAN)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	TARGET CONDITION/DESCRIPTION	TARGET TIME TO CONDITION
			<p>There are clearings, glades or rides present within the scrub, providing sheltered edges.</p>	
PROPOSED TREE PLANTING	Individual Trees – Rural Tree	0.7614 (small x187)	<p>Moderate</p> <p>Passes 4 of 6 condition assessment criteria:</p> <ul style="list-style-type: none"> There is a native species. The tree canopy is predominantly continuous (individual trees automatically pass this criterion). No evidence of adverse impact on tree health by anthropogenic activities. More than 20% of tree canopy is oversailing vegetation beneath. 	Target time to condition will be 27 years.
PROPOSED WET DITCH	Watercourses – Ditches	0.881	<p>Moderate</p> <p>Passes 6 of 8 condition assessment criteria:</p> <ul style="list-style-type: none"> The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. A range of emergent, submerged, and floating-leaved plants are present. >10 species of emergent, floating, or submerged plants present in a 20 m ditch length. 	Target time to condition will be ten years



HABITAT TYPE (LANDSCAPE PLAN)	HABITAT TYPE (UKHAB)	AREA/LENGTH (HA/KM)	TARGET CONDITION/DESCRIPTION	TARGET TIME TO CONDITION
			<ul style="list-style-type: none"> <li data-bbox="974 371 1834 435">✚ There is less than 10% cover of filamentous algae and or duckweed Lemna spp. (these are signs of eutrophication). <li data-bbox="974 467 1834 531">✚ A fringe of aquatic marginal vegetation is present along more than 75% of the ditch. <li data-bbox="974 563 1834 691">✚ Physical damage is evident along less than 5% of the ditch, with examples of damage including excessive poaching, damage from machinery use or storage, or any other damaging management activities. <li data-bbox="974 722 1834 754">✚ There is an absence of non-native plant and animal species. <p data-bbox="929 786 1834 850">Watercourse Encroachment – No Encroachment (Less than 5% of the bank length comprises an engineered bank).</p> <p data-bbox="929 882 1834 946">Riparian Encroachment – Major/No Encroachment (Any encroachment 0 m to 4 m from the bank top (public footpath is located adjacent to the ditch).</p>	



4.4. STRATEGIC SIGNIFICANCE

The strategic significance was defined as ‘Formally identified in Local Strategy’. The site comprised a large area of grassland and scrub with small areas of woodland, vegetated areas, wet and dry ditches, and waterbodies. The site was identified within the Barnsley Metropolitan Borough Council Local Plan as a Green Space that includes parks, open spaces, play areas, sports pitches, local nature areas and cemeteries. Furthermore, the site was identified as being within Dearne Valley Green Heart Nature Improvement Area by the Supplementary Planning Document – Biodiversity and Geodiversity produced by Barnsley Metropolitan Borough Council and was adopted in March 2024.

4.5. BIODIVERSITY UNIT RESULT

The headline results of the metric show a gain of 7.85 habitat units and 2.15 watercourse units as a result of development. Table 3.4 shows the headline results detailed within the Biodiversity Metric.

TABLE 3.4 HEADLINE RESULTS

HEADLINE	CATEGORY	RESULT
TOTAL NET UNIT CHANGE	Habitat Units	7.85
	Hedgerow Units	N/A
	River Units	2.15
TOTAL NET % CHANGE	Habitat Units	7.98%
	Hedgerow Units	N/A
	River Units	65.36%

However, the trading rules of the metric have not been satisfied as habitats lost have not been ‘traded up’.



5. CONCLUSIONS AND RECOMMENDATIONS

The proposed scheme and landscape plan shows a total gain of 7.85 habitat units and 2.15 watercourse units as a result of the development.

Please note, that the proposed scrub planting would need to comprise at least three woody species to achieve a Good condition.

Furthermore, the proposed other neutral grassland (proposed wildflower meadow) would need to feature consistent indicator species for the specific grassland habitat type (as listed by UKHabs) and have 10 or more vascular plant species per m² (this can include forbs) to achieve a Good condition. Please see Appendix V for more information on indicator species of other neutral grassland from the UK Habitat Classification Version 2.0.

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 installed on posts within the site.



6. REFERENCES

- ✿ Barnsley Metropolitan Borough Council (2019). Barnsley Local Plan.
- ✿ Barnsley Metropolitan Borough Council (2024). Supplementary Planning Document – Biodiversity and Geodiversity.
- ✿ Environmental Business Solutions (2022) Preliminary Ecological Appraisal – Grimethorpe Colliery (Report Reference: Grim/0922/PEAR Preliminary Ecological Appraisal).
- ✿ National Planning Policy Framework (2021). Ministry of Housing, Communities and Local Government.
- ✿ Natural England Joint Publication JP039. (2023). The Biodiversity Metric 4.0. User Guide. Technical Annex 2.
- ✿ Natural England Joint Publication JP039. (2023). The Biodiversity Metric 4.0. User Guide.
- ✿ Natural England. (2023). The Biodiversity Metric 4.0. Technical Annex 1. Condition Assessment Sheets.
- ✿ UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>).
- ✿ Weller Designs Limited (2024). Landscape Plan (Drawing Reference: 901.04 Revision E).

END OF REPORT



APPENDIX I

PHASE 1 HABITAT PLAN



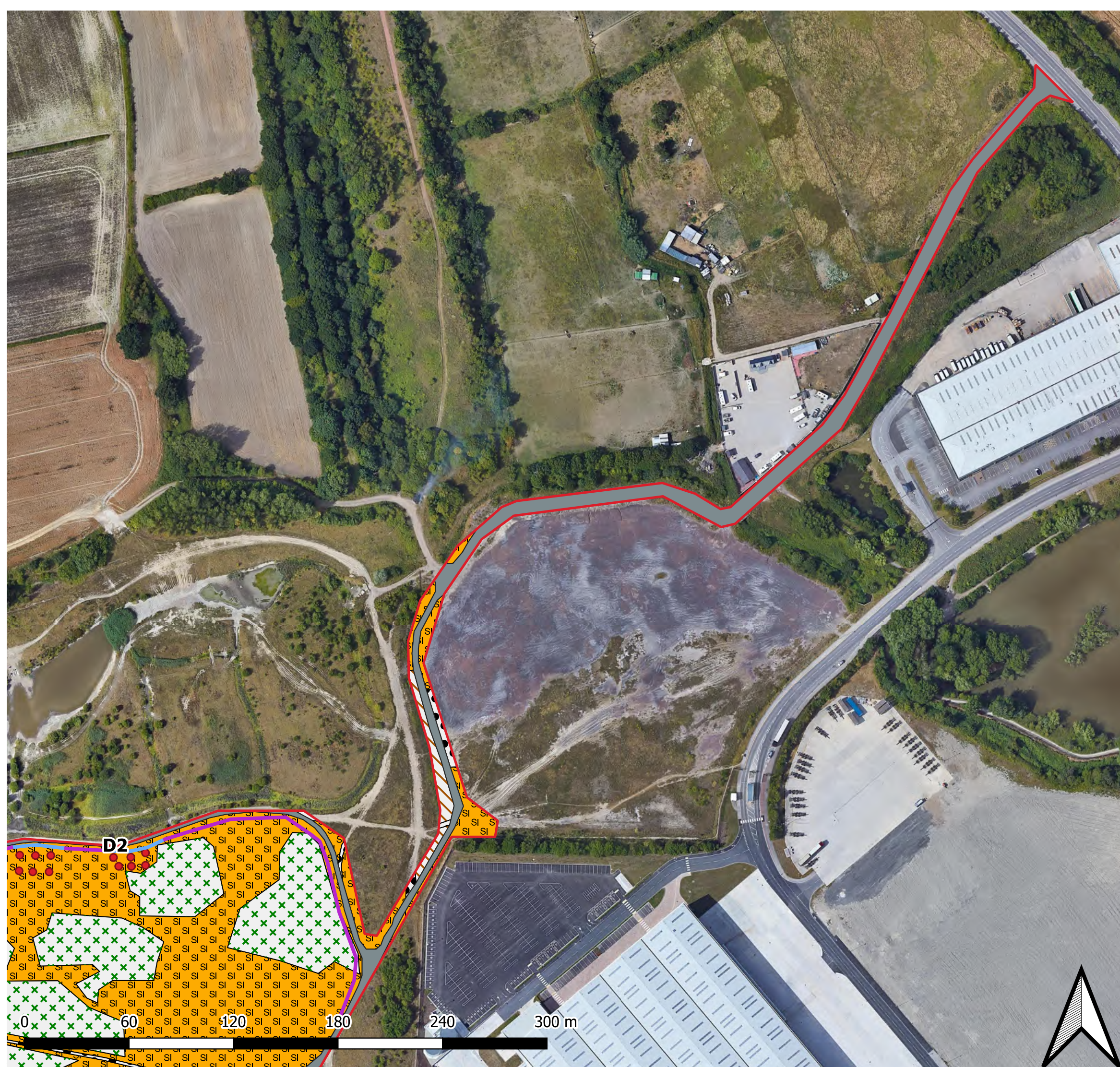
- Key:**
- Site boundary
 - Dry ditch
 - Wet ditch
 - Field horsetail
 - New Zealand pygmyweed
 - Waterbodies
 - Hardstanding
 - Bare ground
 - Dense scrub
 - Neutral semi-improved grassland
 - Scattered scrub
 - Semi-natural broadleaved woodland
 - Tall ruderal

Notes

Issue: 1	Revision: 1	Date: 25/10/2023	Drawn: CJ	Authorised: HM
Client: Oakland Golf and Leisure (UK) Ltd			Job No. 81-523	Date: 25/10/2023
			Drawing No. 81-523-001	Scale: 1:2500 @ A3
Job title: Land at Ferry Moor Lane, Barnsley			Drawing title: Phase 1 Habitat Plan (BNG)	

Environmental Engineering Partnership Ltd
Manchester Office
Taylor Road, Urmston M41 7JQ
Tel: 0161 707 9612
Email: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.



- Key:**
- Site boundary
 - Dry ditch
 - Wet ditch
 - Field horsetail
 - Bare ground
 - Hardstanding
 - Neutral semi-improved grassland
 - Scattered scrub
 - Tall ruderal

Notes

Issue: 1	Revision: 1	Date: 25/10/2023	Drawn: CJ	Authorised: HM
Client: Oakland Golf and Leisure (UK) Ltd		Job No. 81-523	Date: 25/10/2023	Scale: 1:3500 @ A3
Job title: Land at Ferry Moor Lane, Barnsley			Drawing title: Phase 1 Habitat Plan (BNG)	

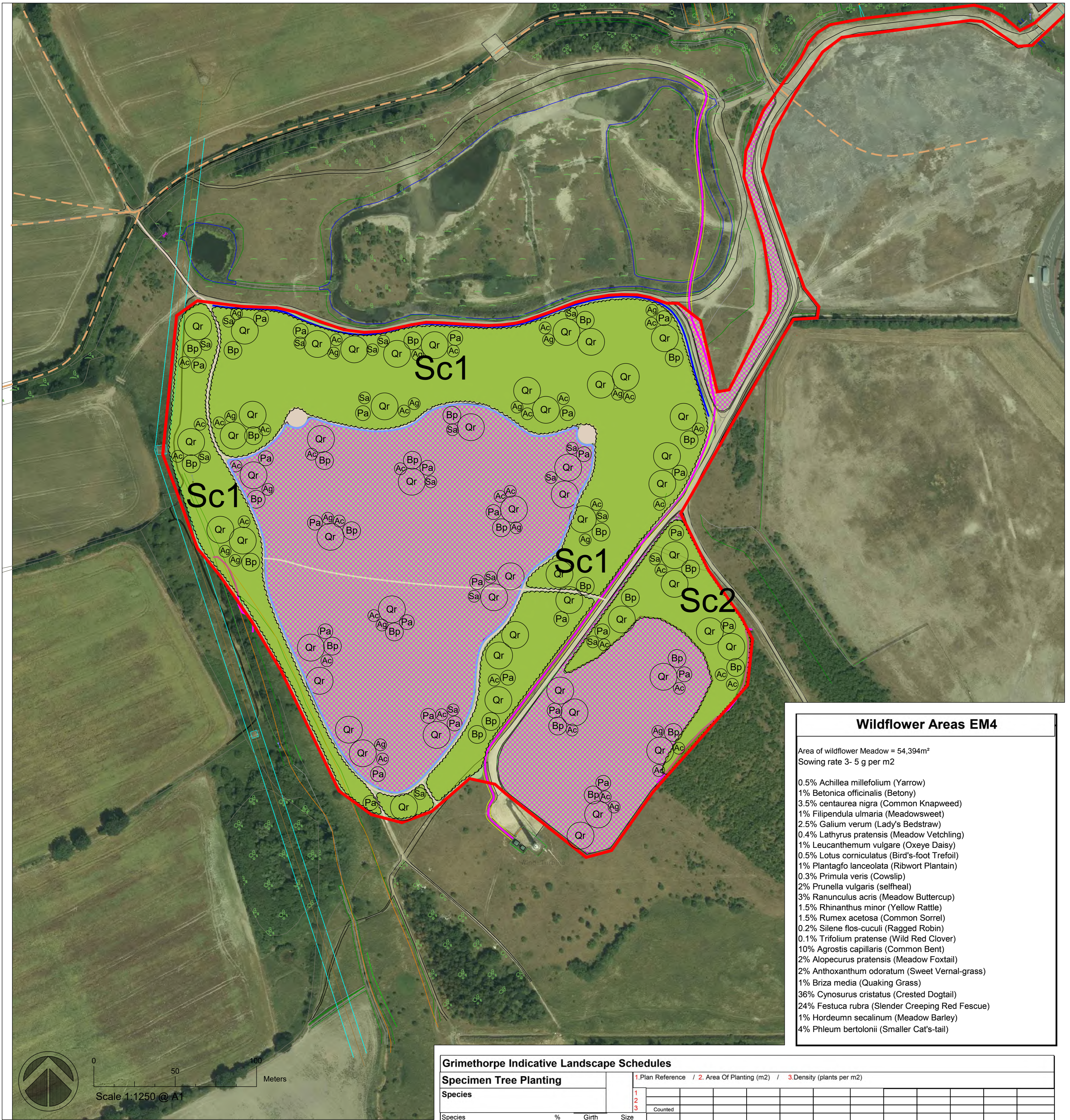
Environmental Engineering Partnership Ltd
Manchester Office
Taylor Road, Urmston M41 7JQ
Tel: 0161 707 9612
Email: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.

APPENDIX II

LANDSCAPE PLAN REV E

Landscape Enhancement Scheme



Wildflower Areas EM4	
Area of wildflower Meadow = 54,394m ²	
Sowing rate 3- 5 g per m2	
0.5%	Achillea millefolium (Yarrow)
1%	Betonica officinalis (Betony)
3.5%	centaurea nigra (Common Knapweed)
1%	Filipendula ulmaria (Meadowsweet)
2.5%	Galium verum (Lady's Bedstraw)
0.4%	Lathyrus pratensis (Meadow Vetchling)
1%	Leucanthemum vulgare (Oxeye Daisy)
0.5%	Lotus corniculatus (Bird's-foot Trefoil)
1%	Plantago lanceolata (Ribwort Plantain)
0.3%	Primula veris (Cowslip)
2%	Prunella vulgaris (selfheal)
3%	Ranunculus acris (Meadow Buttercup)
1.5%	Rhinanthus minor (Yellow Rattle)
1.5%	Rumex acetosa (Common Sorrel)
0.2%	Silene flos-cuculi (Ragged Robin)
0.1%	Trifolium pratense (Wild Red Clover)
10%	Agrostis capillaris (Common Bent)
2%	Alopecurus pratensis (Meadow Foxtail)
2%	Anthoxanthum odoratum (Sweet Vernal-grass)
1%	Briza media (Quaking Grass)
36%	Cynosurus cristatus (Crested Dogtail)
24%	Festuca rubra (Slender Creeping Red Fescue)
1%	Hordeum secalinum (Meadow Barley)
4%	Phleum bertolonii (Smaller Cat's-tail)

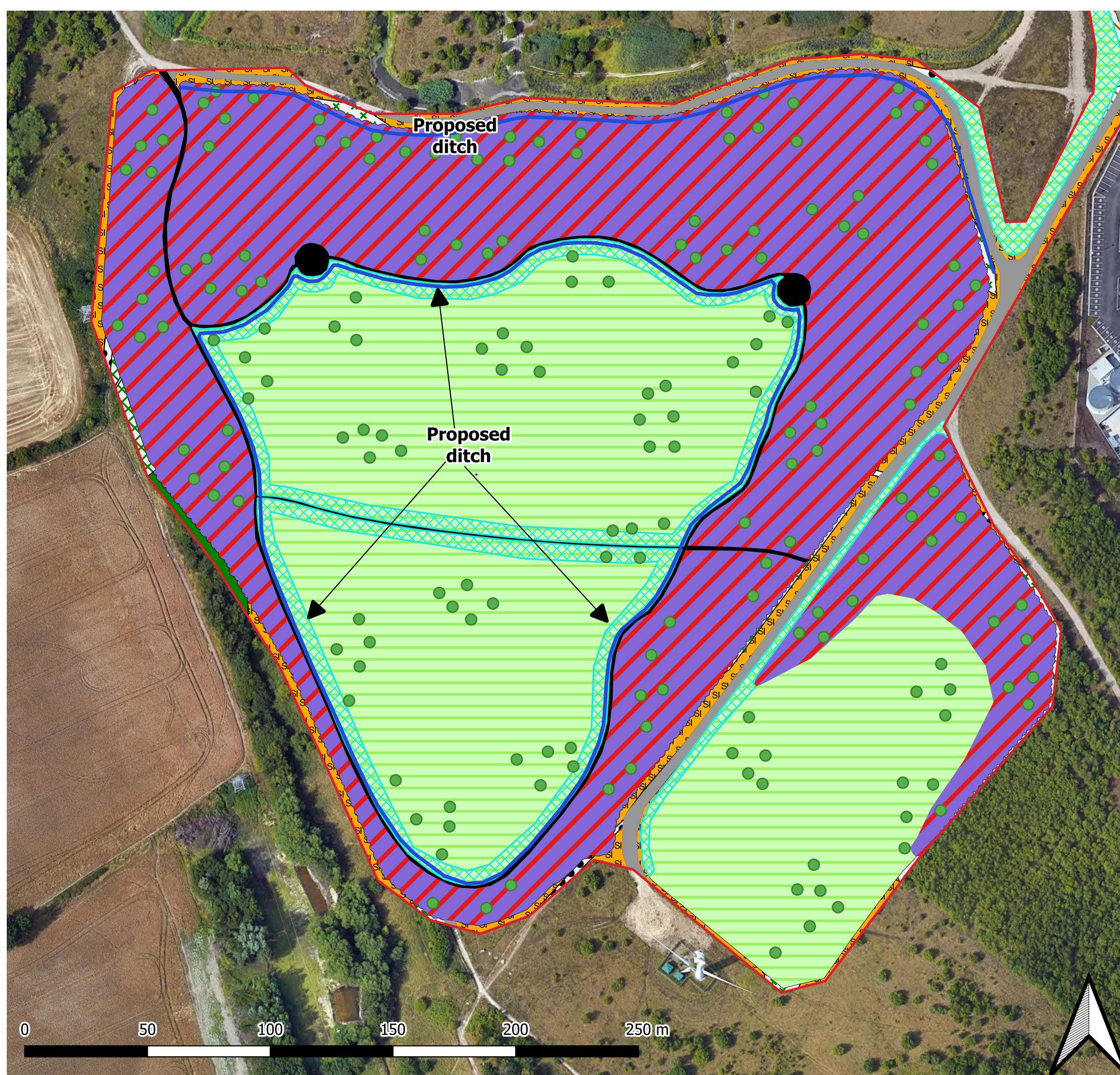
Grimethorpe Indicative Landscape Schedules									
Specimen Tree Planting					1. Plan Reference / 2. Area Of Planting (m2) / 3. Density (plants per m2)				
Species	%	Girth	Size	Counted					
Acer campestre	20%	20-25cm	Semi-Mature	37					37
Alnus glutinosa	10%	20-25cm	Semi-Mature	19					19
Betula pendula	15%	20-25cm	Semi-Mature	28					28
Prunus avium	15%	20-25cm	Semi-Mature	28					28
Quercus robur	30%	20-25cm	Semi-Mature	56					56
Sorbus aucuparia	10%	20-25cm	Semi-Mature	19					19
Total	100%			187					187

Grimethorpe Indicative Landscape Schedules (See Location Reference Sc on Plans 901.04)									
Scrub Planting					1. Plan Reference / 2. Area Of Planting (m2) / 3. Density (plants per m2)				
Species	% mix	Size	Sc1	Sc2	Species Tot				
			42,795	6,440					
			1m Centres	1m Centres					
Clematis vitalba	8%	Whips	3424	515	3939				
Crataegus mongyna	11%	Whips	4707	708	5415				
Euonymus europaeus	9%	Whips	3852	580	4432				
Ligustrum vulgare	10%	Whips	4280	644	4924				
Prunus spinosa	12%	Whips	5135	773	5908				
Rosa canina	8%	Whips	3424	515	3939				
Rubus fruticosus	16%	Whips	6847	1030	7877				
Sambucus nigra	6%	Whips	2568	386	2954				
Ulex europaeus	5%	Whips	2140	322	2462				
Viburnum opulus	15%	Whips	6419	966	7385				
Total	100%		42796	6439	49235				

- Key:**
- Existing Contours (1m Metre Intervals)
 - Existing Scrub Vegetation
 - Overhead Powerlines
 - Existing Wet / Dry Areas
 - Existing Public Rights Of Way
 - Proposed Wildflower Meadow
 - Proposed Quercus robur
 - Proposed Betula pendula
 - Proposed Acer Campestre
 - Proposed Woodland Block Planting
 - Underground Powerline plus Wayleave
 - Application Boundary (See Also Plan 901.05)
 - Proposed Contours (1m Intervals)
 - Existing Tracks
 - Proposed Permissive Public Access Paths
 - Proposed Mixed Native Scrub Planting
 - Proposed Ditch
 - Proposed Prunus avium
 - Proposed Sorbus aucuparia
 - Proposed Alnus glutinosa
 - Proposed Ditch

Drawn By: AR
 Scale: 1: 1250 @ A1
 Project Name: Grimethorpe
 Drawing Name: Landscape Plan
 Revision: A - 14/09/23 - adjustment to red line
 Revision: B - 21/11/23 - Changes to Landscaping
 Revision: C - 11/12/23 - Additional Whip Planting
 Revision: D - 25/06/24 - Adjust red line & paths
 Revision: E - 29/08/24 - Addition of ditch
 Drawing No: 901.04 rev E
 Date: 29th August 2024
 Checked By: BW

APPENDIX III POST DEVELOPMENT PLAN



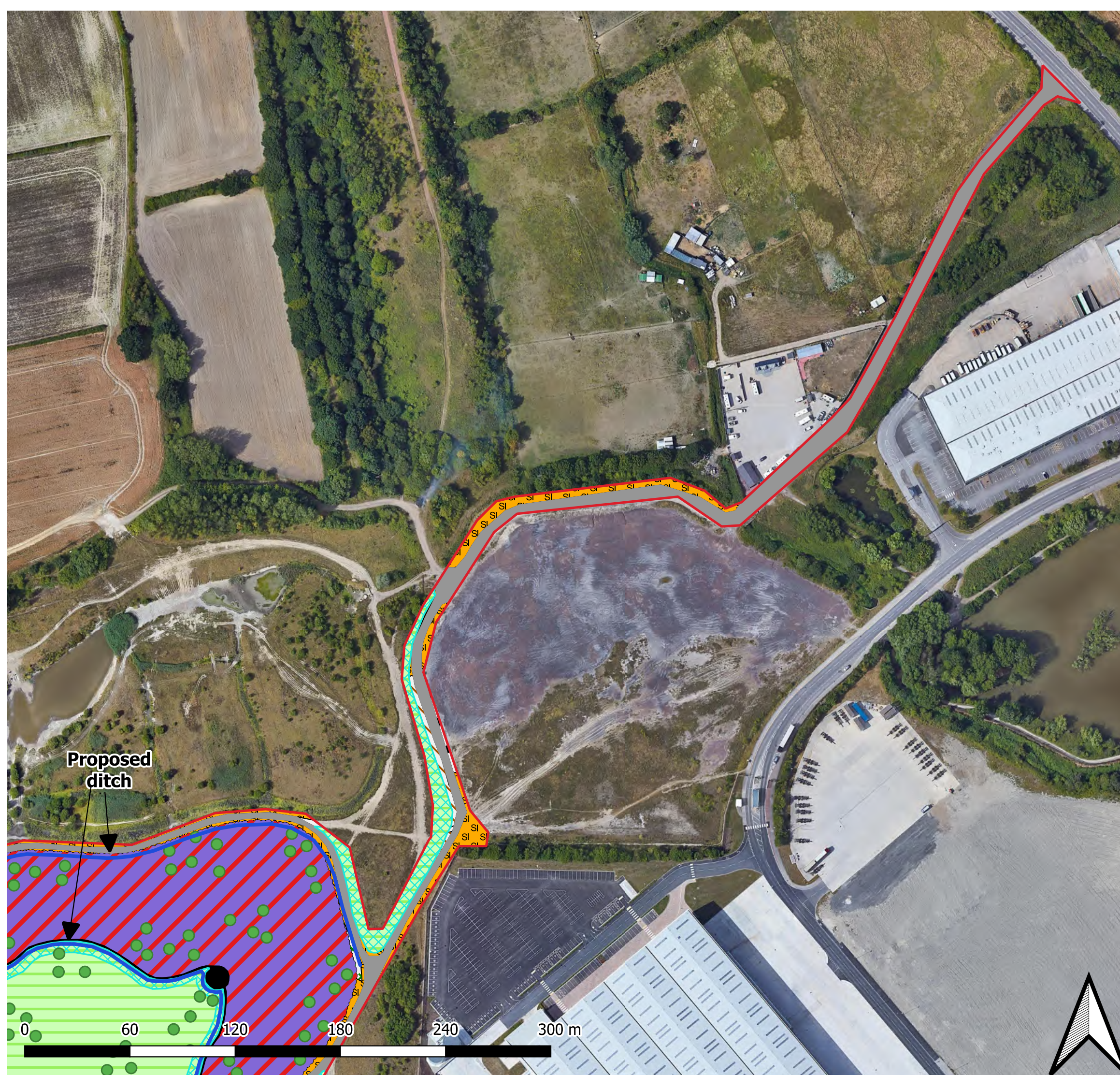
- Key:**
- Site boundary
 - Proposed wet ditch
 - Proposed small-sized trees
 - Proposed hardstanding (Developed land; sealed surface)
 - Proposed scrub planting (Mixed scrub)
 - Proposed wildflower meadow (Other neutral grassland) Good condition
 - Proposed wildflower meadow (Other neutral grassland) Moderate condition
 - Retained bare ground
 - Retained broadleaved woodland
 - Retained dense scrub
 - Retained hardstanding
 - Retained neutral semi-improved grassland
 - Retained scattered scrub
 - Retained tall ruderal

Notes

Issue: 1	Revision: 3	Date: 04/09/2024	Drawn: CJ	Authorised: HM
Client: Oakland Golf and Leisure (UK) Ltd		Job No. 81-523	Date: 04/09/2024	
		Drawing No. 81-523-003	Scale: 1:2500 @ A3	
Job title: Land at Ferry Moor Lane, Barnsley			Drawing title: Post Development Plan	

Environmental Engineering Partnership Ltd
 Manchester Office
 Taylor Road, Urmston M41 7JQ
 Tel: 0161 707 9612
 Email: info@e3p.co.uk
 Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.



- Key:**
- Site boundary
 - Proposed wet ditch
 - Proposed small-sized trees
 - Proposed hardstanding (Developed land; sealed surface)
 - Proposed scrub planting (Mixed scrub)
 - Proposed wildflower meadow (Other neutral grassland) Good condition
 - Proposed wildflower meadow (Other neutral grassland) Moderate condition
 - Retained bare ground
 - Retained hardstanding
 - Retained neutral semi-improved grassland
 - Retained scattered scrub
 - Retained tall ruderal

Notes

Issue: 1	Revision: 3	Date: 04/09/2024	Drawn: CJ	Authorised: HM
Client: Oakland Golf and Leisure (UK) Ltd		Job No. 81-523	Date: 04/09/2024	
		Drawing No. 81-523-004	Scale: 1:3500 @ A3	
Job title: Land at Ferry Moor Lane, Barnsley			Drawing title: Post Development Plan	

e3p

Environmental Engineering Partnership Ltd
Manchester Office
Taylor Road, Urmston M41 7JQ
Tel: 0161 707 9612
Email: info@e3p.co.uk
Website: www.e3p.co.uk

The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.

**APPENDIX IV
WOODLAND CONDITION
ASSESSMENT**

BROADLEAVED WOODLAND CONDITION ASSESSMENT

INDICATORS		GOOD (3 POINTS)	MODERATE (2 POINTS)	POOR (1 POINT)	SCORE PER INDICATOR
A	Age distribution of trees	Three age-classes present.	Two age-classes present.	One age-class present.	2
B	Wild, domestic, and feral herbivore damage	No significant browsing damage evident in woodland.	Evidence of significant browsing pressure is present in 40% or less of whole woodland.	Evidence of significant browsing pressure is present in 40% or more of whole woodland.	3
C	Invasive plant species	No invasive species present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species >10% cover.	3
D	Number of native tree species	Five or more native tree or shrub species found across woodland parcel.	Three to four native tree or shrub species found across woodland parcel.	Two or less native tree or shrub species across woodland parcel.	3
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native.	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native.	<50% of canopy trees and <50% of understory shrubs are native.	3
F	Open space within woodland	10 - 20% of woodland has areas of temporary open space Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	21 - 40% of woodland has areas of temporary open space.	<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.	1
G	Woodland regeneration	All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland.	No classes or coppice regrowth present in woodland.	2



INDICATORS		GOOD (3 POINTS)	MODERATE (2 POINTS)	POOR (1 POINT)	SCORE PER INDICATOR
H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback.	11% to 25% mortality and/or crown dieback or low-risk pest or disease present.	Greater than 25% tree mortality and or any high-risk pest or disease present.	3
I	Vegetation and ground flora	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	1
J	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland.	Two storeys across all survey plots.	One or less storey across all survey plots.	2
K	Veteran trees	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	1
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	1
M	Woodland disturbance	No nutrient enrichment or damaged ground evident.	Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground.	More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground.	2



CONDITION CATEGORIES FOR WOODLAND		
CATEGORY	CONDITION ASSESSMENT RESULTS	RESULT ACHIEVED
GOOD	Total score >32	N/A
MODERATE	Total score 26 to 32	27
POOR	Total score <26	N/A



APPENDIX V
INDICATOR SPECIES OF
OTHER NEUTRAL
GRASSLAND

Code and Name

g3c Other neutral grassland

Category Type

Primary Level 4

Spatial Feature Type

Area

Definition

A neutral grassland that does not meet the definition of either g3a or g3b AND that meets at least three of these four criteria:

1. >20% cover of broadleaved herbs and sedges;
2. >8 species per m² (including forbs, grasses, sedges and rushes, and excluding bryophytes);
3. ≥1 grass species that is not generally sown for intensive agricultural production (ie. Rye-grasses *Lolium spp.*, Timothy *Phleum pratense*, Cock's-foot *Dactylis glomerata*, Meadow fescue *Festuca pratensis*) is at least abundant;
4. Cover of Rye-grasses *Lolium spp.* and White Clover *Trifolium repens*, where present, is <30%.

Separately from the criteria above, a neutral grassland that meets the criteria for waxcap grassland (see 130).

Landscape and ecological context

This is a widespread and commonly encountered grassland of the lowlands that occurs on farmland and in built-up areas. Low input pastures, many verges of roads, paths, tracks, rivers and railways, and the edges of fields are likely to be this grassland. Land that is not farmed but is cut or mown annually often becomes this habitat.

Inclusions

Many of the more species-rich swards that in previous classifications were included within 'semi-improved neutral grassland'. Species-rich swards

can be characterised using 18 – Species-rich grassland).

Unmanaged swards on neutral soils, where species richness may be lower.

Surveyors may wish to add detail to this category. (e.g. 60 - long-continuity habitat, 519 – 'abandoned', 521 – 'unmanaged', 501 – 'mesic', 502 – 'seasonally wet', 503 – 'wet', 128 – 'sward type mosaic', 129 – 'tall or tussocky sward').

Exclusions

Species-poor swards that in previous classifications were included within 'semi-improved neutral grassland' (see g4).

Grasslands <2 years old on land formerly cropped (see c~).

Species

Grasses may include Common Bent *Agrostis capillaris*, False Oat-grass *Arrhenatherum elatius*, Yorkshire-fog *Holcus lanatus*, Perennial Rye-grass *Lolium perenne*, Common Bent *Agrostis capillaris*, Crested Dog's-tail *Cynosurus cristatus*, Rough Meadow-grass *Poa trivialis* and Cock's-foot *Dactylis glomerata*. On wetter sites, Velvet Bent *Agrostis canina*, Creeping Bent *Agrostis stolonifera* and Marsh Foxtail *Alopecurus geniculatus* may be frequent, and rushes such as Soft Rush *Juncus effusus* and Hard Rush *Juncus inflexus* are likely to be present.

Herbs commonly found include Yarrow *Achillea millefolium*, Ribwort Plantain *Plantago lanceolata*, Creeping Thistle *Cirsium arvense*, White Clover *Trifolium repens*, Red Clover *Trifolium pratense*, Meadow Buttercup *Ranunculus acris*, Creeping Buttercup *Ranunculus repens*, Common Nettle *Urtica dioica*, Hogweed *Heracleum sphondylium* and Daisy *Bellis perennis*. On wetter sites, herbs commonly found including Silverweed *Potentilla anserina*, Wild Angelica *Angelica sylvestris* and Fleabane *Pulicaria dysenterica*.

[Back to Grassland Ecosystem](#)